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**THE EFFECTS OF CASH-OUT ON FOOD USE  
BY FOOD STAMP PROGRAM PARTICIPANTS  
IN SAN DIEGO**

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## GLOSSARY OF ABBREVIATIONS

AFDC	Aid to Families with Dependent Children
AME	Adult Male Equivalents (a measure of household size, scaled to take into account different nutritional requirements due to differences in age, gender, and pregnancy and lactation status)
ASSETS	Alabama State's welfare reform program, Avenues of Self Sufficiency through Employment Training Services
DSS	San Diego County Department of Social Services
EBT	Electronic Benefits Transfer, an alternative form of food stamp benefit issuance
ENU	Equivalent Nutrition Units (a measure of household size, scaled to take into account different nutritional requirements due to differences in age, gender, pregnancy and lactation status, and numbers of meals eaten at home)
FCU	Food Consumption Unit (the household members who eat meals together)
FIP	Washington State's welfare reform program, Family Independence Project
FNS	U.S. Department of Agriculture, Food and Nutrition Service
FSP	Food Stamp Program
HH	Household
ID	Identification
MPC	Marginal Propensity to Consume (the increase in food purchases resulting from a \$1.00 increase in income or in food stamp benefits)
MPR	Mathematica Policy Research, Inc.
NSLP	National School Lunch Program
RDA	Recommended Dietary Allowance (the daily consumption level of a nutrient believed to be sufficient for good health for most persons; it varies by age and gender)
SBP	School Breakfast Program
SSI	Supplemental Security Income



## CONTENTS

Chapter		Page
I.	INTRODUCTION .....	1
	A. KEY POLICY ISSUES .....	1
	B. PAST FINDINGS .....	3
	C. OVERVIEW OF THE RESEARCH STRATEGY OF THE FNS FOR CASH-OUT .....	4
	D. THE CONTEXT AND DESIGN OF THE SAN DIEGO CASH-OUT DEMONSTRATION .....	5
	E. RESEARCH DESIGN .....	6
	1. Analytic Approach .....	6
	2. Data Sources .....	7
	F. THE STRUCTURE OF THIS REPORT .....	7
II	DATA AND METHODS .....	9
	A. DATA FROM FOOD STAMP HOUSEHOLDS IN SAN DIEGO .....	9
	1. The Household Survey .....	9
	2. The Focus Group Discussions .....	13
	B. THE ANALYSIS STRATEGY .....	13
	1. Analyses of the Household Survey Data .....	14
	2. Descriptive Analyses of Data Obtained from Focus Groups .....	18
	C. DEFINITIONS OF KEY ANALYSIS VARIABLES .....	18
	1. Measures of Household Size and Composition .....	22
	2. Measures of Household Food Use .....	24
	3. Availability of Nutrients from Food Used at Home .....	27
	4. Food and Nonfood Expenditures .....	31
	D. DESCRIPTION OF THE SAMPLES OF CHECK AND COUPON HOUSEHOLDS .....	34
	1. Household Size .....	35
	2. Other Demographic and Economic Characteristics of Check and Coupon Households .....	38
III	THE EFFECTS OF CASH-OUT ON HOUSEHOLD FOOD USE, NUTRIENT AVAILABILITY, AND PERCEPTIONS OF FOOD ADEQUACY .....	45
	A. THE MONEY VALUE AND TYPES OF FOOD USED AT HOME .....	45
	1. The Money Value of Food Used at Home .....	46
	2. Kinds of Food Used at Home .....	52
	3. Decomposition of the Check-Coupon Difference in the Money Value of Food Used at Home .....	60

CONTENTS (continued)

Chapter		Page
III	B. NUTRIENT AVAILABILITY .....	62
	1. Food Energy and Its Sources .....	65
	2. Nutrients per Kilocalorie of Food Energy .....	68
	3. Nutrient Availability .....	69
	4. Nutrient Availability per Dollar Value of Food Used .....	75
	C. PERCEPTIONS OF FOOD ADEQUACY .....	75
	1. Perceived Adequacy of the Household Food Supply .....	78
	2. FSP Households' Experiences in Running Out of Food .....	81
	3. Participation in Other Food-Assistance Programs and Availability of Nonpurchased Food from Sources Other than Government Programs .....	87
IV	THE EFFECTS OF CASH-OUT ON FOOD-SHOPPING PATTERNS AND EXPENDITURES FOR FOOD AND NONFOOD ITEMS .....	91
	A. EFFECTS ON EXPENDITURES .....	93
	1. Expenditures for Food Used at Home and Food Used Away from Home, and Total Expenditures for Food .....	94
	2. Food and Nonfood Expenditure Shares .....	97
	B. FOOD-SHOPPING PATTERNS .....	100
	1. Types of Stores at Which Food Used at Home Is Purchased .....	100
	2. Number of Shopping Trips per Month, by Type of Store .....	102
V	RECIPIENTS' ATTITUDES TOWARD AND EXPERIENCES WITH CASH-OUT .....	103
	A. RECIPIENTS' OPINIONS ABOUT BENEFIT CHECKS AND COUPONS .....	104
	1. Recipients' Perceptions of What Is Good and Bad About Checks and Coupons .....	105
	2. Indices of Recipients' Attitudes Toward Benefit Checks and Coupons .....	113
	3. Additional Findings from Focus Group Discussions .....	117
	B. THE UTILITY OF CHECKS AND COUPONS IN FOOD BUDGETING AND SPENDING .....	118
	1. Household Survey Findings on Budgeting Food Expenses .....	120
	2. Additional Findings from the Focus Group Discussions on Budgeting Food Expenses .....	120
	C. CHECK-CASHING EXPERIENCES OF CHECK RECIPIENTS .....	124
	1. Establishments At Which Food Benefit Checks Usually Are Cashed .....	125
	2. Check-Cashing Fees .....	125

CONTENTS (continued)

Chapter		Page
V	3. Problems Cashing Benefit Checks .....	129
	D. ATTITUDES ABOUT PROGRAM PARTICIPATION .....	131
VI.	CONCLUSIONS AND PLANS FOR ADDITIONAL RESEARCH .....	133
	A. IMPLICATIONS OF THE FINDINGS ON RECIPIENT IMPACTS .....	133
	B. FURTHER RESEARCH PLANNED .....	135
	1. Analysis of Administrative Costs .....	135
	2. Analysis of Effects on Participation .....	136
	3. Analysis of Effects on the Vulnerability of the Food Stamp Program to Fraud .....	136
	4. Analysis of Effects on Food Retailers .....	137
	REFERENCES .....	139
	APPENDIX A: PROCEDURES USED IN THE HOUSEHOLD SURVEY	
	APPENDIX B: WEIGHTING OF THE SURVEY DATA	
	APPENDIX C: DATA ENTRY AND DATA EDITING PROCEDURES	
	APPENDIX D: FOCUS GROUP DISCUSSION METHODOLOGY	
	APPENDIX E: REGRESSION ESTIMATES	
	APPENDIX F: AN ECONOMETRIC ANALYSIS OF THE MONEY VALUE OF FOOD USED AT HOME	
	APPENDIX G: CASH-OUT AND THE HOMELESS	
	APPENDIX H: EFFECTS OF CASH-OUT ON FOOD AND NONFOOD EXPENDITURES, BASED ON DATA FROM THE SCREENER AND HOUSEHOLD SURVEY	

## CONTENTS

- APPENDIX I: STATISTICAL POWER ANALYSIS
- APPENDIX J: STANDARD ERRORS OF ESTIMATES OF  
KEY OUTCOME VARIABLES
- APPENDIX K: DISTRIBUTIONAL EFFECTS OF CASH-OUT

## TABLES

Table		Page
II.1	DEFINITIONS OF KEY VARIABLES USED IN THE ANALYSES OF THE HOUSEHOLD SURVEY DATA .....	19
II.2	MEASURES OF HOUSEHOLD SIZE AMONG CHECK AND COUPON HOUSEHOLDS .....	36
II.3	DEMOGRAPHIC CHARACTERISTICS OF CHECK AND COUPON HOUSEHOLDS .....	40
II.4	ECONOMIC CHARACTERISTICS OF CHECK AND COUPON HOUSEHOLDS .....	42
III.1	MONEY VALUE OF FOOD USED AT HOME .....	48
III.2	MONEY VALUE OF PURCHASED FOOD USED AT HOME AS A PERCENTAGE OF THE HOUSEHOLD'S FOOD STAMP BENEFIT .....	53
III.3	QUANTITY OF FOOD USED AT HOME, BY FOOD GROUP .....	55
III.4	MONEY VALUE OF FOOD USED AT HOME, BY FOOD GROUP ..	57
III.5	SHARE OF MONEY VALUE OF FOOD USED AT HOME .....	59
III.6	AVAILABILITY OF FOOD ENERGY AND PROTEIN .....	66
III.7	NUTRIENT AVAILABILITY PER 1,000 KILOCALORIES OF FOOD USED AT HOME .....	70
III.8	NUTRIENT AVAILABILITY PER ENU .....	71
III.9	NUTRIENT AVAILABILITY PER ENU .....	73
III.10	NUTRIENT AVAILABILITY PER DOLLAR VALUE OF FOOD USED AT HOME .....	76
III.11	RECIPIENT PERCEPTIONS OF ADEQUACY OF HOUSEHOLD FOOD SUPPLY .....	79
III.12	NUMBER AND TYPES OF ACTIONS TAKEN TO OBTAIN FOOD DURING THE PAST MONTH .....	84
III.13	PARTICIPATION IN OTHER FOOD-ASSISTANCE PROGRAMS AND USE OF NONPURCHASED FOOD .....	88

TABLES (continued)

Table	Page
IV.1	MONTHLY EXPENDITURES FOR FOOD USED AT HOME AND FOOD USED AWAY FROM HOME ..... 96
IV.2	EXPENDITURE SHARES, BY BROAD CONSUMPTION CATEGORY ..... 98
IV.3	SHOPPING PATTERNS FOR FOOD USED AT HOME ..... 101
V.1	RECIPIENTS' OPINIONS ON WHAT IS GOOD ABOUT FOOD STAMP PROGRAM CHECKS ..... 106
V.2	RECIPIENTS' OPINIONS ON WHAT IS NOT GOOD ABOUT FOOD STAMP PROGRAM CHECKS ..... 108
V.3	RECIPIENTS' OPINIONS ON WHAT IS GOOD ABOUT FOOD STAMP PROGRAM COUPONS ..... 111
V.4	RECIPIENTS' OPINIONS ON WHAT IS NOT GOOD ABOUT FOOD STAMP PROGRAM COUPONS ..... 112
V.5	INDICES OF RECIPIENTS' ATTITUDES TOWARD CHECKS AND COUPONS ..... 115
V.6	ATTITUDES ABOUT THE ROLE OF CHECKS VERSUS COUPONS IN FOOD BUDGETING AND SPENDING ..... 121
V.7	CHECK-CASHING EXPERIENCES OF CHECK RECIPIENTS ..... 126
V.8	CHECK-CASHING EXPERIENCES OF CHECK RECIPIENTS, BY PLACE WHERE CHECKS USUALLY ARE CASHED ..... 128
V.9	CHECK-CASHING PROBLEMS EXPERIENCED BY CHECK HOUSEHOLDS ..... 130
V.10	PERCEPTIONS OF IMPACT OF CASH-OUT ON PARTICIPATION IN THE FOOD STAMP PROGRAM ..... 132

## EXECUTIVE SUMMARY

This Executive Summary describes the impacts of the San Diego Food Stamp Cash-Out Demonstration on the food-purchasing and food-use patterns of Food Stamp Program (FSP) recipients. Under the demonstration, which is taking place in San Diego County, California, food stamp recipients receive their program benefits as checks, rather than as the traditional food coupons.

This report is the first of two that will present findings from the San Diego evaluation. This report focuses on the impacts of cash-out on food stamp recipients; the second, which will be prepared after additional experience with full cash-out has been accumulated, will consider effects on administrative costs, program participation, the vulnerability of the issuance system to fraud, and the operations of food retailers in San Diego County.

### POLICY CONTEXT

The debate about how benefits should be paid out under the FSP has been of long standing. Advocates of the current coupon system argue that coupons are a direct and inexpensive way to ensure that food stamp benefits are used to purchase food. Coupon advocates contend that, despite some evidence of fraud and benefit diversion under the current system, the unauthorized use of food stamps is relatively limited. In addition, they contend that coupons provide some measure of protection to food budgets from other demands on limited household resources.

Advocates of cashing out the FSP argue that the current system limits the food-purchasing choices of recipients and places a stigma on participation. Moreover, they cite the cumbersome nature and cost of coupon issuance, transaction, and redemption.

The current debate about the desirability of one form of benefit over the other is limited by the paucity of available empirical evidence comparing coupon and cash food benefits. The U.S. Department of Agriculture, Food and Nutrition Service (FNS) conducted two studies in the early 1980s: (1) the Supplemental Security Income/Elderly Demonstration, and (2) the Puerto Rico Nutrition Assistance Program (NAP) evaluation. Although both studies produced valuable findings, they examined cash-out as applied to highly atypical food stamp populations--in the first instance, to elderly participants in the program, and, in the second, to the extremely-low-income Puerto Rico food stamp caseload. Thus, the results of these studies could not be reliably generalized to the broader food stamp caseload.

Therefore, it is important to obtain additional information about the effects of cash-out, so as to better inform the policy debate. The San Diego Food Stamp Cash-Out Demonstration has been designed to allow a rigorous evaluation of the effects of cash-out. The San Diego demonstration is one of four tests of the cash-out approach that FNS has undertaken since 1989. The other three are: (1) the Washington State Family Independence Program (FIP), (2) the Alabama Avenues to Self-Sufficiency through Employment and Training Services (ASSETS) Demonstration, and (3) the Alabama "Pure" Cash-Out Demonstration.

The Washington State FIP and the Alabama ASSETS demonstrations are testing cash-out in conjunction with other changes in the welfare systems in those states. However, the Alabama "Pure" Cash-Out Demonstration, like the San Diego demonstration, is testing cash-out without any other changes. Comparisons of the latter two evaluations, when the results of both are available, will, therefore, be of particular interest.

## **THE DEMONSTRATION AND ITS SETTING**

The San Diego Food Stamp Cash-Out Demonstration was implemented in two stages. During the first stage, which extended from July of 1989 through August of 1990, a randomly selected sample of 20 percent of the food stamp caseload in San Diego County was cashed out. During the second stage, which began in September of 1990, cash-out was extended to the full caseload.

San Diego County is the southernmost county in California. The western half of the county, which contains most of the county's population (and most of the food stamp caseload), includes San Diego City and is highly urbanized. Overall, the county contains approximately 2.4 million persons, 175,000 of whom received food stamps in a typical month in 1991.

A relatively high proportion of the food stamp caseload in San Diego (88 percent) receives Aid to Families with Dependent Children (AFDC) assistance. This proportion, which is far higher than that for the national food stamp caseload, reflects principally two factors: First, Supplemental Security Income (SSI) recipients in California receive food stamp benefits as part of their SSI benefits and do not apply for food stamps separately. Thus, many elderly and disabled people who would be part of the food stamp caseload in most other states are not directly included in the program in California, making the proportion of AFDC cases higher. Second, during the time covered by the evaluation, California had one of the most generous AFDC payment levels in the nation. As a result, households who would not have qualified for AFDC assistance in many other states were eligible for AFDC in California.

Because AFDC income is relatively high, food stamp benefit levels, relative to household income, are lower in San Diego than they are in many parts of the country. The percentage of food stamp benefits as compared with overall household income plus food stamp benefits is 12 percent in the San Diego food stamp caseload, compared with 23 percent nationally.

It is important that these aspects of the FSP in San Diego County be kept in mind when assessing the evaluation findings reported in this summary. They also highlight the importance of considering the San Diego findings jointly with the results of the other cash-out evaluations, which are under way.

## RESEARCH QUESTIONS AND OUTCOME VARIABLES

The findings presented in this report address the following research questions:

### **What are the effects of cash-out on the value of purchased and nonpurchased food used at home?**

The regular coupon-based FSP provides benefits that can legally be used to purchase only non-restaurant food. This earmarking is intended to further the program's stated objective of "raising the levels of nutrition among low-income households," by encouraging household purchases of food for home use. Thus, the program's direct impact is expected to be on the amounts of food purchased for home use. The analysis reported here examines the effects of cash-out on the value of purchased food used at home in order to obtain direct evidence as to whether cash-out alters the means (that is, food purchases) through which the program is expected to affect nutrition.

The principal measure in the study of the value of purchased food used at home is based on detailed survey data on the value of purchased food used at home by households during the seven days that preceded a survey conducted for the evaluation. In parts of the analysis, this measure is adjusted for differences in household size and composition by dividing the value of food used by the number of "adult male equivalent" (AME) persons in the household. This measure states household size in terms of the number of adult males that would be expected to consume the same amount of food as that consumed by the household, given its age and gender composition. A second adjustment measure, "equivalent nutrition units" (ENU), further adjusts household size to control for differences between households in the percentages of meals that household members eat from the home food supply.

The analysis also examines effects on the money value of *all* food used at home. Although food coupons and food checks only *directly* affect purchased food, cash-out might have effects on nonpurchased food, as well, by making households more likely or less likely to make use of food received through direct government food programs, food received as gifts, or home-grown food. Therefore, it is important to assess not only effects on purchased food, but also effects on all food used at home.

The principal outcome variable for the analysis of the value of all food used at home is drawn from the same survey as the outcome variables described above. The dollar values of nonpurchased food were estimated by using imputed prices based on prices of similar items in the data for purchased foods.

### **What are the effects of cash-out on nutrient availability?**

To the extent that the value of food used at home is altered by cash-out, this alteration may be associated with changes in the nutrients available to members of the household. Average levels of nutrient availability are examined in comparison with recommended dietary allowances (RDA) for key nutrients for members of the household.

### **Does cash-out lead to households running out of food?**

Critics of the cash-out approach have been concerned that, under cash-out, households might spend their benefits on other goods and services soon after receiving the benefits and, consequently, might run out of food by the end of the month. It is important to assess whether this has happened. The analysis is based largely on survey responses to questions about the adequacy of the food available to the household in the month preceding the survey.

### **Does cash-out lead households to switch to food purchased and used away from home?**

In general, coupon benefits cannot be used in restaurants. However, cash benefits may be used to purchase food in any location. Therefore, it is of interest to consider whether cash-out leads households to switch their food expenditures from food used at home to food purchased away from home. This issue is examined by analyzing both the absolute value of food purchased away from home and the share of all food expenditures from food used away from home.

### **Does cash-out result in switches to or away from other expenditure categories?**

To the extent that cash-out affects expenditures for food, it is of interest to examine what other types of consumption items may also be affected. To examine this issue, the study has analyzed changes in the shares of consumption expenditures for all major categories of goods and services.

### **What are the attitudes of program participants toward cash-out?**

A full assessment of the cash-out approach must consider how program participants perceive cash-out. Of particular interest are their attitudes toward the relative flexibility of cash-out and to potential problems in food budgeting created by the use of checks. We use the survey data to examine these issues.

### **What experiences have clients had when cashing food stamp checks?**

It is important to assess whether the value of food stamp benefits to program participants is significantly eroded by any fees that clients may have to pay in order to cash their checks. We use the survey data to examine this and other possible difficulties in the check-cashing process.

## **RESEARCH DESIGN**

During the first year of the cash-out demonstration, the cash-out policies were implemented only for a randomly selected sample of 20 percent of the San Diego food stamp caseload. For much of the analysis of the impacts of cash-out reported in this summary, data obtained during this period of limited cash-out were used to make comparisons between check recipients and coupon recipients. Because the cash-out participants during this period were selected randomly, we can expect them to have similar characteristics to the coupon recipients, except for statistical sampling error. Therefore, any systematic differences observed between the groups can be attributed to cash-out.

This report is based largely on data obtained from an in-person survey of approximately 600 check recipients and 600 coupon recipients that was conducted between May and August of 1990. The survey obtained detailed information on household composition and income receipt. It also collected very extensive data on the foods used by each household during the seven days preceding the interview. In the survey, respondents were also asked questions about their households' attitudes toward and experiences with cash-out. The survey attained an overall response rate of 78 percent: 79 percent for coupon recipients, and 77 percent for check recipients.

To supplement this survey information, we also draw in this report on information obtained during two focus group discussions with FSP participants. The discussions were held in San Diego County with participants who had previously received their benefits as coupons, but whose benefit form had been converted to checks. The focus groups enabled us to explore issues related to client experiences with cash-out in greater depth than was possible in the structured survey.

## **FINDINGS**

The following sections summarize the key findings of the study concerning each of the research questions highlighted previously.

### **Effects on the Money Value of Food Used at Home**

The evidence from the household survey suggests that cash-out had a relatively small, but statistically significant, downward impact on household food use. The weekly value of purchased food used at home (the measure of food use that is most directly affected by the FSP) was \$5.17, or 7.5 percent, lower for check recipients than for coupon recipients (Table 1). This difference is statistically significant at the 95 percent confidence level. When the measure is scaled by ENUs, which adjusts for differences in household composition and differences in the numbers of meals eaten at home, the relative magnitude of the estimated effect is essentially unchanged. In this case, the estimated effect is a reduction of \$2.42 per ENU, or 6.8 percent.

We found similar results for the weekly value of *all* food used at home, including both purchased and nonpurchased food received through food-assistance programs or as gifts. The money value of all food used at home by check-recipient households is 6.6 percent lower than that used by coupon-recipient households.

Taken together, these findings strongly suggest that cash-out reduced the effectiveness of the FSP in stimulating food use. The resultant reductions in the value of food used at home ranged from 5 percent to 8 percent.

Of particular concern is whether cash-out affects food use by food stamp recipients who tend to use relatively low amounts of food and who, therefore, are presumably at greatest nutritional risk. To examine this issue, we compared food use for different quartiles of households, as defined by their food use per ENU. The results indicate that cash-out had no discernable effect on the use of food at home per ENU by households that are in the lower end of the distribution of food use.

TABLE 1  
MONEY VALUE OF FOOD USED AT HOME

	Mean Value		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
<b>Money Value of Purchased Food Used at Home (dollars per week)</b>					
For the overall household	63.94	69.11	-5.17	-7.48	2.09 <sup>††</sup>
Per equivalent nutrition unit for energy <sup>a</sup>	33.28	35.70	-2.42	-6.78	2.45 <sup>††</sup>
<b>Money Value of all Food Used at Home (dollars per week)</b>					
For the overall household	68.00	72.82	-4.82	-6.62	1.88 <sup>††</sup>
Per equivalent nutrition unit for energy <sup>a</sup>	35.95	37.63	-1.68	-4.46	1.62 <sup>†</sup>

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

<sup>a</sup>Household size in "equivalent nutrition units" is an adjusted measure of household size that takes into account differences in food energy requirements among households with different compositions in terms of the ages, genders, and pregnancy and lactation statuses of household members. In addition, this measure takes into account the percentages of meals eaten at home by household members, as well as meals served by the households to guests.

<sup>†</sup>Statistically significant at the 90 percent confidence level, one-tailed test.

<sup>††</sup>Statistically significant at the 95 percent confidence level, one-tailed test.

Recipients of food stamp checks in San Diego reduced their food costs by cutting back on the overall quantity of food used and by shifting their purchases from higher-priced food groups to lower-priced food groups. These savings were partially offset by the tendency of check recipients to use foods from specific food groups that were higher priced than those used by coupon recipients.

### **Nutrient Availability**

The reductions in the money value of food used at home resulting from cash-out were accompanied by decreases in the amounts of food energy and protein contained in the food that was used (Table 2). These reductions, although relatively small (roughly 5 percent each), are statistically significant.

When assessing these findings, it is important to note that underconsumption of food energy and protein is not considered to be a health problem for most Americans. Ninety-seven percent of the sample was estimated to be attaining the RDA of protein; this percentage was essentially unchanged by cash-out. Thus, the reduction in the average availability of protein does not appear to be a problem.

However, for food energy, the percentage of households attaining the RDA was about 5 percentage points lower for check than for coupon recipients (69 percent versus 74 percent), and the difference is statistically significant. This finding suggests that the demonstration had an adverse effect on the consumption of food energy for some households.

The evaluation also examined the effects of the demonstration on the use of seven micronutrients that are regarded as potentially problematic from a public health perspective (Table 2). The effects of cash-out on nutrient availability were found to be generally small and insignificant. Statistically significant negative effects on nutrient availability were estimated for two of the seven

TABLE 2

NUTRIENT AVAILABILITY PER EQUIVALENT NUTRITION UNIT  
(Nutrient Levels as a Percentage of the RDA)

Nutrient	Mean Value		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
Food Energy	133.58	140.00	-6.42	-4.59	1.76 <sup>††</sup>
Protein	249.34	263.08	-13.73	-5.22	1.98 <sup>††</sup>
Vitamin A	210.92	214.40	-3.49	-1.63	0.38
Vitamin C	265.51	276.14	-10.63	-3.85	0.75
Vitamin B <sub>6</sub>	154.96	161.56	-6.59	-4.08	1.38 <sup>†</sup>
Folate	225.38	230.54	-5.15	-2.24	0.54
Calcium	118.25	123.72	-5.47	-4.42	1.36 <sup>†</sup>
Iron	163.43	160.61	2.82	1.76	0.49
Zinc	119.60	123.73	-4.13	-3.33	1.21

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

RDA = recommended dietary allowance.

<sup>†</sup>Statistically significant at the 90 percent confidence level, one-tailed test.

<sup>††</sup>Statistically significant at the 95 percent confidence level, one-tailed test.

**TABLE 3**  
**RESPONDENT REPORTS OF THE ADEQUACY OF AVAILABLE FOOD**  
**(During Previous Month)**

	Mean Value		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
Respondents Reporting Household Did Not Have "Enough" Food Some Days	26.88	30.90	-4.02	-13.01	1.50
Respondents Reporting Household Members Had to Skip Meals	17.77	21.63	-3.86	-17.85	1.64
Respondents Reporting Household Made Use of Food Banks or Food Pantries	9.86	6.66	3.20	48.05	1.97 **
Respondents Reporting Household Used Surplus Commodities	8.03	5.20	2.82	54.23	1.87 *

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

\*Statistically significant at the 90 percent confidence level, two-tailed test.

\*\*Statistically significant at the 95 percent confidence level, two-tailed test.

As indicated in Table 3, this finding is based on an interview question that asked respondents if they had always had "enough" food during the month. We do not know exactly how respondents interpreted the concept of "enough" food. However, it is interesting that substantial numbers of households believed that they had not had "enough" food on one or more days during the month, even though Table 2 shows the average caloric content of the food used to substantially exceed the relevant RDAs. This difference may reflect several factors. First, although average caloric availability might have exceeded the RDAs, substantial numbers of households were below the RDAs. Second, households that were well above the RDAs for the month as a whole might have been below them at certain times during the month. Third, there may be discrepancies between households' self-definitions of "enough" and the RDAs.

Coupon recipients were also somewhat more likely than check recipients to report that one or more household members had to skip meals during that month because food was unavailable. Again, however, the difference is not statistically significant.

One way that check recipients avoided acute food shortages was by making somewhat greater use than coupon recipients of food pantries and food banks. Approximately 10 percent of check recipients reported having used these food sources in the month preceding the survey, compared with 7 percent of coupon recipients. The difference is statistically significant.

Check recipients were also more likely than coupon recipients to participate in government commodity distribution programs. Eight percent of check recipients used surplus commodities, compared with approximately 5 percent of coupon recipients, a statistically significant difference.

### **Impacts on the Purchase of Food Used Away from Home**

Cash-out did not have any significant effect on the purchase of food used away from home. Contrary to expectations, the weekly expenditures for food prepared and used away from home were actually lower for check recipients than for coupon recipients (\$3.00 per AME versus \$3.48 per AME); however, the difference is not statistically significant. Similarly, check recipients reported eating a slightly lower percentage of their meals away from home, but the difference is not statistically significant. These results suggest that the reductions that we have reported in the money value of food used at home did not result from a shift to meals purchased outside of the home.

### **Impacts on Other Types of Consumption**

The reductions in the money value of food used at home resulting from cash-out were accompanied by a decrease of 1.6 percentage points in the share of total household expenditures allocated to food (Table 4). In three expenditure categories--housing, medical costs, and education--the increases in expenditure shares were statistically significant.

### **Participant Attitudes Toward Cash-Out**

Virtually all members of the focus groups preferred checks to coupons. The major reasons cited for this preference were: no stigma is associated with receiving and using check benefits, check

TABLE 4

**DISTRIBUTION OF EXPENDITURES, BY EXPENDITURE CATEGORY**  
 (Entries Are Percentages of Total Expenditures in Each Category)

Expenditure Category	Mean Value		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
All Food	32.38	33.95	-1.57	-4.62	-2.11 <sup>††</sup>
Food used at home	29.87	31.18	-1.31	-4.20	-1.80 <sup>††</sup>
Food used away from home	2.51	2.77	-0.27	-9.75	-0.94
Shelter	51.42	49.42	2.00	4.01	2.02 <sup>††</sup>
Housing	43.89	42.37	1.52	3.59	1.49 <sup>†</sup>
Utilities	7.53	7.05	0.48	6.81	1.19
Medical	0.85	0.43	0.42	97.67	2.43 <sup>††</sup>
Transportation	6.37	6.45	-0.08	-1.24	-0.14
Clothing	3.97	4.35	-0.38	-8.74	-1.04
Education	0.49	0.32	0.17	53.13	1.65 <sup>††</sup>
Dependent Care	0.63	0.87	-0.24	-27.59	-1.11
Recreation	2.31	2.52	-0.21	-8.33	-0.77
Personal Items	1.58	1.69	-0.11	-6.51	-0.98
Total	100.00	100.00			

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

<sup>†</sup>Statistically significant at the 90 percent confidence level, one-tailed test.

<sup>††</sup>Statistically significant at the 95 percent confidence level, one-tailed test.

benefits promote a feeling of self-esteem, checks allow increased flexibility in purchasing decisions, checks make it possible to shop at a wider range of stores, and checks make shopping and budgeting easier.

Survey respondents were asked a series of open-ended questions about the aspects of check and of coupon issuance that they thought were good and bad. The advantage of checks most commonly cited by check recipients in the survey was that checks could be used to purchase items other than food. This advantage was mentioned by 42 percent of check respondents (Table 5). The other two advantages that were mentioned by more than 10 percent of respondents were that check benefits allow recipients to shop at a wider range of food stores, and that checks make it possible to avoid embarrassment when using food assistance.

Coupon recipients tended to cite as an advantage of coupon issuance the fact that coupons ensured that food benefits were spent on food. Fifty-five percent of the coupon recipients who responded to the survey mentioned this characteristic. A related advantage of coupons, that they make it possible to budget food expenses better, was mentioned by 10 percent of coupon recipients.

### **Check-Cashing Experiences of Participants**

Thirty-eight percent of check recipients cashed their food checks at a supermarket, grocery, or other food store, and another 35 percent cashed or deposited them at a bank (Table 6). Most of these establishments did not charge fees for cashing FSP checks. However, 19 percent of check recipients used check-cashing agencies, which did charge fees.

The majority of recipients (63 percent) paid no fee to cash their checks. Most of the rest (29 percent of recipients) paid a fee of \$5 or less. Eight percent paid a fee that was higher than \$5.

## **CONCLUSIONS**

The potential impact of cash-out on the ability of the FSP to target its benefits specifically to food has been a central component of the policy debate about the desirability of this policy alternative. Opponents of cash-out have been concerned that issuing benefits in the form of checks would greatly weaken the program's impacts on food use; proponents have felt that the purchase of food would remain a high priority for recipients, even without the specific linkages to food purchases provided by coupons.

The evidence from the San Diego Cash-Out Demonstration suggests that, in San Diego County, cash-out reduced food expenditures more than its proponents had hoped, but less than its critics had feared. Statistically significant decreases in the value of food used at home were observed, but these differences were relatively small—on the order of 6 percent to 8 percent. Similarly, evidence showed that the availability of food energy and protein decreased, but the effects were relatively small.

In making an overall assessment of cash-out, it is important to remember that effects on food use by FSP recipients, although very important, are only one of several criteria against which this policy alternative must be judged. Effects on administrative costs, program participation, the operations of food retailers, and the vulnerability of the issuance system to fraud are other potentially important factors. The concluding chapter of this report summarizes how we will address these issues in a subsequent report.

TABLE 5

MOST COMMONLY MENTIONED ADVANTAGES OF CHECKS AND COUPONS

	Percentage of Respondents Mentioning Advantage
<b>Advantages of Checks<sup>a</sup></b>	
Can be used for items other than food	42.1
More choices of food stores	19.0
Do not feel embarrassed	16.2
<b>Advantages of Coupons<sup>b</sup></b>	
Make sure benefits spent on food	55.4
Can budget food expenses better	10.1

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

<sup>a</sup>Sample limited to check recipients.

<sup>b</sup>Sample limited to coupon recipients.

TABLE 6

## CHECK-CASHING EXPERIENCES OF CHECK RECIPIENTS

Check-Cashing Experience	Percentage of Respondents
<b>Place Where Check Is Usually Cashed or Deposited</b>	
Supermarket or grocery store	31.0
Other food store	6.9
Bank	34.7
Check-cashing outlet	19.3
Other	8.1
<b>Fee Paid to Have Check Cashed</b>	
\$0	63.3
\$0.01 to \$2.00	23.0
\$2.01 to \$5.00	6.0
\$5.01 to \$10.00	5.0
\$10.01 or more	2.6

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

## I. INTRODUCTION

This report describes the effects on participating households in San Diego County, California, of cashing out the Food Stamp Program (FSP). The report focuses on the effects of cash-out on household food expenditures, food use, and nutrient availability. In addition, it considers a number of related issues, such as household experiences in running out of food, the attitudes of households toward cash-out, and expenditure shifts to other goods and services.

Section A sets the stage for the analysis by highlighting key policy issues related to cash-out. Subsequent sections discuss the relevant previous research (Section B), and the overall research strategy with regard to cash-out that the U.S. Department of Agriculture (USDA), Food and Nutrition Service (FNS) is currently pursuing (Section C). Section D describes the San Diego Food Stamp Cash-Out Demonstration, which has provided the basis for the analysis. Section E highlights key aspects of the evaluation design. Section F provides an overview of the report.

### A. KEY POLICY ISSUES

The form that benefits paid out under the FSP should take has been an issue of long-standing debate. Advocates of the current coupon system argue that the system is a direct and inexpensive way to ensure that food stamp benefits are used to purchase food. Coupon advocates contend that, despite some evidence of fraud and benefit diversion under the current system, the unauthorized use of food stamps is relatively limited. In addition, they argue that coupons offer some measure of protection to food budgets from other demands on limited household resources.

Advocates of cashing out the FSP argue that the current system is prone to abuse, limits the food-purchasing choices of recipients, and places a stigma on participation. Moreover, they cite the cumbersome nature and cost of coupon issuance, transaction, and redemption.

A number of questions must be answered in order better to inform this policy debate. These include the following:

- What is the effect of cash-out on household food use, including both purchased food and food received as gifts or through government programs? Food use is a central issue addressed in the cash-out studies. A key program objective is that households participating in the FSP have sufficient food to meet their nutritional needs.
- What are the relative effects of cash and coupon benefits on household food expenditures? It is important to examine how much households spend on food under cash-out, what they buy, and where they buy their food.
- What are the effects of cash-out on household expenditures, by major budget categories? Although both cash benefits and coupon benefits are intended to be spent on food, households may choose to spend their cash food benefits and coupons differently. An objective of the research is to determine if there are any changes in the amounts households spend on major categories, such as housing and transportation.
- What are client attitudes toward cash benefits? Little information exists on how program participants will respond to a cash benefit. On the one hand, cash may give participants more flexibility in spending and relieve them of the "stigma" of buying food with coupons. On the other hand, cash may pose some difficulties in household budgeting and control over benefits.
- What are the effects of cash-out on food retailers? Authorized food retailers may lose sales if household food-purchasing habits change under cash-out. These losses may be partially or fully offset by savings from eliminating coupon redemption processing.
- How does cash-out affect program administrative costs? The cashing out of food stamp benefits dramatically alters the benefit-issuance process. Cash-out eliminates a whole range of activities, such as coupon storage and distribution, and replaces them with checks or warrants. Staff levels may also be reduced as a result of eliminating coupon-issuance activities.
- What are the effects of cash-out on program participation? It is of interest to determine whether cash-out encourages or discourages participation in the FSP. Any effects on average benefits and the distribution of benefits are also important to consider.
- What problems, if any, are associated with cash-out? Although certain problems associated with coupons will be eliminated (such as trafficking and unauthorized purchases), others could emerge. Chief among these may be check forgery, high check-cashing fees, and additional food costs due to state and local sales taxes on food.

This report examines the first four of these research issues for the San Diego demonstration.

We will address the remaining questions in a subsequent report.

## B. PAST FINDINGS

Research based on the ongoing check issuance of food benefits to all participants in Puerto Rico's Nutrition Assistance Program (Beebout et al., 1985; Devaney and Fraker, 1986) and on a 1981 demonstration of check issuance of food stamp benefits to elderly persons and recipients of Supplemental Security Income (SSI) (Blanchard et al., 1982; Butler, Ohls, and Posner, 1985) shows that, in the context of those studies, check issuance is less expensive than coupon issuance.<sup>1</sup> In addition, the research found no evidence that check issuance reduced food consumption or lowered diet quality. Unfortunately, the usefulness of these findings to policymakers is very limited, because they were not based on data for broadly defined cross-sections of FSP participants in the mainland United States.

Additional evidence on this subject can be obtained from reports analyzing the food-consumption patterns of food stamp households that have been included in national surveys. The findings from virtually all studies based on nationally representative samples of low-income populations show that food coupons have a much larger impact on food consumption than does ordinary cash income.<sup>2</sup> However, those studies had nonexperimental designs and provide no direct information on the effects of cash food stamp benefits on food consumption. Nevertheless, some analysts have used estimates of the income-food consumption relationship as a proxy for the potential effects of cash food stamp benefits. Because the estimated impacts of income on food consumption have consistently been lower than the estimated impacts of food benefits, the analysts have concluded that cash-out would reduce food consumption by food stamp households.<sup>3</sup>

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<sup>1</sup>The 1981 demonstration took place in two states, Utah and Vermont, and in portions of six other states, New York, Ohio, Oregon, South Carolina, Minnesota, and Virginia.

<sup>2</sup>Fraker (1991) reviews many of the existing studies of the effects of food stamps on food consumption and summarizes their principal findings.

<sup>3</sup>See, for example, page 31 of Allen and Gadson (1983) and page 42 of Senauer and Young (1986).

The contradictory findings from studies based on the actual experiences of highly restricted populations with food stamp cash-out and from those based on nationally representative samples of coupon recipients leave policymakers with inadequate and conflicting information about the merits and efficacy of cash-out. The evaluations of the San Diego Food Stamp Cash-Out Demonstration and of a number of related demonstrations, which are summarized below, have been designed to provide policymakers with reliable findings on the comparative costs of check and coupon issuance and on the differential effect of these two benefit forms on household food use and nutrient availability.

### C. OVERVIEW OF THE RESEARCH STRATEGY OF THE FNS FOR CASH-OUT

To increase policymakers' understanding of the effects of cash-out, FNS has approved cash-out in four major demonstrations:

- **Washington State Family Independence Program (FIP).** Recipients of Aid to Families with Dependent Children (AFDC) who are served by certain randomly selected welfare offices in Washington State have their food stamps cashed out as part of a broader set of welfare reform initiatives being tested.
- **San Diego Food Stamp Cash-Out Demonstration.** In July of 1989, 20 percent of the food stamp caseload was cashed out. All food stamp households in San Diego County were converted to cash food benefits on September 1, 1990.
- **Alabama Cash-Out Demonstration.** Approximately 2,100 households were randomly selected to be cashed out in 12 counties for the period of May through December of 1990. These households will be compared with an equivalent group of households that are receiving coupons.
- **Alabama Avenues to Self-Sufficiency through Employment and Training Services (ASSETS) Demonstration.** Households participating in three sites in which the ASSETS demonstration is being conducted are cashed out. These households will be compared with a similar group of households in three sites in which ASSETS is not operating.

These sites vary substantially on a number of important characteristics, including the amount of the average household food stamp benefits received, urbanicity, and the availability of other assistance, such as AFDC and General Assistance. Two of the demonstrations (San Diego and

Alabama) are "pure" demonstrations, which involve only cash-out, and two (Washington FIP and Alabama ASSETS) are "mixed" demonstrations, which operate in conjunction with other policy interventions.

Evaluations of cash-out are being conducted in each of the four demonstrations. Because the San Diego and Alabama demonstrations do not involve any other policy changes, those evaluations will be the most comparable and will also have the greatest potential for shedding light on the specific impacts of cash-out.

In this light, it is important to note that the San Diego and Alabama demonstrations provided opportunities to observe cash-out in two very different settings. San Diego is a highly urbanized county in a state with relatively high AFDC benefit levels. Alabama has relatively low AFDC benefit levels, and 10 of the 12 counties included in the Alabama demonstration are predominantly rural.

#### **D. THE CONTEXT AND DESIGN OF THE SAN DIEGO CASH-OUT DEMONSTRATION**

With a population of 2.4 million persons, San Diego County is the fifth largest county in the United States. It is relatively affluent, with an average personal income per capita that is 7 percent higher than the national average. Low-income families and individuals in the county may qualify for California's comparatively high levels of cash public assistance. In 1990, California provided a family of three persons with a maximum AFDC benefit of \$694 per month, second only to that provided by Alaska.

Each month, San Diego County's Department of Social Services (DSS) issues food stamp benefits with a total value of about \$7.8 million to some 55,000 households.<sup>4</sup> Approximately 88 percent of those households receive AFDC. San Diego issues more than 90 percent of all food stamp benefits by mail.

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<sup>4</sup>The figures cited are for the month of July, 1991.

In 1988, San Diego County applied to the USDA for waivers of selected FSP regulations so that it might conduct a four and one-half year demonstration program in which food stamp benefits would be issued in the form of checks.<sup>5</sup> The USDA approved San Diego County's request for waivers, but stipulated that the transition to check issuance occur in two phases, which would be designed to permit an evaluation of the effects of cash-out on recipient households, retail food merchants, program participation, and issuance costs. The first phase, *limited cash-out*, which began in July of 1989, entailed the issuance of benefits in the form of checks to 20 percent of the existing caseload and to 20 percent of newly certified cases. The check recipients were selected randomly on the basis of the final digit in the sequential portion of their food stamp case numbers. The second phase, *full cash-out*, began in September of 1990 and expanded check issuance to include the entire existing caseload and all new cases.

## **E. RESEARCH DESIGN**

The research design for evaluating the effects of the San Diego Food Stamp Cash-Out Evaluation draws heavily on the experimental design of Phase 1 of the demonstration, with random assignment of households to cash-out and control status. Section 1 summarizes the basic analytic approach used in much of the analysis. Section 2 describes the data sources that were used.

### **1. Analytic Approach**

The limited cash-out phase of the demonstration provided an ideal program environment in which to evaluate the effects of cash-out on households' use of food and nutrient availability. Because households were randomly assigned to experimental or to control status, observed differences between the two groups in key outcomes can only be due either to the demonstration policies or to

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<sup>5</sup>Under the policies that have been implemented on the basis of the approved waivers, all food stamp households in San Diego County currently receive their food stamp benefits in the form of checks. For households that also receive AFDC benefits, the AFDC and food stamp payments are combined in a single check, and information accompanying each check indicates how much of the check is the AFDC benefit and how much is the food stamp benefit.

statistical sampling error. Therefore, much of the analysis reported in subsequent chapters is based on direct comparisons across the two groups.

## **2. Data Sources**

This report is based largely on data obtained from an in-person survey of approximately 600 check recipients and 600 coupon recipients that was conducted between May and August of 1990.

Section C defines key measures used in the analyses of the household survey data. Section D describes the size and characteristics of the check and coupon household samples.

Chapter III presents findings about the demonstration's impact on household food use. Sections A through C examine the effects of cash-out on the money value of food used at home, the kinds and quantities of food used at home, and the nutrients provided by food used at home. Section D presents data on the self-assessments of check and coupon recipients about the adequacy of the food used by their households.

Chapter IV examines the impact of cash-out on food and nonfood expenditures and shopping patterns. Section A presents findings on the pattern of household expenditures for broad categories of consumer goods and services. Section B presents findings from the household survey on household food shopping patterns, including the types of stores at which food is purchased and the usual number of shopping trips per month to each type of store.

Chapter V examines recipients' attitudes toward and experiences with cash-out. Section A discusses what recipient households like and dislike about food stamp checks and coupons. This discussion is based on data from the household survey and from the focus group discussions. Section B presents findings from the same data sources on recipients' evaluations of the utility of food stamp checks and coupons in managing their households' food budgets. Section C describes the types of institutions at which recipients cash their food stamp checks, the charging of check-cashing fees by those institutions, and the incidence of problems associated with cashing the checks. For check households that began receiving benefits after the commencement of cash-out, Section D presents self-assessments of how the benefit form influenced their decision to enter and to continue to participate in the FSP.

Chapter VII recapitulates the principal findings and conclusions from the analysis of the effects of the San Diego Food Stamp Cash-Out Demonstration on households.

## **II. DATA AND METHODS**

This chapter describes the data and methods underlying the analyses of the impact of cash-out on recipient outcomes. We obtained the data from a household survey and from focus group discussions. Section A describes the sampling and data collection procedures for data from food stamp recipients in San Diego County. Section B describes the analysis strategy. Section C defines key measures used in the analyses of the household survey data. Section D describes the size and characteristics of the samples of check and coupon households.

### **A. DATA FROM FOOD STAMP HOUSEHOLDS IN SAN DIEGO**

We used two complementary data collection methodologies to obtain data from households that were participating in the Food Stamp Program (FSP) during the limited cash-out phase of the demonstration. The first methodology was a survey of coupon and check households, and the second was focus group discussions with check recipients who had previously received coupon benefits. These data collection methodologies are discussed in the next two subsections.

#### **1. The Household Survey**

During the limited cash-out phase of the demonstration, MPR conducted a survey of a stratified random sample of 1,226 food stamp households, which consisted of approximately equal numbers of coupon and check recipients. The size and configuration of the sample were chosen in response to the U.S. Department of Agriculture's (USDA) specification that the evaluation be capable of detecting a 10 percent change in food use resulting from cash-out.<sup>1</sup>

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<sup>1</sup>More precisely, FNS specified that the evaluation must be capable of detecting a 10 percent reduction in food use with 80 percent power. That is, if cash-out actually caused a 10 percent reduction in food use, then the sample for the evaluation must be sufficiently large that an analyst would have an 80 percent probability of concluding from a statistical test based on the sample data that a reduction did occur. FNS further specified that the statistical test must have a 95 percent confidence level. That is, the test criterion that must be met in order to conclude that cash-out  
(continued...)

The instrument required two and one-half hours to administer in-person.<sup>2</sup> With this instrument, the survey obtained detailed data from the respondent households on their demographic composition, income, consumption expenditures, food-shopping patterns, attitudes toward the FSP, and, most importantly, the types, quantities, and prices of foods that they used during the week preceding the interview.<sup>3</sup> A response rate of 78 percent was attained. Appendix A contains additional details on the survey instrument used in San Diego County.

#### **a. Sampling and Data Collection Procedures**

The sample frame for the survey of food stamp households was the active food stamp caseload of 43,000 households in San Diego County at the end of March of 1990. At that time, a randomly selected 20 percent of the county's food stamp caseload was receiving its benefits in the form of checks. After stratifying the caseload on the basis of whether households had earnings and were receiving cash public assistance, we selected random samples of coupon recipients and check recipients such that the samples had the same percentage distributions across the cells defined by the stratification variables as did the full caseload. The sample observations were ordered randomly and were released to field interviewers as needed, until the target number of 1,200 completed interviews was attained. Appendix A describes the sample design and selection of the sample in greater detail.

Field staff fully worked all released cases during the period from May through August of 1990. As each sample observation was released to the survey field staff, an interviewer attempted to

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<sup>1</sup>(...continued)

caused a reduction in food use must be sufficiently demanding that, if met, there is a 95 percent probability that the reduction actually occurred, and only a 5 percent chance that it did not. The 80 percent power and 95 percent confidence requirements are conventional standards for evaluation research.

<sup>2</sup>More information about the time required for the interview is currently being tabulated and will be included in the final version of this report.

<sup>3</sup>The same instrument was also used in the evaluation of Alabama's demonstration of pure food stamp cash-out and in the cash-out component of the evaluation of Washington State's Family Independence Program.

conduct an in-person screening interview (the screener) with the household's principal food purchaser and preparer. During that initial contact, the interviewer ascertained whether the household was currently receiving food stamps. If it was, the interviewer asked the respondent to participate in the survey and offered a \$20 incentive to do so (payable on completion of the main interview). The interviewer also obtained demographic data on each member of each screened household and on the household's food-shopping patterns for the preceding month. Toward the end of the screener, the interviewer explained that the principal objective of the survey was to gather data on all foods used by the household during the subsequent seven days and asked that the respondent save the labels of foods used during that period. The interviewer also asked the respondent to keep additional records, including shopping lists, menus, grocery receipts, and labels from and prices of the foods.

Seven days after the screener was conducted, the interviewer returned to administer the main survey instrument. When administering that instrument, the interviewer requested that the respondent refer to the food labels and records as necessary in order to respond to the survey's structured questions on the type, quantity, price, and related characteristics of each food item used by the household during the seven-day reporting period.

After completion of survey field operations, the information on the type, quantity, and price of each food item was used to construct measures of the aggregate money value and nutritional content of the food that was used; these are key outcome measures in the analyses of cash-out's impact on households that are presented in this report. Appendix C provides additional details on the data file construction and editing procedures for the household survey.

#### **b. Data on Household Food Use and Nutrient Availability**

The use of food by food stamp households is a key issue addressed in this study. The household survey provides detailed information on food used from the household food supply during the seven days preceding the interview. The survey's measure of food used includes all food from the household food supply that was consumed at home, food that was carried from the home and eaten

elsewhere, food that was prepared elsewhere (including "fast food" and delivered food) and then brought into the home and consumed, food for humans that was fed to pets, and food that was discarded. The measure excluded food that was brought into the home but was not consumed, food that was given away or sold to persons outside of the household, ordinary pet food, and food that was given to animals for commercial purposes. The measure of food use includes food that was purchased with cash, credit, or food stamps; food that was received through other food assistance programs, such as the Special Supplemental Food Programs for Women, Infants, and Children (WIC) and local food banks; food that was home-produced; and food that was received as a gift or as payment-in-kind.

Respondent households had been contacted at least seven days before the actual interview and had been asked to maintain records that would help to provide information on food use. For each food item used from the household food supply during the seven days, the interviewer recorded the type of food, its form (fresh, canned, or frozen), the quantity used, the price paid (if appropriate), and its source (purchased, WIC voucher, home-produced, gift, or in-lieu of payment). Data were also collected on the number and type of meals (morning, noon, and evening) eaten from household food supplies by household members and others, the number of snacks and refreshments eaten by guests, and the number of meals eaten away from home by household members.

The data on the prices and quantities were used to analyze the impact of cash-out on two key measures of household food use: (1) the quantity of food used at home, and (2) the money value of food used at home. In addition, data on the quantity of each food item used from the household food supply were used to calculate the availability of food energy and certain nutrients.<sup>4</sup> These measures of household food use and nutrient availability, as well as other key outcome measures, are discussed in greater detail in Section ILC.2.

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<sup>4</sup>We used a USDA nutrient data base to convert the survey data on the quantity of food used to data on nutrient availability. The data base provides information on the nutrient content per pound of roughly 4,000 foods and food combinations in the form in which they enter the household, with adjustments for cooking losses and inedible components of food. Hepburn (1982) provides a description of the USDA's nutrient data base.

## **2. The Focus Group Discussions**

The second of the two methodologies used to collect data from FSP recipients was focus group discussions. We conducted the discussions with two groups, each including 14 recipients of food checks who had been receiving coupons before limited cash-out began. The focus group discussions were conducted in August of 1990.

Focus group participants were identified and recruited from the same FSP caseload data file (March, 1990) that was used to select the household sample for the recipient survey. To be considered for the focus groups, participants had to meet several criteria: they were currently receiving food stamp benefits in the form of checks and had received coupon benefits in the past, they were not homeless, their primary language was English, and they had a telephone. After stratifying the participants that met all of the criteria on the basis of whether their households had earnings and whether they received cash public assistance, we randomly selected samples of recipients from each of the four stratification cells and recruited them to participate in the discussions.

The focus groups were conducted in conference rooms at local public libraries. Using a topic guide, survey professionals led the groups through structured discussions of such topics as relative preferences for checks or for coupons, check-cashing experiences, and the effects of the form of the food stamp benefit on household budgeting and expenditure decisions. Appendix D contains additional details on the San Diego focus groups, including the criteria used to select participants, recruitment, procedures for collecting the data, and the characteristics of participants.

### **B. THE ANALYSIS STRATEGY**

We used the household survey data to conduct three related analyses of the impact of cash-out on FSP households: (1) a comparative analysis of mean values of check and coupon household outcomes, (2) a comparative analysis of regression-adjusted mean values, and (3) an econometric analysis of the marginal propensity to consume food out of coupons, checks, and ordinary cash income. The findings from the focus group discussions with food stamp recipients primarily were used

to enhance understanding of the behavior underlying the results from the household survey. The remainder of this section contains overviews of these analyses.

## **1. Analyses of the Household Survey Data**

### **a. Comparative Analysis of Mean Values**

Reflecting the strength of the randomized design of the demonstration, our principal approach to the analysis of the household survey data was to compare check and coupon households on several key outcomes and to assess whether the outcomes of the check households differed from those of the coupon households. More formally, we compared the mean values of outcome measures for the samples of coupon and check recipients and conducted statistical tests (t-tests) for the significance of the observed differences. If the check-coupon household difference in the mean values of a particular outcome was statistically different from zero, then, given the experimental design of the demonstration, we concluded that cash-out affected that outcome.

For purposes of illustration, consider the analysis of the impact of cash-out on total expenditures for food. The hypothesis is that, because food stamp benefits under cash-out no longer are an "in-kind" benefit earmarked specifically for food, recipients will reduce their food expenditures. Thus, we test the null hypothesis,

*H<sub>O</sub>: No Check-Coupon Household Difference in Expenditures for Food,*

against the alternative hypothesis,

*H<sub>A</sub>: Check Households Spend Less than Coupon Households for Food.*

The test of this hypothesis is based on simple check-coupon household differences in the mean values of food expenditures. If the value of the "test-statistic" is less than the critical value -1.64 (the level for a 95 percent confidence level, with a one-tailed test), then we reject the null hypothesis. That is to say, in this case, data from the household survey on the simple difference in mean values

of expenditures for food between check and coupon households support the alternative hypothesis that cash-out reduced household expenditures for food.

Note that, because we have a priori information in this case on the expected direction of the impact of cash-out (that is, cash-out may reduce food expenditures), the hypothesis that we test is directional and implies the use of a one-tailed hypothesis test. For the majority of outcomes under consideration, we will have a priori information on the expected direction. However, for some outcomes, such as the quantities of specific types of foods used at home or the number of shopping trips per month, we were uncertain a priori of the likely direction of the impact; for those outcomes, we used a two-tailed variant of the illustrated hypothesis test.<sup>5</sup>

As Section II.D indicates, one complication to the approach based on simple check-coupon household differences in mean values of outcomes arose because, by random chance, the check recipient households in the study sample were somewhat smaller than the coupon households (3.35 versus 3.55 members per household). Because household size is an important determinant of the purchase and use of food, we reweighted the data to equalize the size distributions of households in the two samples. Thus, the simple differences in mean values of the outcomes of interest for check and coupon households presented throughout the text are based on weighted data. Appendix B provides details on the weighting procedure.

When assessing the cross-section, random-assignment experimental design used for the evaluation, it may be useful to consider a number of possible alternatives, which we did not adopt.

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<sup>5</sup>As an example of a two-tailed hypothesis test, consider the impact of cash-out on the number of shopping trips per month to grocery stores. We test the null hypothesis, no check-coupon household difference in the number of shopping trips per month to grocery stores, against the alternative hypothesis, check households made either more or fewer trips per month to grocery stores than did coupon households. If the value of the "test-statistic," in this case, the difference in the mean values of the number of shopping trips per month to grocery stores for check and coupon households divided by the square root of the variance of this difference, is less than the critical value -1.96 or greater than the critical value +1.96 (for a 95 percent confidence level, with a two-tailed test), then we reject the null hypothesis of no difference. That is to say, in this case, data from the household survey support the alternative hypothesis that cash-out affected the number of shopping trips per month to grocery stores. That estimated impact can be positive or negative, depending on the sign of the difference in the mean values.

One possible design would have involved a "before and after" approach, with a round of data collection, followed by full cash-out, followed by a second round of data collection. We rejected this approach because of potential difficulties in distinguishing the effects of the demonstration from the effects of changes across time in other factors affecting food use.

A second possible design would have been a "comparison site" approach based on comparisons of household data from the San Diego cash-out site with data obtained at a matched comparison site. However, it was likely that effects of the demonstration would have been confounded with other factors--in this case, cross-site differences.

A third possible evaluation design would have been a classical "double difference" design that would have used the actual random assignment, but that would also have involved collecting data on households both before and after implementation of the demonstration, rather than conducting a single cross-section survey, as was actually done. This approach would have had the potential advantage of enabling us to better examine the dynamics of food use over time and the dynamics of how households adjust to the conversion from coupons to cash. However, this approach would have been considerably more expensive to implement, due to higher data collection costs. In addition, the double difference evaluation strategy would have delayed the start of the demonstration, because we would have had to develop and implement the data collection procedures before cash-out could begin.

#### **b. Comparative Analysis of Regression-Adjusted Mean Values**

Simple differences in the mean values of outcome variables between the sample of check recipients and the sample of coupon recipients are unbiased estimates of the true effects of cash-out; however, they may not be the most precise estimates. Accordingly, for the outcome measures of greatest interest--those based on the household food-use data--we also used regression analysis to control for variation in the outcome measures arising from a limited number of household characteristics.

However, in this evaluation, the regression-adjusted estimates did not prove to be substantially more precise than the simple-difference-in-means estimates. Furthermore, the conclusions that can be drawn from the regression-adjusted results essentially are the same as those that can be drawn from the simple differences in mean values. Therefore, the estimates of the effects of cash-out that we present in the body of this report were obtained by using the simple-difference-in-means approach. We occasionally refer to the regression-adjusted results, but their detailed presentation is relegated to Appendix E.

### **c. Econometric Analysis of the Marginal Propensity to Consume Food**

The analyses described in the previous two subsections are designed to provide estimates of the *average* effects of cash-out on the key outcome variables under consideration. It is also of interest to compare the *marginal* impact of check benefits and of coupon benefits, that is, to determine whether, and by how much, the impact of an additional dollar of check benefits differs from the impact of an additional dollar of coupon benefits. Obtaining these estimates of marginal impacts can help to provide a richer understanding of the effects of cash benefits. The estimates also allow us to directly compare our results with those of a number of earlier studies that have focused on the marginal impacts of food stamp benefits on food expenditures.

To conduct a marginal-impact analysis, we developed econometric models that estimate the marginal impacts of the two forms of food stamp benefits. The structure of these models is consistent with that of models used in earlier studies to estimate the effects of an additional dollar of food stamp benefits on the use of food at home.<sup>6</sup> This structural consistency ensures the comparability of the estimates of the marginal effects of food stamp benefits produced by this study with those produced by earlier studies. Although of considerable interest, the econometric estimates of the marginal propensities to consume food out of food stamp coupons and out of food stamp checks are

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<sup>6</sup>For a review of these early studies, see Fraker (1990).

not central to the basic findings of this report. Therefore, we present these econometric estimates in Appendix F.

## **2. Descriptive Analyses of Data Obtained from Focus Groups**

All of the formal statistical results presented in this report are based on data collected in the sample survey of food stamp recipients in San Diego. Because focus group results are based on a small number of nonindependent observations, they cannot be used to test hypotheses about recipient behaviors in any formal statistical sense.

Therefore, we used the findings from the focus group discussions to supplement the findings from the household survey. We present quotations from focus group participants in various sections of Chapter V in order to highlight recipients' perceptions toward and experiences with cash-out. In addition, we use findings from the focus group discussions to enhance understanding of the behavior underlying the statistical results presented in Chapter III (Household Food Use) and in Chapter IV (Shopping Patterns and Food and Nonfood Expenditures).

## **C. DEFINITIONS OF KEY ANALYSIS VARIABLES**

The survey of coupon and check households provides information on household characteristics, income, program participation, expenditure patterns, food use, and attitudes toward check and coupon benefits. This section defines the key variables used in the analyses of the household survey data, including household food use, nutrient availability, and food and nonfood expenditures. We begin the section with a discussion of two measures of household size that were used to scale the key outcome variables. The next three subsections define key outcome measures concerning, respectively, household food use, nutrient availability, and food and nonfood expenditures. Table II.1 lists and defines the main analysis variables.

TABLE II.1

DEFINITIONS OF KEY VARIABLES USED IN THE ANALYSES OF THE HOUSEHOLD SURVEY DATA

Variable	Definition
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TABLE II.1 (continued)

Variable	Definition
Money Value of Food Used at Home per ENU, by Food Group	Money value (in dollars per week) of food used at home per ENU, by the 31 food groups in the TFP plus alcoholic beverages. The value is obtained for each aggregated food group by summing the money values of the individual food items comprising that food group and dividing the result by household size in ENU.
Share of Money Value of Food Used at Home per ENU, by Food Group	The share of money value of food used at home per ENU, by food group, is the percentage of the total money value of food used by a household from its home food supply per person that is accounted for by each of the 31 TFP food groups plus alcoholic beverages.
<b>Availability of Nutrients from Food Used at Home</b>	
Nutrient Availability per ENU	Nutrients available from all food used by a household from its home food supply during the seven-day period expressed on a per-ENU basis. It is calculated by multiplying the nutrient content per pound of each food item by the number of pounds used of each food item and summing across the products for each food item. The nutrients examined are food energy, protein, and seven micronutrients that are considered to be potentially problematic from a public health perspective: vitamin A, vitamin C, vitamin B <sub>6</sub> , folate, calcium, iron, and zinc.
Nutrient Availability per ENU Compared with Recommended Dietary Allowances (RDAs)	Average nutrient availability per ENU as a percent of the RDAs, calculated for the seven micronutrients under consideration.
Households Attaining RDAs	Percentage of households whose availability of nutrients per ENU equals or exceeds the RDAs, calculated for food energy, protein, and the seven micronutrients under consideration.
Nutrient Densities	Nutrient availability per 1,000 kilocalories of food energy calculated for the seven micronutrients under consideration. Calculated by dividing the availability of each micronutrient by the availability of food energy.
Nutrient Availability per Dollar of Food Used at Home	Nutrient availability per dollar of food used at home calculated for protein and the seven micronutrients under consideration. It equals the availability of each nutrient divided by the total money value of food used at home (in dollars per week).
Food Energy from Protein, Carbohydrate, and Fat	The proportions of food energy derived from protein, carbohydrate, and fat.
<b>Food Expenditures</b>	
Expenditures for Food Used at Home (Using Data from the Main Questionnaire Only)	The monthly money value of purchased food used at home (obtained by multiplying the weekly money value of purchased food used at home by 4.3 weeks.)
Expenditures for Food Used at Home (Using Data from the Screener)	The monthly expenditures for food from supermarkets, neighborhood grocers, convenience stores, and specialty stores as reported in the screener to the household survey.
Expenditures for Food Used Away from Home	The household's reported total expenditure for meals, snacks, and beverages that were eaten at restaurants, bars, cafeterias, cafes, and fast food places during the seven days preceding the interview and the amount paid in the calendar month preceding the interview for reduced-price or full-price school meals and for meals or snacks received at a day care home or center (if the payment for the food was separate from the payment for the care).

TABLE II.1 (continued)

Variable	Definition
Total Expenditures for Food (Using Data from the Main Questionnaire Only)	The sum of the money value of purchased food used at home (from the main questionnaire) and expenditures for food used away from home (from the main questionnaire).
Total Expenditures for Food (Using Data from the Main Questionnaire and the Screener)	The sum of expenditures for food purchased from stores (from the screener) and expenditures for food used away from home (from the main questionnaire).
<b>Food and Nonfood Expenditure Shares</b>	
Food and Nonfood Expenditure Shares (Using Data from the Main Questionnaire Only)	The proportion of all reported expenditures allocated to a specific budget category computed for total food (and separately for its components, food used at home and food used away from home), and for the nine categories of nonfood items—housing, utilities, medical, transportation, clothing, education, dependent care, recreation, and personal items. Uses money value of purchased food used at home as the measure of expenditures for food used at home.
Food and Nonfood Expenditure Shares (Using Data from the Main Questionnaire and the Screener)	The proportion of all reported expenditures allocated to a specific budget category computed for total food (and separately for its components, food used at home and food used away from home), and for the nine categories of nonfood items—housing, utilities, medical, transportation, clothing, education, dependent care, recreation, and personal items. Uses expenditures for food at stores (from the screener) as the measure of expenditures for food used at home.

## 1. Measures of Household Size and Composition

The principal measure of household size used in this report is the *food consumption unit* (FCU), that is, the group of individuals that usually eats from the home food supply. The size of the FCU is determined on the basis of two questions asked during the interview about each person living in the dwelling unit: whether the person is covered by food stamp benefits, and, if not, whether the person eats from the home food supply. Therefore, the size of the FCU cannot exceed that of the household, that is, the total number of persons living in the dwelling unit. On the other hand, the FCU may diverge in either direction from the *official food stamp unit* (FSU), that is, the group of individuals who are included in the food stamp case. The size of the FCU and the size of the FSU could differ either for legitimate reasons or for reasons that may entail fraud under FSP regulations.

When computing the size of the FCU, we treat all household members identically. However, FCUs of equal size may have different requirements for food used at home. The differences may depend on the age, gender, and pregnancy and lactation status of household members; the number of meals eaten at home by members of the FCU; and the number of meals served to guests. Therefore, to take these differences into account, we use two modified measures of the FCU in this report, the FCU in *adult male equivalents* (AME), and the FCU in *equivalent nutrition units* (ENU). We describe these measures in the next two subsections.

### a. Household Size in AMEs

Household size in AMEs adjusts household size for the ages and genders of the household members.<sup>7</sup> The adjustment procedure weights each household member by the recommended dietary allowance (RDA) for that member for a given nutrient, typically, food energy, relative to the RDA

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<sup>7</sup>Henceforth, the term "household" refers to the FCU, unless explicitly stated otherwise.

for that nutrient for an adult male aged 23 to 50 years.<sup>8</sup> The sum of these weights gives household size in AMEs.

For example, consider the following household, with a male and female householder each aged 30 years, a boy aged 15 years, and a girl aged 12 years:

Household Member	RDA for Food Energy (Kilocalories)	Relative Needs
Male, aged 30	2,900	1.00
Female, aged 30	2,200	0.76
Male, aged 15	3,000	1.03
Female, aged 12	2,200	0.76
Household size in adult male equivalents (AMEs)		3.55

The number of AMEs in this household, based on the relative needs of the household members for food energy, is 3.55.

#### b. Household Size in ENUs

Household size in ENUs adjusts household size for both the age and gender composition of family members, the proportion of meals eaten from the household food supply, and meals served to guests. The adjustment weights each household member by the RDA for a given nutrient, such as food energy, for that member relative to the RDA of that nutrient for an adult male aged 23 to 50 years and by the proportion of meals eaten at home. It also adjusts for meals served to guests. The sum of these weights gives household size in ENUs.

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<sup>8</sup>We used the 1989 revised RDAs, which were determined by the National Research Council of the National Academy of Sciences (1989b). Pregnancy and lactation status are also taken into account in these recommendations and in the AME calculations.

Continuing with the previous example, assume that the male householder ate two-thirds of his weekly meals at home, and that the other household members ate all of their meals at home:

Household Member	Relative Needs	Proportion of Meals Eaten at Home	Equivalent Nutrition Units
Male, aged 30	1.00	0.67	0.67
Female, aged 30	0.76	1.00	0.76
Male, aged 15	1.03	1.00	1.03
Female, aged 12	0.76	1.00	0.76
Household size in equivalent nutrition units (ENU)			3.22

The household size in ENUs for this hypothetical household, based on the relative needs of the household members for food energy, is 3.22 persons.

## 2. Measures of Household Food Use

Food used at home (household food use) refers to all food and beverages used from the household food supply during the seven days preceding the interview (see Section II.A.1.b for a detailed description of this measure). The information obtained during the interview on the types, quantities, and prices of the foods that recipients used at home was used to calculate the following four measures of household food use: (1) the quantity (in pounds per week) of all food used at home and, separately, for 32 food groups, (2) the money value (in dollars per week) of all food used at home and, separately, for purchased and nonpurchased food used at home, (3) the money value of food used, by food group, and (4) the share of the money value of food used, by food group. We describe these measures in the next four subsections.

### a. Quantities of Food Used at Home

For the analyses of the quantities of food used at home, we examined the average quantities of food used (in pounds per person per week) for all food used at home and separately for 32 food

groups--the 31 food groups corresponding to the USDA's Thrifty Food Plan (TFP), plus alcoholic beverages. "Per person" in these analyses always refers to per-ENU.

#### **b. Money Value of Food Used at Home**

To obtain the money value of a particular food item used at home by a household, we multiplied the quantity of the food item used (in pounds) by its unit price.<sup>9</sup> Food that was not purchased directly, but that was used by the household (such as food obtained through WIC vouchers, home-produced food, or food received as a gift or in-lieu of pay), was valued at the average price per pound that was paid for that food item by the survey households reporting its purchase and use. We obtained the total money value of food used at home (in dollars per week) by summing the money values of the individual food items.

We used several outcome measures for the analysis of the money value of food used at home. First, we examined the money value of purchased food used at home. This variable is of interest because it reflects expenditures for food used at home--the factor that the FSP directly affects. Second, because food received as gifts, food obtained through WIC vouchers, and food obtained from direct food-assistance programs are potential substitutes for purchased food, it is of interest to examine whether there are demonstration effects on *nonpurchased food* used at home. Third, we examined the value of all food used at home, that is, the sum of the previous two measures.

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<sup>9</sup>During the interviews, respondents were asked about the amount of each food *purchased* and about the total purchase price. The unit price was then calculated by the computer. We used the unit price to compute the money value of food used. As part of the editing performed to ensure as much accuracy as possible in the data set, food items for which the computed prices were very high or very low in relation to the mean price of a food item were examined manually, using the hard-copy instruments. In some instances, no apparent errors were identified. In other cases, errors were identified and corrected. The quantity of the food purchased (which is used in the price calculation) most often required revision.

For each of the three measures, we calculated the total for the household, as well as two versions scaled by household size--the AME and ENU measures of household size.<sup>10</sup> The money value of total food used at home per household is simply the total money value of food used from the household food supply. We obtained the money value of total food used at home per AME and per ENU by dividing the household's money value of total food used at home by household size in AMEs and ENUs, respectively. The measures for purchased and nonpurchased food used at home were defined analogously.

Note that, of the three measures of the money value of food used at home, we believe the results based on measures scaled by ENU are the most useful. This measure takes into account family size and composition and, because it controls for meal shifting, shows the effects of cash-out on total (purchased and nonpurchased) food used at home by those persons who use the home food supply. Essentially, the ENU, by taking into account the percentages of meals eaten at home, provides the best measure of the dependency of household members on the home food supply.

#### **c. Money Value of Food Used, by Food Group**

We also present the mean values of the money value of food used per ENU, by food group (for the 31 food groups in the TFP, plus alcoholic beverages). For any household, the money value of food used at home (in dollars per week) per ENU for each aggregated food group was obtained by summing the money values of the individual food items comprising the food group and dividing the result by household size in ENUs.

#### **d. Share of Money Value of Food Used at Home, by Food Group**

The *share of money value of food used at home, by food group*, is the percentage of the total money value of food used by a household from its home food supply that is accounted for by each of the

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<sup>10</sup>The ENU measure of household size that was used to compute scaled measures of the money value of food used at home was based on the recommended intake of *food energy* (National Research Council, 1989b).

31 TFP food groups plus alcoholic beverages. When calculating mean shares, we have used averages of individual food stamp household ratios for each food group. For purposes of illustration, an average expenditure share for check households for high-nutrient vegetables equal to 3.50 means that, for the average check household, of every dollar spent per week on food used at home, an average of 3.5 cents was devoted to high-nutrient vegetables.

### 3. Availability of Nutrients from Food Used at Home

When examining the effects of cash-out on the availability of nutrients from food used at home, we considered two types of nutrients: (1) *macronutrients*--protein, fat, and carbohydrate--which are the principal sources of food energy,<sup>11</sup> and (2) *micronutrients*--vitamins, minerals, and trace elements--which are essential to the proper growth and maintenance of the human body.

The survey obtained data on food used by households, but not on food eaten by household members; consequently, the only nutrient measures that can be computed on the basis of the survey data are measures of nutrient availability. In this study, *nutrient availability* is defined as the nutrients available from all food used by a household from its home food supply during the seven-day period preceding the interview.<sup>12</sup> Thus, a household's availability of calcium, for example, was computed by multiplying the calcium content per pound of each food item by the number of pounds used of each food item and summing across the products across all food items. The availability of food energy and other nutrients from the household food supply was derived analogously.

In this study, most measures of nutrient availability are reported on a per-ENU basis.<sup>13</sup> Thus,

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<sup>11</sup>Alcohol (ethanol) is the only other significant source of food energy. The survey data for this study show that alcohol provides less than 0.2 percent of the energy obtained by food stamp households in San Diego from food used at home. Consequently, we have omitted alcohol from the analysis of food energy and its sources that is presented in Chapter III.

<sup>12</sup>*Nutrient intake* is defined as the nutrients provided by foods actually eaten by household members and guests.

<sup>13</sup>For each nutrient considered in this study, we have computed a nutrient-specific measure of household size in ENUs. This measure of household size incorporates adjustments for: (1) the need  
(continued...)

continuing with the example, the availability of calcium from food used at home per ENU equals the availability of calcium in the food used by a household from its home food supply divided by the number of ENUs who draw on the household's home food supply for their meals, taking into account the proportion of meals consumed from the home food supply and the number of meals served to guests. When transformed in this way, the measure of nutrient availability can, subject to the qualifications given in the following section, be meaningfully compared with the RDA for an adult male, thus permitting an assessment of the *relative* nutritional adequacy across population groups of food used from the home food supply.

In the analyses of nutrient availability presented in Chapter III, we calculate the mean values of several measures. These measures are:

- Food energy and protein as a percent of the RDA, and the percentages of households for which the availability of food energy and protein equals or exceeds the RDAs
- The proportions of food energy derived from protein, carbohydrate, and fat
- Nutrient availability per 1,000 kilocalories of food energy (calculated for the seven micronutrients under consideration)
- Nutrient availability per ENU as a percent of the RDA (calculated for the seven micronutrients under consideration)
- Percentage of households for which the availability per ENU of food energy, protein, and each of the seven selected micronutrients equals or exceeds the RDAs
- Nutrient availability per dollar of food used at home (calculated for protein and the seven micronutrients under consideration)

The third and sixth measures require further discussion. Examining nutrient availability per unit of food energy is of interest because it provides a measure of the average nutrient content, or density,

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<sup>13</sup>(...continued)

of each household member for the nutrient in question, as indicated by his or her RDA for that nutrient, (2) the proportion of each member's meals that is eaten at home, and (3) meals served to guests. See the discussion in Section II.C.1 for more details. It should be noted that, for analysis of nutrient outcomes, the ENU measures used are specific to each nutrient. However, for analysis of dollar-denominated variables, the ENUs for food energy are used.

of food used. This measure can help us to understand reasons for observed changes in other nutrient outcome variables. For instance, suppose that the demonstration was found to reduce the consumption of food energy. It would be of interest to determine whether there was a concomitant reduction in the consumption of key nutrients, or, alternatively, whether households had avoided such a reduction by switching to foods having higher nutrient densities.

To calculate nutrient availability per 1,000 kilocalories of food energy for each household for the seven micronutrients, we divided the availability of each micronutrient per household by the availability of food energy. The mean values of these ratios equal the averages of individual food stamp household ratios for each nutrient.

Similar considerations apply to the measure of nutrient availability per dollar of food used at home, which provides a measure of how many nutrients households are getting for their expenditures for food. To the extent that expenditures for food change, it is of interest to examine whether households increase the nutrient availability per dollar of food so that the decrease in expenditures is not fully reflected by a decrease in nutrients.

Nutrient availability per dollar of food used at home for protein and for each micronutrient under consideration equals the availability of each nutrient per household divided by the total money value of food used at home (in dollars per week). The mean values of these ratios equal the averages of the individual food stamp household ratios for each nutrient.

#### **a. Limitations of RDAs and Nutrient Availability in Assessing Nutritional Adequacy**

Many of the measures of nutrient availability used in this study entail either a comparison between the sample mean availability of a nutrient per ENU and the RDA for an adult male, or a determination of the percentage of sample households for whom the availability of a nutrient per ENU equals or exceeds the RDA. It is important at the outset to note some limitations of using RDAs as standards for evaluating the nutritional adequacy of food used by households, as well as of using data on nutrient availability, rather than on nutrient intake.

RDA's for selected nutrients are established for demographic groups that are defined by age, gender, and pregnancy and lactation status. The RDA of a particular demographic group for a given nutrient reflects the average requirement of the members of the group for the *intake* of that nutrient, as well as the variability in their requirements. To accommodate that variability, for all nutrients except food energy, the RDA exceeds the mean requirement by a large margin.<sup>14</sup> Therefore, if a demographic group's mean intake of a nutrient equals or exceeds the relatively high standard of the RDA, the probability of inadequate intake is quite low for members of that group. Furthermore, an individual whose intake of a nutrient other than food energy is less than the RDA for that nutrient may not be at nutritional risk, because the RDA exceeds the nutritional requirements of most individuals.

At the same time, the finding that a nutrient is available in an amount that equals or exceeds the RDA, either on average for all households or for specific households, does not necessarily mean that the supply of that nutrient is sufficient to permit the members of those households to have intakes of the nutrient that equal or exceed the RDA. Not all of the food used by a household from its home food supply is eaten by members or guests of the household; some is lost, wasted, or fed to pets. To the extent that these events occur, the availability of nutrients from food used at home will exceed the sum across all household members and guests of the intake of nutrients from that food. Thus, the availability of nutrients from the household food supply overstates the *intake* of nutrients by household members. In addition, the allocation of nutrients among household members may not be optimal with respect to satisfying the nutritional requirements of these individuals. Furthermore, current scientific knowledge of the biological requirements of individuals for nutrients is limited in several important ways, as is our ability to measure the long-term intake or availability of nutrients.

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<sup>14</sup>The RDA for energy reflects the mean population requirement for each group.

Consequently, the statistics on the availability of nutrients relative to the RDAs that we present in Chapter III on the basis of the above measures should be used only to make *relative* comparisons between check and coupon recipients in the nutritional adequacy of food used from the home food supply. A finding that the mean availability of a given nutrient equals or exceeds the RDA by a greater margin for one of the groups than for the other should be interpreted as indicating that the group for which the margin is larger is at less nutritional risk than the other group of having inadequate food availability. Although intakes below the RDA for a nutrient are not necessarily inadequate, the risk of some individuals' having inadequate intakes increases as the mean intake for their group falls further below the RDA. Likewise, the finding that the proportion of households for which the availability of a nutrient equals or exceeds the RDA is greater for one group than for the other should be interpreted in a similar relativistic fashion. The reader is cautioned to avoid drawing absolute conclusions from these findings about the number or proportion of coupon or check households that are at nutritional risk.

#### **4. Food and Nonfood Expenditures**

This section describes the measures used to assess the impact of cash-out on food and nonfood expenditures. The measures are: (1) expenditures for food used at home, expenditures for food used away from home, and total expenditures for food, and (2) food and nonfood expenditure shares.

##### **a. Expenditures for Food Used at Home**

The first measure of monthly expenditures for food used at home is the *monthly money value of purchased food used at home*, which is based on information obtained from the main questionnaire. This measure is based on the seven-day accounting of each individual purchased food item that was used from the home food supply (that is, the use of purchased food over the seven-day recall period). The money value of each reported food item that was purchased was computed as the quantity used multiplied by the unit price. We obtained the total money value of purchased food used at home per

week by summing the money value over all of the purchased food items used. This figure was converted to a monthly figure by multiplying the per-week amount by 4.3 weeks.

Note that, in this approach, the monthly money value of purchased food used at home is a proxy measure of the expenditures for food used at home per month. It differs from the true measure of expenditures for food used at home per month in that: (1) foods enter the measure as they are used, rather than as they are purchased by the household, and (2) the measure is based on a seven-day accounting period, rather than on a monthly accounting period.

A second measure of food expenditures was available in the data set. This measure, obtained during the household screener interview, was based on household reports of the total amounts of money spent by household members on food at various types of stores. The two measures differ substantially, with the mean of expenditures as estimated from the screener questions being approximately 32 percent lower than the mean based on the detailed food-use data. In addition, the two measures lead to somewhat different analytic results.

We believe that the expenditures estimated on the basis of the detailed food-use data are in all likelihood the more accurate, for two principal reasons. First, a priori, the very detailed probing sequences involved in asking the questions on food used seem likely to have elicited more accurate information than did the summary questions on overall monthly expenditures at various types of stores. Second, as discussed in Appendix H, the means estimated on the basis of the detailed food-use data are much closer than the screener-based means to independent estimates of food expenditures by low-income households compiled as part of the 1988-1989 Consumer Expenditure Survey, conducted by the U.S. Department of Labor, Bureau of Labor Statistics.

In light of these factors, the analysis in the body of the report is based on household expenditures as estimated using the detailed food-use questions. We present results based on the alternative measure in Appendix H.

### **b. Expenditures for Food Used Away from Home**

The measure of monthly expenditures for food purchased and consumed away from home, *monthly expenditures for food used away from home*, is based on information from the main questionnaire. This measure includes the household's reported total expenditures (including any applicable sales taxes and tips) for meals, snacks, and beverages that were eaten at restaurants, bars, cafeterias, cafes, and fast food places during the seven days preceding the interview.<sup>15</sup> It also includes the amount paid in the calendar month preceding the interview for reduced-price or full-price school meals and for meals or snacks received at a day care home or center (if the payment for the food was separate from the payment for the care).

### **c. Total Expenditures for Food**

*Total monthly expenditures for food* was calculated by summing the money value of purchased food used at home and expenditures for food used away from home.

It is important to point out a limitation associated with this measure of total food expenditures. In particular, the survey methodologies used to measure expenditures for food used at home and food used away from home differ. The measure of expenditures for food used at home is based on a seven-day assisted recall of each purchased food item used from the home food supply, whereas expenditures for food used away from home is based on a recall of the aggregate household expenditures for food used away from home during the seven days preceding the household interview. Therefore, because of the differences in survey methodologies, aggregation of the two measures (expenditures for food used at home and expenditures for food used away from home) is somewhat problematic.

Despite this measurement problem, we have conducted a limited amount of analysis of total expenditures for food. Readers should keep in mind the limitations of these measures.

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<sup>15</sup>Total expenditures for the seven days were multiplied by 4.3 weeks to convert the seven-day amount to a monthly amount.

#### **d. Food and Nonfood Expenditures Shares**

Households were asked in the household survey to recall expenditures during the previous month for the following eight broad categories of nonfood items: shelter (housing and utilities), medical, transportation, clothing, education, dependent care, recreation, and personal items. These data were converted into *expenditure shares*. An expenditure share is the proportion of all reported expenditures allocated to a specific budget category (for example, a household's expenditure for clothing divided by the total dollar amount of all of its reported expenditures). We computed expenditure shares for total food (and separately for its components, food used at home and food used away from home) and for the eight categories of nonfood items. When calculating mean budget shares for food and nonfood expenditure categories, we used averages of individual food stamp household ratios.

#### **D. DESCRIPTION OF THE SAMPLES OF CHECK AND COUPON HOUSEHOLDS**

The survey of food stamp recipients was conducted with 1,226 households (613 check households and 613 coupon households). Of these, 83 were homeless food stamp recipients, for whom no food-use data were obtained. In addition, not all interviews yielded data that could be used to analyze the impact of cash-out on food use. For a number of reasons related to data quality, some of the interviews had to be omitted from this part of the analysis.<sup>16</sup>

This reduction produced a final sample of 1,078 households (542 check households and 536 coupon households) that could be used to analyze the impact of cash-out on food use and nutrient availability. However, for analyses that did not depend on food-use data, such as respondents'

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<sup>16</sup>For 48 households (22 check recipients and 26 coupon recipients), the food-use data collected in the interview were deemed of insufficient quality, because the interview was conducted more than 48 hours after the end of the seven-day reference period, or because the food-use data mistakenly were collected for more than seven days. Another nine households were nonhousekeeping households--that is, households that consumed fewer than ten meals at home during the reference week. Finally, eight households were in group homes, where food was prepared centrally for several unrelated individuals; obtaining consistent data on the entire set of individuals who ate together was not feasible in these cases.

attitudes toward check benefits, we used a larger sample, which contained all interviewed households other than the homeless recipients, for a total of 1,143 households (572 household check and 571 coupon households). Data from the interviews of the homeless were tabulated separately and are presented in Appendix G.

This section presents descriptive statistics for the sample of 1,143 nonhomeless households. (The characteristics of the smaller sample used in the food-based analysis are virtually identical to those of this larger sample.) With the notable exception of household size, the two samples of check and coupon households have similar demographic and economic characteristics. In the first part of this section, we examine the distribution of check and coupon households by household size. In the second part, we examine the other demographic and economic characteristics of the households in the two samples.

### 1. Household Size

In the top panel of Table II.2, we present the average size of the FCU computed in number of persons, number of AMEs, and number of ENUs, separately for check and coupon households. The most important finding concerning measures of household size as shown in the table stems from the comparison of various measures *between* the two samples: the average coupon household is larger than the average check household, irrespective of the measure used. The t-statistics in the last column of the table show that, for each of these measures, the check-coupon difference in mean values is statistically significant. This result is unexpected, given that random methods were used in both the original assignment of food stamp recipients to check or to coupon status and in the subsequent selection of households to be part of the data collection sample.

We considered three explanations for this result: (1) some procedural error could have occurred at either stage of random assignment, resulting in a nonrandom allocation of check and coupon households according to a criterion systematically related to household size, (2) the two samples could have had identical household size distributions at the time of selection, but differential attrition during

TABLE II.2  
MEASURES OF HOUSEHOLD SIZE AMONG CHECK  
AND COUPON HOUSEHOLDS

Measure of Household Size	Mean Value		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
<b>Unweighted Data</b>					
Number of Persons in the					
Food consumption unit	3.35	3.55	-0.20	-5.63	2.05**
Food consumption unit in adult male equivalents	2.37	2.50	-0.13	-5.20	1.71*
Food consumption unit in equivalent nutrition units	2.09	2.21	-0.12	-5.43	1.81*
<b>Weighted Data</b>					
Number of Persons in the					
Food consumption unit	3.30	3.37	-0.07	-2.08	0.78
Food consumption unit in adult male equivalents	2.34	2.37	-0.03	-1.27	0.43
Food consumption unit in equivalent nutrition units	2.06	2.10	-0.04	-1.90	0.63
<b>Sample Size</b>	<b>572</b>	<b>571</b>			

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey.

NOTE: Two-tailed statistical tests were performed on all differences shown in this table.

\*Statistically significant at the 90 percent confidence level, two-tailed test.

\*\*Statistically significant at the 95 percent confidence level, two-tailed test.

data collection could have made them different, and (3) the result could be due to chance--that is, a particularly "unlucky" sample draw may have occurred.

We intensively reviewed the sample selection procedures and found nothing that could have produced the discrepancy observed in Table II.2. Moreover, we found that the discrepancy could not have been produced entirely by differential attrition, because a post-survey analysis of food stamp case size information obtained from San Diego County case records showed that the size difference had been present in the sample at the onset of data collection. Therefore, it appears that the systematic difference in household size was the product of chance.

The size discrepancy between check and coupon households has the potential to affect the estimated effect of cash-out on food consumption, because household size is an important determinant of food consumption.<sup>17</sup> On the other hand, household size appears to be the only dimension along which check and coupon households differ significantly; as shown in the next two sections, there are no statistically significant differences between the two samples in the other demographic and economic characteristics. Therefore, we decided to *reweight* the observations in order to equalize the distribution of household size across the two samples. The reweighting was accomplished by using weights that make the distribution by FSU size in the two samples equal to the distribution by FSU size in the entire San Diego caseload.

Details on the construction of the weights are provided in Appendix B. Essentially, the reweighting implies that observations with household sizes that were underrepresented in the sample

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<sup>17</sup>Without a correction for the larger average size of coupon households, estimates of the effect of cash-out on the money value of food used would be biased toward showing a *negative* effect of cash-out: households receiving checks might appear to spend less on average than coupon households simply because they are smaller on average, even if cash-out had no true impact. By contrast, an estimate of the effect of cash-out on *per capita* (that is, per-AME or per-ENU) food use would be biased in a *positive* direction. To understand the reason for the opposite sign of this bias, note that per capita food use typically declines as the size of the household increases, because of the presence of economies of scales in food purchasing and preparation. Because the sample of check recipients contains relatively "too many" small households, the average per capita food use among the check households in the sample would tend to be *larger* than it would otherwise be. This bias could offset or at least dilute a true negative effect of cash-out on per capita food use.

are counted somewhat more heavily in the tabulations, whereas those with household sizes that were overrepresented are counted somewhat less heavily. Appendix B lists the weighting factors used for various household sizes. In general, the variation in these weights is relatively small compared with the degree of weighting that is usually needed in stratified samples. In particular, all of the weights lie between .5 and 2, and a majority lie between .8 and 1.2. As discussed in Appendix B, the major qualitative results reported in the body of the report are not sensitive to the weighting; however, in some instances, the weighting affects the quantitative magnitude of some of the estimated effects. The weighting is used only in the tabulations of the data. Because the regression equations use household size as a control variable, they have not been weighted.

The bottom panel of Table II.2 presents the same descriptive statistics as those shown in the top panel, but they are weighted. Note that the reweighting almost completely equalizes the size of the FCU between the two subsamples.<sup>18</sup>

In the remainder of this section, to show the characteristics of the basic sample, we use unweighted data to compare check and coupon households. However, in the subsequent chapters, all tabulations are performed with weighted data.

## **2. Other Demographic and Economic Characteristics of Check and Coupon Households**

The following subsections compare check and coupon households along dimensions other than household size, such as family composition, demographic characteristics of the "sampled person," and economic characteristics of the household.<sup>19</sup> As discussed, check and coupon households were similar along all of the demographic and economic dimensions under consideration.

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<sup>18</sup>Weighted tabulations of the basic sample characteristics appear in Appendix B. For most variables, the weighting makes relatively little difference. However, the weighting increases the percentage of households receiving non-Aid to Families with Dependent Children (AFDC) assistance for check recipients. The change resulting from weighting is sufficient to make the check-coupon difference for this variable statistically significant at the 90 percent confidence level.

<sup>19</sup>The "sampled person" is the person in whose name the food stamp case is maintained. Most of the demographic information was collected in the survey only for the sampled person; only the age of and the relationship to the sampled person were collected for all household members.

**a. Demographic Characteristics**

Considering the demographic composition of the FCU for check and coupon households, only about 2 percent of both check and coupon households contain an elderly person (Table II.3). This finding is explained by the fact that, in California, recipients of Supplemental Security Income (SSI) are issued their food stamp benefits in the form of an additional amount on their SSI check, rather than as a separate food stamp benefit. Consequently, from an administrative perspective, most elderly food stamp recipients in California are not considered to be part of a county's food stamp caseload.

Ninety-two percent of check households and 93 percent of coupon households contain children. In both samples, about 75 percent of households with children are headed by a single parent. Of check recipients, about 77 percent of sampled persons are female, and 25 percent are married. Of coupon recipients, 79 percent are female, and 22 percent are married. These differences are not statistically significant.

About 13 percent of sampled persons in check households and 12 percent in coupon households were employed at the time of the interview. The percentage of sampled persons less than 35 years of age is about three percentage points larger among coupon households than among check households. However, these differences are not statistically significant at conventional levels. Sampled persons in check households and coupon households are also similar in their educational status. About 17 percent of sampled persons in check households and 15 percent in coupon households completed no more than eight grades of school. Fifty-six percent of check households completed high school, compared with 58 percent of coupon households.

The proportions of Asians and Hispanics in the two samples are relatively similar. The coupon households contain about three percentage points more blacks and about three percentage points fewer non-Hispanic whites.

TABLE II.3

**DEMOGRAPHIC CHARACTERISTICS OF CHECK AND COUPON HOUSEHOLDS**  
(Percentage of Households)

	Percentage		Difference in Percentages		
	Check	Coupon	Absolute	Percentage	t-Statistic
<b>Composition of the Food Consumption Unit</b>					
Contains Elderly	1.92	2.28	-0.36	-15.35	0.42
Contains Children	91.78	93.17	-1.39	-1.49	0.89
Single parent	75.05	76.32	-1.27	-1.66	0.48
Two parents	24.95	23.68	1.27	5.36	0.48
<b>Characteristics of the Sampled Person</b>					
Female	77.27	78.81	-1.54	-1.95	0.63
Married	24.65	22.07	2.58	11.69	1.03
Employed	12.59	12.43	0.16	1.21	0.08
Less than 35 Years Old	63.99	67.25	-3.26	-4.85	1.16
<b>Education</b>					
Did not complete elementary school	16.78	14.71	2.07	14.07	0.96
Completed elementary school	27.45	27.50	-0.05	-0.18	0.02
Completed high school	55.59	57.79	-2.20	-3.81	0.75
<b>Race and Ethnicity</b>					
Asian	12.41	11.03	1.38	12.51	0.72
Hispanic	31.47	32.22	-0.75	-2.36	0.27
Black (not Hispanic)	19.76	23.12	-3.36	-14.53	1.38
White (not Hispanic)	34.27	31.52	2.74	8.69	0.99
Other	2.10	2.10	0.00	0.00	0.00
<b>Sample Size</b>	<b>572</b>	<b>571</b>			

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, unweighted tabulations.

NOTE: Two-tailed statistical tests were performed on all differences shown in this table; none was statistically significant.

## **b. Economic Characteristics**

This section compares the economic situation of check households and coupon households. As with the demographic characteristics, the two samples of check and coupon households have similar economic characteristics.

During the interview, respondents were asked whether the adults in the households had received income during the previous month from each of 17 different sources, including earnings from a job or self-employment, several types of retirement income, and benefits from a number of government transfer programs. When an income source was reported, the respondent was asked about the amount received during the month. Respondents were also asked to report the amount of their food stamp benefits. To obtain the total cash income for the FCU, we summed the amounts of cash income from all sources for all of the individuals in the FCU.

During a preliminary analysis of the income data, we noticed that a large fraction of check recipients misreported their AFDC and food stamp benefit amounts (see Appendix C for an explanation of this finding). To address this problem, we replaced the self-reported amounts for both types of income with the amounts obtained from the food stamp office's administrative records for the interview month. To avoid treating observations differently according to their treatment or control status, we made this replacement for both check and coupon recipients. For households containing more than one FCU or AFDC unit, we made the replacement only for the "primary" unit--that is, for the FCU that was sampled to participate in the study. Therefore, the total AFDC benefit for an FCU might be the sum of one "official" amount and one or more self-reported amounts. The same is true for the total food stamp benefit amount.

Table II.4 compares the economic circumstances of check and coupon households. Total monthly cash income for the FCU averages about \$880 for both check and coupon recipients. Almost 20 percent of check households and almost 22 percent of coupon households receive wage and salary earnings, with slightly higher average earnings by check recipients. However, none of these

TABLE II.4  
ECONOMIC CHARACTERISTICS OF CHECK AND COUPON HOUSEHOLDS

	Mean Value		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
Monthly Cash Income	\$872.95	\$888.10	-15.15	-1.73	0.50
Percent Receiving Earned Income	19.76	21.89	-2.13	-9.78	0.89
Amount of Earned Income (recipients only)	\$632.03	\$600.20	31.83	5.30	0.44
Percent Receiving AFDC	87.59	88.97	-1.38	-1.55	0.72
Amount of AFDC Benefits (recipients only)	\$658.88	\$658.58	0.30	0.05	0.02
Percent Receiving Other Public Assistance	17.83	15.76	2.07	13.13	0.94
Amount of Public Assistance Benefits (recipients only)	\$466.27	\$510.44	-44.17	-8.65	1.06
Food Consumption Unit Monthly Food Stamp Benefits	\$116.20	\$116.46	-0.26	-0.22	0.07
Ratio of Monthly Food Stamp Benefit to Monthly Cash Income Plus the Food Stamp Benefit <sup>a</sup>	11.75	11.59	0.16	1.38	NA
Percent Paying Rent	97.73	97.72	0.01	0.00	0.00
Amount of Rent Paid	\$404.26	\$402.71	1.55	0.38	0.14
Sample Size	572	571			

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, unweighted tabulations.

NOTE: Monthly cash income figures exclude cash Food Stamp Program benefits.

Two-tailed statistical tests were performed on all differences shown in this table; none was found to be statistically significant.

<sup>a</sup>Calculated as the sum of all food stamp benefits in the sample divided by the sum of all food stamp benefits plus income in the sample.

AFDC = Aid to Families with Dependent Children; NA = not applicable.

differences is statistically significant. It is also useful to characterize the economic situation of check and coupon households according to the households' rental status and rent expenditures. Almost 98 percent of both check and coupon households pay rent and spend an average of about \$400 per month on rent.

Almost 90 percent of both groups of households receive AFDC benefits. The average monthly amount of AFDC benefits (\$659) is virtually identical for the two samples. Eighteen percent of check households and 16 percent of coupon households receive other forms of public assistance (SSI, General Assistance, and Housing Assistance). However, this difference is not statistically significant.

The average amount of the food stamp benefit is virtually identical in the two samples--about \$117. This similarity implies that other factors, resulting in larger food stamp *net income*, must counterbalance the larger size of coupon households, which by itself would produce a larger food stamp benefit amount. The average ratio of food stamp benefits to total income (inclusive of food stamp benefits) is about 12 percent in both samples.

### **III. THE EFFECTS OF CASH-OUT ON HOUSEHOLD FOOD USE, NUTRIENT AVAILABILITY, AND PERCEPTIONS OF FOOD ADEQUACY**

A central issue in the San Diego Cash-Out Demonstration Evaluation (and in the other cash-out studies) is whether converting the benefit form from food stamp coupons to checks reduces

purchased and nonpurchased food used at home. (Nonpurchased food includes food received as a gift, food obtained from a food bank, food obtained by redeeming a Special Supplemental Food Program for Women, Infants, and Children [WIC] voucher, and food received as payment for work.<sup>1</sup>) This section uses information from the survey to investigate the effects of cash-out on the money value of food used at home and on the kinds and quantities of food used.<sup>2</sup>

### 1. The Money Value of Food Used at Home

We begin by discussing the impact of cash-out on the money values of purchased and nonpurchased food used at home during the seven days preceding the interview; we also discuss the impact on the sum of those values—the money value of all food used at home. Three measures are used in the discussion. In Section IIIA.1.a, to discuss the findings, we use the *money value of food used at home per household*, which is simply the total money value of food used from the household food supply. In Section IIIA.1.b, we examine two measures that adjust the money value of food used at home for family size and composition: (1) the *money value of food used at home per adult male equivalent (AME)*, and (2) the *money value of food used at home per equivalent nutrition unit (ENU)*.<sup>3</sup>

To summarize the findings, the analysis of the money value of food used by check and coupon households indicates that cash-out reduced the money value of *purchased food* used at home by about 7 percent. The analysis also indicates that check households used somewhat more *nonpurchased food* than did coupon households. The increase in the use of nonpurchased food by check households partially offset the impact of cash-out on the use of *all* food used at home, relative to its impact on the use of purchased food. We estimate that the money value of all food used at home was roughly

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<sup>1</sup>Findings from the household survey on the reliance of check recipients on food banks, gift/pay food, and surplus commodities are presented in the final section of this chapter.

<sup>2</sup>This evaluation also assessed the impact of cash-out on nonfood consumption behavior. Section A of Chapter IV presents the results of that assessment.

<sup>3</sup>See Chapter II, Section C.2, for descriptions of the unscaled and scaled measures of the money value of food used at home.

4.5 to 6.5 percentage points less for check households than for coupon households.<sup>4</sup> We found no evidence indicating that the reduction in food used at home was accompanied by an offsetting increase in the consumption of food used away from home.

**a. Money Value of Food Used at Home per Household**

The cash-out of food stamp benefits in San Diego reduced the money value of purchased food used at home, but the reduction was offset somewhat by the fact that check households in the sample consumed more nonpurchased food used at home than did coupon households. Thus, the estimated reduction by cash-out of the total money value of food used at home per household was less than the estimated reduction in the money value of purchased food used at home.

Table III.1 shows that the money value of *purchased food used at home* was \$5.17 less per week for check households than for coupon households (\$63.94 versus \$69.11). With a one-tailed test, this reduction is statistically significant at the 95 percent confidence level. The value of *nonpurchased food used at home* by check households was \$0.36 greater per week than that used by coupon households (\$4.06 versus \$3.70); however, this difference is not statistically significant. Thus, overall, check households used food that was worth an average of \$4.82 less per week than that used by coupon households (\$68.00 versus \$72.82). This reduction, which equals 6.6 percent of the dollar value of household food used per week by coupon households, is statistically significant at the 95 percent confidence level, with a one-tailed test.

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<sup>4</sup>When assessing these findings, note that they are based on a measure of food expenditures derived from detailed survey information on the foods used by households during the seven days preceding the interview. The survey data set also contains a second measure of food expenditures, one based on respondent estimates of the amounts of money spent at various types of food stores during the month before the interview. As reported in Chapter IV and Appendix H, this measure does not show that cash-out results in any decrease in household food expenditures. We have focused most of the analysis on the expenditures measure derived from the detailed recall of food use; for reasons discussed in detail in Chapter IV and Appendix H, we believe that this measure is the more accurate measure of household food expenditures.

TABLE III.1  
MONEY VALUE OF FOOD USED AT HOME  
(In Dollars)

Measure of Weekly Food Use	Mean Value		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
<b>Money Value of Food Used at Home</b>					
Purchased food	63.94	69.11	-5.17	-7.48	2.09 <sup>††</sup>
Nonpurchased food	4.06	3.70	0.36	9.73	0.56
All food used at home	68.00	72.82	-4.82	-6.62	1.88 <sup>††</sup>
<b>Money Value of Food Used at Home per ENU</b>					
Purchased food	33.28	35.70	-2.42	-6.78	2.45 <sup>††</sup>
Nonpurchased food	2.67	1.93	0.74	38.34	2.06 <sup>††</sup>
All food used at home	35.95	37.63	-1.68	-4.46	1.62 <sup>†</sup>
<b>Money Value of Food Used at Home per AME</b>					
Purchased food	29.63	31.82	-2.19	-6.85	2.35 <sup>††</sup>
Nonpurchased food	2.19	1.73	0.46	26.59	1.57 <sup>†</sup>
All food used at home	31.83	33.55	-1.72	-5.13	1.78 <sup>††</sup>
<b>Sample Size</b>	542	536			

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: One-tailed statistical tests were performed on all check-coupon differences shown in this table.

Table K.1 in Appendix K presents median values of the variables shown in this table.

ENU = equivalent nutrition unit; AME = adult male equivalent.

<sup>†</sup>Statistically significant at the 90 percent confidence level, one-tailed test.

<sup>††</sup>Statistically significant at the 95 percent confidence level, one-tailed test.

## **b. Scaled Measures of the Money Value of Food Used at Home**

The money value of food used at home per household does not take into account either the size of the household or its age-gender composition. The measure also does not consider the proportion of meals consumed from the household food supply. In this section, we report findings that are based on the AME- and ENU-scaled measures of the money value of food used at home. However, we focus on the results for the ENU-scaled measure, because this measure controls for both household size and composition and the proportion of meals eaten from the home food supply. The AME-scaled measure controls only for household size and composition.

Table III.1 shows that the money value of *purchased food used at home* per ENU was \$2.42 less per week for check than for coupon households (\$33.28 versus \$35.70). However, the money value of *nonpurchased food used at home* per ENU was \$0.74 more per week for check than for coupon households (\$2.67 versus \$1.93). Thus, overall, check households used food that was worth an average of \$1.68 less per week per ENU than that used by coupon households (\$35.95 versus \$37.63). This reduction equals 4.5 percent of the dollar value of household food used per week per ENU by coupon households. All of the check-coupon differences cited in this paragraph are statistically significant at either the 90 percent or 95 percent confidence levels, with a one-tailed test.<sup>5,6</sup>

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<sup>5</sup>For the money value of food used per ENU and for other key outcome variables discussed subsequently in this chapter, we used "trimmed" means of the variables to conduct alternative "robust" tests for check-coupon differences. To conduct these tests, we first excluded from our calculations of means the 1 percent of check and coupon cases having the highest values and the 1 percent having the lowest values of the variable in question. We subsequently increased the trimming to 5 percent from each tail of the distribution. The purpose of the trimming was to make our statistical inferences less sensitive to cases with extreme values of food usage. Such values may have been misreported or miscoded. We found that, with the 1 percent trimming, the check-coupon differences in means reported in this chapter persisted in the trimmed means. In addition, the results of tests of statistical significance were generally the same, whether based on trimmed or untrimmed means. The increase in trimming from 1 percent of cases in each tail to 5 percent had no effect.

<sup>6</sup>The regression-adjusted estimates of the effect of cash-out on the money value of purchased food used at home per ENU, of nonpurchased food used at home per ENU, and of all food used at home per ENU have the same signs and are close in magnitude and statistical significance to the simple-difference-in-means estimates. The regression-adjusted mean value of the money value of *purchased food used at home* per ENU was \$2.45 less per week for check than for coupon households;  
(continued...)

Of particular concern is whether cash-out affects food use by food stamp recipients who tend to use relatively low amounts of food and who, therefore, are presumably at greatest nutritional risk. To examine this issue, we compared food use for different quartiles of households, as defined by their food use per ENU. Cash-out had no discernable effect on the use of food at home per ENU by households that are in the lower end of the distribution of food use. Figure K.1 in Appendix K shows that the cumulative distributions of the money value of food used at home per ENU are virtually identical for check and coupon households up to the 25th percentile, after which they begin to diverge. The greatest divergence in the two distributions is in the third and fourth quartiles.<sup>7</sup>

We observed a similar pattern when we used the AME-scaled measure of the money value of food used at home. Check households used total food worth an average of \$31.83 per week per AME, compared with \$33.55 for coupon households. The t-statistic indicates that the check-coupon difference of \$1.72 per week per AME is statistically significant at the 95 percent confidence level, with a one-tailed test. Examining the separate components (purchased and nonpurchased food used at home) shows that cash-out reduced the money value of purchased food used at home by \$2.18 per week per AME, but that check households increased their consumption of nonpurchased food used at home by \$0.46 per week per AME. The former check-coupon household difference is significant at the 95 percent confidence level, with a one-tailed test; the latter difference is significant at the 90 percent confidence level.

As noted, the ENU scaling controls for any changes that might have occurred in the percentage of meals eaten away from home. The fact that, in Table III.1, the mean value of this variable is

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<sup>6</sup>(...continued)

the t-statistic equals 2.61. The regression-adjusted mean value of the money value of *nonpurchased food used at home* per ENU was \$0.53 more per week for check than for coupon households; the t-statistic equals 1.51. Overall, the regression-adjusted estimates imply that check households used food worth an average of \$1.93 less per week per ENU than that used by coupon households (t-statistic equals 1.96). See Appendix E, Tables E.3 through E.5, for the regression estimates.

<sup>7</sup>Appendix K also provides the median values for the money value of food used per ENU and the other variables in Table III.1 (see Table K.1).

significantly lower for check recipients than for coupon recipients tells us that the reduction in the value of food used at home is largely due to a reduction in the value of food used at home *per meal*, rather than to a shift to a higher proportion of meals eaten away from home. Additional evidence about this effect is provided in a later chapter, in which we show that cash-out had no significant effect on the percentage of meals eaten from the household food supply (Chapter IV, Table IV.1).

**c. Money Value of Purchased Food Used as a Percentage of the Food Stamp Benefit Amount**

We calculated the money value of purchased food used at home as a percentage of the food stamp benefit. If the money value of purchased food used by a household does not exceed the value of its food stamp benefit, this measure is less than or equal to 100 percent. Under this condition, a coupon household might prefer to reduce its food consumption and to increase its nonfood consumption, but is prevented from doing so by the form of its food stamp benefit. Such a household is said to be "constrained" in its consumption behavior by the coupon form of its food stamp benefit. A constrained household is likely to respond to food stamp cash-out by diverting some of its food stamp benefit away from the purchase of food and toward the purchase of nonfood items.

The concept of "constraint" can be clarified by considering an unconstrained household. A coupon household that purchases food having a money value in excess of its food stamp benefit amount (by using some of its cash income to purchase food) is said to be "unconstrained" in its consumption behavior by the form in which it receives its food stamp benefit. Even in the absence of cash-out, such a household could reduce its consumption of food and increase its consumption of nonfood items, if it wished, by cutting back on its cash purchases of food and using the money saved to increase its nonfood purchases. Given the existence of that option, even under coupon issuance, we would not expect an unconstrained household to change its consumption behavior in response to cash-out.

Because constrained households are likely to alter their consumption behavior in response to the increased flexibility afforded by check benefits, whereas unconstrained households are not, the money

value of purchased food used as a percentage of the food stamp benefit for coupon households is, in principle, an indicator of the size of the impact that cash-out might have on food consumption and nutrient availability.

We computed the percentage of coupon households for which the money value of purchased food used at home is (1) less than 100 percent of the food stamp benefit, (2) between 101 percent and 110 percent of the food stamp benefit, and (3) greater than 110 percent of the food stamp benefit. To allow for errors in the reporting of food use, we classified coupon households with a money value of purchased food used at home that is less than or equal to 110 percent of the food stamp benefit as possibly being "constrained" by the form of their benefit.

Table III.2 shows that 94 percent of coupon households have a money value of purchased food used at home that is greater than 110 percent of their food stamp benefit. Thus, 6 percent of the coupon households are possibly constrained by the form of the food stamp benefit. Therefore, on the basis of this evidence, we conclude that the great majority of coupon households are not constrained, which is consistent with the relatively modest effects reported previously.

## **2. Kinds of Food Used at Home**

This section investigates whether the reduction in the money value of food used at home per ENU associated with food stamp cash-out is evenly distributed across all foods, or whether it is concentrated in a subset of foods. We base this analysis on 32 food groups. Thirty-one of the groups are defined in the Thrifty Food Plan (TFP) of the U.S. Department of Agriculture (USDA); the TFP is the least costly of the USDA's four family food plans (U.S. Department of Agriculture, Human Nutrition Information Service, 1983). The monthly cost of purchasing the TFP foods is the basis for the food stamp allotment standard. The one non-TFP food group that we consider is alcoholic beverages. Although food stamp regulations prohibit the use of food coupons to purchase alcoholic beverages, recipients might use cash to purchase them.

TABLE III.2

MONEY VALUE OF PURCHASED FOOD USED AT HOME AS A PERCENTAGE  
OF THE HOUSEHOLD'S FOOD STAMP BENEFIT

Comparison of Weekly Food Stamp Benefit with Money Value of Purchased Food Used at Home	Coupon
Percent of Households for Which the Money Value of Purchased Food Used at Home Is	
≤100 percent of food stamp benefit <sup>a</sup>	4.76
101 percent to 110 percent of food stamp benefit <sup>a</sup>	1.46
>110 percent of food stamp benefit	93.77
Sample Size	536

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

<sup>a</sup>These households are potentially constrained by the issuance of food stamp benefits as coupons.

We begin this investigation by examining the effects of food stamp cash-out on the quantity, in pounds, of food used, by food group. We then examine the effects of cash-out on the money value of food used, by food group, and on each food group's share of the money value of all food used from the home food supply. All outcome measures have been converted to a "per-ENU" basis.

To summarize the findings, cash-out resulted in a reduction of 5.6 percent in the quantity of all food used at home per ENU; this reduction is about one percentage point less than the reduction in the money value of food used at home per ENU. The reductions in food quantities and money values were not evenly distributed across all food groups. Approximately one-third of the 32 food groups that we considered showed no reduction in either the quantity or the money value of food used, whereas another one-third of the food groups showed reductions in food quantities or money values of approximately 10 percent or more. Cash-out resulted in large reductions in food quantities and money values for several groups of higher-priced foods.

**a. Quantity of Food Used, by Food Group**

For all foods combined, check recipients reported using 5.6 percent fewer pounds of food than did coupon recipients. This difference is statistically significant at the 95 percent confidence level, with a one-tailed test.<sup>8</sup> Table III.3 lists the 31 TFP food groups plus alcoholic beverages and shows that the food-quantity response to cash-out was quite unevenly distributed across the groups.

Because check recipients have reduced their overall quantity of food used, it is not surprising that, in Table III.3, the largest estimated changes in the quantity of food used, by food group, and the only statistically significant estimated changes, are reductions in food use by check recipients. Of the seven food groups for which the estimated check-coupon difference in food use is statistically significant, the one with the largest absolute estimated reduction is *other fruit* (0.69 pounds), and the

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<sup>8</sup>We hypothesized that, if cash-out has any effect on all food used at home, it is to reduce total at-home food use. Given this hypothesis, a one-tailed test is appropriate. However, given that we generally have no prior hypotheses about the effects of cash-out on the use of food from individual food groups, two-tailed tests of such effects are appropriate.

TABLE III  
 QUANTITY OF FOOD USED AT HOME, BY FOOD GROUP  
 (In Pounds per Week per ENU)

Food Group	Mean Value		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
<b>Vegetables, Fruit</b>					
Potatoes	1.14	1.29	-0.15	-12.21	1.67*
High-nutrient vegetables	1.91	1.86	0.05	2.62	0.39
Other vegetables	2.26	2.23	0.03	1.33	0.24
Mixtures, mostly vegetables; condiments	0.40	0.35	0.05	13.77	1.28
Vitamin-C-rich fruit	2.10	1.97	0.13	6.68	0.78
Other fruit	3.87	4.56	-0.69	-15.11	2.03**
<b>Grain Products</b>					
Whole-grain/high-fiber breakfast cereals	0.30	0.34	-0.04	-14.16	1.78*
Other breakfast cereals	0.35	0.38	-0.03	-6.26	0.83
Whole-grain/high-fiber flour, meal, rice, pasta	0.10	0.07	0.03	31.53	0.66
Other flour, meal, rice, pasta	1.87	1.78	0.09	5.42	0.73
Whole-grain/high-fiber bread	0.39	0.41	-0.02	-3.45	0.35
Other bread	0.80	0.80	0.00	0.00	0.05
Bakery products, not bread	0.72	0.82	-0.10	-12.75	1.79*
Grain mixtures	0.41	0.36	0.05	14.81	1.29
<b>Milk, Cheese, Cream</b>					
Milk, yogurt	8.49	8.93	-0.44	-4.99	1.01
Cheese	0.46	0.52	-0.06	-11.50	1.68*
Cream; mixtures, mostly milk	0.70	0.73	-0.03	-5.09	0.53
<b>Meat and Alternatives</b>					
Lower-cost red meats, variety meats	1.74	1.68	0.06	4.17	0.67
Higher-cost red meats, variety meats	1.09	1.37	-0.28	-20.30	2.69**
Poultry	1.85	1.86	-0.01	-0.61	0.10
Fish, shellfish	0.61	0.66	-0.05	-6.28	0.59
Bacon, sausage, luncheon meats	0.88	1.01	-0.13	-12.53	1.96**
Eggs	0.74	0.80	-0.06	-7.63	1.53
Dry beans, peas, lentils	0.42	0.39	0.03	7.78	0.67
Mixtures, mostly meat, poultry, fish, egg, legume	0.58	0.68	-0.10	-15.14	1.49
Nuts, peanut butter	0.18	0.20	-0.02	-11.35	1.08
<b>Other Foods</b>					
Fats, oils	0.78	0.82	-0.04	-5.88	1.06
Sugar, sweets	1.15	1.21	-0.06	-4.88	0.76
Seasonings	0.00	0.00	0.00	0.00	0.09
Soft drinks, punches, ades	4.59	5.16	-0.57	-10.88	1.60
Coffee, tea	0.10	0.09	0.01	4.94	0.35
Alcohol	0.30	0.39	-0.09	-23.26	0.90
<b>Total, All Food</b>	<b>41.24</b>	<b>43.71</b>	<b>-2.47</b>	<b>-5.60</b>	<b>2.06††</b>
<b>Sample Size</b>	<b>542</b>	<b>536</b>			

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, weighted tabulations.

NOTE: Two-tailed statistical tests were performed on all check-coupon differences shown in this table, with the exception of the difference for "Total, All Food," for which a one-tailed test was performed.

ENU = equivalent nutrition unit.

\*Statistically significant at the 90 percent confidence level, two-tailed test.

\*\*Statistically significant at the 95 percent confidence level, two-tailed test.

††Statistically significant at the 95 percent confidence level, one-tailed test.

one with the largest estimated percentage reduction is *higher-cost red meats and variety meats* (20 percent). In total, for 11 food groups, the estimated percentage reduction in the quantity of food used by check recipients relative to that by coupon recipients is 10 percent or more. The finding that the reductions in the use of foods from certain groups are especially large reinforces the conclusion that cash-out affected the distribution of food use across food groups, as well as the overall quantity of food used.

Five of the seven food groups for which check recipients used significantly less food than did coupon recipients had average costs per pound in excess of the average for all foods. This finding suggests that cash-out may have induced a shift away from more costly foods. However, the evidence on this point is mixed, because check recipients also reported significantly less use of foods from two groups with lower-than-average costs per pound: *potatoes* and *other fruit*.<sup>9</sup>

Despite the overall reduction in food use associated with cash-out, the survey data indicate that check recipients used more food than did coupon recipients from 11 of the 32 food groups; however, none of the estimated increases is statistically significant at the 90 percent confidence level. The largest absolute estimated increase in food use is for *vitamin-C-rich fruit* (0.13 pounds), and the largest estimated percentage increase in food use is for *whole-grain/high-fiber flour, meal, rice, and pasta* (32 percent).

#### **b. Money Value of Food Used, by Food Group**

The estimated effects of cash-out on the money value of food used at home, by food group, are presented in Table III.4. The basic pattern of these effects is similar to that obtained using the food-quantity outcome measure:

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<sup>9</sup>The average cost per pound of all food used by the survey respondents was \$0.86. The average cost per pound of food from each of the seven food groups for which check recipients used significantly less food than did coupon recipients was as follows: *potatoes*, \$0.40; *other fruit*, \$0.50; *whole-grain/high-fiber breakfast cereals*, \$2.20; *bakery products, not bread*, \$2.02; *cheese*, \$2.43; *higher-cost red meats and variety meats*, \$2.12; and *bacon, sausage, and luncheon meats*, \$1.74.

TABLE III.4

MONEY VALUE OF FOOD USED AT HOME, BY FOOD GROUP  
(In Dollars per Week per ENU)

Food Group	Mean Value		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
<b>Vegetables, Fruit</b>					
Potatoes	0.46	0.52	-0.06	-10.99	1.44
High-nutrient vegetables	1.21	1.22	-0.01	-0.84	0.13
Other vegetables	1.61	1.55	0.06	3.75	0.68
Mixtures, mostly vegetables; condiments	0.64	0.56	0.08	13.22	1.11
Vitamin-C-rich fruit	1.09	1.11	-0.02	-1.39	0.18
Other fruit	1.98	2.27	-0.29	-12.78	2.07**
<b>Grain Products</b>					
Whole-grain/high-fiber breakfast cereals	0.65	0.76	-0.11	-14.41	1.74*
Other breakfast cereals	0.90	1.00	-0.10	-10.08	1.37
Whole-grain/high-fiber flour, meal, rice, pasta	0.09	0.10	-0.01	-5.15	0.26
Other flour, meal, rice, pasta	1.24	1.17	0.07	5.69	0.85
Whole-grain/high-fiber bread	0.37	0.34	0.03	8.48	0.76
Other bread	0.74	0.74	0.00	0.00	0.05
Bakery products, not bread	1.48	1.63	-0.15	-9.15	1.17
Grain mixtures	0.52	0.47	0.05	11.60	1.04
<b>Milk, Cheese, Cream</b>					
Milk, yogurt	3.16	3.09	0.07	2.05	0.27
Cheese	1.12	1.24	-0.12	-9.80	1.48
Cream; mixtures, mostly milk	0.89	0.84	0.05	5.67	0.63
<b>Meat and Alternatives</b>					
Lower-cost red meats, variety meats	2.81	2.62	0.19	7.25	1.26
Higher-cost red meats, variety meats	2.36	2.86	-0.50	-17.54	2.49**
Poultry	1.96	2.04	-0.08	-3.54	0.60
Fish, shellfish	1.48	1.49	-0.01	-1.07	0.10
Bacon, sausage, luncheon meats	1.52	1.76	-0.24	-13.56	2.03**
Eggs	0.69	0.75	-0.06	-7.80	1.54
Dry beans, peas, lentils	0.29	0.26	0.03	11.85	1.02
Mixtures, mostly meat, poultry, fish, egg, legume	1.95	2.11	-0.16	-7.60	0.60
Nuts, peanut butter	0.35	0.38	-0.03	-8.53	0.79
<b>Other Foods</b>					
Fats, oils	0.79	0.85	-0.06	-6.88	1.13
Sugar, sweets	1.15	1.28	-0.13	-10.51	1.49
Seasonings	0.01	0.00	0.01	35.78	0.33
Soft drinks, punches, ades	1.65	1.95	-0.30	-15.17	2.47**
Coffee, tea	0.39	0.33	0.06	16.61	1.17
Alcohol	0.40	0.32	0.08	25.41	0.74
<b>Total, All Food</b>	<b>35.95</b>	<b>37.63</b>	<b>-1.68</b>	<b>-4.46</b>	<b>1.62<sup>†</sup></b>
<b>Sample Size</b>	<b>542</b>	<b>536</b>			

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, weighted tabulations.

Note: Two-tailed tests were performed on all check-coupon differences shown in this table, with the exception of the difference for "Total, All Food," for which a one-tailed test was performed.

ENU = equivalent nutrition unit.

\*Statistically significant at the 90 percent confidence level, two-tailed test.

\*\*Statistically significant at the 95 percent confidence level, two-tailed test.

<sup>†</sup>Statistically significant at the 90 percent confidence level, one-tailed test.

- For roughly one-third of the 32 food groups, we estimate that cash-out increased the money value of food used at home; however, the estimates are statistically insignificant.
- For another one-third of the food groups, we estimate that cash-out reduced the money value of food used at home by less than 9 percent; however, these estimates are also not statistically significant.
- For another one-third of the food groups, we estimate that cash-out reduced the money value of food used at home by 9 percent or more; one-half (five) of these estimates are statistically significant.

For four food groups, the estimated effects of cash-out on food used at home are negative and statistically significant, whether the outcome measure is the quantity of food used in pounds or the money value of food used. Those four groups are: (1) *other fruit*, (2) *whole-grain/high-fiber breakfast cereals*, (3) *higher-cost red meats and variety meats*, and (4) *bacon, sausage, and luncheon meats*. The presence on this list of the latter two groups is additional evidence that cash-out may have caused a shift from higher-priced foods.

#### **c. Share of Money Value of Food Used, by Food Group**

The two measures that we have just examined incorporate the effects of cash-out on both the overall level of food use and the distribution of food use across food groups. In this section, we factor out the overall effect of cash-out and consider only its distributional effects. Our outcome measure is the percentage of the total money value of food used at home that is accounted for by each of the 32 food groups.

Because the share of the money value of food used is an outcome measure that factors out the effect of cash-out on the overall level of food use, we anticipated that the number of food groups for which the estimated value of this measure is larger for check recipients than for coupon recipients would approximately equal the number of groups for which it is smaller. The findings presented in Table III.5 confirm our expectation: the check-coupon difference in the estimated share of the money value of food used is positive for 19 food groups and is negative for 13.

TABLE III.5

SHARE OF MONEY VALUE OF FOOD USED AT HOME  
(Percent of Total Money Value of Food Used)

Food Group	Mean Value		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
<b>Vegetables, Fruit</b>					
Potatoes	1.34	1.41	-0.07	-4.96	0.66
High-nutrient vegetables	3.50	3.32	0.18	5.42	0.84
Other vegetables	4.57	4.16	0.41	10.10	2.14**
Mixtures, mostly vegetables; condiments	1.66	1.39	0.27	18.71	1.86*
Vitamin-C-rich fruit	3.09	2.88	0.21	7.29	0.98
Other fruit	5.49	5.74	-0.25	-4.18	0.82
<b>Grain Products</b>					
Whole-grain/high-fiber breakfast cereals	1.83	2.01	-0.18	-8.96	1.12
Other breakfast cereals	2.59	2.78	-0.19	-7.19	1.02
Whole-grain/high-fiber flour, meal, rice, pasta	0.26	0.25	0.01	4.00	0.12
Other flour, meal, rice, pasta	3.63	3.41	0.22	6.16	1.07
Whole-grain/high-fiber bread	1.07	0.98	0.09	9.18	0.73
Other bread	2.13	2.04	0.09	4.41	0.65
Bakery products, not bread	3.83	4.14	-0.31	7.49	1.14
Grain mixtures	1.58	1.28	0.30	23.44	2.04**
<b>Milk, Cheese, Cream</b>					
Milk, yogurt	8.74	8.41	0.33	3.92	0.70
Cheese	3.14	3.34	-0.20	-5.99	0.95
Cream; mixtures, mostly milk	2.38	2.16	0.22	10.18	1.16
<b>Meat and Alternatives</b>					
Lower-cost red meats, variety meats	8.33	7.50	0.83	11.07	2.09**
Higher-cost red meats, variety meats	6.53	7.52	-0.99	-13.16	2.08**
Poultry	5.88	5.68	0.20	3.52	0.59
Fish, shellfish	4.01	3.91	0.09	2.56	0.25
Bacon, sausage, luncheon meats	4.30	4.67	-0.37	-7.92	1.41
Eggs	2.07	2.22	-0.15	-6.76	1.27
Dry beans, peas, lentils	0.83	0.72	0.11	15.28	1.37
Mixtures, mostly meat, poultry, fish, egg, legume	4.46	4.84	-0.38	-7.85	0.72
Nuts, peanut butter	0.99	0.99	0.00	0.00	0.03
<b>Other Foods</b>					
Fats, oils	2.24	2.35	-0.11	-5.11	0.91
Sugar, sweets	3.25	3.29	-0.04	-1.22	0.18
Seasonings	0.02	0.01	0.01	100.00	0.48
Soft drinks, punches, ades	4.46	5.14	-0.68	-13.23	2.67**
Coffee, tea	1.02	0.86	0.16	18.60	1.57
Alcohol	0.81	0.60	0.21	35.01	1.11
<b>Total, All Food</b>	<b>100.00</b>	<b>100.00</b>			
<b>Sample Size</b>	<b>542</b>	<b>536</b>			

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, weighted tabulations.

NOTE: Two-tailed statistical tests were performed on all check-coupon differences shown in this table.

\*Statistically significant at the 90 percent confidence level, two-tailed test.

\*\*Statistically significant at the 95 percent confidence level, two-tailed test.

For two food groups, the check-coupon difference is approximately one percentage point; and for two, it is approximately one-half of one percentage point. These differences are statistically significant at the 95 percent confidence level, with a two-tailed test. For all of the other food groups, the differences in estimated shares are smaller and, with two exceptions, statistically insignificant.

The two largest differences in the estimated share of the money value of food used are an approximately one percentage point lower share for check recipients relative to coupon recipients for *higher-cost red meats and variety meats* ("higher-cost meats"), and an approximately one percentage point higher share for check recipients for *lower-cost red meats and variety meats* ("lower-cost meats"). These results suggest that cash-out may have induced a shift from higher-cost meats to lower-cost meats.

We interpret the results in Table III.5 as evidence that cash-out did affect the pattern of food use, by food group, in food stamp recipients. Note, however, that substantial distributional effects occurred in only a small number of the 32 food groups considered.

### 3. Decomposition of the Check-Coupon Difference in the Money Value of Food Used at Home

The 32 food groups can be used to decompose the difference between check recipients and coupon recipients in the mean money value of food used at home into two components. The first component is attributable to differences between check and coupon households in the mean quantity of food used from each of the 32 food groups; the second is attributable to differences between check and coupon households in the mean price per pound of the food used from each of the 32 groups. This decomposition can be written algebraically as:

$$(1) \quad COST_c - COST_s = \sum_{i=1}^{32} PRICE_i (QUANT_{ci} - QUANT_{si}) + \sum_{i=1}^{32} QUANT_i (PRICE_{ci} - PRICE_{si}),$$

where all prices are for one pound of food, all quantities of food used are in pounds per ENU per week, all money values of food used are in dollars per ENU per week, and where:

- $i$  = index for the 31 TFP food groups plus alcoholic beverages
- $COST_c$  = average money value of all food used by check households
- $COST_s$  = average money value of all food used by coupon households
- $PRICE_i$  = average price of food used in group  $i$  by check and coupon households<sup>10</sup>
- $PRICE_{ci}$  = average price of food used in group  $i$  by check households
- $PRICE_{si}$  = average price of food used in group  $i$  by coupon households
- $QUANT_i$  = average quantity of food used in group  $i$  by check and coupon households<sup>11</sup>
- $QUANT_{ci}$  = average quantity of food used in group  $i$  by check households
- $QUANT_{si}$  = average quantity of food used in group  $i$  by coupon households

The results of the analysis show that, had there been no check-coupon differences in the average price of the food used in each food group, check-coupon differences in the average quantity of food used from each of the 32 food groups would have resulted in check households having an average money value of food used at home per ENU that was \$2.43 less than that of coupon households. However, within many food groups, check and coupon households did use food having a different average price. Considered in isolation, such price differences would have resulted in check households having an average money value of food used at home per ENU that was \$0.74 higher than that of coupon households.

Thus, by using less food, and by using food from less expensive food groups, check recipients reduced their overall average money value of food used. That savings was partially offset by the tendency of check recipients to use, within food groups, food with a higher average price than that used by coupon recipients. The net effect of these factors is an average money value of food used per ENU that is \$1.68 (= \$2.43 - \$0.74 - \$0.01 rounding error) less for check recipients than for coupon recipients.

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<sup>10</sup> $PRICE_i = (PRICE_{ci} + PRICE_{si})/2.$

<sup>11</sup> $QUANT_i = (QUANT_{ci} + QUANT_{si})/2.$

The use of higher-cost meats and lower-cost meats provides a helpful illustration of the behavior discussed in the previous paragraph. The households participating in the survey paid an average of \$0.53 per pound more for higher-cost meats than for lower-cost meats. Compared with coupon recipients, check recipients used an average of 0.28 fewer pounds per week per ENU of higher-cost meats and 0.07 more pounds per week of lower-cost meats. Given the price differential between higher-cost and lower-cost meats, the check-coupon differences in average food quantities in those groups tended to reduce the overall average money value of food used at home for check households relative to coupon households. Check-coupon differences in food quantities such as these are captured by the first term on the right-hand side of equation (1). The second term on the right-hand side of equation (1) captures the effects of check-coupon price differences within food groups. The average price per pound of the higher-cost meats used by check recipients was \$0.07 more than that used by coupon recipients. Likewise, the average price per pound of the lower-cost meats used by check recipients was \$0.05 more than that used by coupon recipients. These within-food-group price differences tended to increase the average money value of food used by check recipients relative to that used by coupon recipients.

In summary, recipients of food stamp checks in San Diego reduced their food costs by cutting back on the overall quantity of food used and by shifting their purchases from higher-priced food groups to lower-priced food groups. These savings were partially offset by the tendency of check recipients to use foods from specific food groups that were higher-priced than those used by coupon recipients from the same groups.

## **B. NUTRIENT AVAILABILITY**

This section examines the effects of cash-out on the availability of nutrients from food used at home by food stamp households. We consider two types of nutrients: (1) *macronutrients* (protein,

fat, and carbohydrate), which are the principal sources of food energy,<sup>12</sup> and (2) *micronutrients* (vitamins, minerals, and trace elements), which are essential for the proper growth and maintenance of the human body.

*Nutrient availability* is defined as the nutrients provided by all food used at home for a given period; for this study, the given period is the seven-day reference period for the food-use component of the household survey.<sup>13</sup> A household's nutrient availability is computed by multiplying the nutrient content per pound of each food type by the number of pounds of each food type used and summing the products.<sup>14</sup> All measures of nutrient availability are reported on a per-ENU basis.<sup>15</sup> When transformed in this way, the measure of nutrient availability can, subject to the qualifications in Chapter II, Section C.3.a, be meaningfully compared with the recommended dietary allowance (RDA) for an adult male.<sup>16</sup>

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<sup>12</sup>Alcohol (ethanol) is the only other significant source of food energy. The survey data for this study show that alcohol provided less than 0.2 percent of the energy obtained by food stamp households in San Diego from food used at home. Consequently, we have omitted alcohol from the analysis of food energy and its sources that is presented in this section. The use of alcoholic beverages by food stamp households in San Diego is included in Tables III.3 through III.5 of the previous section.

<sup>13</sup>*Nutrient intake* is defined on the basis of the food *actually eaten* by individual members of a household, whereas nutrient availability is defined on the basis of food *used* by a household. As explained in Chapter II, Section C.3.a, some food used by a household is lost, wasted, or fed to pets. Thus, a measure of nutrient availability tends to overstate the nutrients actually ingested by household members.

<sup>14</sup>We used a USDA nutrient data base to convert the survey data on the quantity of food used to data on nutrient availability. The data base provides information on the nutrient content per pound of roughly 4,000 foods and food combinations in the form in which they enter the household, with adjustments for cooking losses and inedible components of foods. Most of the nutrient values are supported by laboratory analyses, but some are imputed on the basis of data for similar foods. Hepburn (1982) provides a description of the USDA's nutrient data base.

<sup>15</sup>For each nutrient considered in this study, we have computed a nutrient-specific measure of household size in ENUs. This measure incorporates adjustments for (1) the need of each household member for the nutrient in question, as indicated by his or her RDA for that nutrient, (2) the proportion of each member's meals that is eaten at home, and (3) meals served to guests. See Chapter II, Section C.1, for additional discussion.

<sup>16</sup>Chief among the qualifications is the fact that the RDAs have been established as a basis for evaluating the adequacy of nutrient intake. Nutrient availability tends to exceed nutrient intake.  
(continued...)

The statistics on the availability of nutrients relative to the RDAs that are presented in this section should be used only to make *relative* comparisons between check and coupon recipients in the nutritional adequacy of food used from the home food supply. A finding that the mean availability of a given nutrient exceeds the RDA by a wider margin for one of the groups than for the other should be interpreted as indicating that the group for which the margin is wider is at less nutritional risk than the other group. (By nutritional risk, we mean the likelihood of having insufficient nutrient availability for good health.) Although intakes below the RDA for a nutrient are not necessarily inadequate, the risk of some individuals' having inadequate intakes increases as the mean intake for their group falls further below the RDA. Likewise, the finding that the proportion of households for which the availability of a nutrient exceeds the RDA is greater for one group than for the other should be interpreted in a similar relativistic fashion. *The reader is cautioned to avoid absolute conclusions from these findings about the number or proportion of coupon households that are at nutritional risk.* The principal reason for this caution is that, as noted in Chapter II, the nutritional requirements of persons differ, and the RDAs are set to exceed the average person's requirements by a substantial margin.

We begin the analysis by examining the effects of food stamp cash-out on the availability of food energy and its sources—protein, carbohydrate, and fat. We then compare the availability of nutrients per kilocalorie of food energy in check and coupon households. The next section describes the impact of cash-out on seven micronutrients relative to their RDAs, and the last section examines the availability of food energy and nutrients per dollar value of food used.

To summarize the findings, the household food-use data show that cash-out reduced the availability of food energy in food stamp households by about 5 percent. Cash-out caused a small shift from fat as a source of food energy to carbohydrate. The mean availability of six of the seven micronutrients examined, expressed as a percentage of the RDA, is slightly smaller for check

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<sup>16</sup>(...continued)

Thus, a finding that nutrient availability exceeds the RDA does not necessarily mean that nutrient intake also exceeds the RDA.

households than for coupon households; however, only two of these differences, those for vitamin B<sub>6</sub> and calcium, are statistically significant. The ratio of micronutrients to calories was higher in the cash-out group for six of the seven micronutrients; one of these differences, for iron, is statistically significant. This finding suggests that, relative to foods consumed under coupon issuance, cash-out induced a slight shift toward foods providing more nutrients per kilocalorie.

### 1. Food Energy and Its Sources

The food used by households in the United States, including households below the poverty threshold, generally provides amounts of food energy that are more than adequate to meet the needs of the household members. Indeed, obesity resulting from the chronic intake of food energy in excess of requirements is a major public health concern. The availability of food energy in food stamp households in San Diego, which substantially exceeds the RDAs, reflects this pattern. Table III.6 shows that the mean availability of food energy per ENU is 134 percent of the RDA for check households and 140 percent for coupon households. The difference between the two groups is statistically significant at the 95 percent confidence level, with a one-tailed test.<sup>17</sup> Thus, the evidence from the data in the household survey supports the conclusion that cash-out resulted in a small (4.6 percent) reduction in the availability of food energy to food stamp recipients.<sup>18</sup>

Table III.6 also shows that the percentage of households using food that provides 100 percent or more of the RDA for food energy is lower in check recipients (69 percent) than in coupon

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<sup>17</sup>The regression-adjusted estimate of the effect of cash-out on the availability of food energy is also negative in sign and is close in magnitude and statistical significance to the simple-difference-in-means estimate. See Appendix E, Table E.1, for the regression-adjusted estimate.

<sup>18</sup>The 6.4 percentage point reduction in the mean availability of food energy relative to the RDA is a 4.6 percent reduction relative to the mean availability of food energy under coupon issuance.

TABLE III.6  
AVAILABILITY OF FOOD ENERGY AND PROTEIN

Nutrient	Mean Value		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
Average Availability of Food Energy (percent of RDA)	133.58	140.00	-6.42	-4.59	1.76 <sup>††</sup>
Percent of Households Meeting or Exceeding RDA for Food Energy	68.75	74.09	-5.34	-7.21	1.94 <sup>††</sup>
Average Availability of Protein (percent of RDA)	249.34	263.08	-13.74	-5.22	1.98 <sup>††</sup>
Percent of Households Meeting or Exceeding RDA for Protein	97.67	97.27	0.40	0.40	0.41
Percent of Food Energy from					
Protein	14.89	14.85	0.04	0.27	0.20
Fat	37.76	38.79	-1.03	-2.66	2.04 <sup>**</sup>
Carbohydrate	47.35	46.36	0.99	2.14	1.76 <sup>*</sup>
Sample Size	542	536			

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: Nutrient availability from food used at home is given per equivalent nutrition unit, which is defined as the number of equivalent adult males eating all of their weekly meals from the household food supply.

One-tailed tests were performed on all check-coupon differences shown in the first four rows of this table. Two-tailed tests were performed on the check-coupon differences in the percentages of food energy from protein, fat, and carbohydrate.

Table K.2 in Appendix K presents the median values of the variables shown in this table.

RDA = recommended dietary allowance.

<sup>\*</sup>Statistically significant at the 90 percent confidence level, two-tailed test.

<sup>\*\*</sup>Statistically significant at the 95 percent confidence level, two-tailed test.

<sup>††</sup>Statistically significant at the 95 percent confidence level, one-tailed test.

recipients (74 percent). This 5 percentage point difference is statistically significant at the 95 percent confidence level, with a one-tailed test.<sup>19</sup>

The fact that the reduction in the mean availability of food energy was accompanied by a five-point reduction in the percentage of households for which the availability of food energy is greater than the RDA is troublesome. This finding indicates that at least some of the reduction in food energy occurred in households for which its availability was only marginally greater than the RDA. Thus, the implications of these results with regard to the availability of food energy are unclear.

Protein is the only macronutrient for which an RDA has been established. Table III.6 shows that the mean availability of protein, expressed as a percentage of the RDA, is 14 percentage points lower for check recipients than for coupon recipients. This difference is statistically significant and represents a 5.2 percent reduction in the availability of protein.<sup>20</sup> Much of the reduction appears to be concentrated in check recipients who would obtain protein in excess of the RDA under coupon issuance; the fourth row of Table III.6 shows that there is no evidence that cash-out results in any reduction in the very high percentage of households that use food providing at least 100 percent of the RDA for protein.

Throughout this century, the proportion of food energy obtained from protein by Americans has remained relatively stable, whereas the proportion from fat has increased and the proportion from carbohydrate has decreased. The Food and Nutrition Board's Committee on Diet and Health

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<sup>19</sup>Figure K.2 in Appendix K shows that cash-out had very little effect on the first two deciles (the lowest deciles) of the cumulative distribution of food energy availability per ENU. However, a substantial impact of cash-out is apparent beginning at the 20th percentile. The impact of cash-out on households in the third and fourth deciles is of particular interest, because the availability of food energy in these households is just marginally under or over the RDA. The cumulative distributions show that check households were 5 percentage points less likely than coupon households to have food energy availability above the RDA. This effect occurred because, despite having little effect on households in the first two deciles of the cumulative distribution of food energy availability, cash-out had a substantial negative effect on households in the third and fourth deciles.

<sup>20</sup>The regression-adjusted estimate of the effect of cash-out on the availability of protein also is negative in sign and is close in magnitude and statistical significance to the simple-difference-in-means estimate. See Appendix Table E.1 for the regression-adjusted estimate.

recommends that no more than 30 percent of food energy in the U.S. diet be provided by fat (National Research Council, 1989a). In addition, the Food and Nutrition Board's Subcommittee on the Tenth Edition of the RDAs recommends that more than one-half of food energy be provided by carbohydrate (National Research Council, 1989b). However, from 1979 to 1980, protein contributed approximately 17 percent of the food energy in the diets of low-income Americans, fat contributed 39 percent, and carbohydrate contributed 44 percent (U.S. Department of Agriculture, Human Nutrition Information Service, September 1982).

In food stamp households in San Diego, fat provides coupon recipients with an average of 39 percent of total food energy and provides check recipients with an average of 38 percent. Table III.6 shows that this difference is statistically significant at the 95 percent confidence level, with a two-tailed test. Carbohydrate provides one percentage point more of the food energy that is available to check households than it provides to coupon households; however, this finding has somewhat less statistical reliability than that for fat. Table III.6 also shows that, in percentage terms, coupon and check recipients rely equally on protein for food energy.

In summary, the data from the household food-use survey show that cash-out resulted in reductions of approximately 5 percent in the mean availability of food energy and protein. These changes were accompanied by a five-point decrease in the percentage of households for which the availability of food energy is greater than the RDA. No change occurred in the percentage of households for which the availability of protein is greater than the RDA. Cash-out also resulted in a small shift from fat to carbohydrate as a source of food energy. This outcome is desirable, because it moved check households in the direction of compliance with guidelines regarding the percentage of total food energy that should be obtained from fat and carbohydrate.

## **2. Nutrients per Kilocalorie of Food Energy**

If nothing else were to change, a cash-out-induced reduction in the availability of food energy would be accompanied by a reduction in the availability of most nutrients. However, if check

recipients were to use food providing more nutrients per kilocalorie of food energy (that is, food with a greater *nutrient density*), this effect would not necessarily occur.

For seven micronutrients that are considered potentially problematic from a public health perspective, Table III.7 shows the density per 1,000 kilocalories of the food used by check and coupon recipients.<sup>21</sup> For all of the seven micronutrients except calcium, the densities are greater for check recipients, but only for iron is the difference statistically significant at the 90 percent confidence level, with a two-tailed test. These findings provide some evidence that cash-out induced a slight shift toward foods providing more nutrients per kilocalorie than do the foods used under coupon issuance.

### 3. Nutrient Availability

The reduced availability of food energy under cash-out, as well as the generally unchanged or slightly greater nutrient densities, have ambiguous implications for the effects of cash-out on nutrient availability. If, under cash-out, the percentage increases in the nutrient densities had been about the same as the percentage decreases in the availability of food energy, then we would expect to observe no change in the availability of nutrients. However, the increases in nutrient density, which ranged from 1 percent to 4 percent (Table III.7), were somewhat smaller than the 4.6 percent reduction in the availability of food energy (Table III.6). This finding suggests that the increase in densities dampened, but did not eliminate, the reduction in nutrient availability associated with cash-out.

TABLE III.7  
 NUTRIENT AVAILABILITY PER 1,000 KILOCALORIES  
 OF FOOD USED AT HOME  
 (Nutrient Density)

Nutrient	Mean Value		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
Vitamin A ( $\mu$ gRE)	580.33	557.87	22.46	4.03	0.93
Vitamin C (mg)	53.99	52.04	1.95	3.76	0.74
Vitamin B <sub>6</sub> (mg)	0.85	0.84	0.01	0.82	0.43
Folate ( $\mu$ g)	118.96	113.96	5.00	4.39	1.24
Calcium (mg)	390.59	394.05	-3.46	-0.88	0.36
Iron (mg)	7.34	7.04	0.30	4.35	1.88*
Zinc (mg)	5.21	5.18	0.03	0.55	0.38
Sample Size	542	536			

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: Two-tailed statistical tests were performed on all check-coupon differences shown in this table.

\*Statistically significant at the 90 percent confidence level, two-tailed test.

**TABLE III.8**  
**NUTRIENT AVAILABILITY PER ENU**  
**(Percentage of RDA)**

Nutrient	Percentage		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
Vitamin A	210.92	214.40	-3.48	-1.63	0.38
Vitamin C	265.51	276.14	-10.63	-3.85	0.75
Vitamin B <sub>6</sub>	154.96	161.56	-6.60	-4.08	1.38 <sup>†</sup>
Folate	225.38	230.54	-5.16	-2.24	0.54
Calcium	118.25	123.72	-5.47	-4.42	1.36 <sup>†</sup>
Iron	163.43	160.61	2.82	1.76	0.49
Zinc	119.60	123.73	-4.13	-3.33	1.21
Sample Size	542	536			

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: Nutrient availability from food used at home is given per equivalent nutrition unit (ENU), which is defined as the number of equivalent adult males eating all of their weekly meals from the household food supply.

One-tailed statistical tests were performed on all check-coupon differences shown in this table.

Table K.3 in Appendix K presents median values of the variables shown in this table.

RDA = recommended dietary allowance.

<sup>†</sup>Statistically significant at the 90 percent confidence level, one-tailed test.

of the seven micronutrients, expressed as percentages of their RDAs, are smaller for check households than for coupon households.<sup>22</sup> However, relative to the availability of these nutrients to coupon recipients, all of the reductions are smaller than the 4.6 percent reduction in the availability of food energy.<sup>23</sup> Only for vitamin B<sub>6</sub> and calcium are the estimated reductions in nutrient availability significant at the 90 percent confidence level, with one-tailed tests.<sup>24</sup> Not surprisingly, the largest relative reduction in nutrient availability (4.4 percent, for calcium) is for the only nutrient for which the estimated cash-out effect on nutrient density is negative. The only increase in availability (1.8 percent, for iron) is for the one nutrient for which the estimated cash-out effect on nutrient density is positive and significant at the 90 percent confidence level (Table III.8).

An alternative criterion for evaluating nutrient adequacy is the percentage of households for which the availability of a nutrient per ENU equals or exceeds the RDA for an adult male. For the seven micronutrients, Table III.9 presents estimates of the effects of food stamp cash-out that are based on this criterion.<sup>25</sup> For instance, the first entry shows that 81.31 percent of check households had sufficient availability of vitamin A to equal or exceed their RDAs.

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<sup>22</sup>The results for coupon households that are shown in Table III.8 are consistent with existing estimates, based on the 1979-1980 Survey of Food Consumption in Low-Income Households of the USDA, of the availability of selected nutrients per ENU relative to the RDA (U.S. Department of Agriculture, Human Nutrition Information Service, July 1982, page 27).

<sup>23</sup>The estimated percentage reductions in nutrient availability for check households relative to coupon households range from -1.6 percent for vitamin A to -4.4 percent for calcium.

<sup>24</sup>Regression-adjusted estimates of the check-coupon differences in mean availability of the seven micronutrients, expressed as a percentage of the RDAs, are presented in Appendix E, Table E.1. Those estimates are negative for all seven of the micronutrients, including iron, and three of the estimates are statistically significant at the 90 percent or 95 percent confidence level, with a one-tailed test. The regression-adjusted estimates are slightly larger in magnitude than the simple-difference-in-means estimates that are presented in Table III.8. The conclusion that one can draw from the regression-adjusted results about the effect of cash-out on nutrient availability is essentially the same as that based on the simple-difference-in-means results: cash-out had a zero to slightly negative effect on the availability of the seven micronutrients.

<sup>25</sup>The results for coupon households that are shown in Table III.9 are consistent with existing estimates, based on the 1979-1980 Survey of Food Consumption in Low-Income Households of the USDA, of the percentage of food stamp households that meet the RDA for selected nutrients (U.S. Department of Agriculture, Human Nutrition Information Service, July 1982, page 26).

TABLE III.9

**NUTRIENT AVAILABILITY PER ENU**  
 (Percentage of Households for Which Availability  
 Equals or Exceeds the RDA)

	Percentage		Difference in Percentages		
	Check	Coupon	Absolute	Percentage	t-Statistic
Vitamin A	81.31	80.00	1.31	1.64	0.55
Vitamin C	89.36	88.61	0.75	0.85	0.39
Vitamin B <sub>6</sub>	79.19	78.77	0.42	0.53	0.17
Folate	88.82	88.51	0.31	0.35	0.16
Calcium	55.84	57.31	-1.47	-2.56	0.49
Iron	76.95	76.55	0.40	0.51	0.15
Zinc	58.47	60.71	-2.24	-3.69	0.75
Sample Size	542	536			

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: Nutrient availability from food used at home is given per equivalent nutrition unit (ENU), which is defined as the number of equivalent adult males eating all of their weekly meals from the household food supply.

One-tailed tests were performed on all negative check-coupon differences shown in this table. Two-tailed tests were performed on all positive differences.

RDA = recommended dietary allowance.

Whereas Table III.8 focuses on *average* nutrient availability, Table III.9 focuses on the *distribution* of nutrient availability in relation to the relevant RDA. It is interesting to note that these different perspectives often provide quite different insights into nutritional adequacy. For instance, Table III.8 shows that the average household has far more vitamin A available than it needs; nevertheless, as indicated in Table III.9, the lowest 20 percent of households on the distribution of vitamin A availability are below the RDA.

The check-coupon differences in Table III.9 are very small, and none is statistically significant. These results reinforce the finding that cash-out has little effect on nutrient availability.<sup>26</sup>

In summary, the two criteria that we have used to evaluate nutrient availability (availability as a percentage of the RDA, and the percentage of households for which availability equals or exceeds the RDA) indicate that food stamp cash-out in San Diego either did not affect or slightly reduced the availability of seven micronutrients. Our conclusion is based on the findings from our analysis of the data from the household food-use survey, that: (1) the differences between check and coupon households in nutrient availability as a percentage of the RDA vary somewhat in sign, but generally are negative (that is, availability is smaller for check households than for coupon households), (2) in relative terms, all of the differences are small (4.4 percent, or less), (3) only two of the negative differences are statistically significant at the 90 percent confidence level, and (4) cash-out did not significantly affect the percentage of households for which the availability of the micronutrients equals or exceeds the RDA.

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<sup>26</sup>Cumulative distributions of the availability of calcium and iron are presented in Figures K.3 and K.4, respectively, in Appendix K. A comparison of the calcium distributions for check and coupon households shows that, whereas cash-out caused modest reductions in the availability of calcium for households both above and below the RDA, it had little effect on the percentage of households for which the availability of calcium equals or exceeds the RDA. The cumulative distribution of iron availability is virtually identical for check and coupon households.

#### **4. Nutrient Availability per Dollar Value of Food Used**

In principle, under cash-out, some households might have an incentive to economize on food purchases, so that money will be available for the purchase of nonfood items. One strategy to reduce expenditures for food while minimizing the impact of such a reduction on nutritional well-being would be to shift to less-expensive food groups, and to shift from processed food and food with national brand names to food that is not highly processed and to store brands or generic brands. Typically, although such food is less expensive than processed, brand-named food, its nutrient content is not necessarily lower. Evidence in the household-survey data that check recipients had adopted such a strategy would be a higher ratio of nutrients per dollar value of food used for check recipients than for coupon recipients.

Table III.10 shows that, for protein and for six of the seven micronutrients, the sample mean availability of nutrients per dollar value of food used is higher for check recipients. However, none of these differences is statistically significant, with a two-tailed test. Therefore, at a formal level, we must reject the hypothesis that the foods purchased by check recipients are lower in price but no less rich in nutrients than those purchased by coupon households.

#### **C. PERCEPTIONS OF FOOD ADEQUACY**

Several questions in the survey were designed to provide information concerning household food adequacy. These included questions about (1) the perceived adequacy of household food supplies (and, for households whose benefit form was converted from coupons to checks, changes in the quantity and quality of purchased food), (2) whether households run out of food or skip meals because the quantity of food or the resources to buy food are insufficient, and, if they do so, how often, and (3) the actions households may take during the month to obtain food because the quantity is insufficient.

This section presents the survey respondents' descriptions of the adequacy of their home food supplies. Section III.C.1 discusses the findings on recipients' self-assessments of household food

TABLE III.10  
NUTRIENT AVAILABILITY PER DOLLAR VALUE  
OF FOOD USED AT HOME

Nutrient	Mean Value		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
Protein per Dollar (gm/dollar)	28.15	27.99	0.16	0.57	0.34
Vitamin A per Dollar (µgRE/dollar)	440.77	423.36	17.41	4.11	0.96
Vitamin C per Dollar (mg/dollar)	40.39	39.60	0.79	2.00	0.39
Vitamin B <sub>6</sub> per Dollar (mg/dollar)	0.65	0.65	0.01	1.07	0.53
Folate per Dollar (µg/dollar)	90.95	87.78	3.17	3.60	0.99
Calcium per Dollar (mg/dollar)	299.70	302.57	-2.87	-0.95	0.37
Iron per Dollar (mg/dollar)	5.64	5.44	0.20	3.68	1.56
Zinc per Dollar (mg/dollar)	4.02	3.99	0.03	0.75	0.38
Sample Size	542	536			

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: Two-tailed statistical tests were performed on all check-coupon differences shown in this table.

adequacy. In addition, for recipients whose benefit form was converted from coupons to checks, the section also discusses the findings from the self-assessments on perceived changes in food quantity and quality. Section III.C.2 compares check and coupon households' experiences with running out of food and describes actions to obtain food when quantities of food were insufficient. Section III.C.3. discusses the participation of recipients in other food-assistance programs and their use of nonpurchased food from nonprogram sources.

To summarize the findings, data from the household survey strongly indicate that the perceptions of check and coupon recipients about the adequacy of food supplies do not differ. The data also indicate that, in general, check households are no more likely than coupon households to run out of food, skip meals, or try to obtain additional food. The majority of check recipients whose benefit form had been converted from coupons believed that they were buying about the same amount of food with checks as they had with coupons, and that the quality of the food was the same. During the month preceding the survey, roughly equal percentages of check households with children and coupon households with children reported participating in the National School Lunch Program (NSLP) and the School Breakfast Program (SBP); roughly equal percentages of check and coupon households with a pregnant/lactating woman or a child less than 5 years old reported participating in the WIC program. However, check households were more likely than coupon households to have received food assistance from food banks and food pantries, to have received USDA commodities, to have bought food on credit, and to have used food that was received as a gift or in-lieu of payment.

## 1. Perceived Adequacy of the Household Food Supply

All recipients were asked to evaluate the adequacy of their household food supply.<sup>27</sup> Clear majorities of both check and coupon households reported that they perceived themselves to have had adequate supplies of food during the previous month. Table III.11 shows that about 30 percent of check recipients reported getting enough of the desired kinds of food, and that 43 percent reported getting enough food, although not always of the desired types. The table also shows that about 28 percent of coupon recipients reported getting enough of the desired kinds of food, and that 41 percent got enough food, but not always of the desired types. Thus, roughly 73 percent of check households and 69 percent of coupon households reported getting enough food in the previous month.

Substantial minorities of both check and coupon households reported that they sometimes or often did not have adequate supplies of food during the previous month. Table III.11 shows that 27 percent of check households and 31 percent of coupon households reported that they sometimes or often had inadequate supplies of food in the previous month.

These findings show that check households were *no more likely* than coupon households to report that they sometimes or often did not have enough food. In fact, in each case, check households were *less likely* to respond that their food supply was sometimes or often inadequate, although the differences are not statistically significant. Thus, on the basis of the *perceptions of food stamp recipients* about the adequacy of their previous month's food supplies, no evidence suggests that cash-out diminished household food adequacy.

When interpreting the results shown in Table III.11, it is important to ask why, despite the findings in Tables III.6 and III.8 indicating that average nutrient availability is well above the RDAs,

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<sup>27</sup>Check and coupon households were asked, "Which of the following statements best describes the food eaten in your household last month: 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."

TABLE III.11

RECIPIENT PERCEPTIONS OF ADEQUACY OF HOUSEHOLD FOOD SUPPLY  
(Percentage of Households)

Measure of Household Food Supply	Mean Value		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
<b>Adequacy of Food Eaten During Past Month</b>					
Enough of types of food we want to eat	29.49	27.75	1.74	6.27	0.65
Enough, but not always types we want to eat	43.10	40.73	2.37	5.82	0.81
Sometimes or often not enough	26.88	30.90	-4.02	-13.01	1.50
<b>Any Days Household Without Food or Resources During Past Month?</b>					
Yes	33.53	37.77	-4.24	-11.23	1.50
Number of days <sup>a</sup>	5.29	4.99	0.30	6.01	0.83
<b>Any Household Member Skip Meals due to Inadequate Food or Resources During Past Month?</b>					
Yes	17.77	21.63	-3.86	-17.85	1.64
Number of days when meals were skipped <sup>b</sup>	5.77	6.10	-0.33	-5.41	0.41
<b>Sample Size</b>	572	571			

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: Two-tailed statistical tests were performed on all check-coupon differences shown in this table.

"Past month" is the month preceding the survey.

<sup>a</sup>For households reporting at least one day without food or resources to buy food during the past month.

<sup>b</sup>For households reporting that a household member skipped one or more meals on at least one day during the past month.

substantial percentages of both check and coupon households--26 percent to 31 percent--reported sometimes not having enough food. We have several possible explanations for this discrepancy. First, as noted previously, although the average household might exceed the RDA for one or more nutrients, substantial numbers of households at the lower end of the nutrient availability distribution might not exceed the RDA. Second, the reference period for the data on nutrient availability is a single week, whereas the questions on perceived food adequacy were asked about the previous month. Households could have had adequate nutrient availability during the week covered by the food-use data, but could also have had insufficient resources to buy enough food during other parts of the month. Third, households' perceptions of food adequacy might be based on criteria other than the ability to meet the RDAs.

We do not have sufficient information to enable us to choose between these alternative explanations of the available data. However, it is important to note that the relationship between the food-use data and the perceptions data are similar for check and coupon households.

The household survey provides additional evidence that check households do not generally perceive their home food supply situation to have deteriorated under cash-out. The check households whose benefit form had been converted from coupons at the commencement of the cash-out demonstration were asked whether there had been any changes in the quantity and quality of the food that they purchased. Eighty-six percent reported buying either more food or about the same amount of food with checks as with coupons, and 94 percent felt that the quality of the food was the same or better. In a separate survey, the San Diego County Department of Social Services (1991) found that 91 percent of a sample of check households that had been converted from coupons reported spending as much or more for food under cash-out as they had under coupon issuance.

The finding from the household survey that 86 percent of converted check households perceived that they were purchasing as much or more food under cash-out as they had under coupon issuance contrasts sharply with our finding that cash-out resulted in a reduction in the money value of food

used at home of 4.5 percent to 6.5 percent (see Table III.1). Because the latter finding is based on a detailed recall of food use, we believe that it more accurately reflects the true effect of cash-out on the availability of food to food stamp households in San Diego. The former finding may reflect a tendency by check recipients to view their current food purchasing in a positive light relative to that under coupon issuance because, as documented in Chapter V, check recipients prefer to receive food stamp benefits in the form of checks.

## 2. FSP Households' Experiences in Running Out of Food

The household survey also included two questions that were designed to obtain somewhat more objective information on the incidence of inadequate home food supplies. If budgeting food expenses is more difficult with checks than with coupons, then check recipients may be more likely than coupon recipients to have inadequate home food supplies.

One survey question asked households whether there were any days in the previous month during which their household had neither food nor resources to buy food.<sup>28</sup> A second question asked whether any household member had skipped meals because of a lack of food or of resources to buy food.<sup>29</sup> In general, check households were no more likely than coupon households to run out of food or to skip meals. These findings are discussed in greater detail below.

Approximately one-third of both check and coupon recipients reported having neither food nor the resources to buy food on one or more days in the most recently completed month preceding the survey month (Table III.11).<sup>30</sup> Check households were *no more likely* than coupon households to

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<sup>28</sup>Check and coupon households were asked: "Last month were there days when your household had no food, money, or food stamps to buy food?; if so, on how many days did this happen?"

<sup>29</sup>Check and coupon households were asked: "Last month did anyone in your household skip any meals because there was not enough food, or money or food stamps to buy food?; if so, on how many days did this happen last month?"

<sup>30</sup>Table III.11 shows that the percentage of respondents reporting having no food or no resources to buy food on one or more days in the most recently completed month exceeded the percentage reporting sometimes or often not having enough food to eat during the previous month. For  
(continued...)

report this problem. In fact, the percentage of check households reporting that they had neither food nor the resources to buy food is smaller than the percentage of coupon households (34 percent versus 38 percent), although this difference is not statistically significant.

For households that had the problem at all, both check and coupon households reported having neither food nor the resources to buy food for an average of about five days in the month preceding the survey. Thus, no evidence suggests that cash-out increased the number of days in which check households lack food or the resources to buy food.

Although about one-fifth of both check and coupon households reported skipping meals, as Table III.11 indicates, a smaller percentage of check households reported doing so (18 percent, versus 22 percent of coupon households). For the households that reported skipping meals, both check and coupon households skipped meals on an average of six days. Thus, the data strongly reject the hypothesis that check recipients are more likely than coupon recipients to skip meals because of a lack of food or resources to buy food.

### **c. Actions Taken by Recipients Because Households Lacked Food**

If cash-out causes benefits normally budgeted for food to be diverted to nonfood expenditures, recipients might try to compensate by seeking out other program or nonprogram sources of food.

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<sup>30</sup>(...continued)

example, 34 percent of check households reported going at least one day without food or resources to buy food, whereas only 27 percent of check households reported that they sometimes or often did not have enough food to eat. This difference probably is due to differences in the questions that were asked. The question about "enough" food yields a subjective measure of the adequacy of the household's food supply because it asks respondents to characterize household food supply adequacy; the other question yields a more objective measure because it asks respondents to recall any days with insufficient food or resources to buy food. It is also likely that, on some days, households *began* the day without food or resources to buy food, but were able to obtain food during the day (perhaps through friends or food pantries) in order to meet meal requirements. A respondent in this situation would probably have responded positively to the general question about whether the household had had enough food to eat, but positively as well to the question about whether the household had sometimes been without food or the resources to buy food.

The survey addressed this issue by asking households whether they took any of several actions to obtain food during the month preceding the survey because there was not enough food.<sup>31</sup>

The most frequently mentioned actions taken to obtain food were: buying or serving less expensive meals; serving smaller meals; borrowing money from friends or relatives; borrowing food from friends or relatives; and eating at the homes of friends or relatives (Table III.12). About 50 percent of both check and coupon households reported buying or serving less expensive meals, and about 40 percent reported serving smaller meals. When interpreting these findings, note that these two response categories were stated and coded in *relative* terms, such as "smaller" and "less expensive." Many respondents might have been serving relatively small and inexpensive meals *throughout* the month and did not alter their behavior in response to any specific food crises that might have arisen.

Roughly 25 percent of both check and coupon households reported borrowing money to buy

at the homes of friends or relatives.

Reliance on food banks, food pantries, or churches to obtain additional food and buying food

TABLE III.12

NUMBER AND TYPES OF ACTIONS TAKEN TO OBTAIN FOOD  
DURING THE PAST MONTH  
(Percentage of Households)

Measure of Household Food Supply	Mean Value		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
<b>Household Took the Following Actions to Get Food During the Past Month</b>					
Buy or serve less expensive meals	48.44	49.50	-1.06	-2.14	0.36
Serve smaller meals	37.42	41.82	-4.40	-10.52	1.52
Borrow money to buy food	25.73	25.13	0.60	2.39	0.23
Borrow food from friends or relatives	22.07	22.47	-0.40	-1.82	0.16
Eat at friends' homes	19.58	22.78	-3.20	-14.05	1.32
Get food at food bank, food pantry, or a church	9.86	6.66	3.20	48.05	1.97 <sup>††</sup>
Take money out of savings to buy food	7.10	9.18	-2.08	-22.66	1.29
Eat one or more meals at a church, soup kitchen, or senior center	3.81	3.13	0.68	21.73	0.63
Buy food on credit	3.48	1.98	1.50	75.76	1.56 <sup>†</sup>
Take on additional work in order to pay for food	2.70	2.85	-0.15	-5.26	0.16
Apply for WIC	2.70	2.67	0.03	1.12	0.03
Apply for AFDC benefits	2.47	3.58	-1.11	-31.00	1.10
Other action in order to get food	2.63	2.72	-0.09	-3.31	0.09
<b>Number of Actions Taken by Household to Get Food During the Past Month (percentage distribution)</b>					
None	34.12	33.20	0.92	2.77	0.33
One	16.33	15.10	1.23	8.15	0.57
Two	17.01	17.55	-0.54	-3.02	0.24
Three	12.51	11.94	0.57	4.69	0.29
Four or more	20.03	22.21	-2.18	-9.82	0.90
<b>Sample Size</b>	572	571			

TABLE III.12 (continued)

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SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

Note: One-tailed statistical tests were performed on all check-coupon differences shown in this table.

"Past month" is the month preceding the survey.

WIC = Special Supplemental Food Program for Women, Infants, and Children; AFDC = Aid to Families with Dependent Children.

<sup>†</sup>Statistically significant at the 90 percent confidence level, one-tailed test.

<sup>††</sup>Statistically significant at the 95 percent confidence level, one-tailed test.

organizations for food assistance under 100 percent cash-out. This figure would represent a 45-percent increase in reliance on these organizations by FSP participants relative to what we would expect under 100 percent coupon issuance.<sup>32</sup>

Additional evidence on households' use of other sources of assistance is available from the findings of a survey of food pantries and other private assistance centers that the U.S. Department of Agriculture, Food and Nutrition Service (FNS), undertook in November of 1990. Twelve private-assistance providers in San Diego County were asked whether they had noticed an increase in the demand for their services at the time that 100 percent cash-out was put into effect. The majority of respondents reported either no increase or only a small (less than 10 percent) increase. One center reported a large increase (30 percent), which it attributed to cash-out. Some of the reported increases might have resulted from the downturn in the economy, which was occurring at that time, rather than to cash-out.<sup>33</sup> This evidence suggests somewhat smaller effects than those estimated on the basis of the household survey.

Check and coupon households did not differ in the number of actions taken to obtain food. Roughly two-thirds of both check and coupon households took at least one action to obtain food, and about one-fifth of both reported taking four or more actions.<sup>34</sup>

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<sup>32</sup>Approximately 6.7 percent of *coupon* recipients reported that they had obtained food at food banks, food pantries, or churches during the month preceding the household survey. When applied to the full San Diego food stamp caseload of 55,000 households, that percentage translates into about 3,700 households that would rely on those organizations under 100 percent coupon issuance. The *additional* 1,700 households that we estimate would rely on those organizations under full cash-out represent an increase of approximately 45 percent over the 3,700 households that would rely on them under full coupon issuance.

<sup>33</sup>The FNS survey is described in an internal memorandum (including supporting documents) from Karen Howard of the FNS Western Region office to Christy Schmidt of the FNS Office of Analysis and Evaluation, dated December 20, 1990.

<sup>34</sup>Table III.12 shows that the majority of respondents reported taking one or more actions to obtain food because there was not enough food to eat, but Table III.11 indicates that the majority also reported having adequate supplies of food. This set of findings is not contradictory when we consider the following. When answering the subjective question on the adequacy of the household food supply, it is reasonable that respondents considered the food supply to include food that was obtained by household members because there was not enough food. For example, a respondent may  
(continued...)

### **3. Participation in Other Food-Assistance Programs and Availability of Nonpurchased Food from Sources Other than Government Programs**

The survey asked households about participation in other food and nutrition assistance programs and about the availability of nonpurchased food from nonprogram sources. The program sources of food were the NSLP, SBP, the WIC program, and the USDA commodity distribution programs. Nonprogram sources of food consisted of home-produced food and food received as a gift or in-lieu of payment.

#### **a. Participation in Other Food-Assistance Programs**

Of the four other program sources of food examined in the household survey--the NSLP, the SBP, the WIC program, and the USDA commodity distribution programs--in only one was the difference in participation between check households and coupon households statistically significant. Check households were more likely to participate in commodity distribution programs; 8 percent reported receiving USDA commodities, compared with 5 percent of coupon households (Table III.13). This difference is statistically significant at the 95 percent confidence level, with a one-tailed test. Check households with a pregnant/lactating woman or child less than 5 years old were 1.2 percentage points more likely than coupon households to participate in the WIC program during the month preceding the survey (16.71 percent versus 15.48 percent).<sup>35</sup> However, the difference is not statistically significant.

Check households were slightly more likely than coupon households to participate in the NSLP and the SBP during the month preceding the survey. However, neither of the differences is statistically significant. Eighty-eight percent of check households with children in kindergarten

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<sup>34</sup>(...continued)

have reported that household members had to borrow food from friends and to get food from a food bank. The respondent also may have reported that the household had enough to eat if he or she thought that the actions enabled the household to obtain an adequate supply of food.

<sup>35</sup>The check and coupon household samples in this analysis are restricted to households with a pregnant/lactating woman or child less than age 5 because only households meeting this restriction are eligible to participate in the WIC program.

TABLE III.13  
PARTICIPATION IN OTHER FOOD-ASSISTANCE PROGRAMS AND  
USE OF NONPURCHASED FOOD

Source of Food	Unweighted Sample Size		Mean Value		Difference in Means		
	Check	Coupon	Check	Coupon	Absolute	Percentage	t-Statistic
<b>Participation in Other Food Programs</b>							
National School Lunch Program							
Percent of households participating <sup>a</sup>	304	312	87.85	84.49	3.36	3.98	1.24
Subsidy value of school lunches <sup>b</sup>	267	265	\$12.83	\$12.04	0.79	6.56	1.07
School Breakfast Program							
Percent of households participating <sup>a</sup>	163	176	63.51	57.47	6.04	10.51	1.16
Subsidy value of school breakfasts <sup>b</sup>	104	102	\$7.28	\$6.50	0.78	12.00	1.14
Surplus Commodities							
Percent of households receiving during past month <sup>d</sup>	542	536	8.03	5.20	2.83	54.23	1.87 <sup>††</sup>
Food Obtained by Redeeming a WIC Voucher							
Percent of households reporting <sup>a</sup>	325	318	16.71	15.48	1.23	7.95	0.43
Retail value of WIC food <sup>b</sup>	54	49	\$14.10	\$11.87	2.23	18.70	1.27
<b>Use of Nonpurchased Food</b>							
Home-Produced Food							
Percent of households reporting <sup>d</sup>	542	536	3.21	3.89	-0.68	-17.48	0.60
Retail value of home-produced food <sup>b</sup>	17	21	\$1.63	\$3.15	-1.52	-48.25	1.39
Food Received as Gift or In-Payment							
Percent of households reporting <sup>d</sup>	542	536	40.88	35.73	5.15	14.41	1.74 <sup>††</sup>
Retail value of gift/pay food <sup>b</sup>	216	189	\$6.46	\$7.01	-0.55	-7.85	0.38
Average Money Value of Nonpurchased Food <sup>d</sup>	542	536	\$4.06	\$3.70	0.36	9.73	0.56

TABLE III.13 (continued)

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SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: One-tailed statistical tests were performed on all check-coupon differences shown in this table.

<sup>a</sup>Past month" is the month preceding the survey.

<sup>b</sup>For households with children who attend schools that serve complete USDA lunches.

<sup>c</sup>For households reporting use of program or food sources.

<sup>d</sup>For households with children who attend schools that serve complete USDA breakfasts.

<sup>e</sup>For all households.

<sup>f</sup>For households with pregnant/lactating women or child less than age 5 years.

WIC = Special Supplemental Food Program for Women, Infants, and Children; USDA = U.S. Department of Agriculture.

<sup>††</sup>Statistically significant at the 95 percent confidence level, one-tailed test.

through grade 12 who attended schools serving breakfast or lunch reported participating in the NSLP, compared with about 85 percent of coupon households; 64 percent of check households with children in kindergarten through grade 12 reported participating in the SBP, compared with 57 percent of coupon households.<sup>36</sup>

Table III.13 also shows that, for each of the four food-assistance programs, the subsidy or retail value of program benefits was larger for check households than for coupon households. However, none of the differences are statistically significant.

**b. Nonpurchased Food from Sources Other than Government Programs**

Check households were more likely than coupon households to receive food as a gift or in-lieu of payment (41 percent versus 36 percent); this difference is statistically significant (Table III.13). The retail value of food obtained by gift or in-lieu of payment was about \$6 to \$7 per month for both check and coupon households that reported food from these sources. Roughly 4 percent of both check and coupon households consumed home-produced food; the retail value of the home-produced food consumed by coupon households was an average of \$1.52 greater than for check households. However, the difference is not statistically significant.

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<sup>36</sup>The check and coupon household samples in these analyses are restricted to households with children in grades kindergarten through 12 because only households meeting this restriction are eligible to participate in the NSLP and SBP.

#### IV. THE EFFECTS OF CASH-OUT ON FOOD-SHOPPING PATTERNS AND EXPENDITURES FOR FOOD AND NONFOOD ITEMS

Because cash-out does not restrict program benefits to the purchase of eligible food items, recipients may choose to spend their check benefits differently from how they would spend their coupon benefits. Indeed, we presented evidence in Chapter III, Section A.1, that cash-out affected the purchasing behavior of check households in San Diego County; that analysis indicated that check households used purchased food used at home worth an average of \$2.42 less per week per equivalent nutrition unit (ENU) than that used by coupon households.

Because check benefits give recipients greater purchasing flexibility, cash-out may change expenditures by increasing the amount of money used to purchase foods and snacks that are prepared and eaten away from home. For instance, if check households substitute expenditures for food used away from home for purchased food used at home dollar-for-dollar, then total expenditures for food will be unaffected by cash-out. Thus, one objective of our analysis is to assess whether food expenditures have shifted from food used at home to food used away from home, and to determine the impact of cash-out on the total amounts that households spend for food. In addition, if cash-out does reduce the total amounts that households spend for food, it is of interest to determine how the freed-up money is spent.

Converting the benefit form from coupons to checks may also affect the types of stores at which recipients shop. For example, in Puerto Rico, focus group discussions held subsequent to food stamp cash-out revealed that some households shifted their food purchases from small grocery stores to supermarkets (Stanford Klapper Associates, 1985). In addition, cash-out may affect the frequency with which recipients shop at different types of stores, because checks can be used at a wide variety of stores, but coupons can be used only at authorized retail food stores.

We used data from the screening interview for the household survey (the screener) to address questions about the impact of cash-out on household shopping patterns. To address questions about

the impact of cash-out on food and nonfood expenditures, we used data from the main questionnaire of the household survey. In the analyses, we present sample mean values separately for check and coupon households and conduct formal difference-of-means tests to compare outcomes.

The chapter is organized into two sections. Section A discusses findings on expenditures for food used at home and for food used away from home, and examines expenditure shares by broad consumption category. Section B presents findings on the types of stores at which food is purchased and the usual number of shopping trips per month to each type. Appendix F presents findings from multiple regression analysis of the marginal propensity to spend coupons and checks for food used at home.

When examining the data on expenditure shares reported in Section A, note that evidence suggests that not all of the expenditure information was reported accurately on the household survey instrument. In particular, the expenditure shares of food and shelter as measured in the household survey (approximately 33 percent and 50 percent, respectively) are significantly higher than those for low-income households reported in the 1989 Bureau of Labor Statistics Consumer Expenditure Survey (23 percent and 30 percent, respectively).<sup>1</sup>

The very detailed questioning sequence used to obtain food-related information in the survey, as described previously, leads us to believe that the food-use data are in all likelihood reasonably accurate. In addition, most respondents are likely to have had accurate information about most of their housing expenditures; thus, that category was measured accurately. However, during the interviews, in order to minimize respondent burden, we obtained information on other categories of expenditures in relatively short questioning sequences, with relatively little structured probing. As a result, we believe that respondents are likely to have significantly under-reported expenditures in these categories. Nevertheless, although these factors might have affected the levels of the expenditure share estimates reported in Section A, we know of no reason to believe that there was

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<sup>1</sup>See U.S. Department of Labor, Bureau of Labor Statistics (1991) for the data on low-income households.

*differential* reporting problems between cash-out and coupon recipients. Thus, *comparisons* between these groups are probably not substantially affected.

#### A. EFFECTS ON EXPENDITURES

By eliminating the direct link between Food Stamp Program benefits and food purchases that exists under the coupon-based system, checks may induce recipients to reduce expenditures for food. In the following sections, we examine the impact of cash-out on monthly food expenditures for food used at home and for food used away from home, as well as on total expenditures for food. We also assess whether cash-out caused any changes in the share of expenditures that households devote to major categories of nonfood expenditures, such as housing and medical expenses.

The measure of monthly expenditures for food used at home used in the analyses, the *monthly money value of purchased food used at home*, is based on information obtained from the main questionnaire. It is the same as that used in the analyses reported in Chapter III, Section A.1, except that it has been converted from a weekly to a monthly basis.<sup>2</sup> The measure of monthly expenditures for food purchased and eaten away from home, *monthly expenditures for food used away from home*, is also based on information from the main questionnaire and is comprised of the household's reported total expenditures for food eaten at restaurants, bars, cafeterias, cafes, and fast food places during the seven days preceding the interview (multiplied by 4.3 weeks, to convert to a monthly amount) plus the amount paid in the calendar month preceding the interview for school meals or meals or snacks received at day care homes or centers.<sup>3</sup> *Total expenditures for food* is the sum of the

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<sup>2</sup>This measure is based on a seven-day accounting of each individual food item used from the home food supply. The money value of each reported food item that was purchased was computed as the quantity used multiplied by the unit price. The total money value of purchased food used at home per week was arrived at by summing the money value over all of the different types of purchased foods used. The total money value of purchased food used at home per month was obtained by multiplying the per-week amount by 4.3 weeks. See Chapter II, Section C.4, for additional details.

<sup>3</sup>See Chapter II, Section C.4, for additional details.

money value of purchased food used at home and expenditures for food used away from home.<sup>4</sup> Monthly expenditures for food and eight broad categories of nonfood items were converted into expenditure shares; an expenditure share is the proportion of all reported expenditures allocated to a specific expenditure category.

#### 1. Expenditures for Food Used at Home and Food Used Away from Home, and Total Expenditures for Food

In this section, we use data from the main questionnaire to discuss the impact of cash-out on expenditures for food.

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<sup>4</sup>Two measures of monthly expenditures for food used at home are available in the data set. The measure described in the text is based on information from the main questionnaire. The other measure, *monthly expenditures for food from stores*, comes from the screener and equals the amount reported by respondents to have been spent for food at supermarkets, neighborhood grocers, convenience stores, and specialty stores during the previous month. The existence of a second measure of expenditures for food used at home means that we have two sets of findings on the impact of cash-out on expenditures for food used at home: total food expenditures, and food and nonfood expenditure shares.

Estimates of the impacts of the demonstration on food expenditures differ substantially, depending on which measure of food expenditures is used. Therefore, it is important to consider which data source is likely to be more accurate. We believe the findings from the main questionnaire, in which the money value of purchased food used at home is used, are more accurate. In part, our belief is based on the fact that, as discussed in Appendix H, the expenditure estimates that are based on the main questionnaire are much closer than the others to estimates of household food expenditures compiled by the U.S. Department of Labor, Bureau of Labor Statistics. In addition, the nature of the survey questions leads us to believe that the questions in the main questionnaire are likely to have less measurement error than those in the screener. The data from the main questionnaire are based on a detailed sequence of aided recall questions that used extensive probing to obtain information about food use during the seven days preceding the questionnaire; in addition, respondents had been asked before that period to keep extensive records about their food use. By contrast, the relevant questions from the screener cover a one-month period, and respondents had not been asked to keep records in advance of the interview. Furthermore, the questions in the screener were much less detailed than were those in the main questionnaire.

To provide a full overview of the survey findings, the report presents results based on both measures of food expenditures. However, in light of the considerations discussed in the previous paragraph, we recommend that attention be focused on the results that are based on data from the main instrument. Therefore, we discuss the results based on data from the screener in Appendix H.

**a. Expenditures for Food Used at Home**

As shown in Chapter III, Section A.1, according to analysis based on the measure of the money value of purchased food used at home, check households spent less than coupon households for food used at home. Check households used purchased food worth an average of \$274.94 per month, whereas coupon households used food worth \$297.19 per month (Table IV.1). The t-statistic indicates that the difference of \$22.25 per month is statistically significant at the 95 percent confidence level, with a one-tailed test.

Taking household composition into account, check households used purchased food per adult male equivalent (AME) worth an average of \$127.43 per month, compared with the \$136.82 per AME used by coupon households (Table IV.1). The t-statistic indicates that this reduction of \$9.39 per month per AME is statistically significant at the 95 percent confidence level, with a one-tailed test.

Thus, cash-out reduced expenditures for food used at home. On a per-household basis and on a per-AME basis, expenditures for food used at home by check households are about 7 percent less than those by coupon households.

**b. Expenditures for Food Used Away from Home**

The analysis provided no evidence that check households shifted food expenditures from food used at home to food used away from home. In fact, check households spent an average of \$2.61 less per month for food used away from home than did coupon households (\$25.92 versus \$28.53). However, this difference is not statistically significant (Table IV.1).

Accounting for differences in the ages and genders of household members, check households spent an average of \$2.06 less per month for food used away from home per AME than did coupon households (\$12.88 versus \$14.95). Again, this difference is not statistically significant.

TABLE IV.1  
MONTHLY EXPENDITURES FOR FOOD USED AT HOME AND FOOD  
USED AWAY FROM HOME

Measure of Food Expenditure	Mean Value		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
<b>Food Used at Home</b>					
Expenditure for food used at home (per household)	\$274.94	\$297.19	-22.25	-7.49	2.09 <sup>tt</sup>
Expenditure for food used at home (per AME)	\$127.43	\$136.82	-9.39	-6.86	2.35 <sup>tt</sup>
Percent of total food expenditures for food used at home	92.38	92.44	-0.06	-0.06	0.07
Percent of meals eaten at home	85.27	84.88	0.39	0.47	0.46
<b>Food Used Away from Home</b>					
Expenditure for food used away from home (per household)	\$25.92	\$28.53	-2.61	-9.15	0.82
Expenditure for food used away from home (per AME)	\$12.88	\$14.95	-2.07	-13.78	1.26
Percent of total food expenditures for food used away from home	7.62	7.56	0.06	0.76	0.07
Percent of meals eaten away from home	14.73	15.12	-0.39	-2.62	0.46
<b>Total Expenditures for Food</b>					
Sum of the expenditures for food used at home and expenditures for food used away from home (per household)	\$301.49	\$325.34	-23.85	-7.33	2.05 <sup>tt</sup>
Sum of the expenditures for food used at home and expenditures for food used away from home (per AME)	\$140.48	\$151.46	-10.98	-7.25	2.39 <sup>tt</sup>
<b>Sample Size</b>	<b>542</b>	<b>536</b>			

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: One-tailed statistical tests were performed on all check-coupon differences shown in this table.

Data are from the main questionnaire only.

AME = adult male equivalent.

<sup>tt</sup>Statistically significant at the 95 percent confidence level, one-tailed test.

**c. Total Expenditures for Food**

Therefore, overall, cash-out reduced the total amounts that households in the Food Stamp Program (FSP) spent for food. Check households spent \$301.49 per month, whereas coupon households spent \$325.34 per month (Table IV.1). This difference of \$23.85 per month is statistically significant at the 95 percent confidence level, with a one-tailed test. Adjusting for household size and composition, check households spent \$10.98 less per month per AME (\$140.48 versus \$151.46 for coupon households). This difference represents a reduction of 7 percent relative to the mean monthly expenditure for food per AME under coupon issuance. The difference is statistically significant at the 95 percent confidence level, with a one-tailed test.

**d. Additional Findings**

Check and coupon households did not differ substantially in the relative proportions of total food expenditures for food used at home and for food used away from home or in the proportions of all meals eaten that were eaten at home and eaten away from home. For both check and coupon households, about 90 percent of food expenditures was for food used at home; about 10 percent was

TABLE IV.2  
EXPENDITURE SHARES, BY BROAD CONSUMPTION CATEGORY  
(Percentage)

Budget Category	Share of Total Expenditures		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
All Food	32.38	33.95	-1.57	-4.62	-2.11 <sup>††</sup>
Food used at home	29.87	31.18	-1.31	-4.20	-1.80 <sup>††</sup>
Food used away from home	2.51	2.77	-0.26	-9.75	-0.94
All Shelter	51.42	49.42	2.00	4.01	2.02 <sup>††</sup>
Housing	43.89	42.37	1.52	3.59	1.49 <sup>†</sup>
Utilities	7.53	7.05	0.48	6.81	1.19
Medical	0.85	0.43	0.42	97.67	2.43 <sup>††</sup>
Transportation	6.37	6.45	-0.08	-1.24	-0.14
Clothing	3.97	4.35	-0.38	-8.74	-1.04
Education	0.49	0.32	0.17	53.13	1.65 <sup>††</sup>
Dependent Care	0.63	0.87	-0.24	-27.59	-1.11
Recreation	2.31	2.52	-0.21	-8.33	-0.77
Personal Items	1.58	1.69	-0.11	-6.51	-0.98
Total	100.00	100.00			
Total Expenditures	\$942	\$963			
Sample Size	542	536			

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: One-tailed statistical tests were performed on all check-coupon differences shown in this table.

Data are from the main questionnaire only.

<sup>†</sup>Statistically significant at the 90 percent confidence level, one-tailed test.

<sup>††</sup>Statistically significant at the 95 percent confidence level, one-tailed test.

the difference is attributable primarily to differences in expenditures for purchased food used at home.

The data from the main questionnaire indicate that the resources freed up by reduced food expenditures were shifted to medical and education expenditures, as well as to expenses for shelter, with the major shelter expense being housing.<sup>5</sup> In only three of the eight broad nonfood expenditure categories (medical, education, and shelter) are the mean expenditure shares of check households larger than those of coupon households at the 95 percent confidence level, with a one-tailed test. Table IV.2 shows that check households allocated 0.42 percentage points more of their expenditures to medical expenses than did coupon households (0.85 versus 0.43 percentage points). Check households allocated 0.17 percentage points more of their expenditures to education than did coupon households (0.49 versus 0.32 percentage points). Check households also devoted a larger share of their expenditures to shelter expenses—2.00 percentage points; this difference is significant at the 95 percent confidence level.

Table IV.2 also shows that check households had lower expenditure shares than did coupon households for clothing, dependent care, personal items, recreation, and transportation. However, none of the differences is statistically significant.

Expenses related to shelter and food expenditures comprise the bulk of household expenditures for both check and coupon households. Table IV.2 shows that both check and coupon households devoted more than 40 percent of their household expenditures to housing. If we consider utilities to be a housing-related expense, then check and coupon households allocate about one-half of their expenditures to shelter. Food is the next largest expenditure share. Both check and coupon households devote about one-third of their expenditures to food.

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<sup>5</sup>Housing costs include rent, mortgage payments, property taxes, and renter's or homeowner's insurance.

## **B. FOOD-SHOPPING PATTERNS**

The next two subsections discuss findings based on data from the screener interview on check-coupon household differences in shopping patterns. The first subsection discusses differences in the types of stores at which food used at home was purchased; the second subsection discusses differences in the frequency with which the different types of stores were patronized.

To summarize the findings on shopping patterns, data from the screener indicate that the differences between check and coupon households in the types of stores that were patronized to purchase food used at home in the preceding month were relatively minor. The only statistically significant difference was that check households were about five percentage points less likely to shop at convenience stores. The total number of shopping trips made in the preceding month by check households and by coupon households did not differ. Coupon households made about one trip more to convenience stores than did check households; check households made 0.25 more trips to specialty stores than did coupon households.

### **1. Types of Stores at Which Food Used at Home Is Purchased**

Differences between check households and coupon households in the types of stores that were patronized to purchase food used at home were relatively minor. Compared with coupon households, check households were more likely to purchase food at grocery stores and specialty stores (4 percentage points and 3.5 percentage points, respectively), and five percentage points less likely to purchase food at convenience stores (Table IV.3). Only the latter difference is statistically significant (with a two-tailed test, assuming a 90 percent confidence level). Check households were roughly one percentage point less likely than coupon households to purchase food at supermarkets, but this difference is not statistically significant.

**TABLE IV.3**  
**SHOPPING PATTERNS FOR FOOD USED AT HOME**

	Mean Value		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
<b>Percentage of Households Using</b>					
<b>Type of Store</b>					
Supermarket	97.03	97.95	-0.92	-0.95	0.97
Neighborhood grocery store	48.22	44.21	4.01	9.09	1.32
Convenience store	39.45	44.73	-5.28	-11.78	1.75*
Specialty store	35.79	32.32	3.47	10.77	1.20
<b>Number of Trips Past Month</b>					
Supermarket	5.42	5.38	0.04	0.56	0.11
Neighborhood grocery store	3.09	3.10	-0.01	-0.00	0.02
Convenience store	2.37	3.23	-0.86	26.63	2.43**
Specialty store	1.22	0.95	0.27	27.37	1.74*
All stores	12.09	12.63	-0.54	-4.28	0.87
<b>Sample Size</b>	<b>542</b>	<b>536</b>			

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey (screener), weighted tabulations.

NOTE: Two-tailed statistical tests were performed on all check-coupon differences shown in this table.

"Past month" is the month preceding the screener.

\*Statistically significant at the 90 percent confidence level, two-tailed test.

\*\*Statistically significant at the 95 percent confidence level, two-tailed test.

## 2. Number of Shopping Trips per Month, by Type of Store

Check and coupon households also did not differ in the total number of shopping trips in the month preceding the interview. Check households reported making an average of about one-half fewer shopping trips than did coupon households (12.09 trips versus 12.63 trips), but this difference is not statistically significant. However, check and coupon households did differ in the number of trips to some types of stores.<sup>6</sup> Check households made an average of 0.86 fewer trips to convenience stores than did coupon households (2.37 trips versus 3.23 trips). This difference is statistically significant at the 95 percent confidence level, with a two-tailed test. Check households made 0.26 more trips to specialty stores in the preceding month (1.22 versus 0.95 trips). This difference is statistically significant at the 90 percent confidence level, with a two-tailed test.

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<sup>6</sup>Note that the mean values for the number of trips, by type of store, shown in Table IV.3 are calculated for all check and coupon households, rather than for those making at least one trip to a particular type of store under consideration. For example, the mean number of trips to convenience stores made by check and coupon households that patronized convenience stores is, respectively, 5.8 and 7.2. These numbers compare with, respectively, 2.4 and 3.2, based on all check and coupon households. The latter set of mean values for the number of trips to convenience stores is lower than the former because the latter includes check and coupon households that did not patronize convenience stores (those households receive a value on this variable equal to zero).

## V. RECIPIENTS' ATTITUDES TOWARD AND EXPERIENCES WITH CASH-OUT

Coupon benefits may place demands on some recipients that the recipients perceive as making participation in the Food Stamp Program (FSP) burdensome or costly.<sup>1</sup> Coupons, which can be used only at stores participating in the FSP, may limit the food-purchasing choices of recipients. In addition, because recipients who use food coupons must pay separately for the portions of their groceries that are food stamp-eligible and for those that are not, the check-out times at the cash register may increase. Recipients may feel stigmatized or embarrassed when using food stamps, because the cashier or the recipient must detach the coupons from the coupon booklet, signalling to other patrons that the customer is a food stamp recipient. Under cash-out, each of these burdens or "costs" of program participation can be eliminated.

However, burdens or costs may also be associated with the use of check benefits. Two aspects of cash-out are of particular concern. First, under cash-out, benefits may be used to purchase any good or service, thus raising concern that recipients will find it more difficult to budget food expenditures with checks than with coupons. Second, recipients may encounter problems cashing benefit checks (for example, some stores may refuse to cash FSP benefit checks) or may have to pay check-cashing fees.

This chapter uses data from the household survey and focus group discussions to analyze recipients' attitudes toward and experiences with the check and coupon issuance systems in San Diego County. For topics for which we have household interview data, the analysis entails presenting means and distributions of responses to questionnaire items separately for check and coupon recipients and then comparing the responses. The focus group discussions provide useful information on and insights into the impacts of cash-out on several outcomes of interest, some of which are not addressed

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<sup>1</sup>The word "costly" is used in its broad economic sense. Direct charges to applicants are prohibited by law.

by the household survey. Because the results from the focus group discussions are based on a small number of nonindependent observations, they cannot support tests of hypotheses about recipient behaviors in any formal statistical sense. The analysis of data obtained from the discussions is descriptive, and selected quotations are included in the text to highlight recipients' perceptions of cash-out.<sup>2</sup>

This chapter is organized into four sections. Section A describes the findings on what recipients like and dislike about receiving check and coupon benefits, on which benefit form they prefer, and on the reasons for their preferences. Section B discusses the findings on recipients' perceptions of the relative utility of coupon and check benefits in food budgeting and spending. Section C describes the experiences of check recipients when cashing benefit checks and discusses check-cashing fees. Section D discusses the incentives provided by check benefits to apply for benefits and to remain in the program, as reported by check recipients whose benefits have always been in the form of checks.

#### **A. RECIPIENTS' OPINIONS ABOUT BENEFIT CHECKS AND COUPONS**

The household survey examined issues relating to program participants' preferences for cash or for coupons by asking about what attributes of the issuance method were and were not viewed as desirable. In particular, the survey asked respondents to identify as many as four things that are "good about receiving food stamp benefits in the form of checks" and as many as four that are "not good about check benefits." The survey obtained analogous information about coupons.<sup>3</sup> The results presented in Sections V.A.1 and V.A.2 are based on the responses of check and coupon recipients to these questions.

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<sup>2</sup>See Appendix D for a discussion of methodology used to conduct the focus groups.

<sup>3</sup>These questions were open-ended. Respondents were first asked what they thought was good about getting benefits as checks; then what was not good about getting benefits as checks; then what was good about getting benefits as coupons; and then what was not good about getting benefits as coupons.

In the two focus groups, a total of 28 recipients who had used both checks and coupons were asked which benefit form--checks or coupons--they preferred, and to give the reasons for their preference. Section V.A.3 presents the findings on preferences for checks or for coupons on the basis of the focus group discussions.

To summarize the findings, responses to the survey questions on what is good and what is bad about benefit checks and coupons, as well as the evidence from the focus groups, indicate that both check and coupon recipients favor checks; however, the margin of preference is wider for check households than for coupon households. The major reasons given by participants for liking check benefits were that the benefits can be used to purchase items other than food, that they eliminate the stigma or embarrassment of program participation, and that they give recipients a wider choice of stores.

#### **1. Recipients' Perceptions of What Is Good and Bad About Checks and Coupons**

All respondents to the household survey were asked what they thought was good and what was not good about checks and about coupons. Both check and coupon recipients gave very similar responses to these questions. The first subsection that follows discusses recipients' attitudes toward benefit checks. The second subsection describes attitudes toward coupons.

##### **a. Attitudes Toward Benefit Checks**

**What Is Good About Checks.** When asked what is good about check benefits, the feature that was mentioned most often by both check and coupon households was that the benefits can be used for nonfood expenses; 42 percent of check households and 40 percent of coupon households mentioned this benefit (Table V.1).

Both check and coupon households also cited unrestricted food-purchasing locations under cash-out as an advantage of checks. Nineteen percent of check households and 13 percent of coupon households mentioned having more choices of where to purchase food as a good thing about check

TABLE V.1

RECIPIENTS' OPINIONS ON WHAT IS GOOD ABOUT FOOD STAMP PROGRAM CHECKS  
(Percentage of Households)

What Is Good About Checks	Check Households			
	Converted to Checks	Checks Always	All Check Households	Coupon Households
Can be used for items other than food	39.9	47.9	42.1	39.7
Have more choices of food stores	18.5	21.7	19.0	13.3
Do not feel embarrassed using benefits	18.6	9.7	16.2	10.5
More convenient to use/easier to spend	6.7	6.9	6.7	6.6
Do not cause problems at check-out counter	7.8	2.0	6.2	2.8
Can budget food expenses better	7.3	2.7	6.0	2.5
Give more control over household budget	6.0	4.6	5.5	1.9
Allows you to feel dignified	5.0	3.4	4.8	4.5
Are less likely to be stolen	4.3	3.5	4.0	3.7
Do not have to go to the issuance office	2.7	1.4	2.4	2.2
Do not stand in line for a long time (at check-out)	3.0	0.7	2.3	1.3
Are not difficult to cash	2.2	0.7	1.9	0.5
Issued the same time each month	2.5	0.0	1.8	1.0
Are never late	2.0	0.7	1.7	0.7
Do not go to post office to pick up	1.4	0.0	1.0	1.4
Benefits in cash	0.9	0.0	0.6	1.1
Allow you to save money	0.7	0.0	0.5	0.2
Other	1.9	3.7	2.3	2.0
Nothing	7.5	7.1	7.3	15.9
No opinion	0.3	1.2	0.7	0.8
Do not know	2.4	3.9	2.9	10.2
Refused to say	0.5	0.0	0.4	0.8
Number of Households	423	141	572	571

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: Percentages do not sum to 100 percent because respondents could mention more than one thing that they thought was good about check benefits.

Sample sizes of "Converted to Checks" and "Checks Always" households do not sum to sample size of "All Check Households" because the status of eight households could not be determined.

benefits. This was the second most frequent response of check recipients and the third most frequent response of coupon recipients. ("Nothing" was the second most frequent response of coupon recipients to the question, "What is good about checks?")

No longer feeling embarrassed when using FSP benefits was the next most commonly mentioned advantage of the check-issuance system. Sixteen percent of check households and 11 percent of coupon households cited this feature. When the responses of check households whose benefit form had been converted from coupons to checks were compared with those of check households that had always received their benefits as checks, converted households were nearly twice as likely as check-always households to cite the elimination of the stigma of program participation as a good thing (19 percent versus 10 percent). This difference is not surprising, because households that have always received FSP benefits as checks may never have been subjected to the embarrassment that can occur at check-out counters when coupons are used.

If we assume that responses in the categories "do not feel embarrassed using benefits," "allows you to feel dignified," and "no problems at the check-out counter" all express the sentiment that cash-out eliminates the "stigma" of program participation, then 23 percent of check respondents and 15 percent of coupon respondents mentioned at least one reason related to the elimination of stigma when asked what is good about check benefits (results not shown).<sup>4</sup>

**What Is Not Good About Checks.** "Nothing" was the most frequent response of check recipients to the question, "What is not good about checks?" and the second most frequent response of coupon households. Forty-six percent of check households and 25 percent of coupon household gave this response (Table V.2). Therefore, check households were twice as likely as coupon households (46

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<sup>4</sup>Note that the percentage of check households mentioning a stigma-related reason (23 percent) is somewhat less than the percentage obtained by simply summing the percentages for the three categories (27 percent). The same relationship holds for coupon households (15.4 percent versus 17.8 percent). The former percentage is the correct one to report. One cannot simply sum the percentages of the individual categories; doing so would overstate the percentage of respondents holding this attitude, because respondents could mention as many as four things that they thought were good about checks.

TABLE V.2

RECIPIENTS' OPINIONS ON WHAT IS NOT GOOD ABOUT FOOD STAMP PROGRAM CHECKS  
(Percentage of Households)

What Is Not Good About Checks	Check Households			
	Converted to Checks	Checks Always	All Check Households	Coupon Households
Do not make sure benefits are spent on food	19.4	13.7	18.1	38.5
Do not budget food expenses as well	8.2	5.3	7.3	3.9
Benefits are used to buy drugs	4.6	4.7	4.7	6.3
Benefits are used to buy alcohol/cigarettes	3.2	2.6	3.2	3.9
Give less control over household budget	2.9	4.6	3.3	2.2
Need to pay a fee to cash checks	1.8	4.2	2.4	3.9
Give more control over household budget	6.0	4.6	5.5	1.9
Can be used for items other than food	2.6	0.0	1.9	1.8
Are difficult to cash	1.2	2.5	1.6	1.8
Not enough benefits to buy food	1.5	1.2	1.4	0.4
Have less value than food stamps (incl. check-cashing fee)	1.5	0.0	1.1	1.1
Difficult to budget (because issued first of month)	0.5	2.8	1.1	0.7
Are more likely to be stolen	0.8	0.0	0.6	1.8
Cause problems at check-out counter	0.4	0.0	0.3	0.0
Forced to pay higher prices	0.4	0.0	0.3	0.7
Too much money to carry around	0.2	0.0	0.2	0.2
Feel embarrassed	0.2	0.0	0.2	0.7
Do not feel dignified	0.0	0.0	0.0	0.4
Have fewer choices of food stores	0.2	0.0	0.2	0.2
Easy to misplace or lose	0.0	0.0	0.0	0.5
Other	3.4	5.0	3.8	2.4
Nothing	45.6	49.5	46.4	25.0
No opinion	1.1	0.6	1.1	1.1
Do not know	6.5	5.1	6.0	11.4
Refused to say	1.2	0.7	1.0	1.0
Number of Households	423	141	572	571

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: Percentages do not sum to 100 percent because respondents could mention more than one thing that they thought was not good about check benefits.

Sample sizes of "Converted to Checks" and "Check Always" households do not sum to sample size of "All Check Households" because the status of eight households could not be determined.

percent versus 25 percent) to find no fault with check benefits; this finding is true for check households whose benefit form was converted from coupons to checks and for those that had always received benefits as checks.

Check and coupon recipients agreed about the features of check benefits that they perceived as not good. When asked what is bad about check benefits, 18 percent of check households mentioned that checks do not ensure that FSP benefits are spent on food. Coupon households were more concerned than check households about the potential diversion of cash benefits from food to other household expenses; they were twice as likely as check households (39 percent versus 18 percent) to mention this feature when asked what is bad about benefit checks. Check households whose benefits had been converted from coupons were somewhat more likely than check-always households to cite this characteristic of cash-out as a bad thing (19 percent versus 14 percent).

If we assume that responses in the categories "do not make sure benefits are spent on food," "can be used for items other than food," "benefits can be used to buy drugs," and "benefits can be used to buy alcohol/cigarettes" express the sentiment that cash-out reduces the likelihood that benefits will be spent on food, then 25 percent of check respondents and 46 percent of coupon respondents mentioned at least one reason related to the diversion of benefits from food to nonfood goods and services (results not shown).

The only other feature of check benefits that appears to concern a significant number of recipients is the effect of the benefit form on budgeting food expenditures. However, only a relatively small minority of check and coupon households (7 percent and 4 percent, respectively), mentioned not being able to budget food expenses as well with checks as with coupons.

#### **b. Attitudes Toward Coupons**

In general, the responses to the question, "What is good about coupons?" were the same as the responses to the question, "What is not good about checks?" Conversely, recipients' responses to the question, "What is not good about coupons?" were the same as those to the question, "What is good

about checks?" We discuss the responses of check and coupon recipients about what is good and not good about coupons in the next two subsections.

**What Is Good About Coupons.** The feature of coupon benefits that check and coupon households liked most is that coupons make it more likely that FSP benefits will be spent on food. Forty percent of check households and 55 percent of coupon households mentioned this feature (Table V.3). Among check recipients, 43 percent of households whose benefits were converted from coupons to checks mentioned this feature as a good thing, compared with 32 percent of households whose benefits had always been in the form of checks.

"Nothing" was the second most common response of both check and coupon household respondents to the question. Nearly 25 percent of check recipients, compared with 12 percent of coupon recipients, responded that "nothing" was good about coupons.

The third most common response given by both check and coupon households was that it was easier to budget household expenses with coupons than with checks. Six percent of check households and 10 percent of coupon households mentioned this feature of coupons as a good thing. Seven percent of households whose benefits were converted from coupons to checks cited this feature, compared with 3 percent of check households that had always received FSP benefits as checks.

**What Is Not Good About Coupons.** Check and coupon households cited several aspects of the coupon-issuance system that they thought were not good (Table V.4). The feature cited most often, by 25 percent of check households and by 22 percent of coupon households, is that FSP coupon benefits cannot be used to purchase nonfood items. Another feature of coupons perceived by check and coupon households as undesirable is the "stigma" experienced by participants when using their benefits to purchase food. Twenty percent of check households and 19 percent of coupon households mentioned their embarrassment when using food stamps as a feature that they disliked

TABLE V.3  
 RECIPIENTS' OPINIONS ON WHAT IS GOOD ABOUT FOOD STAMP PROGRAM COUPONS  
 (Percentage of Households)

What Is Good About Coupons	Check Households			Coupon Households
	Converted to Checks	Checks Always	All Check Households	
Make sure benefits are spent on food	43.0	31.6	40.1	55.4
Can budget food expenses better	7.0	2.8	5.8	10.1
Cannot be used for items other than food	5.1	5.2	5.1	6.1
Give more control over household budget	4.7	4.5	4.6	4.6
Get higher dollar value with coupons	1.8	1.3	1.6	0.2
Do not need to pay check-cashing fee	0.9	3.2	1.5	0.9
No taxes charged	1.6	0.0	1.2	1.6
Cannot be used for items other than food	0.5	3.3	1.2	1.0
Cannot be used for alcohol/cigarettes	0.3	2.0	0.9	1.4
Cannot be used to buy drugs	0.7	1.3	0.8	0.4
Do not have to carry cash	0.7	0.7	0.7	0.0
Are less likely to be stolen	0.0	2.0	0.5	1.2
More convenient to use/easier to spend	0.4	0.0	0.3	1.8
Are not difficult to use	0.5	0.0	0.4	1.4
Have more choices of food stores	0.3	0.0	0.2	0.5
Allow you to save money	0.0	0.0	0.0	0.4
Do not feel embarrassed using benefits	0.2	0.0	0.1	0.2
Hard to sell	0.0	0.0	0.0	0.4
Other	2.1	2.5	2.1	1.4
Nothing	24.3	24.9	24.5	11.8
No opinion	1.3	1.8	1.4	0.7
Do not know	8.1	15.8	10.2	5.2
Refused to say	1.8	0.7	1.5	1.2
Number of Households	423	141	572	571

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: Percentages do not sum to 100 percent because respondents could mention more than one thing that they thought was good about coupon benefits.

Sample sizes of "Converted to Checks" and "Checks Always" households do not sum to sample size of "All Check Households" because the status of eight households could not be determined.

TABLE V.4

**RECIPIENTS' OPINIONS ON WHAT IS NOT GOOD ABOUT FOOD STAMP PROGRAM COUPONS**  
(Percentage of Households)

What Is Not Good About Coupons	Check Households			
	Converted to Checks	Checks Always	All Check Households	Coupon Households
Cannot be used for items other than food	23.8	28.8	25.3	22.3
Feel embarrassed using benefits	21.9	14.1	20.0	18.5
Have fewer choices of food stores	10.1	12.4	10.5	11.4
Cause problems at check-out counter	9.4	1.8	7.3	6.9
Do not feel dignified using benefits	4.3	2.7	3.8	4.4
Need to stand in line for a long time (at check-out)	4.2	1.9	3.5	2.6
Involve going to the issuance office	3.3	2.7	3.1	4.3
Do not make sure benefits are spent on food (trafficking)	3.2	0.7	2.5	1.9
Are more likely to be late	2.6	2.0	2.4	2.7
Give less control over household budget	2.2	0.6	1.8	1.3
Are more likely to be stolen	2.0	2.2	2.3	2.0
Benefits have been stolen	1.8	1.2	1.7	0.8
Do not budget food expenses as well	2.1	0.0	1.5	1.8
Other	1.6	0.7	1.3	1.6
Nothing	18.3	15.9	17.4	21.7
No opinion	0.7	1.9	1.3	0.2
Do not know	6.4	12.3	7.8	5.4
Refused to say	2.6	0.7	2.1	1.0
Number of Households	423	141	572	571

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: Percentages do not sum to 100 percent because respondents could mention more than one thing that they thought was not good about coupon benefits.

Sample sizes of "Converted to Checks" and "Checks Always" households do not sum to sample size of "All Check Households" because the status of eight households could not be determined.

about coupon benefits. About 11 percent of both check and coupon households mentioned the limitations on their food-purchasing location choices as an undesirable feature of coupons.

## **2. Indices of Recipients' Attitudes Toward Benefit Checks and Coupons**

The household survey did not ask recipients directly which benefit form—checks or coupons—they preferred. However, we used the number of reasons given by a respondent for why checks or coupons are good or are not good to construct two indices, one measuring the respondent's attitudes toward checks, and one measuring the attitudes toward coupons. The indices can be used to provide evidence about whether recipients prefer checks or coupons.

The index of attitudes toward checks is simply the number of reasons cited by a respondent for why checks are good, minus the number of reasons cited for why checks are not good. Therefore, a positive value of the index indicates that the respondent cited more good things than bad things about checks. Conversely, a negative value indicates that the respondent cited more bad things. A respondent who cited an equal number of good and bad aspects of checks would have an index value equal to zero. We used the same procedure to construct the index of attitudes toward coupons. The interpretation of that index is analogous to the interpretation of the check index. To simplify the findings based on the indices, we have collapsed their values into three categories: (1) positive, (2) neutral (zero), and (3) negative.

When examining tabulations of these indices, it is important to recognize that we cannot be certain about the degree to which the indices reflect respondents' overall preferences for cash or for coupons. For example, suppose that a respondent noted three advantages of checks, but only one disadvantage. Implicitly, our index assumes that the responses indicate an overall positive attitude toward checks. However, it is possible that the respondent could have viewed the single disadvantage to be so serious as to outweigh the three advantages.

Nevertheless, we believe that the indices provide meaningful information about respondents' attitudes toward checks and coupons. In part, as discussed in the following subsection, we base our

belief on the fact that the findings obtained from the indices are broadly consistent with the findings obtained from the focus groups.

**a. Attitudes of Check Recipients Toward Benefit Checks and Coupons**

A substantial majority of check recipients cited more reasons why checks are good than why they are not good. Table V.5 shows that about 64 percent of check recipients cited more reasons why checks are good than reasons why checks are bad, whereas only 11 percent cited more reasons why checks are bad. Twenty-six percent cited an equal number of good and bad things about checks. When we restricted the sample for this analysis to check recipients whose benefit form had been converted from coupons to checks, we obtained essentially the same percentages (results not shown).

As measured by our index, the attitudes of check recipients toward coupons are much more evenly distributed across the "positive-neutral-negative" categories than are their attitudes toward checks. Twenty-four percent of check recipients cited more good than bad things about coupons, 38 percent cited an equal number of good and bad things, and 38 percent cited more bad than good things. As with attitudes toward benefit checks, these percentages are robust to a redefinition of the sample to include only those check recipients whose benefit form had been converted from coupons.

**b. Attitudes of Coupon Recipients Toward Benefit Checks and Coupons**

Forty-two percent of coupon recipients cited more reasons why checks are good than why checks are bad, whereas 24 percent cited more reasons why they are bad. Thirty-four percent cited an equal number of good and bad things.

Thirty-seven percent of coupon households cited more reasons why coupons are good than why they are bad. Thirty-eight percent cited an equal number of good and bad things, and 25 percent cited more bad things.

TABLE V.5

INDICES OF RECIPIENTS' ATTITUDES TOWARD CHECKS AND COUPONS  
(Percentage of Households)

Scale	Attitudes Toward Checks		Attitudes Toward Coupons	
	Check	Coupon	Check	Coupon
Positive <sup>a</sup>	63.6	42.3	24.4	37.3
Neutral <sup>b</sup>	25.8	33.9	38.0	38.2
Negative <sup>c</sup>	10.6	23.8	37.6	24.5
Total Percent	100.0	100.0	100.0	100.0
Sample Size	572	571	572	571

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

<sup>a</sup>Positive attitude means respondent said more good things than bad things about benefit form.

<sup>b</sup>Neutral attitude means respondent said equal number of good and bad things about benefit form.

<sup>c</sup>Negative attitude means respondent said fewer good things than bad things about benefit form.

### **c. Conclusions**

On the basis of our index of the number of reasons why benefit checks are good or are not good, we estimate that six times as many check recipients have a net positive attitude toward checks than have a net negative attitude (64 percent versus 11 percent). In addition, our results suggest that check recipients are 40 percentage points more likely to have a net positive attitude toward checks than they are to have a net positive attitude toward coupons (64 percent versus 24 percent). As we shall see in the next section, these findings are broadly consistent with the findings from the focus group discussions with recipients who had used both checks and coupons; virtually all of the participants in the discussions expressed a preference for checks over coupons.

In addition, results based on our constructed index suggest that coupon recipients prefer checks to coupons. More coupon recipients have a net positive attitude toward checks than have a net negative attitude (42 percent versus 24 percent). Coupon recipients are also more likely to have a net positive attitude toward checks than they are to have a net positive attitude toward coupons (42 percent versus 37 percent). However, for each of these findings, the differences in attitudes were substantially smaller than those observed for check households.

When interpreting these results, note that the coupon households had not received FSP benefits in the form of checks.<sup>5</sup> The lack of direct experience with check benefits might have prevented respondents from having clearer opinions about check benefits.<sup>6</sup> Of the check recipients whose benefit form had been converted from coupons and who, therefore, had experience with both forms of issuance, 65 percent had positive attitudes toward checks, and 25 percent had positive attitudes toward coupons.

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<sup>5</sup>Interviewers briefly informed coupon household respondents about the check-issuance system so that respondents could give informed answers about what is good and not good about checks. However, experience using check benefits is a better source of information than is the simple knowledge of the existence of such an issuance system.

<sup>6</sup>Evidence supports this view. Ten percent of coupon households responded "do not know" when asked what is good about checks, compared with 5 percent of coupon households, when asked what is good about coupons.

### 3. Additional Findings from Focus Group Discussions

In the focus groups, recipients who had used both checks and coupons were asked to indicate which benefit form they preferred, and to give the reasons for their preference. Recipients from both focus groups unanimously preferred checks to coupons. The major reasons were that: (1) no stigma is associated with receiving and using check benefits, (2) check benefits promote a feeling of self-esteem, (3) checks increase flexibility in purchasing decisions, and (4) checks make shopping and budgeting easier.

The reason given most often by both groups was the elimination of the stigma or embarrassment associated with using FSP benefits. Recipients reported that, when using checks, patrons or cashiers at the check-out counters of retail food stores no longer harassed or humiliated them. Recipients also mentioned greater feelings of self-esteem when using checks than when using coupons. Some examples of what participants said about how cash-out eliminated the stigma associated with participation in the FSP are:

*"I definitely prefer checks. Because with coupons, people [cashiers and customers] get all irritated when you're in line. They [cashiers] tap their fingers while you're counting them out, and they make a big deal about making change for them. You know, my kids won't go to the store with me--they are embarrassed. It [using food stamps] makes you feel like a second-class person."*

*"It's difficult when you're holding food stamps, and they [customers and cashiers] are thinking, Oh, you're one of those people. And just the way they look at you. They are thinking should I pity you, or you're just a tax-stealing so and so. That's the stigma attached to it."*

*"They give you looks at the cash register. I saw them behind me. Look at what she's buying. [They are thinking] I can't buy that and I am working."*

*"With checks I write a check for my groceries and no one knows where the money came from. It's better that way."*

*"With food checks they try to limit you to make sure you buy real food with it. Like I'm being told, well you know why we are giving you food stamps, because otherwise you'd spend it on drugs or beer. [With checks] I feel like going, well thank you for trusting me."*



were asked whether they thought coupon benefits or check benefits were more helpful when planning and budgeting monthly food expenses.<sup>7,8</sup> The focus groups with recipients who had used both coupon and check benefits explored the role of checks and coupons in household budgeting more deeply, as well as recipients' perceptions about the relative utility of checks and coupons when planning and budgeting the household's monthly food expenses. The first section describes the findings on budgeting food expenses that are based on the household survey, and the second describes the findings that are based on the focus group discussions.

To summarize the results, FSP recipients who have had experience with both checks and coupons prefer check benefits when budgeting food expenses. In the household survey, a majority of check recipients who had formerly received coupon benefits disagreed with the statement that "food stamps are more helpful than checks in planning and budgeting the household's monthly food expenses." The majority of focus group participants who had received both benefit forms also preferred checks when budgeting food expenses. Most of the participants in both focus groups believed that budgeting household expenditures, including those for food, or household resources was easier with benefit checks than with coupons. The main reason for preferring checks was that recipients were no longer

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<sup>7</sup> Respondents were asked whether they strongly agreed, agreed, disagreed, or strongly disagreed with the following statement: "Food stamp coupons are more helpful than food checks in planning and budgeting the household's monthly food expenses." All respondents to the household survey were asked this question, irrespective of whether they received checks or coupons. Respondents who did not receive check benefits were briefly informed about the check-issuance system. However, we believe that, as an information source, experience with check benefits is better than knowledge of the existence of such an issuance system. (An examination of the percentage of check and coupon households responding "don't know" to this question supports this belief, as coupon households were twice as likely as check households to respond "don't know.") Therefore, we focus our discussion on the responses to this question by check recipients who had formerly received coupon benefits.

<sup>8</sup> All household survey respondents were also asked whether they strongly agreed, agreed, disagreed, or strongly disagreed with the statement: "Food stamp coupons give more control than a food check over the household's food spending." However, we believe that there is sufficient ambiguity in the meaning respondents may have applied to the word "control" to cast doubt on the question's validity. Some households might have thought in terms of "federal government" control over the household's food expenses, because the question does not define *who* has more control. The ambiguity could have been avoided if "give more control" had read "give *the household* more control." For this reason, the discussion in Section V.B.1 focuses on the responses to the question about budgeting the household's monthly food expenses.

limited in where they could shop for food. Recipients felt that being able to shop at lower-priced stores freed up resources for additional food purchases or for nonfood expenditures.

### **1. Household Survey Findings on Budgeting Food Expenses**

Coupon households, but not check households, believed that food stamp coupons were more helpful than check benefits in planning and budgeting the household's monthly food expenditures. Sixty-three percent of coupon households either strongly agreed or agreed with the statement that "food stamp coupons are more helpful in planning and budgeting the household's monthly food expenses," whereas 56 percent of check households either strongly disagreed or disagreed with the statement (Table V.6).

None of the coupon households in our sample had actual experience budgeting food expenditures with check benefits. In addition, check households who were first-time participants in the FSP also lacked this experience. Thus, we can appraise recipients' relative preferences for checks or coupons in planning and budgeting food expenditures more accurately by examining the responses of the subgroup of check households that had formerly received coupon benefits. Table V.6 shows that a majority of recipients who had experience with both benefit forms did not believe that food expenditures are more easily budgeted with coupons than checks; 57 percent strongly disagreed or disagreed with the statement.

### **2. Additional Findings from the Focus Group Discussions on Budgeting Food Expenses**

In the focus group discussions with recipients who had received both check and coupon benefits, participants were asked to discuss the relative utility of checks and coupons in budgeting household expenditures. We first asked participants to compare their actions after receiving benefit checks (including how they decide what to do with the money) with those after receiving benefit coupons. We then asked whether it was easier to budget the household's food expenditures with checks or coupons, and why.

TABLE V.6

**ATTITUDES ABOUT THE ROLE OF CHECKS VERSUS COUPONS  
IN FOOD BUDGETING AND SPENDING  
(Percentage of Households)**

Attitude	Check Households			
	Converted to Checks	Checks Always	All Check Households	Coupon Households
<b>Food Stamp Coupons Are More Helpful in Planning and Budgeting the Household's Monthly Food Expenses</b>				
Strongly agree	16.3	11.3	15.1	25.3
Agree	26.9	31.3	28.5	37.4
	} 43.2	} 42.6	} 43.6	} 62.7
Disagree	38.0	42.7	38.8	26.7
Strongly disagree	18.9	14.4	17.5	10.6
	} 56.9	} 57.4	} 56.3	} 37.3
Sample Size	407	128	543	513

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: Percentages includes only households that expressed an opinion.

Sample sizes of "Converted to Checks" and "Checks Always" households do not sum to sample size of "All Check Households" because the status of eight households could not be determined.

Focus group participants generally reported that, because they had the option (albeit illegally) of exchanging food stamps for cash under the coupon-issuance system, their decision processes and actions were virtually the same under both forms of benefit issuance. Irrespective of the form of the benefit, most focus group participants reported first paying their rent and other major outstanding bills (for example, utilities, telephone, or car payment), and then making one large food-shopping trip within the first few days of the month. Focus group participants said:

*"The rent's got to be paid, the gas, electric, and the phone--whatever the big ones are get paid first, and whatever is left, you know you've got to feed your kids."*

*"Well, what I do is I get mine [combined AFDC/food stamp check] and I always have my bills. I pay all my bills and then I always save money for food. [After the bills] that's [food is] first, because my kids got to eat."*

*"It's like you pay your bills and you buy your food and you just stretch it [benefit check] until the first [of the month]. That's all you do."*

*"Before the last week of the month I have a list of all the bills that are due and I put the most important bills at the top. First is rent, and then food and then the other bills follow after that. I made out the same way, did the same thing [with coupons]."*

Most participants reported that they treated their check benefits and other sources of income as a single pool of funds that was used to purchase both food and nonfood items. A few participants reported that, when budgeting food expenses, they distinguished income by source, just as they had done when receiving coupon benefits. These participants reported using check benefits only for food, and using money from other sources for either food or nonfood goods:

*"I don't look at it [benefit check] as cash to go buy whatever you need or to pay a bill. I look at it as my food money. That [food expenses] is a bill. That money is going on my food first."*

Some participants indicated that the concept of "household budgeting" was meaningless when applied to them because their incomes were insufficient to meet their needs. Most of the other participants believed that it was easier to budget household expenditures with benefit checks than with coupons. They cited two reasons for their belief. First, they reported that, because they were

no longer limited in where they could shop for food, their benefits could be used at discount food stores, such as "Price Clubs" or farmer's markets. Buying the same amount of food for less money freed up resources for additional food purchases or for nonfood expenditures. Second, some participants said that a benefit check enabled them to visualize the amount of resources available for food each month more accurately. Some examples of what participants said about preferring checks to coupons when budgeting expenditures are:

*"I want to go to a bread outlet and get bargain bread, a road side stand and pick up fruit, or a farmer's market and buy vegetables. These places don't take food stamps. I have to go to a grocery store and maybe they'll charge me more. It's harder to budget that way."*

*"A lot of times you get better deals on things like toilet paper, all that sort of stuff that you can buy for less money. But anyway, it's better. The cash part's better for budgeting--buying more with less money."*

*"It's [checks are] like a pay check. At the beginning of the month it is easier to see what you have to work with for that month."*

Focus group participants suggested two changes in the FSP that they felt would help them to manage their food expenditures better. First, some participants would prefer to receive benefit checks twice per month (on the 1st and the 15th days of the month), rather than once per month, because two issuances would make it easier to stretch the benefits over the entire month. Second, some recipients would prefer to receive their benefit checks on the first day of the month because they have financial obligations due on that day, as well as the need to purchase food.<sup>9</sup> Focus group participants said:

*"Break it [benefit check] down with a check on the 1st and a check on the 15th like they used to do [for AFDC]. If you're spending most of your money in the first few days of the month with one check, if you spend most of it on the 1st, you know [with two checks] you got that other money coming through so you're stringing it out."*

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<sup>9</sup>Most checks in San Diego County are issued through the "fiscal month end" process, under which processing begins five working days before the first of the month. The checks are mailed at the end of the month, which means that, depending on the location of their residences, respondents receive their benefit checks sometime within the first five days of the month.

*"Give it to us in two installments. At the end of the month I'm dying [for money]. If you got it on the 1st and 15th, or whatever, it would be so much better. Checks or coupons, it doesn't matter, either way, but it does not last a month. The second part of the month is always a struggle."*

*"Send the benefit check on the last day of the month instead of the first day so that it gets there before you have to get everything."*

*"Everything is due on the first and I just don't want to feel panic struck. Being panic struck ends up having a lot to do with what you end up buying and I don't like to feel that way."*

### **C. CHECK-CASHING EXPERIENCES OF CHECK RECIPIENTS**

In the household survey, check recipients were asked about the types of establishments at which they usually cash their checks, the amount of the check-cashing fee, if any, and any problems or inconveniences experienced when using check benefits. In the focus group discussions, we examined these issues, as well as the impact of check-cashing problems on recipients' future participation in the FSP.

Section V.C.1 describes the findings from the household survey and focus group discussions on the establishments at which checks are usually cashed. Section V.C.2 describes the findings from the household survey on fees paid by recipients to cash their benefit checks. Section V.C.3 discusses check-cashing problems cited in the survey and the focus group discussions.

To summarize the findings, most check households cashed their benefit checks at retail food stores or banks; however, about 20 percent used check-cashing agencies. Thirty-seven percent of check households paid a fee to cash their benefit checks. The majority of households that paid a fee paid \$2.00 or less; however, some check households reported paying \$5.00 or more. In general, recipients paid higher check-cashing fees at check-cashing outlets than at retail stores or other places. Relatively few check recipients mentioned encountering significant problems when cashing or using their checks. The most frequently cited problems included difficulties cashing benefit checks because of an improper ID or an insufficient number of IDs, limits imposed by retail stores on the amounts of the checks cashed, retail stores having insufficient funds to cover the benefit checks, and store:

refusing to cash benefit checks. The focus group discussions suggest that the problems experienced when recipients cashed food benefit checks were similar to the ones experienced when recipients attempted to cash payroll or other checks.

#### **1. Establishments at Which Food Benefit Checks Usually Are Cashed**

A majority (75 percent) of check recipients reported that they usually cashed their food benefit checks at retail food stores or banks (Table V.7); 38 percent cashed their checks at supermarkets, grocery stores, or other food stores, and 35 percent cashed their checks at banks. However, a substantial minority (19 percent) reported cashing their checks at check-cashing outlets. As the next section will show, the latter finding is important, because recipients who use check-cashing outlets may incur substantial check-cashing fees, thereby reducing the net benefits available to them to purchase food.

The focus group discussions explored the recipients' use of check-cashing outlets in greater detail. The discussions suggest that participants who use check-cashing outlets do so mainly because they do not have bank accounts. When those recipients were asked why they did not have checking accounts at local banks, several cited previous account mismanagement, such as continuously overdrawing their accounts, as the major reason. The focus group discussions revealed that recipients who have checking accounts also use check-cashing outlets, although much less frequently than those who do not. Recipients with checking accounts reported using check-cashing outlets because the outlets are convenient (some are open 24 hours daily and on Sundays).

#### **2. Check-Cashing Fees**

Thirty-seven percent of check households were charged a fee to cash their benefit checks (Table V.7). Three factors have reduced the incidence of recipients having to pay check-cashing fees. First, San Diego County negotiated an agreement with the First Interstate Bank, which has offices throughout the most populous parts of the county, and which agreed to cash benefit checks free of

TABLE V.7  
CHECK-CASHING EXPERIENCES OF CHECK RECIPIENTS  
(Percentage of Households)

All Check Households	
<b>Place Where Checks Are Usually Cashed</b>	
Supermarket or grocery store	31.0
Other food store	6.9
Nonfood store	1.7
Bank	34.7
Check-cashing outlet	19.3
Deposit in bank	2.2
Other	4.1
<b>Was Purchase Required to Cash Check?<sup>a</sup></b>	
Yes	44.5
No	55.5
<b>Was a Fee Charged to Cash Check?</b>	
Yes	37.3
No	62.7
<b>Fee Paid to Have Checks Cashed<sup>b</sup></b>	
\$1.00 or less	38.1
\$1.01 to \$2.00	24.5
\$2.01 to \$5.00	17.5
\$5.01 to \$10.00	13.3
\$10.01 to \$20.00	4.9
\$20.01 or more	1.8
<b>Mean Fee<sup>b</sup></b>	<b>\$3.46</b>
<b>Median Fee<sup>b</sup></b>	<b>\$1.99</b>
<b>Sample Size</b>	<b>572</b>

SOURCE: Evaluation of the San Diego Food Stamp Cash-Cut Demonstration, household survey, weighted tabulations.

<sup>a</sup>Includes only households that cashed checks at retail stores.

<sup>b</sup>Includes only households that paid a fee to have checks cashed.

charge. Second, as noted, substantial numbers of check recipients cash their checks at supermarkets or grocery stores, many of which do not charge fees (although, as discussed below, the stores may require recipients to make a purchase).<sup>10</sup> Third, some recipients with checking accounts deposit their benefit checks. Because they can write checks off the accounts, they are able to avoid the check-cashing fee.

Most of the check households that paid a fee reported that it was relatively small. Thirty-eight percent reported paying \$1 or less, and 25 percent reported paying between \$1 and \$2 (Table V.7). The average fee for those that paid a fee is \$3.46 (the median fee is \$1.99). To place this amount in context, joint Aid to Families with Dependent Children (AFDC)/FSP recipients receive an average combined benefit check of \$772 per month. Thus, a \$3.46 check-cashing fee reduces available benefits by less than one-half of one percent of the face value of the combined benefit check.<sup>11</sup>

However, 20 percent of households that are charged a check-cashing fee reported paying more than \$5, and 2 percent reported paying more than \$20. Generally, households using check-cashing outlets reported higher fees than did those using food stores or other places (Table V.8). Of the households that paid fees, 29 percent of those that use check-cashing outlets, but only 15 percent that use retail food stores, reported paying a fee of more than \$5. Households paid an average of \$3.66 to cash their benefit checks at check-cashing outlets, compared with \$2.96 at retail food stores that charge a fee.

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<sup>10</sup>Of the check households reporting in the household survey that they usually cashed their check at retail stores (that is, at supermarkets, grocery stores, other food stores, and nonfood stores), 55 percent reported having to pay no fee.

<sup>11</sup>For purposes of comparison, a recent government report (U.S. General Accounting Office, 1988) indicates that fees for cashing government checks range from no charge to 25 percent of the face value of the check, and that the average fee paid on a \$500 check was \$8.50, or 1.7 percent of the face value.

TABLE V.8

**CHECK-CASHING EXPERIENCES OF CHECK RECIPIENTS, BY  
PLACE WHERE CHECKS USUALLY ARE CASHED**  
(Percentage of Check Households)

	Food Store	Check-Cashing Outlet	Other <sup>a</sup>
<b>Is There a Fee for Check-Cashing Service?</b>			
Yes	42.7	94.3	29.1
No	57.3	5.7	70.9
<b>Amount of Fee Paid to Have Checks Cashed<sup>b</sup></b>			
\$1.00 or less	38.5	37.8	50.0
\$1.01 to \$2.00	29.7	17.3	37.5
\$2.01 to \$5.00	16.5	16.3	12.5
\$5.01 to \$10.00	8.8	20.4	0.0
\$10.01 to \$20.00	4.4	7.1	0.0
\$20.01 or more	2.2	1.0	0.0
<b>Mean Fee<sup>b</sup></b>	<b>\$2.96</b>	<b>\$3.66</b>	<b>\$1.12</b>
<b>Sample Size</b>	<b>213</b>	<b>106</b>	<b>55</b>

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, weighted tabulations.

<sup>a</sup>Includes stores that do not sell food, and other establishments.

<sup>b</sup>Includes only households that paid a fee to have checks cashed.

Although the majority of check households that usually cashed their benefit checks at retail stores did not have to pay a check-cashing fee, retail stores often required recipients to make a purchase in order to cash their benefit checks. Forty-five percent of households that cashed their benefit checks at retail stores reported having to make a purchase (Table V.7).

### 3. Problems Cashing Benefit Checks

Very few check recipients (15 percent) reported having any problems when cashing checks (Table V.9). Problems that were mentioned included: recipients not having the proper ID or a sufficient number of IDs to cash the benefit check (5 percent); the store limiting the amount of the check that it would cash (4 percent);<sup>12</sup> the store refusing to cash the check (3 percent); and stores having insufficient funds to cash the checks (3 percent).

The check-cashing problems reported by focus group participants are consistent with the household survey findings. Problems that were cited by focus group participants were: failing to have the proper ID or the required number of IDs; recipients' combined (AFDC/food stamp) benefit check exceeding the limit on the amount that the store would cash; recipients' bank account balances not equalling or exceeding the amount of the check; retail stores having insufficient funds to cover the amount of the check; and stores or banks refusing to cash the checks.

Some examples of what focus group participants said about problems encountered when cashing food benefit checks are:

*"Yeah, at some stores you have to buy a certain amount before they'll cash a check for you."*

*"At [name of supermarket] they will not exceed \$300."*

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<sup>12</sup>As noted earlier, AFDC benefits are relatively high in California. In addition, for AFDC recipients, the AFDC and food stamp benefits were combined in a single check under the cash-out demonstration. Thus, the typical amount of the benefit checks being cashed under cash-out in San Diego may have been significantly higher than they would be in other parts of the country.

TABLE V.9

CHECK-CASHING PROBLEMS EXPERIENCED BY CHECK HOUSEHOLDS  
(Percentage of Check Households)

Problem	All Check Households
None	85.4
Improper or Insufficient ID	4.8
Store Refused to Cash Check	2.9
Store Did Not Have Enough Money to Cash Check	3.1
Limit on Amount of Check that Store Will Cash Without Purchase	3.6
Store Gave Credit Rather than Cash for Check	0.2
Other	2.2
Sample Size	572

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: Percentages do not sum to 100 percent because respondents could mention more than one check-cashing problem.

*"I can't cash it at the supermarket unless it's two men, you know, the two bosses who really know me, they will cash my check. But we have one that's not too nice and he won't cash the check."*

*"I had to have a checking account to cash my check, and I needed to have a certain amount deposited before they would cash my check."*

The focus group participants who cited problems emphasized that their check-cashing problems were virtually identical to the problems that they had when attempting to cash payroll or other personal checks. These recipients did not believe that check-cashing problems made FSP participation under the check-issuance system less desirable than under the coupon-issuance system. This sentiment is captured in the following comment by a focus group participant, who said:

*"I've run into the same kinds of problems with regular pay checks, too--so it's not like people look differently at an AFDC or food stamp check. In fact, more places I think will cash benefit checks than they will a handwritten pay check."*

#### **D. ATTITUDES ABOUT PROGRAM PARTICIPATION**

In the household survey, check households that had always received their benefits as checks were asked about the incentives provided by check benefits to apply for and remain in the FSP. All of these recipients were asked: "Would the household stay in the program if your benefits are switched from checks to coupons?" A subset of these check recipients, who knew when they applied for FSP benefits that benefits were available as food checks, were asked: "Would your household have participated in the FSP if the benefit was not in the form of a check?"

All of the recipients who had always received checks responded that they would continue to participate if their benefit form were to be converted to coupons (Table V.10). Ninety-seven percent of the subset of recipients reported that they would have applied for program benefits even if the check form had not been available. Thus, although households that had always received benefits as checks may prefer checks to coupons, in the absence of cash-out, they would have initially applied for benefits and would participate in the program.

TABLE V.10

PERCEPTIONS OF IMPACT OF CASH-OUT ON PARTICIPATION  
 IN THE FOOD STAMP PROGRAM  
 (Percentage of Check-Always Households)

Participation Measure	Percentage
Would Household Stay in the FSP if Benefits Switched to Coupons? <sup>a</sup>	
Yes	100.0
No	0.0
Would Households Have Participated if Benefit in the Form of Checks Had Not Been Available? <sup>b</sup>	
Yes	97.3
No	2.7

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

<sup>a</sup>Sample size = 138.

<sup>b</sup>Sample size = 41.

FSP = Food Stamp Program.

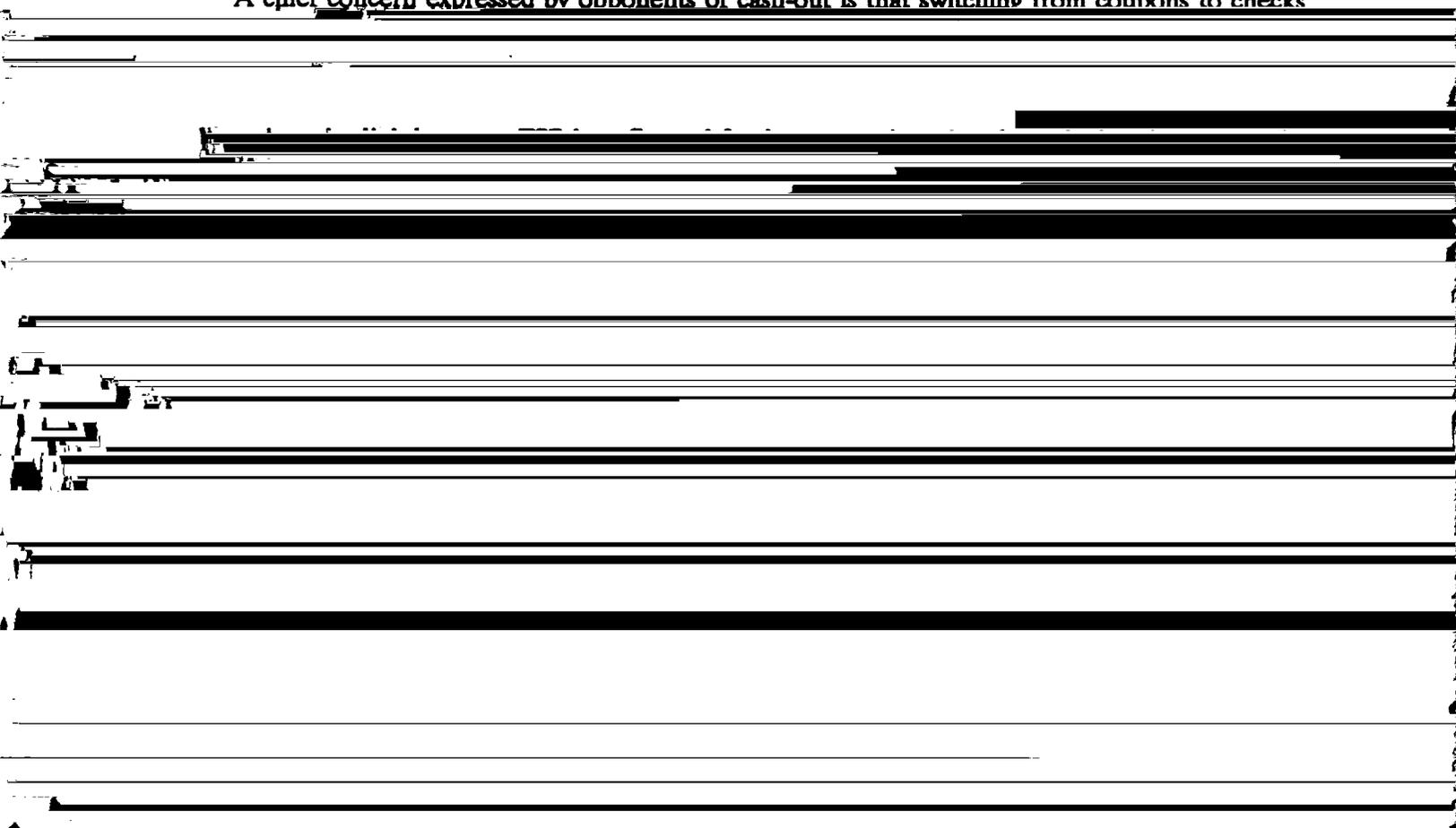
## VI. CONCLUSIONS AND PLANS FOR ADDITIONAL RESEARCH

This report on the impacts of the San Diego Food Stamp Cash-Out Demonstration on Food Stamp Program (FSP) participants and their food-use and spending patterns is one of two planned reports on the demonstration. A second volume, which will be prepared after the full cash-out phase of the demonstration has been in operation for a longer period, will examine the impacts of the demonstration on variables related to program administration and program participation. This concluding chapter discusses the policy implications of the findings obtained thus far and describes the rest of the planned research.

When considering the policy implications discussed in the next section, it is important to note that, as discussed earlier, evaluations of cash-out demonstrations are also being conducted in the states of Washington and Alabama. To fully assess the cash-out approach, it will be important to combine the findings from each of these evaluations.

### A. IMPLICATIONS OF THE FINDINGS ON RECIPIENT IMPACTS

A chief concern expressed by opponents of cash-out is that switching from coupons to checks



observed. For protein, we estimated that 97 percent of the sample was attaining the recommended dietary allowance (RDA) of the nutrient; this percentage was essentially unchanged by cash-out. Thus, the reduction in the average availability of protein does not appear to be a problem under cash-out.

However, for food energy, the percentage of households attaining the RDA was about 5 percentage points lower for check recipients than for coupon recipients (69 percent versus 74 percent), and the difference is statistically significant. This finding suggests that, for some households, the demonstration may have adversely affected the availability of food energy. Estimated effects on seven micronutrients that are a public health concern generally were observed to be reductions in the range of only 1 percent to 4 percent,<sup>1</sup> and only two of the estimated effects are statistically significant. There were no statistically significant effects on the percentage of FSP participants attaining the RDAs of these seven micronutrients.

No evidence in the survey suggests that cash-out increases the likelihood that households will lack sufficient food to eat. Roughly 30 percent of the food stamp participants who were surveyed reported their perceptions that their households had not had enough food at least once in the previous month, and about 20 percent reported that household members had to skip meals because of this problem. Nevertheless, the incidence of these problems was actually greater for coupon recipients than for check recipients, although the differences are not statistically significant.

Considered together, these findings suggest that the impacts of cash-out on San Diego FSP recipients were not as large as the opponents of cash-out had feared, but that they were larger than its proponents had argued. Cash-out had negative effects on the money value of food used at home, although the effects were small and were associated with even smaller effects on nutrient availability. Furthermore, cash-out had no apparent effects on the adequacy of household food availability as reported by households.

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<sup>1</sup>One estimated effect, although positive, is small and not statistically significant.

When considering the implications of these findings, it is important to keep in mind that this report has focused on only one of several types of impacts that must be examined in a complete assessment of cash-out. Effects on administrative costs must also be examined carefully, because program simplification and cost reduction have been a major impetus for the cash-out concept. Potential effects on program participation, food retailers, and impacts on the program's vulnerability to fraud must also be considered. The next section provides an overview of plans for additional research to examine these issues.

## **B. FURTHER RESEARCH PLANNED**

Additional information about the effects of cash-out will be provided in a second research report, which will cover the effects of the San Diego demonstration on administrative costs, participation, food retailers, and the program's vulnerability to fraud. Research plans in each of these areas are described below.

### **1. Analysis of Administrative Costs**

The analysis of the effects of cash-out on administrative costs will begin by carefully documenting the issuance procedures used in San Diego County before and during the demonstration. Descriptions of these procedures will be based on interviews with San Diego County FSP staff. Staff interviews and county administrative data will then be used to estimate the impacts of the demonstration procedures on staffing requirements for various aspects of the issuance process and to estimate the salary and overhead costs associated with these changes. Information will also be obtained from the county on changes in other direct costs that are associated with the new issuance procedures, the most important of which is postage.

In addition to estimating the impact of the cash-out procedures on ongoing costs, it is also of interest to examine the resources required to set up the procedures. The analysis will document the

procedures used to design and implement the demonstration. The costs associated with the start-up procedures will also be examined.

Estimates of the effects of cash-out on federal-level costs, such as the cost of printing coupons and the cost of clearing redeemed coupons through the Federal Reserve System, will be examined. This analysis will draw largely on existing studies of these costs.

## **2. Analysis of Effects on Participation**

The findings reported in this report indicate that most FSP recipients in San Diego County prefer checks to coupons, thus raising the possibility that the availability of checks may have increased participation in the FSP. To examine this possibility, we will compare trends in program participation for San Diego County with trends in adjacent California counties and in the state as a whole.

We will examine these trends over three periods: (1) before the demonstration was begun, (2) during the period of 20 percent cash-out, and (3) during full cash-out. It is important to examine changes in San Diego participation *in comparison with* changes in other counties, because caseloads have increased substantially in San Diego County and throughout the country during the past two years.

If evidence of potential participation effects from the demonstration are observed, we will attempt to identify the types of participants who are drawn into the program by the demonstration. This analysis will involve comparing the demographic and economic characteristics of the county's caseload for the periods before and after cash-out. However, a limitation of this analysis is the difficulty of disentangling the effects of the demonstration and other factors on participant characteristics.

## **3. Analysis of Effects on the Vulnerability of the Food Stamp Program to Fraud**

The analysis of the effects of cash-out on issuance system vulnerabilities will be based mainly on comparing various types of issuance losses in the period before cash-out with those observed during

cash-out; San Diego County administrative data will be used.<sup>2</sup> We will perform the comparisons on a "per case month" basis and on a "per \$1,000 of issuance" basis, in order to take into account changes in the caseload and changes in average benefit levels during the period.

#### 4. Analysis of Effects on Food Retailers

Food retailers represent an important constituency of the FSP, and it will be important to examine how they are affected by the demonstration. We will examine effects on sales and effects on store operations.

To obtain information with which to examine possible effects on sales volumes, we will attempt to obtain store-level monthly sales data from three major supermarket chains in San Diego County. Data from before and during the demonstration will be requested, to make it possible to examine whether trends appeared to shift when the demonstration began. (Both the 20 percent cash-out period and the full cash-out stage will be considered.)

We will obtain similar data for smaller, independent grocers. However, to conserve the resources available for the research, we will obtain *wholesale sales* data from a major wholesaler in San Diego County that serves these stores, rather than *retail* sales data from the stores themselves.

To examine the effects of cash-out on store operations, we will conduct telephone interviews with a sample of store managers in San Diego County. The managers will be asked to describe how their check-out, front-office, and other operations have changed as a result of cash-out, with special attention to be given to changes in staffing requirements. We will also obtain information on the attitudes of store managers about cash-out.

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<sup>2</sup>At least one complete year of data from the full cash-out period will be included.

## REFERENCES

- Allen, Joyce E., and Kenneth E. Gadson. "Nutrient Consumption Patterns of Low-Income Households." Washington, DC: Economic Research Service/USDA, Technical Bulletin No. 1685, 1983.
- Basiotis, P. Peter, S.R. Johnson, Karen J. Morgan, and Jain-Shing A. Chen. "Food Stamps, Food Costs, Nutrient Availability, and Nutrient Intake." *Journal of Policy Modeling*, vol. 9, 1987, pp. 383-404.
- Beebout, Harold, Edward Cavin, Barbara Devaney, Thomas Fraker, Sharon Long, and Peter Mossel. "Evaluation of the Nutrition Assistance Program in Puerto Rico—Volume II: Effects on Food Expenditures and Diet Quality." Report submitted to the Food and Nutrition Service, USDA, under contract 53-3198-4-63. Washington, DC: Mathematica Policy Research, Inc., 1985.
- Blanchard, Lois, J.S. Butler, Pat Doyle, Russell Jackson, James C. Ohls, and Barbara M. Posner. "Food Stamp SSI/Elderly Cashout Demonstration Evaluation." Report submitted to the Food and Nutrition Service, USDA, under contract 53-3198-9-84. Princeton, NJ: Mathematica Policy Research, Inc., 1982.
- Butler, J.S., James C. Ohls, and Barbara Posner. "The Effect of the Food Stamp Program on the Nutrient Intake of the Eligible Elderly." *The Journal of Human Resources*, vol. 20, 1985, pp. 405-420.
- Devaney, Barbara, and Thomas Fraker. "Cashing Out Food Stamps: Impacts on Food Expenditures and Diet Quality." *Journal of Policy Analysis and Management*, vol. 5, 1986, pp. 725-741.
- Dixon, Wilfrid, and Frank Massey. *Introduction to Statistical Analysis*, 3rd edition. New York: McGraw-Hill, 1969.
- Fraker, Thomas M. "The Effect of Food Stamps on Food Consumption: A Review of the Literature." Report submitted to the Food and Nutrition Service, USDA. Washington, DC: Mathematica Policy Research, Inc., 1990.
- Goldman, A., and S. MacDonald. *The Group Depth Interview: Principles and Practices*. Englewood Cliffs, NJ: Prentice-Hall, 1987.
- Hepburn, Frank N. "The USDA National Nutrient Data Bank." *The American Journal of Clinical Nutrition*, vol. 35, 1982, pp. 1297-1301.
- Johnson, S.R., James A. Burt, and Karen J. Morgan. "The Food Stamp Program: Participation, Food Cost, and Diet Quality for Low-Income Households." *Food Technology*, vol. 35, 1981, pp. 58-70.
- Krueger, R.A. *Focus Groups: A Practical Guide for Applied Research*. Beverly Hills, CA: Sage Publications, 1988.
- Levedahl, J.W. "The Effect of Food Stamps and Income on Household Food Expenditures." Washington, DC: Economic Research Service, USDA, Technical Bulletin No. 1794, 1991.

- Life Sciences Research Office, Federation of American Societies for Experimental Biology. *Nutrition Monitoring in the United States--An Update Report on Nutrition Monitoring*. Prepared for the U.S. Department of Agriculture and the U.S. Department of Health and Human Services. DHHS Publication No. (PHS) 89-1255. Public Health Service. Washington, DC: U.S. Government Printing Office, September 1989.
- Morgan, D.L. *Focus Groups as Qualitative Research*. Beverly Hills, CA: Sage Publications, 1988.
- National Research Council, Committee on Diet and Health, Food and Nutrition Board. *Diet and Health: Implications for Reducing Chronic Disease Risk*. Washington, DC: National Academy Press, 1989a.
- National Research Council, Subcommittee on the Tenth Edition of the RDAs. *Recommended Dietary Allowances*, 10th edition. Washington, DC: National Academy Press, 1989b.
- San Diego County Department of Social Services, Memorandum from Susan Gardner to Joan Zinser, August 7, 1991.
- Senauer, Ben, and Nathan Young. "The Impact of Food Stamps on Food Expenditures: Rejection of the Traditional Model." *American Journal of Agricultural Economics*, vol. 68, 1986, pp. 37-43.
- Smallwood, David M., and James R. Blaylock. "Analysis of Food Stamp Program Participation and Food Expenditures." *Western Journal of Agricultural Economics*, vol. 10, 1985, pp. 41-54.
- Stanford Klapper Associates. "Mathematica Focus Group Interviews," Hato Rey, Puerto Rico: January 1985.
- U.S. Department of Agriculture, Human Nutrition Information Service. "Food Consumption and Dietary Levels of Low-Income Households, November 1979-March 1980." Nationwide Food Consumption Survey 1977-78, Preliminary Report No. 10. Hyattsville, MD: U.S. Department of Agriculture, Human Nutrition Information Service, July 1982.
- U.S. Department of Agriculture, Human Nutrition Information Service. "Food and Nutrient Intakes of Individuals in 1 Day, Low-Income Households, November 1979-March 1980." Nationwide Food Consumption Survey 1977-78, Preliminary Report No. 13. Hyattsville, MD: U.S. Department of Agriculture, Human Nutrition Information Service, September 1982.
- U.S. Department of Agriculture, Human Nutrition Information Service. "The Thrifty Food Plan, 1983." Hyattsville, MD: U.S. Department of Agriculture, Human Nutrition Information Service, March 1983.
- U.S. Department of Labor, Bureau of Labor Statistics. "Consumer Expenditure Survey, 1988-89." Washington, DC: U.S. Government Printing Office, Bulletin No. 2383, August 1991.
- U.S. General Accounting Office. *Banking: Government Check Cashing Issues*. (GGD 89-12). Washington, DC: General Accounting Office, October 1988.

**APPENDIX A**  
**PROCEDURES USED IN THE HOUSEHOLD SURVEY**

This appendix describes the household survey that was undertaken for the Evaluation of the San Diego Food Stamp Cash-Out Demonstration.

## **A. METHODS FOR SELECTING AND LOCATING RESPONDENTS**

A total of 1,226 interviews were completed during a 15-week period that began on May 5, 1990. The respondents for 1,143 of these interviews were a stratified random sample of all nonhomeless San Diego Food Stamp Program (FSP) participants in the geographic area covered by the study. A separate sampling and data collection effort addressed the approximately 6 percent of the program participants who were homeless. This effort yielded 83 interviews with homeless participants, thus bringing the total number of interviews conducted in San Diego to 1,226.

This section defines the study area, describes the respondents who were included in the survey sample, and discusses the information that was used to locate and contact respondents. Screening criteria and the definition of the food manager (the respondent for the main interview) are also discussed.

### **1. Defining the Study Area**

To keep survey costs within available resources, the geographic area in which the survey was conducted was limited to the western part of San Diego County. Specifically, the study area included all of the incorporated areas of San Diego County, all areas west of the ring of incorporated areas around San Diego City, and a number of populous unincorporated areas contiguous to the selected incorporated areas. Food stamp households that did not live in the study area were identified on the basis of their zip codes and were excluded from the survey sample. Approximately 2 percent of food stamp cases in the county were excluded by this definition of the study area.

### **2. Selecting Respondents for Inclusion in the Sample**

The respondents for this survey consisted of a stratified random sample of all nonhomeless San Diego FSP participants in the geographic area covered by the study. The respondents were selected

randomly from a data tape that was prepared by the San Diego County Department of Social Services (DSS) and that included all active food stamp program cases as of April 30, 1989. At that time, approximately 20 percent of the FSP participants received checks and 80 percent received coupons.

In drawing the sample, three dichotomous variables were used to divide the households into eight strata: (1) whether the household was receiving Aid to Families with Dependent Children (AFDC), in addition to food stamps, (2) whether the household had earned income, and (3) whether the household was receiving benefits in the form of checks or coupons.

To obtain equal numbers of coupon observations and check observations for the survey, we oversampled households that received their benefits as checks. The households were stratified on the other two variables (AFDC receipt and whether the household had earnings) to ensure that the check sample and the coupon sample would be representative of the overall food stamp case distribution on these variables. Within both samples, the samples were drawn with equal sampling rates across strata.

To minimize response burden, we excluded two groups of households from the sample frame. The first group, which contained 20 households, comprised households that had been included in the pretest in March. The second group comprised 500 households that had already been selected for interviewing in a study of the AFDC program that was being conducted in San Diego by another contractor.

Each case in the entire data set of end-of-April active cases was assigned a random number. The cases on the data tape were then divided into the eight strata. The cases in each stratum were sorted by the random number, and the cases with the highest random numbers in each stratum were selected into the sample. After eliminating the excluded cases, cases were selected into the sample in 200-case replicates, with 100 check cases and 100 coupon cases in each replicate. Interviewers worked the sample in replicate number order.

Finally, the roughly 6 percent of food benefit recipients in San Diego County who are homeless were sampled and interviewed separately. This effort is discussed more completely in Section C. Methods for Collecting the Data.

### **3. Obtaining Contact Information for Respondents**

The data tape prepared by the San Diego County DSS contained home addresses and telephone numbers for the respondents selected in the sample frame. This information was used in the initial attempt to locate the sampled persons. If the sampled person had moved, interviewers used other locating techniques, such as searches via directory assistance, in-person follow-ups with neighbors and relatives, or searches through the DSS for an address update. Interviewers used searches through the DSS only after all other leads had been exhausted. These searches were coordinated through the field supervisors and the MPR Field Coordinator.

### **4. Screening Criteria**

Participation in the FSP was used as a screen criterion in the screening interview (the screener). Specifically, sampled persons were eligible to participate in the survey if they had received FSP benefits during the month preceding the screener and expected to receive benefits during the next month. If the sampled person responded negatively to either one of these questions, that household was terminated from the study. If the sampled person reported that his or her FSP benefit was in a form different from that recorded on the sample, the information was recorded and the household remained in the sample. This happened only very rarely, and in all cases the issue was resolved through discussions with FSP staff members.

### **5. Defining and Identifying the Food Manager**

The food manger is the person in the sampled person's household who has primary responsibility for purchasing food and preparing meals. Although the interviewer had to conduct the initial portion of the screener with the sampled person, the food manager was the preferred respondent for the

main interview. The food manager was identified during the telephone introduction to the screener. If the sampled person and the food manager were the same person, the interviewer made an appointment to complete the screener. If the sampled person and the food manager were two different persons, an appointment was made with both of them. During the screener, the sampled person was asked the screening criteria as outlined above. The second half of the screener and the main food-use questionnaire were administered to the food manager.

## **B. SELECTION AND TRAINING OF FIELD STAFF**

This section addresses the selection of the seven field supervisors, the recruitment and hiring of the field interviewers, and the training procedures and materials that were developed.

### **1. Recruiting Supervisors**

Seven field supervisors were hired to oversee the hiring and management of the staff of field interviewers. The supervisors were selected on the basis of a satisfactory prior work history with MPR or recommendations from their supervisors in projects with other contractors. It also was important that the supervisors be located throughout the geographic area covered by the survey so that interviewer/supervisor assignments could be made according to regions of the county. In addition, supervisors were recruited and given assignments on the basis of needed areas of expertise. For example, one supervisor with experience interviewing in known high-crime areas was assigned to interviewers with cases in such neighborhoods. Also, given the large Asian population in San Diego, an Asian supervisor was hired to manage the team of Asian interviewers. (We discuss bilingual interviewing in more detail in Section C, Methods for Collecting the Data.)

### **2. Recruiting and Hiring Interviewers**

To hire field interviewers, newspaper advertisements were run in the major San Diego newspapers. The advertisement explained the study, stressed the need for a car and a telephone, and offered a higher hourly rate for experienced or bilingual interviewers. Because interviewer attrition

was anticipated and the field period was short, hiring goals were set high. Specifically, we recognized that, given the lengthy and in-depth training session required, rehiring and retraining during the 15-week field period would be highly inefficient. One hundred eleven interviewers were initially hired, 96 reported to training, and 93 passed training requirements.

Attrition occurred during the study for several reasons. Some interviewers decided that they were not interested in the survey after they had begun training or interviewing. Other interviewers were selected out because of problems with the quality of the data that they were collecting or because of low productivity. Table A.1 breaks down interviewer attrition by week. It also shows how many interviewers passed the two major milestones of the field period, training and the on-site quality control edit, which was conducted three weeks into the study. As attrition continued to occur, the more productive interviewers were assigned new cases, but the less productive interviewers were not. No new hiring or retraining was necessary.

### **3. Training Materials and Procedures**

Training materials for the survey were developed by the National Opinion Research Corporation, under a separate contract, with MPR providing significant input into these documents. Once the training materials were available, the interviewers were sent advance study materials; at approximately the same time, a "trainer's training" session was held to familiarize all of the individuals involved in the training with the training plans. After that, all interviewers were required to attend the five-day training seminar, which was held at the Hanalei Hotel in San Diego.

The advance study materials included:

- An introduction to the study, the data collection process, and the study team
- Instruction on general interviewing techniques, including avoiding bias, proper probing, establishing rapport and gaining cooperation, and questionnaire and recording conventions
- An overview of the study materials

TABLE A.1  
INTERVIEWER ATTRITION

Time Period	Number of Interviewers
Initially Hired	111
Passed Training	93
Worked Week 1	92
Worked Week 2	88
Passed On-Site Quality Edit	85
Worked Week 3	83
Worked Week 4	82
Worked Week 5	81
Worked Week 6	75
Worked Week 7	72
Worked Week 8	67
Worked Week 9	64
Worked Week 10	63
Worked Week 11	63
Worked Week 12	61
Worked Week 13	61
Worked Week 14	61
Worked Week 15	61

SOURCE: Administrative records from the Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey.

- A hypothetical, day-by-day, life cycle of a typical case
- A glossary of study-specific terms, to be learned before training was begun

The advance study materials also included a written probing exercise, which each interviewer was required to complete after reviewing the manual and to return to MPR before training.

The second stage of training was the in-depth training seminar, which was held over a five-day period in the week before the official beginning of the field period. To be qualified to receive cases, interviewers had to attend all five sessions and, through written and oral exercises at the end of training, to demonstrate knowledge of all aspects of the survey procedures. One session was covered during each day of the training period, and each trainer received a detailed training agenda listing the

items to be covered in each session. The sessions contained a mixture of training techniques, including lectures, videos, written exercises, round-robin mock interviews, and one-on-one practice.

The sessions were organized as follows:

**Session I--Introduction to the study, general interviewing skills, and conducting the screener.** Training techniques included: the General Interviewer Training Video, written probing and recording exercises, and round-robin and one-on-one mock interviews with the screener. Length: 6 hours.

**Session II--Conducting the Income and Expenditures Module of the Questionnaire.** Training techniques included: a question-by-question review of the section and auxiliary materials to be used, a written matching exercise on the definition of income sources, and round-robin and one-on-one mock interviews with that section of the questionnaire. Length: 5 hours.

**Session V--Review of the Interview Process and Administrative Training.** Training techniques included: a step-by-step review of the interview process and all auxiliary materials, a written exercise on gaining respondent cooperation and using the record-of-contacts form, a written exercise on searching for hard-to-locate sampled persons, and instruction on administrative responsibilities. Length: 4 hours.

### **C. METHODS FOR COLLECTING THE DATA**

The data collection effort was conducted so as to minimize respondent burden and maximize the quality of the food-use data. This section discusses the survey process and illustrates how the timing of the field period; the use of the multiple-contact approach, recall aids, and respondent payments; and attention to special circumstances, such as bilingual and homeless sampled persons, contributed to the successful completion of the survey.

#### **1. Timing of the Field Period**

The field period, which began on May 5, 1990, lasted 15 weeks. The timing of the survey was balanced against the timing of full cash-out in San Diego, with data collection ending one full month before the start of full cash-out. Table A.2 provides a breakdown of screener and interview completions by week.

#### **2. Multiple-Contact Approach**

To gain and maintain respondent cooperation, a multiple-contact approach was used. This approach eased the sampled person into the survey process and maintained interviewer and respondent interaction from the time of the initial contact through the screener, recordkeeping, and completion of the main interview.

The first contact that a sampled person received from MPR was an advance letter. This letter explained the purpose of the study, described what would be expected of a respondent, explained the incentive payment, stressed confidentiality, and emphasized that FSP benefits would not be affected

**TABLE A.2**  
**COMPLETIONS OF SCREENING INTERVIEWS AND MAIN INTERVIEWS,**  
**BY WEEK OF FIELD PERIOD**

Time Period	Percent Screeners Completed (N=1,550)	Percent Interviews Completed (N=1,226)
Week 1	14.9	0.2
Week 2	13.3	12.9
Week 3	11.5	11.5
Week 4	8.4	10.7
Week 5	8.4	8.0
Week 6	5.9	11.6
Week 7	4.8	5.5
Week 8	5.8	4.6
Week 9	7.3	4.7
Week 10	4.7	7.3
Week 11	7.2	7.5
Week 12	4.8	6.7
Week 13	1.6	5.6
Week 14	1.2	1.8
Week 15	0.0	1.2
	100.0	100.0

SOURCE: Administrative records from the Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey.

by participation or nonparticipation in the survey. The advance letter also contained the name and telephone number of the MPR Survey Director and encouraged the sampled person to contact local food stamp offices if he or she had questions. In addition, a fact sheet on the back of the letter provided basic questions that the sampled person may have had, and answered the questions.

The second contact was a telephone call from the MPR interviewer to set up an appointment with the sampled person and the food manager (if they were different persons) to conduct the screener. The interviewer conducted the screener in person at the sampled person's residence, usually within two days of the initial telephone contact. At that time, the interviewer completed the screener, made an appointment to conduct the main interview, and explained to the food manager how to track the foods used in the household during the seven days immediately preceding the main interview.

The third contact was a postcard that was mailed midway between the week of the screener and the main interview. The postcard contained a personal note from the interviewer reminding the respondent of the forthcoming interview appointment and encouraging accurate recordkeeping. The last contact between the interviewer and the sampled person was the in-person administration of the paper-pencil food-use interview.

### **3. Recall Aids**

To further reduce the burden on the sampled person and to minimize error, the interviewer gave the food manager several recall and scheduling materials at the screening interview. The materials, which were designed to help the food manager keep track of the foods used, included:

- A calendar page showing the food manager when to begin and when to stop tracking food
- A letter providing instructions for keeping track of the foods used during the seven-day period
- An envelope in which to store receipts and on which to record food-use information

- A clip-magnet to attach the envelope to the refrigerator, if desired, and a ball point pen to write on the envelope
- A business card with the telephone number of an MPR representative, in case the food manager had questions or concerns after the interviewer left

#### **4. Incentive Payment**

Also used to lessen respondent burden was an incentive payment sufficiently adequate to compensate the sampled person for the time required to participate in the survey. At the end of a successfully completed interview, the interviewer gave the sampled person a check from MPR in the amount of \$20.00. Because the sample population comprised low-income persons, many of whom may not have had bank accounts and who would have found cashing the incentive checks difficult or impossible, MPR formed an agreement with The Check Cashing Place, which has offices throughout the San Diego area. According to the agreement, if the sampled person presented valid identification, such as the food-assistance card, The Check Cashing Place agreed to cash the check for a fee of \$1.00, which was paid by the respondent. The \$1.00 fee reflected a reduction in the agency's usual charge.

#### **5. Special Circumstances**

San Diego is a multi-cultural city with large Asian and Hispanic populations. We realized early that these, and other, subgroups would require special interviewing techniques. Therefore, bilingual applicants for interviewing positions were specially targeted in the recruiting process. Of particular relevance were bilingual interviewers who spoke Spanish, Vietnamese, Cambodian, Lao, or Hmong. We developed Spanish translations of the screener and food-use questionnaire. The Asian interviewers used the English version, with key words and phrases written in their native languages as a guide in administering the questionnaire to the sampled Asian persons.

Special techniques were also used to interview the homeless. Because it would have been difficult to locate homeless FSP participants from the list sample frame, a different approach was

used. Homeless FSP participants in San Diego go to their local food stamp offices each month to pick up their benefits. Therefore, MPR selected two sites in areas with large numbers of homeless clients for interviewing the homeless--the Logan Heights office and the Oceanside office. A specially organized team of interviewers and a specially assigned supervisor went to these offices on the days when food-assistance benefits were issued. Welfare office staff channeled homeless FSP participants to the interviewers, who randomly selected sampled persons and administered the specially adapted questionnaire at that time.

#### **6. Field Management Procedures**

The data collection effort had a management plan commensurate with the numbers of staff involved. The team of 100 interviewers reported to one of seven field supervisors. Each interviewer was required to report to his or her supervisor on a weekly basis. These weekly conferences covered any problems in locating sampled persons or successfully administering the questionnaire. The field supervisors also collected information vital to managing their caseloads efficiently and within budget; this information included the status of each case, the numbers of hours worked and miles traveled, and other expenses. Each of the seven field supervisors reported the information, by interviewer, to the MPR field coordinator on a weekly basis. The MPR field coordinator maintained records on interviewer productivity and survey costs, and reported to the survey director on a regular basis.

#### **D. DATA PROCESSING AND QUALITY ASSURANCE**

To ensure that data of the highest possible quality were being collected, quality-control measures were implemented before, during, and after the data collection effort. This section discusses the methods that MPR used for routine survey procedures, such as callbacks and validations, as well as special efforts undertaken to maximize the quality of the data.

## **1. Processing Completed Interviews**

Interviewers were instructed to check for mistakes by reviewing their completed questionnaires after each interview. After performing this review, the interviewers sent their completed interviews, screeners, and contact records to MPR. They kept respondent recall materials for use in resolving problems that might arise during the quality-review edits. The completed questionnaires were reviewed by Princeton-based MPR quality-control personnel, who identified any problems requiring callbacks. In addition, 100 percent of the respondents in the household sample were sent a postcard to validate the interview. MPR received 42 percent of these postcards back, and no validation problems were reported.

Sixty-eight percent of the household questionnaires required a callback to reconcile inconsistencies or to retrieve missing data. First, quality-control personnel attempted to resolve problems by asking the interviewer to look at the respondent's recall materials. If this procedure was unsuccessful, the respondent was called back by MPR's quality-control personnel or, if necessary, by an interviewer in San Diego. Of the questionnaires requiring a callback, 88 percent were resolved successfully. If a respondent had not returned his or her validation postcard, but was contacted for a callback, the short validation questionnaire was administered at that time. An additional 14 percent of the interviews were validated in this manner, bringing the total validation rate to 56 percent of all completed household interviews (the homeless interviews had to be excluded from the callback and validation process).

To ensure the quality of this process, MPR's quality control manager trained and monitored a staff of quality-assurance personnel, who worked exclusively on this study. The quality-assurance staff consisted of eight individuals who were hired specifically for this study. The manager trained the staff over a three-day period on the goals of the survey, a question-by-question review of the questionnaire, specific problem areas, and how to edit the questionnaire for overall internal consistency. After the staff was trained, the quality control manager completely reviewed their first

five questionnaires. Subsequently, the manager reviewed 10 percent of each person's work for the next four weeks. Finally, the manager reviewed all cases requiring a callback interview. These steps ensured that the questionnaires were edited in a thorough and consistent manner.

After cases were edited fully and callbacks were resolved, cases were batched and sent to MPR's subcontractor, National Analysts, for data entry and processing of the food-use data. Cases were sent to National Analysts on a weekly basis.

## **2. Special Procedures**

Several additional steps were taken in San Diego to improve the overall quality of the data collection effort. Before the beginning of data collection, a short pretest of survey procedures was conducted; as a result of this pretest, the screener was improved and the reminder postcard was added. After data collection began, and the interviewers had entered into their third week of interviewing, the Survey Director and the quality control manager made an on-site quality-assurance visit to San Diego. For this visit, each interviewer was to have completed one full screener and one food-use questionnaire. The rapid feedback on each interviewer's first case from this visit enabled the interviewer to avoid many mistakes later in the data collection effort. Furthermore, this process identified interviewers who were unable to administer the screener or questionnaire successfully, even after intensive training and time in the field. Therefore, weak interviewers were selected out of the data collection process early--further reducing quality problems later in the effort.

## **E. RESPONSE RATES AND OTHER FINAL STATUSES**

This section addresses the disposition of the sample, including the breakdown of eligible and ineligible cases, completed interviews, and all other final statuses.

### **1. Eligibility Rates**

A total of 1,773 cases were released in the San Diego sample (Table A.3). Of these, 206 were defined as ineligible for the survey, leaving 1,567 eligible cases (88 percent of the total released).

TABLE A.3  
RESPONSE RATES

	Total	
	Number	Percent <sup>a</sup>
<b>Total Cases Released</b>	1,773	
<b>Ineligible Cases</b>	206	
Deceased	3	
Moved Out of Study Area	56	
No Longer Receiving Benefits	147	
<b>Eligible Cases</b>	1,567	100
Completed Interviews	1,226	78
Refused		9
Screener	106	
Interview	39	
Cannot Locate		3
Screener not completed	45	
After screener completed	9	
Exhausted Attempts		5
Screener not completed	47	
After screener completed	27	
Unable to Administer Screener		2
Physical or cognitive impairment	17	
Language barrier	4	
Other reason	4	
<b>Completed Instrument Lost in Mail</b>	43	3

SOURCE: Administrative records from the Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey.

<sup>a</sup>The denominator is the number of eligible cases.

Ineligibility was defined by one of three criteria: (1) deceased, (2) moved out of the study area, or (3) no longer receiving benefits. Table A.4 breaks down eligible and ineligible cases for recipients of coupons and of checks. Slightly more coupon recipients than check recipients (109 versus 97) were ineligible.

## **2. Completion Rates**

The overall completion rate for the San Diego Food-Use Survey was 78 percent. The denominator for this calculation is equal to 1,484 eligible respondents from the sample frame list plus the 83 homeless interviews, bringing the total number of eligible cases used to calculate the overall response rate to 1,567.

Table A.4 presents the completion rates for check recipients and coupon recipients. A total of 613 interviews were completed with coupon recipients, and 613 with check recipients, yielding respective response rates of 79 percent and 77 percent. These 1,226 interviews include the 83 homeless interviews but exclude 43 questionnaires that were lost in the mail. Table A.4 also shows the final statuses of all noncompleted cases, by coupon and check recipient. Refusals were the largest source of noncompletion; 10 percent of coupon recipients and 9 percent of check recipients refused. Other sources include unlocatable sampled persons, exhausted attempts, physical or cognitive impairments, and language barriers. It is important to note that Tables A.3 and A.4 show the disposition for every case that was a part of the San Diego sample.

## **3. Interviews Usable for the Food-Use Analysis**

Not all of the 1,226 interviews could be used to analyze the impact of cash-out on food consumption. The 83 interviews with the homeless did not include the food-use data. In addition, nine households were nonhousekeeping households, which contained members who consumed fewer than ten meals at home during the seven-day reference period. Eight households were in group homes. Finally, the data for an additional 48 households (22 check recipients and 26 coupon

TABLE A.4  
RESPONSE RATES, BY TREATMENT AND CONTROL GROUPS

	Coupons		Checks	
	Number	Percent <sup>a</sup>	Number	Percent <sup>a</sup>
<b>Total Cases Released</b>	883		890	
<b>Ineligible Cases</b>	109		97	
Deceased	2		1	
Moved Out of Study Area	28		28	
No Longer Receiving Benefits	79		68	
<b>Eligible Cases</b>	774	100	793	100
Completed Interview	613	79	613	77
Refused		10		9
Screener	56		50	
Interview	21		18	
Cannot Locate		4		3
Screener not completed	23		22	
After screener completed	5		4	
Exhausted Attempts		4		6
Screener not completed	17		30	
After screener completed	12		15	
Unable to Administer Screener		1		2
Physical or cognitive impairment	5		12	
Language barrier	2		2	
Other reason	2		2	

SOURCE: Administrative records from the Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey.

<sup>a</sup>The denominator is the number of eligible cases.

recipients) were deemed to be of insufficient quality, because the interviews had been conducted more than 48 hours after the end of the seven-day reference period, or because the food-use data were mistakenly collected for a period longer than the seven-day reference period.

These reductions produced a final sample of 1,078 households (542 check recipients and 536 coupon recipients). This sample was used to analyze the impact of cash-out on food expenditures and nutrient availability. For analyses that did not depend on food-use data, such as respondents' attitudes toward check benefits, the larger sample was used.

#### **F. INTERVIEW LENGTH**

The main household survey instrument (as opposed to the screener instrument) had two main sections. Section I contained questions about household composition, household income, household expenditures, and opinions about the cashed-out benefits. Section I took an average of 45.3 minutes to complete. Section II, which contained the detailed questions on food use and meals eaten, took an average of 93.2 minutes to complete. Thus, the entire interview took an average of 138 minutes to complete. Table A.5 provides frequency distributions of interview lengths for each section of the survey instrument.

TABLE A.5  
 SAN DIEGO INTERVIEW LENGTH  
 LENGTH OF SECTION I, IN MINUTES

Length Part 1	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0-14 Minutes	1	0.1	1	0.1
15-29 Minutes	128	12.8	129	12.9
30-44 Minutes	379	37.9	508	50.7
45-59 Minutes	239	23.9	747	74.6
60-74 Minutes	177	17.7	924	92.3
75-90 Minutes	77	7.7	1,001	100.0

Frequency Missing = 98  
 Mean Length = 45.3 Minutes

LENGTH OF SECTION II, IN MINUTES

Length Part 2	Frequency	Percent	Cumulative Frequency	Cumulative Percent
15-29 Minutes	7	0.7	7	0.7
30-44 Minutes	15	1.6	22	2.3
45-49 Minutes	75	8.0	97	10.3
60-74 Minutes	175	18.6	272	28.8
75-90 Minutes	266	28.2	538	57.1
90-104 Minutes	98	10.4	636	67.4
105-119 Minutes	108	11.5	744	78.9
120-149 Minutes	135	14.3	879	93.2
150-179 Minutes	48	5.1	927	98.3
3-4 Hours	16	1.7	943	100.0

Frequency Missing = 156  
 Mean Length = 93.2 Minutes

LENGTH OF TOTAL INTERVIEW, IN MINUTES

Total Length	Frequency	Percent	Cumulative Frequency	Cumulative Percent
30-44 Minutes	2	0.2	2	0.2
45-49 Minutes	2	0.2	4	0.5
60-74 Minutes	17	2.0	21	2.4
75-90 Minutes	74	8.6	95	11.0
90-104 Minutes	80	9.3	175	20.3
105-119 Minutes	116	13.4	291	33.7
120-149 Minutes	265	30.7	556	64.4
150-179 Minutes	170	19.7	726	84.0
3-4 Hours	122	14.1	848	98.1
4-5 Hours	16	1.9	864	100.0

Frequency Missing = 235  
 Mean Length = 137.6 Minutes

**APPENDIX B**

**WEIGHTING OF THE SURVEY DATA**

As noted in the main text of the report, the average household size in the check sample is approximately two-tenths of a person smaller than the comparable average for the coupon sample, and the difference is statistically significant. An intensive review of the sampling procedure revealed no errors in that component of the work. In addition, our comparisons of the sample with information on household sizes that was obtained from San Diego administrative records indicated that the sample, as initially drawn, had smaller households in the check subsample than in the coupon subsample. This finding suggests that the differential in household size was not due to differential sample attrition in the survey process.

Together, these findings indicate that the differential in household size was the result of chance. Nevertheless, because household size can affect food use, most of the tabulations (but not the regressions) in the report have been weighted to correct for the household size differential.

This appendix describes the weighting algorithm used, discusses potential impacts of the weighting on the standard errors of estimated population characteristics, and examines the sensitivity of the main findings of the report to the weighting.

#### **A. WEIGHTING ALGORITHM**

To construct the weighting algorithm, our basic strategy entailed separately weighting the check households and the coupon households on the basis of the sizes of the households' food stamp units at the time that the sample was drawn. We calculated the weights so that the weighted distribution of check recipients and the weighted distribution of coupon recipients each mirrored the actual size distribution of the full caseload of food stamp households at that time.

We developed two sets of weights. For analysis not involving variables computed from the detailed food-use information on the survey questionnaire, data are available on 1,143 nonhomeless households. A subset of 1,078 of these households have usable data from the food-use segment of the instrument. Separate weighting systems were used for these two samples.

The following algorithm was used to compute the weights:

$$W_j = \frac{\text{(proportion of size } j \text{ households in the population)}}{\text{(proportion of size } j \text{ households in the sample)}}$$

For instance, if three-person households comprised 8 percent of the overall population of nonhomeless food stamp households, and if three-person households comprised 10 percent of the treatment sample, then the weight assigned to each three-person treatment household was (8/10). When implementing this algorithm, all households with more than nine members were treated as a single group.

## **B. EFFECTS ON STANDARD ERRORS**

When performing the weighting, we are essentially treating the sample as a stratified random sample, where household size is the stratification variable, and the weights are being used to correct for different sampling rates in the different strata.

These different sampling rates and the attendant weighting have the potential to affect the standard errors of estimates of variables *vis a vis* those that would be achieved in a sample in which all observations have equal probability. This section derives an estimate of the "design effect," or increased variance, due to this factor.

Define the following terms:

$X_{ij}$  = the value of a variable to be estimated for the  $i^{\text{th}}$  observation in the  $j^{\text{th}}$  stratum

$N$  = sample size

$\hat{X}_u$  = the estimated value of the mean of  $X$ , assuming simple random sampling and therefore no weighting

$\hat{X}_w$  = the estimated value of the mean of  $X$ , based on the weighting actually used in the study

$W_j$  = weight for observations in the  $j^{\text{th}}$  stratum

Assume that there are five strata and that  $n_j$  is equal to the number of observations in the  $j^{\text{th}}$  stratum.

Then:

$$\hat{X}_u = \frac{\sum_j^s n_j \bar{X}_j}{N}$$

$$\hat{X}_w = \frac{\sum_j^s W_j \bar{X}_j}{\sum_j (n_j W_j)}$$

The variances of the weighted and unweighted estimators are:

$$\text{var}(\hat{X}_w) = \frac{\sum_j W_j^2 (n_j \text{var}(X_j))}{(\sum_j n_j W_j)^2}$$

$$\text{var}(\hat{X}_u) = \frac{\text{var}(X_j)}{N}$$

The design effect,  $de$ , is defined as the ratio of the variances for the unweighted and weighted estimates:

$$de = \frac{\text{var}(\hat{X}_w)}{\text{var}(\hat{X}_u)}$$

$$= \frac{\left[ \frac{1}{(\sum_j n_j W_j)^2} \right] \left[ \sum_j W_j^2 n_j \text{var}(X_j) \right]}{\frac{\text{var}(X_j)}{N}}$$

Divided through by  $\text{var}(X_{ij})$ , this yields:

$$de = \frac{\left( \frac{1}{\sum_j n_j W_j} \right)^2 \left( \sum_j W_j^2 n_j \right)}{\frac{1}{N}}$$

This expression was used to calculate the design effect.

Table B.1 displays the weights used in the analysis. As shown in the table, most of the weights are quite near 1, and, as a result, the design effect is small, on the order of 4 percent. Given this small design effect, the standard errors reported in the text are approximations that ignore the effects on the standard errors of the differential sampling rates for different strata.

### C. EFFECTS ON ESTIMATES

To examine the sensitivity of the results of the analysis to the weighting, we have produced unweighted estimates for a number of key outcomes. This section discusses the results of this analysis.

Table B.2 shows that the weighting has an effect on the sizes--but not on the signs--of the estimated effects of cash-out on the money value of food used at home. As shown in the first line of the table, the unweighted estimate of the unscaled<sup>1</sup> money value of food used at home is higher without weighting than with weighting. This finding is to be expected, because the weighting corrects for the fact that the average size of the check households in the data set is smaller than that of the coupon households. The estimated cash-out effect is approximately \$1.35 higher without weighting than with weighting, compared with a total estimated effect of approximately \$4.81.

As shown in the second and third lines of the table, when the money value of food is scaled by a measure of household size, either equivalent nutrition units or adult male equivalents, then weighting has the opposite effect: it raises the estimated size of the cash-out effect. Furthermore,

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<sup>1</sup>Unscaled by household size.

TABLE B.1  
WEIGHTS USED IN THE ANALYSIS

Size of Household	Check Sample		Coupon Sample	
	Weight	Frequency	Weight	Frequency
<b>Food-Use Analysis</b>				
1	1.84	22	1.38	29
2	.97	120	1.16	99
3	.92	135	1.08	113
4	1.00	104	.93	111
5	1.10	65	.94	75
6	1.07	39	.84	49
7	.77	29	.79	28
8	.68	15	.92	11
9	1.42	4	.56	10
>9	.65	9	.52	11
<b>Other Analysis</b>				
1	1.71	25	1.29	33
2	.96	128	1.13	109
3	.87	150	1.06	123
4	1.03	107	.98	112
5	1.14	66	.97	77
6	1.12	39	.81	54
7	.81	29	.81	29
8	.72	15	.90	12
9	1.50	4	.54	11
>9	.68	9	.56	11

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey data files.

TABLE B.2

COMPARISON OF WEIGHTED AND UNWEIGHTED ESTIMATES OF FOOD USED  
AT HOME AND FOOD USED AWAY FROM HOME

	Weighted				Unweighted			
	Check Recipients	Coupon Recipients	Difference	t-Statistic	Check Recipients	Coupon Recipients	Difference	t-Statistic
Weekly Values of Food Used at Home (dollars)								
For the overall household	68.00	72.82	-4.82	1.88 <sup>††</sup>	69.40	75.55	-6.15	2.30 <sup>††</sup>
Per adult male equivalent <sup>a</sup>	31.83	33.53	-1.70	1.78 <sup>††</sup>	31.63	32.87	-1.24	1.28
Per equivalent nutrition unit <sup>b</sup>	35.95	37.63	-1.68	1.62 <sup>†</sup>	35.66	36.95	-1.29	1.25
Weekly Expenditures for Food Prepared and Used Away from Home per Adult Male Equivalent (dollars)								
	3.00	3.48	-0.48	1.26	3.00	3.26	-0.26	0.71
Percent of Meals Eaten at Home	85.3	84.9	0.4	0.46	84.1	85.8	1.7	0.34

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey.

NOTE: One-tailed statistical tests were performed on all check-coupon differences shown in this table.

<sup>a</sup>Adult male equivalent units adjust household size for differences in food energy requirements for different age, gender, pregnancy, and lactation statuses.

<sup>b</sup>Equivalent nutritional units further adjust the adult male equivalent measure (Footnote a) to take into account differences in the percentages of meals eaten at home by household members and for meals eaten by guests who are not regularly part of the household food consumption unit.

<sup>†</sup>Statistically significant at the 90 percent confidence level, one-tailed test.

<sup>††</sup>Statistically significant at the 95 percent confidence level, one-tailed test.

without weighting, the relevant t-statistics fall just below the critical value for a 90 percent one-tailed test. In the second and third lines of the table, weighting alters the estimated effect of cash-out by approximately \$0.50, compared with a total estimated effect of approximately \$1.70. The fact that the unweighted estimates for the scaled variables are lower than the weighted estimates is consistent with prior expectations. Because of economies of scale in food purchases, the differences in household size between the samples would be expected to bias estimates of cash-out effects downward for these variables. (Footnote 17 in Section II.D.1 discusses the reason for this.)

Therefore, overall, weighting does not alter the signs of the estimates of the cash-out effects on the money value of food used at home, but it does change their magnitude. The changes in the sizes of the estimated effects are on the order of 30 percent; for two of the estimates, this change is enough to alter the statistical significance of the estimates.

The remaining lines in Table B.2, together with Tables B.3 and B.4, show the effects of weighting on the estimates of other key variables that are reported in the text of the report, including the money value of food used away from home, the effects of cash-out on nutrient availability, and the attitudes of food-benefit recipients toward cash-out. As shown in these tables, the weighting does not substantially affect the estimates in these areas.

It is also of interest to examine how weighting affects the characteristics of the sample. Tables II.3 and II.4 in the body of the report presented unweighted characteristics of the sample. Tables B.5 and B.6 show weighted characteristics. In general, the weighting does not change the basic pattern of characteristics. However, it does make the check-coupon difference statistically significant at the 90 percent confidence level for one variable--the percentage of cases receiving non-AFDC public assistance.

TABLE B.3

COMPARISON OF WEIGHTED AND UNWEIGHTED ESTIMATES OF NUTRIENT AVAILABILITY  
AS A PERCENTAGE OF THE RDA

Nutrient	Weighted				Unweighted			
	Check Recipients	Coupon Recipients	Difference	t-Statistic	Check Recipients	Coupon Recipients	Difference	t-Statistic
Food Energy	133.58	139.99	-6.41	1.76 <sup>††</sup>	132.88	139.12	-6.24	1.71 <sup>††</sup>
Protein	249.34	263.07	-13.73	1.98 <sup>††</sup>	249.13	262.92	-13.79	1.97 <sup>††</sup>
Vitamin A	210.92	214.40	-3.48	0.38	210.67	212.46	-1.79	0.19
Vitamin C	265.51	276.14	-10.63	0.75	266.47	274.77	-8.30	0.58
Vitamin B <sub>6</sub>	154.96	161.56	-6.60	1.38 <sup>†</sup>	154.32	161.39	-7.07	1.45 <sup>†</sup>
Folate	225.38	230.54	-5.16	0.54	225.38	231.64	-6.26	0.64
Calcium	118.25	123.72	-5.47	1.36 <sup>†</sup>	116.88	122.63	-5.75	1.44 <sup>†</sup>
Iron	163.43	160.61	2.82	0.49	159.57	160.52	-0.95	0.17
Zinc	119.60	123.73	-4.13	1.21	118.48	123.39	-4.91	1.44 <sup>†</sup>

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey.

NOTE: One-tailed statistical tests were performed on all check-coupon differences shown in this table.

<sup>†</sup>Statistically significant at the 90 percent confidence level, one-tailed test.

<sup>††</sup>Statistically significant at the 95 percent confidence level, one-tailed test.

TABLE B.4

## COMPARISON OF WEIGHTED AND UNWEIGHTED ESTIMATES OF ADEQUACY OF AVAILABLE FOOD

	Weighted				Unweighted			
	Check Recipients	Coupon Recipients	Difference	t-Statistic	Check Recipients	Coupon Recipients	Difference	t-Statistic
Percent of Respondents Reporting Not Having "Enough" Food Some Days	26.9	30.9	-4.0	1.50	26.7	31.0	-4.3	1.61
Percent Where Household Members Had to Skip Meals	17.8	21.6	-3.8	1.64	17.5	21.2	-3.7	1.59
Percent Making Use of Food Banks or Food Pantries	9.9	6.7	3.2	1.97 <sup>††</sup>	9.6	6.7	2.9	1.82 <sup>††</sup>
Percent Using Surplus Commodities	8.0	5.2	2.8	1.87 <sup>††</sup>	7.6	5.0	2.6	1.71 <sup>††</sup>

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey.

NOTE: One-tailed statistical tests were performed on all positive check-coupon differences shown in this table. Two-tailed tests were performed on all negative differences.

<sup>††</sup>Statistically significant at the 95 percent confidence level, one-tailed test.

TABLE B.5  
 DEMOGRAPHIC CHARACTERISTICS OF CHECK AND COUPON HOUSEHOLDS  
 (Percentage of Households)

	Percentage		Difference	t-Statistic
	Check	Coupon		
<b>Composition of the Food Consumption Unit</b>				
Contains Elderly	2.27	2.22	0.05	0.06
Contains Children	88.93	91.66	-2.73	1.56
Single parent	74.68	78.43	-3.75	1.46
Two parents	25.32	21.57	3.75	1.46
<b>Characteristics of the Sampled Person</b>				
Female	75.99	78.87	-2.88	1.16
Married	24.47	19.77	4.70	1.92
Employed	12.41	12.68	-0.27	0.14
Less Than 35 Years Old	63.05	68.05	-5.00	1.78
<b>Education</b>				
Did not complete elementary school	16.55	13.57	2.98	1.41
Completed elementary school	27.28	26.98	0.30	0.11
Completed high school	55.99	59.45	-3.46	1.18
<b>Race and Ethnicity</b>				
Asian	11.87	10.40	1.47	0.79
Hispanic	31.20	31.11	0.09	0.03
Black (not Hispanic)	19.81	23.53	-3.72	1.53
White (not Hispanic)	35.14	32.74	2.4	0.85
Other	1.98	2.22	-0.24	0.28
<b>Sample Size</b>	572	571		

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: Two-tailed statistical tests were performed on all differences shown in this table; none was statistically significant.

TABLE B.6

## ECONOMIC CHARACTERISTICS OF CHECK AND COUPON HOUSEHOLDS

	Mean Value		Difference	t-Statistic
	Check	Coupon		
Monthly Cash Income	\$858.41	\$859.83	-1.42	0.05
Percent Receiving Earned Income	19.96	21.41	-1.45	0.60
Amount of Earned Income (recipients only)	\$630.55	\$607.47	23.08	0.32
Percent Receiving AFDC	84.65	87.47	-2.82	1.38
Amount of AFDC Benefits (recipients only)	\$657.02	\$641.67	15.35	1.15
Percent Receiving Other Public Assistance	20.02	16.21	3.81	1.67*
Amount of Public Assistance Benefits (recipients only)	\$434.38	\$484.02	-49.64	1.21
Food Consumption Unit Monthly Food Stamp Benefits	\$115.18	\$111.42	3.76	1.07
Ratio of Monthly Food Stamp Benefit to Monthly Cash Income Plus the Food Stamp Benefit <sup>a</sup>	11.85	11.47	0.38	NA
Percent Paying Rent	97.71	97.81	-0.10	0.12
Amount of Rent Paid	\$399.87	\$396.02	3.85	0.35
Sample Size	572	571		

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: Monthly cash income figures exclude cash Food Stamp Program benefits.

Two-tailed statistical tests were performed for differences.

<sup>a</sup>Calculated as the sum of all food stamp benefits in the sample divided by the sum of all food stamp benefits plus income in the sample.

AFDC = Aid to Families with Dependent Children; NA = not applicable.

\*Statistically significant at the 90 percent confidence level, two-tailed test.

**APPENDIX C**

**DATA ENTRY AND DATA EDITING PROCEDURES**

MPR's subcontractor, National Analysts, performed the data entry and food-related data coding, with review and technical assistance from nutritionists from the U.S. Department of Agriculture (USDA). This appendix describes the procedures used in these tasks.

#### **A. DATA PREPARATION FOR SECTION I AND ASSOCIATED MATERIALS**

Through a sequence of 52 questions, Section I of the survey instrument for the San Diego Cash-out Evaluation obtained information on household composition, sources and amounts of income, expenditures by major category, participation in food-assistance programs, recipients' opinions of those programs, and the like. When constructing the evaluation's main data file, this information was processed jointly with information from the screening interview (the screener). The processing entailed the key-entry and verification of data from hard-copy survey instruments, followed by item-by-item data logic and consistency checks.

- *Data Entry*

Section I was key-entered and 100-percent verified in batches of ten document sets. A programmable entry system was used, which precluded in putting illegal values (for example, alpha and out-of-range numeric codes), at both the entry and verifying stages.

- *Data Editing*

Keyed and verified data records were forwarded to data cleaners, who built an initial data file, cumulating the records in sequence by interview identification number. Working in batches of 100 to 300 records, the data cleaners ran the initial file through a series of logic and edit checks, and obtained error printouts, by household, of the problem cases. Each problem triggered a document look-up--that is, the source document was consulted to determine whether the information in the file was correct. If the file was wrong, it was adjusted to reflect the corrected information from the questionnaire.

All adjusted problem cases were run through the cleaning program until no errors were detected. The fully edited batch data records then were added to the final "clean" data file. Typically, each record was subjected to two interactions of cleaning processing--the initial and the adjusted run--before becoming resident on the final clean file; however, the cleaning process was repeated until all problem situations were resolved.

## **B. DATA PREPARATION FOR SECTION II AND ASSOCIATED MATERIALS**

Section II of the survey instrument consists of the seven-day food-use recall. Associated with these data are items used to develop the food-use variables, such as information on the number and location of all meals eaten by members of the food consumption unit over the seven-day reporting period, guest meals and snacks, and the recording and the interviewing dates. These data were handled together with Section II entry and editing.

### **1. Data Entry**

Section II data were entered through the data entry system used in the Nationwide Food Consumption Survey. Under this interactive process, the person entering the data is prompted to enter the letter and code number for the food item used; its form and variation; the quantity used (in decimals); the code number for the units used (as recorded on the survey instrument); its source; the quantity purchased (in decimals), if bought, and the code number for the units purchased; the amount paid (in dollars and cents); and other information. Detailed information from the USDA Human Nutrition Information System (HNIS) household food-use coding system is programmed into the entry system, so that any unusual input is challenged (for example, frozen carrots untrimmed) for accuracy at the entry stage. The program is also designed to accept partially coded and uncoded data. In particular, the data entry person can key in alphabetic information for foods that are not in the system, as well as quantities and units that are recorded in nonstandard measurements.

Section II information was key-entered onto diskettes in batches of one to two households. These data were cumulated into a food-item file on a daily basis. A computer printout representation of this portion of the questionnaire was prepared for each household. A verifier visually inspected each field of data, and the printout information was compared against the questionnaire data line-by-line. Any discrepancies between the data keyed into the file and the questionnaire were rectified and noted on the printout. Both the annotated printouts and questionnaire documents were then forwarded for data cleaning.

## 2. Data Edits

Section II and related data were subjected to several levels of data editing and preparation. The first level was the preliminary data file cleaning. Working with batches of approximately 20 records, the data cleaner reviewed the annotated printout of the questionnaire and an "Errors and Warnings Report" for each individual questionnaire. Data problems were identified either as warnings (in the case of unusual amounts) or errors (in the case of unallowable codes). Other problems that were flagged at this stage were the absence of a code on the nutrient file corresponding to the code on the data entry file, and weight or nutrient levels that exceeded prespecified edit checks.

To resolve problems, the data cleaner consulted the primary source document (the screener or the main survey instrument), the computer printout, and manuals provided by the USDA. Any adjustments to the record were entered directly into the file and noted on the computer printout. Food coding and weight problems that could not be resolved from the data (or by contacts in the field), were written up as technical assistance requests and were forwarded to FNS/HNIS for review.

The Section II record was run through the cleaning process iteratively until no errors remained in the "Errors and Warning Report." These data were then made resident on a cleaned data file, and were ready for final preparation (for example, mean price calculation). An overview of the cleaning activities for Section II is presented below.

### a. Range Checks

We used two types of range checks. *Warnings* indicated that the response keyed in (or calculated, if the item was a derived variable) was higher or lower than the expected range of values established for the item. Development of the upper (and lower) limits was based on previous empirical findings, as well as on logically derived cut-off values. Warnings did not necessarily signify unacceptable values. Instead, they indicated unusual responses that should be reviewed critically before being accepted at face value (for example, individual food items that were purchased for more than \$25.00). *Errors* indicated that the imputed or derived value was unacceptable. Although rare,

this type of error could occur when a value response was inconsistent with the contingency skip in the questionnaire.

**b. Linkage Errors**

Linkage errors occurred when the food item specified in the questionnaire could not be linked to the HNIS nutrient data file. Because linkage errors, unlike warnings, could not be allowed in the final output file, the data cleaners reviewed the printout in each case to determine what changes needed to be made. Typically, linkage errors occurred when interviewers used verbal descriptions, rather than existing food codes, to report food use. Linkage errors generated requests to the USDA either to determine the existing food codes into which the item was to be classified or to provide new food codes.

Linkage errors also resulted from missing quantity information. In the rare cases in which this occurred, quantity unit estimates were generated for use with specific food items.

**c. Weight-Check Warnings**

For 154 of the most commonly used food items, special attention was given to ensure their correct entry into the file. Upper boundaries were set on the basis of empirical data by HNIS for the quantities used for these items. If the amount used of a food (regardless of the form in which the quantity was reported) exceeded the cut-off, reported in pounds, then the item was identified for closer inspection by the data cleaner.

The data cleaners examined the quantities used in the context of the amount consumed per equivalent nutrition unit (ENU), as well as for the household as a whole. If the food item and quantities were coded properly, then the unusually large amount was allowed to stand. If a problem was noted, the data were corrected and recycled through the cleaning program.

#### **d. Nutrient Warnings**

As with the weight-check warnings, document look-ups were triggered when a household's nutrient consumption was outside the edit-check limits set by the USDA. The program determined the quantity of key nutrients used by each household. After standardizing for household composition and the number of meals eaten at home by the household, these nutrient availability estimates were compared with the households' recommended dietary allowances. For five key nutrients, both upper and lower cut-offs were established that, if exceeded, signaled the data cleaner to re-examine the printout for the household food-use section of the interview.

Nutrient	Low Limit	High Limit
Food Energy	0.50	3.00
Calcium	0.20	3.50
Vitamin A	0.20	3.50
Riboflavin	0.20	3.50
Vitamin C	0.30	6.00

To aid the data cleaners, the computer printout provided information about the individual food items that were highest in that nutrient and, potentially, the likely source of the error.

#### **e. Special Check Warnings**

In addition to the routine edit checks, several additional special warnings were programmed for the San Diego data. First, the data were checked to ensure that the food-use period was exactly seven days, and that no interview was performed more than 48 hours after the end of the food-use reporting period.

Next, any missing information about the number and location of meals in the food-use period triggered a document look-up and review. If appropriate values for the missing data could not be determined, the interview was voided.

Several additional edits examined the completeness and reasonableness of the food-use information. These include:

- Total number of food items reported--any interview schedule with less than 16 or more than 79 separate food items reported was reviewed for accuracy of input.
- Total number of food pages of the survey instrument on which food items were reported--any schedule with reported food items on fewer than six pages was reviewed for accuracy.
- Total number of gift food items reported--any schedule with more than nine food items received as gift or in-lieu of pay was examined.
- Total number of home-produced food items reported--any schedule with more than five food items reported as home-produced was reviewed.
- Total number of WIC-purchased food items--any schedule with more than six food items acquired with WIC vouchers was examined for accuracy.
- Total number of missing prices--any schedule with more than nine missing prices for purchased foods was reviewed for acceptability.
- Money value of food used per ENU--if, after the missing price was imputed, the money value of foods used was (1) \$8.00 or less, or (2) \$80.00 or more per ENU, the item-by-item data were reviewed.

### **3. Mean Price/Missing Price Imputation**

The average reported prices of various kinds of food in the data set were used in two important ways in the file editing and file creation process. First, we computed the mean price for each kind of food, after which we examined "outlier" observations that were more than two standard deviations from the means. This process was very useful in identifying errors in the quantity and food-code information, which were common, as well as errors in the price data. Second, we used average prices to impute missing price information.

To determine the money value of food used, all foods used had to be assigned a price, regardless of whether they had been purchased. To derive a reasonable and stable imputed value for missing price data, we applied two steps: (1) extreme-value checking, and (2) imputation.

**a. Step 1 -- Extreme-Value Checking**

A program identified the mean price per pound per food item and identified those values either (1) two standard deviations above the mean, or (2) two standard deviations below *or* 10 percent below the mean. All of these values were designated "outliers" and were reviewed individually. For many of the observations, reviews revealed no apparent error; these observations were allowed to stand. For the other observations, the incorrect entry of quantity information onto the data file was found to be the most common type of error. Such mistakes were corrected.

We then performed similar checks on a second version of the data file, using means calculated after the first round of corrections had been implemented. In this second round of checks, we checked price observations that were at least three standard deviations above or two standard deviations below the mean. We also examined food items for which the standard deviations could not be calculated because only one observation in the data set existed, but for which the prices appeared particularly high or particularly low.

In addition, we examined other observations if the maximum price per pound for the food item was more than ten times the lowest price. The outlier prices were reviewed and corrected, as appropriate.

Finally, we reviewed all foods for which the price per pound was greater than \$3 *and* the number of observations was three or less. This criterion was meant to identify incorrect price observations that had not been caught by the criteria outlined above. Incorrect values were corrected, as appropriate.

**b. Step 2 -- Imputation**

Once the editing had been implemented, we imputed missing prices. To impute prices, we followed the procedures specified in this subsection.

For most foods, we used the mean prices from observations with nonmissing price data for the relevant foods (excluding outliers) to impute the missing prices (assuming that there were

observations with nonmissing prices for the relevant foods.)<sup>1</sup> For each food for which the number of missing values exceeded the number of observations for which data were available, the mean price, excluding outliers, was examined to determine whether the mean price was reasonable. If the mean price (without outliers) *was* reasonable, we used the mean price (without outliers) to impute the missing price. If the mean price was not reasonable, a field person checked the prices of that food item in supermarkets in the survey's geographic area that serve high proportions of low-income households. (Only a very small number of foods met this criterion.)

We followed a two-step process for foods in the data set for which there were no nonmissing price data. First, the food code in the interview was examined to identify possible coding errors. Second, if no error was identified, a local field person checked prices in supermarkets in a low-income area.

## **C. IMPUTING AND EDITING OF INCOME AND FOOD STAMP BENEFIT AMOUNTS**

We subjected the amounts for income sources and food stamp benefits to two types of editing. First, we imputed missing income amounts by using regression procedures or simply by imputing the mean of the sample distribution. Second, we substituted the self-reported food stamp and AFDC amounts with amounts obtained from program records.

### **1. Imputing Missing Income Amounts**

The questionnaire contains questions about 17 different sources of income. Respondents are asked: (1) whether anyone in the household receives a specific type of income, (2) if anyone does, who the recipient is, and (3) what amount has been received. When the person receiving the source is not identified, the amount is not ascertained.

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<sup>1</sup>In some instances, where the number of price observations for a given item was very low, that item was combined with similar items in the data set to obtain a mean price estimate. (For instance, the price observations for different types of canned vegetable baby food might be combined.)

The three types of missing information have very different prevalence rates. Information on whether a source of income was received at all (type 1), as well as the identity of the recipient (type 2), is missing in a total of two and four cases, respectively. By contrast, information on the amount received is missing in a total of 87 cases in 61 different households. Given the relative infrequency of the first two types of missing information, we implemented no formal imputation procedure for these cases. When the first type of information was missing, we assumed that the source was not received. In all four cases in which the second type of information was missing, the person receiving AFDC was not identified. However, because the AFDC amount was taken from program records, we did not need to impute the missing amount.

Table C.1 shows how we handled missing information on amounts of income received. We used different solutions according to the income source. For cases with a large number of observations on reported amounts (namely, earnings and retirement income), we used a regression approach; for the other cases, we used a *more ad hoc* approach.

For one observation, income was set to missing, rather than imputed. This case reported receiving *gross* rental income of approximately \$11,000, but would not provide information on *net* rental income. We decided not to impute mean income to this observation, because the gross rent information provided suggested receipt of considerably more than mean income. However, because no basis for setting a different income figure existed, income was set to missing. This case was excluded from all regressions and tabulations involving the income variable.

We examined the hard-copy instruments for each of the six cases with the highest reported incomes in the raw data. After the correction of one definite error, all of these cases were found to be reasonable, based on the detailed information and marginal comments in the questionnaires.

## **2. Replacement of Food Stamp and AFDC Amount with Amounts from Program Records**

During a preliminary analysis of the San Diego income data, we noticed that a large fraction of check recipients reported unusually high amounts for both AFDC and food stamps. A plausible

TABLE C.1

PREVALENCE OF MISSING INCOME AMOUNTS,  
AND SOLUTIONS ADOPTED TO REPLACE THEM

Type of Income	Persons with Reported Amounts	Persons with Missing Amounts	Solution Used to Replace Missing Amounts (or Outliers)
Wage and Salary	302	56	regression imputation (see Section A.1)
Business Income	16	8	regression imputation (see Section A.1)
Social Security	77	9	regression imputation (see Section A.2)
Other Retirement Benefits	6	7	regression imputation (see Section A.2)
AFDC	1,030	1	program data were substituted for all food stamp units except for homeless
SSI	121	1	assigned the mean (=\$527)
Veteran Benefits	10	3	assigned the mean (=\$195)
Estate, Interest, Dividends	15	1	assigned the no-outlier mean (=\$217)
Other Income (Insurance, Gift, Prizes)	70	1	assigned the no-outlier mean (=\$314)
UI/Worker Compensation	36	0	none
General Assistance	81	0	none
Housing Assistance	29	0	none
Alimony	5	0	none
Child Support	73	0	none
Foster Care	2	0	none
Rental Income	50	0	none
Farm Income	0	0	none

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey data files.

AFDC = Aid to Families with Dependent Children; SSI = Supplemental Security Income; UI = Unemployment Insurance.

explanation for this anomaly is that in San Diego County check food stamp recipients who also receive AFDC are issued a joint AFDC-food stamp check, which makes it difficult for them to distinguish between the two amounts. A large number of survey respondents reported the same amount for both their AFDC benefit and their food stamp benefit. This amount was apparently the gross amount of the combined AFDC-food stamp check. To address this problem of income misreporting, we decided to replace the self-reported amount for both AFDC and food stamp benefits with the amounts obtained from the food stamp office administrative records for the interview month. This replacement was performed for both check and coupon recipients in order to avoid treating observations differently according to their treatment or control status.

**APPENDIX D**

**FOCUS GROUP DISCUSSION METHODOLOGY**

The survey of Food Stamp Program (FSP) households conducted during Phase 1 of the evaluation provided quantitative information about the impacts of cash-out on recipients' food expenditures, food use, and nutrient availability, and some qualitative information on recipients' check-cashing experiences, perceptions about what is good and what is not good about checks and coupons, and preferences for checks or coupons for budgeting food expenditures. The in-depth (focus group) study was designed to complement the impact analysis by providing additional information about recipients' experiences with and attitudes toward check and coupon benefits. The focus group discussions explored several of the topics in the household survey in greater depth (for

checks). In addition, the focus group discussions obtained information on some issues that were not covered in the household survey, including the prevalence of food stamp fraud. This appendix describes the focus groups that were conducted for the Evaluation of the San Diego Food Stamp

residing in an area serviced by the Kearny Mesa food stamp district office; the other was held with recipients residing in an area serviced by the Escondido district office.<sup>2</sup>

### 1. Participant Selection Criteria

Focus group participants were identified and recruited from lists of FSP recipients extracted from the Case Data System (CDS), which is the master file containing records on all San Diego County food stamp recipients. The extract from the end-of-May CDS master file that was used to select the household sample for the recipient survey was also used to select participants for the focus groups.

In order to be considered for the focus groups, participants in each of the district offices had to meet *all* of the following criteria:

- The case had to be in the service area of the district offices under consideration (that is, Escondido and Kearny Mesa).
- The case had to be active.
- Participants were receiving food stamp benefits in the form of checks, and had received check benefits for at least three months.
- Participants had received FSP coupon benefits for at least three months sometime during the past.
- Participants were not homeless.
- Their primary language had to be English.<sup>3</sup>
- They had to have a telephone number.

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<sup>2</sup>Nine district offices serve the food stamp caseload in San Diego County. They include three in the northeast portion of the county (Oceanside, Escondido, and Northeast), three in the central portion of the county (Kearny Mesa, El-Cajun, and Logan Heights), and three in the southern portion of the county (Lemon Grove, Southeast, and South Bay). Initially, we considered having three focus group discussion sessions, one session each with food stamp recipients selected from the northern, central, and southern parts of the county. We randomly selected one district office from the three district offices in each region. However, because project resources were limited, the third discussion session (which was to have been in South Bay) was not held.

<sup>3</sup>Focus group discussions are successful when there is substantial interaction among members of the group. A necessary condition for such interaction is that group members understand each other. Individuals who do not speak English or who do not speak it well can disrupt the discussion. In our experience, this causes other participants to lose interest. For these reasons, participants were restricted to those who were conversant in English. We determined whether a person was conversant in English during the initial telephone contact used to recruit participants.

Within each district office, recipients who passed this screen were stratified according to two variables: (1) earned income, and (2) Aid to Families with Dependent Children (AFDC) status.<sup>4</sup> Thus, potential focus group participants in each district were stratified into four cells: (1) no earnings/receives AFDC, (2) positive earnings/receives AFDC, (3) no earnings/receives food stamps only, and (4) positive earnings/receives food stamps only. For each individual, we listed his or her name, address, telephone number, AFDC status, and earnings status. Participants were then randomly selected from each cell and recruited.

## **2. Recruitment**

Between 8 and 12 persons is generally accepted as an optimal size for focus group discussions. However, to protect ourselves against a high no-show rate, we recruited substantially more persons for the focus group sessions that we anticipated needing. Twenty-one persons were recruited for the Kearny Mesa focus group, and 24 were recruited for the Escondido focus group.

Participants were recruited roughly in proportion to their representation in the San Diego County caseload. For example, 70 percent of the food stamp households in San Diego also receives AFDC benefits, compared with 82 percent of our recruits. The race/ethnicity breakdown of the San Diego County caseload is: 43 percent white, 22 percent black, 20 percent Hispanic, and 15 percent Asian. The breakdown of our recruits was: 58 percent white, 18 percent black, 20 percent Hispanic, and 4 percent Asian. The average monthly household food stamp benefit in San Diego is \$101. Fifty-six percent of the recipients recruited for the focus groups received FSP benefits in excess of \$100 per month.<sup>5</sup>

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<sup>4</sup>We would have preferred screening recipients on the size of their food stamp benefit (for example, less than \$100 per month and greater than or equal to \$100 per month). However, our end-of-month extract did not include the monthly FSP benefit amount. The presence of earned income was used as a proxy for the food stamp benefit amount.

<sup>5</sup>Information on participants' food stamp benefit amount was obtained from the screening telephone interview.

For the Kearny Mesa discussion session, participants were recruited such that all of them were joint food stamp/AFDC recipients, two-thirds having food stamp benefits in excess of \$100 per month (high benefits) and one-third having food stamp benefits of less than \$100 per month (low benefits).<sup>6</sup> The Escondido discussion session included both joint food stamp/AFDC recipients and food stamp-only recipients: 16 were joint food stamp/AFDC participants, who were divided equally between low-benefit and high-benefit recipients, and 8 were food stamp-only participants, who were also divided equally between low-benefit and high-benefit recipients.

Approximately two weeks before the scheduled session, participants for the focus groups were recruited by telephone. One of the supervisors of the Food-Use Study, who had extensive telephone interviewing experience, made the telephone contacts.<sup>7</sup> The interviewer was given lists of program recipients, which were broken down according to district office and which included the potential participants' telephone numbers, addresses, AFDC status, and benefit level. If any of the potential participants indicated that lack of transportation would preclude participation, the interviewer was authorized to offer a financial incentive (\$8) to a friend or neighbor for providing transportation. Potential participants were offered a \$20 honorarium for participating.

One week before the sessions began, a reminder letter was mailed to each of the individuals who had been recruited. The letter reinforced each individual's verbal commitment to participate and provided a reminder of the details of the focus group. A reminder telephone call was made to each participant 24 to 36 hours before the scheduled session. At that time, the individual's transportation arrangements were verified. When necessary, information was provided about the availability of a financial incentive for a friend or neighbor to provide transportation.

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<sup>6</sup>We oversampled high-benefit recipients because we felt that they would be more likely to have more problems budgeting food and other expenses with check benefits.

<sup>7</sup>A recruiting protocol was developed to facilitate the screening process. The protocol informed the potential participant about the nature of the focus group, verified information, and screened out individuals who did not meet the eligibility criteria. The interviewer maintained a record of all contacts with potential participants, as well as of the outcome of each contact. In addition, a form was prepared that enabled the interviewer to monitor the process to ensure that a mix of program participants was recruited.

### **3. Characteristics of Recipients Attending the Focus Group Discussions**

In all, 28 food stamp recipients--14 in each site--participated in the two discussions. Although the sample of recruits was representative of the San Diego County food stamp caseload in terms of AFDC status, race/ethnicity, gender, and food stamp benefit amount (see section A.2), the recipients who actually showed up for the focus groups were disproportionately white, female, in their early thirties, and recipients of AFDC. Nevertheless, the experiences of the blacks and Hispanics, of the men, and of the food stamp-only recipients in the focus groups generally mirrored those of the white, female, AFDC recipients. Thus, although clearly anecdotal, we believe that the attitudes and experiences reported from the focus groups fairly represent those of all group participants.

Table D.1 shows that 26 (92 percent) of the participants were female, 19 (67 percent) were white, and 25 (89 percent) received AFDC and food stamps, whereas 75 percent of the San Diego County food stamp caseload is female, 43 percent is white, and 80 percent receives AFDC. The average age of the focus group sample was 32 years, and the sample was divided equally between low-benefit and high-benefit households--14 participants had food stamp benefits of less than \$100 per month, and 14 had benefits exceeding \$100 per month. According to self-reports, participants had been receiving FSP benefits for an average of five years.

### **B. DATA COLLECTION PROCEDURES**

Both focus groups were conducted in conference rooms at local public libraries. The primary consideration in selecting these facilities was the ease with which participants could find the location. Furthermore, we believed that participants would perceive the library to be a neutral location (that is, there would be no stigma attached to the facility, as there might be with the FSP office).

The meeting rooms in which the discussions took place were arranged to permit audio recording of the sessions. Participants were seated around a large rectangular table. The door was kept closed during the focus groups to maintain confidentiality of the participants. Light refreshments were available before and during the discussions.

TABLE D.1  
 CHARACTERISTICS OF SAN DIEGO FOOD STAMP CASH-OUT  
 FOCUS GROUP PARTICIPANTS  
 (Number of Participants)

Characteristic	Kearny Mesa	Escondido	All
<b>Gender</b>			
Female	13	13	26
Male	1	1	2
<b>Age</b>			
Less than 30 years	5	4	9
30 to 34 years	7	3	10
35 to 39 years	2	3	5
40 years and older	0	4	4
<b>Race/Ethnicity</b>			
White	10	9	19
Hispanic	2	1	3
Black	1	4	5
Asian	1	0	1
<b>Number in Household</b>			
One person	0	1	1
Two persons	7	0	7
Three persons	5	8	13
Four or more persons	2	5	7
<b>Food Stamp Benefit Amount (monthly)</b>			
Less than \$100	5	9	14
\$100 or more	9	5	14
<b>Receive AFDC</b>			
Yes	14	11	25
No	0	3	3

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, focus groups.

AFDC = Aid to Families with Dependent Children.

Each session was attended by the focus group moderator and by one additional member of the research team, a researcher, who served as the observer. The sessions lasted between one and one-half and two hours.

The focus group discussion sessions consisted of a series of open-ended questions about which the participants were encouraged to talk among themselves. The moderator used a topic guide to pose questions in the key areas of interest:

- Preferences of recipients for check or coupon benefits, and the reasons for their preferences
- Roles of checks and coupons in budgeting food expenditures
- Experiences with and problems in cashing benefit checks
- Costs (including stigma) of participating in the FSP under both forms of benefit issuance--checks and coupons
- Recipients' knowledge of food stamp fraud and benefit diversion

### **C. THE ANALYTIC APPROACH**

The commentary of the two focus groups generated nearly 100 pages of transcripts on several subjects. The project researcher (who had attended both focus groups) analyzed the transcripts, and the second member of the research team (the focus group moderator) then reviewed the analysis in order to cross-validate the project researcher's analytic conclusions.

All methods of collecting data from individuals have strengths and weaknesses. Focus groups are no exception. The primary advantage of focus groups over the structured interview for gathering the information that we were seeking is that focus groups give the analyst the ability to probe and explore an individual's initial responses to questions in greater depth. A closely related advantage is that the interaction in focus group discussions usually reduces the natural inhibitions that most individuals experience when they are questioned in structured interviews by strangers.

The methodology, although very useful, does have limitations. The major disadvantage of focus groups is that one cannot draw formal inferences from the data, because the groups involve small.

purposively chosen samples, and the possibility of group suasion through the discussion process precludes treating focus group members' views as "independent" observations.<sup>8</sup>

The focus group results reported in the text consist of comments from two focus group discussions. Although they are clearly anecdotal, the experiences and views expressed by participants were very similar across the two groups from different parts of San Diego County.

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<sup>8</sup>The group nature of the discussion raises the possibility that the views of some participants may be influenced by other group members.

**APPENDIX E**  
**REGRESSION ESTIMATES**

This appendix presents regression estimates that complement the analysis conducted in Chapter III and in Appendix F. In Chapter III, we analyzed the effect of cash-out on food use and nutrient availability by comparing the mean values of the variable representing the outcome of interest in the two samples--that is, by using simple differences in means. In the first part of this appendix, we present the regression-adjusted counterparts of these differences in means.

We estimate a regression model for each outcome, using the full sample of check and coupon households. In addition to household demographic and economic characteristics that are thought to affect the particular outcome, we include among the regressors a dummy variable representing the check or coupon status of the household. The estimated coefficient on this dummy variable represents the regression-adjusted estimate of the effect of cash-out on the dependent variable.

Table E.1 compares the regression-adjusted measures of cash-out effects with their difference-in-means counterparts. The comparison is carried out for three measures of the money value of food used at home per equivalent nutrition unit (ENU) (total food used, purchased food used, and nonpurchased food used), for two macronutrients (food energy and protein), and for seven micronutrients (vitamin A, vitamin C, vitamin B<sub>6</sub>, folate, calcium, iron, and zinc).

Table E.2 contains the sample means for all of the explanatory variables used in the regressions, and Tables E.3 through E.8 contain the full regression estimates for six different outcomes: the money value of all food used at home per ENU (Table E.3), the money value of purchased food used at home per ENU (Table E.4), the money value of nonpurchased food used at home per ENU (Table E.5), food energy as a percentage of the recommended dietary allowance (RDA) (Table E.6), protein as a percentage of the RDA (Table E.7), and calcium as a percentage of the RDA (Table E.8).<sup>1</sup> Each regression includes a dummy variable equal to one if the household receives check benefits. The estimated coefficient of this dummy variable represents the regression-adjusted estimate of the effect of cash-out presented in Table E.1.

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<sup>1</sup>We present the full results for one micronutrient only, because the results for the other micronutrients are very similar.

In the second part of this appendix (Tables E.9 through E.12), we present the full regression results that support the estimates of the marginal propensities to consume (MPCs) discussed in Appendix F. (See Appendix F for a definition of the MPC concept.) We present results for two distinct dependent variables: (1) the money value of purchased food used at home, and (2) the money value of purchased and nonpurchased food used at home. For each dependent variable, we present two algebraically equivalent models: the first includes among the regressors the amount of the food stamp check benefit (for check recipients only, zero otherwise) and the amount of the food stamp coupon benefit (for coupon recipients only, zero otherwise). This is the specification corresponding to equation (1) in Appendix F. The second table for each dependent variable contains the results for a model that includes a food stamp benefit amount for all observations, as well as the interaction between the food stamp benefit amount and the check dummy variables. This version of the model allows the direct estimation of the difference between the MPC out of coupons and out of checks, which is presented in the fourth row of Table F.1.

TABLE E.1

COMPARISON OF DIFFERENCE-IN-MEAN AND REGRESSION-ADJUSTED  
ESTIMATES OF THE EFFECT OF CASH-OUT ON FOOD USE AND  
NUTRIENT AVAILABILITY

Outcome Measure	Regression- adjusted Estimate	Difference-in-mean Estimate
Money Value of Food Used at Home per ENU	-1.93 <sup>††</sup> (1.96)	-1.68 <sup>†</sup> (1.62)
Money Value of Purchased Food per ENU	-2.45 <sup>††</sup> (2.61)	-2.42 <sup>††</sup> (2.45)
Money Value of Nonpurchased Food per ENU	0.53 (1.51) <sup>a</sup>	0.74 <sup>††</sup> (2.06)
Food Energy as Percentage of RDA	-6.75 <sup>††</sup> (1.87)	-6.42 <sup>††</sup> (1.76)
Protein as Percentage of RDA	-14.95 <sup>††</sup> (2.18)	-13.73 <sup>††</sup> (1.98)
Vitamin A as Percentage of RDA	-4.85 (0.53)	-3.49 (0.38)
Vitamin C as Percentage of RDA	-7.92 (0.55)	-10.63 (0.75)
Vitamin B <sub>6</sub> as Percentage of RDA	-8.11 <sup>††</sup> (1.68)	-6.59 <sup>†</sup> (1.38)
Folate as Percentage of RDA	-8.05 (0.83)	-5.15 (0.54)
Calcium as Percentage of RDA	-7.61 <sup>††</sup> (2.01)	-5.47 (1.36)
Iron as Percentage of RDA	-3.08 (0.56)	2.82 (0.49)
Zinc as Percentage of RDA	-5.78 <sup>††</sup> (1.72)	-4.13 (1.21)

SOURCE: Evaluation of the San Diego Cash-Out Demonstration, household survey.

NOTE: One-tailed statistical tests were performed on all differences shown in this table.

t-Statistics are shown in parentheses.

<sup>a</sup>The regression-based t-statistic is lower than the corresponding difference-in-means t-statistic, because the point estimate of the cash-out effect, which is the numerator of the t-statistic, is lower.

ENU = equivalent nutrition unit; RDA = recommended dietary allowance.

<sup>†</sup>Statistically significant at the 90 percent confidence level, one-tailed test.

<sup>††</sup>Statistically significant at the 95 percent confidence level, one-tailed test.

**TABLE E.2**  
**MEANS AND STANDARD DEVIATIONS OF VARIABLES USED**  
**IN THE REGRESSIONS**

Variable	Mean or Proportion	Standard Deviation
Check Dummy (Check=1)	0.503	0.500
Food Stamp Benefit Amount	12.156	5.472
FCU Income	91.978	43.724
FCU Size in AME	2.441	1.229
Income of Non-FCU Members	20.588	104.306
Sampled Person Is Asian	0.119	0.324
Sampled Person Is Black	0.203	0.403
Sampled Person Is Hispanic	0.330	0.471
Sampled Person Didn't Complete 8th Grade	0.160	0.367
Sampled Person Completed High School	0.570	0.495
Sampled Person Less Than 30 Years Old	0.442	0.497
Children Present in the FCU	0.935	0.247
Elderly Present in the FCU	0.021	0.145
Female Head Present in the FCU	0.850	0.358

SOURCE: Evaluation of the San Diego Cash-Out Demonstration, household survey.

NOTE: All income and benefit amounts are measured in dollars per AME per week.

AME = adult male equivalent; FCU = food consumption unit.

TABLE E.3

REGRESSION ESTIMATES FOR THE MONEY VALUE OF FOOD USED AT HOME  
PER ENU, MODEL WITH CHECK DUMMY

Variable	Coefficient	Standard Error	t-Statistic
Constant	34.498	3.428	10.06
<b>Check Dummy (Check=1)</b>	<b>-1.928</b>	<b>0.984</b>	<b>-1.96</b>
Food Stamp Benefit Amount	0.246	0.100	2.45
FCU Income	0.065	0.012	5.34
FCU Size in AME	-2.965	0.506	-5.87
Income of Non-FCU Members	-0.004	0.005	-0.78
Sample Person Is Asian	3.700	1.897	1.95
Sampled Person Is Black	1.197	1.371	0.87
Sampled Person Is Hispanic	1.638	1.306	1.25
Sampled Person Didn't Complete 8th Grade	-1.337	1.717	-0.78
Sampled Person Completed High School	0.926	1.190	0.78
Sampled Person Less Than 30 Years Old	-0.388	1.096	-0.35
Children Present in the FCU	-0.524	2.302	-0.23
Elderly Present in the FCU	6.099	3.503	1.74
Female Head Present in the FCU	0.090	1.442	0.06
Number of Observations:	1,077		
Mean of the Dependent Variable:	16.02		
R-squared:	0.120		

SOURCE: Evaluation of the San Diego Cash-Out Demonstration, household survey.

NOTE: All income and benefit amounts are measured in dollars per AME per week.

ENU = equivalent nutrition unit; AME = adult male equivalent; FCU = food consumption unit.

TABLE E.4

REGRESSION ESTIMATES FOR THE MONEY VALUE OF PURCHASED FOOD  
PER ENU, MODEL WITH CHECK DUMMY

Variable	Coefficient	Standard Error	t-Statistic
Constant	31.734	3.277	9.68
<b>Check Dummy (Check=1)</b>	<b>-2.454</b>	<b>0.940</b>	<b>-2.61</b>
Food Stamp Benefit Amount	0.189	0.096	1.97
FCU Income	0.064	0.012	5.42
FCU Size in AME	-2.662	0.483	-5.51
Income of Non-FCU Members	-0.002	0.005	-0.48
Sample Person Is Asian	4.338	1.814	2.39
Sampled Person Is Black	1.649	1.310	1.26
Sampled Person Is Hispanic	1.728	1.249	1.38
Sampled Person Didn't Complete 8th Grade	-1.067	1.642	-0.65
Sampled Person Completed High School	0.844	1.138	0.74
Sampled Person Less Than 30 Years Old	-0.892	1.048	-0.85
Children Present in the FCU	-0.309	2.201	-0.14
Elderly Present in the FCU	6.084	3.349	1.82
Female Head Present in the FCU	0.980	1.379	0.71
Number of Observations:	1,077		
Mean of the Dependent Variable:	34.11		
R-squared:	0.109		

SOURCE: Evaluation of the San Diego Cash-Out Demonstration, household survey.

NOTE: All income and benefit amounts are measured in dollars per AME per week.

ENU = equivalent nutrition unit; AME = adult male equivalent; FCU = food consumption unit.

TABLE E.5

REGRESSION ESTIMATES FOR THE MONEY VALUE OF NONPURCHASED FOOD  
PER ENU, MODEL WITH CHECK DUMMY

Variable	Coefficient	Standard Error	t-Statistic
Constant	2.765	1.214	2.28
<b>Check Dummy (Check=1)</b>	<b>0.527</b>	<b>0.348</b>	<b>1.51</b>
Food Stamp Benefit Amount	0.057	0.036	1.62
FCU Income	0.002	0.004	0.43
FCU Size in AME	-0.303	0.179	-1.69
Income of Non-FCU Members	-0.002	0.002	-0.89
Sample Person Is Asian	-0.637	0.672	-0.95
Sampled Person Is Black	-0.452	0.485	-0.93
Sampled Person Is Hispanic	-0.090	0.463	-0.20
Sampled Person Didn't Complete 8th Grade	-0.270	0.608	-0.44
Sampled Person Completed High School	0.082	0.421	0.20
Sampled Person Less Than 30 Years Old	0.504	0.388	1.30
Children Present in the FCU	-0.215	0.815	-0.26
Elderly Present in the FCU	0.014	1.240	0.01
Female Head Present in the FCU	-0.889	0.511	-1.74
Number of Observations:	1,077		
Mean of the Dependent Variable:	2.201		
R-squared:	0.028		

SOURCE: Evaluation of the San Diego Cash-Out Demonstration, household survey.

NOTE: All income and benefit amounts are measured in dollars per AME per week.

ENU = equivalent nutrition unit; AME = adult male equivalent; FCU = food consumption unit.

TABLE E.6

REGRESSION ESTIMATES FOR DAILY FOOD ENERGY AVAILABILITY  
PER ENU AS A PERCENTAGE OF THE RDA.  
MODEL WITH CHECK DUMMY

Variable	Coefficient	Standard Error	t-Statistic
Constant	128.679	12.621	10.20
<b>Check Dummy (Check=1)</b>	<b>-6.753</b>	<b>3.622</b>	<b>-1.87</b>
Food Stamp Benefit Amount	0.684	0.369	1.85
FCU Income	0.076	0.045	1.69
FCU Size in AME	-6.527	1.861	-3.51
Income of Non-FCU Members	0.011	0.018	0.63
Sample Person Is Asian	-0.163	6.986	-0.02
Sampled Person Is Black	18.443	5.046	3.66
Sampled Person Is Hispanic	10.764	4.810	2.24
Sampled Person Didn't Complete 8th Grade	-4.184	6.323	-0.66
Sampled Person Completed High School	-1.362	4.383	-0.31
Sampled Person Less Than 30 Years Old	-4.222	4.036	-1.05
Children Present in the FCU	4.756	8.474	0.56
Elderly Present in the FCU	14.756	12.898	1.14
Female Head Present in the FCU	2.746	5.309	0.52
Number of Observations:	1,077		
Mean of the Dependent Variable:	136.0		
R-squared:	0.052		

SOURCE: Evaluation of the San Diego Cash-Out Demonstration, household survey.

NOTE: All income and benefit amounts are measured in dollars per AME per week.

ENU = equivalent nutrition unit; RDA = recommended dietary allowance; AME = adult male equivalent; FCU = food consumption unit.

TABLE E.7

REGRESSION ESTIMATES FOR DAILY PROTEIN AVAILABILITY  
PER ENU AS A PERCENTAGE OF THE RDA,  
MODEL WITH CHECK DUMMY

Variable	Coefficient	Standard Error	t-Statistic
Constant	195.888	22.586	8.67
<b>Check Dummy (Check=1)</b>	<b>-14.950</b>	<b>6.861</b>	<b>-2.18</b>
Food Stamp Benefit Amount	2.014	0.601	3.35
FCU Income	0.180	0.076	2.36
FCU Size in AME	-15.123	4.110	-3.68
Income of Non-FCU Members	0.035	0.030	1.17
Sample Person Is Asian	20.394	13.252	1.54
Sampled Person Is Black	41.202	9.554	4.31
Sampled Person Is Hispanic	27.206	9.107	2.99
Sampled Person Didn't Complete 8th Grade	-2.068	11.987	-0.17
Sampled Person Completed High School	-4.325	8.289	-0.52
Sampled Person Less Than 30 Years Old	-5.898	7.784	-0.76
Children Present in the FCU	32.211	15.792	2.04
Elderly Present in the FCU	10.656	24.486	0.44
Female Head Present in the FCU	7.701	10.121	0.76
Number of Observations:	1,077		
Mean of the Dependent Variable:	256.1		
R-squared:	0.071		

SOURCE: Evaluation of the San Diego Cash-Out Demonstration, household survey.

NOTE: All income and benefit amounts are measured in dollars per AME per week.

ENU = equivalent nutrition unit; RDA = recommended dietary allowance; AME = adult male equivalent; FCU = food consumption unit.

TABLE E.8

REGRESSION ESTIMATES FOR DAILY CALCIUM AVAILABILITY  
PER ENU AS A PERCENTAGE OF THE RDA.  
MODEL WITH CHECK DUMMY

Variable	Coefficient	Standard Error	t-Statistic
Constant	144.769	14.575	9.93
<b>Check Dummy (Check=1)</b>	<b>-7.607</b>	<b>3.795</b>	<b>-2.01</b>
Food Stamp Benefit Amount	0.981	0.597	1.64
FCU Income	0.143	0.070	2.03
FCU Size in AME	-3.298	1.261	-2.62
Income of Non-FCU Members	-0.007	0.036	-0.18
Sample Person Is Asian	-46.383	7.323	-6.33
Sampled Person Is Black	-31.347	5.300	-5.92
Sampled Person Is Hispanic	0.553	5.055	0.11
Sampled Person Didn't Complete 8th Grade	-2.151	6.616	-0.33
Sampled Person Completed High School	2.030	4.615	0.44
Sampled Person Less Than 30 Years Old	-7.325	4.140	-1.77
Children Present in the FCU	-12.790	9.505	-1.35
Elderly Present in the FCU	13.067	13.561	0.96
Female Head Present in the FCU	1.768	5.558	0.32
Number of Observations:	1,077		
Mean of the Dependent Variable:	119.8		
R-squared:	0.122		

SOURCE: Evaluation of the San Diego Cash-Out Demonstration, household survey.

NOTE: All income and benefit amounts are measured in dollars per AME per week.

ENU = equivalent nutrition unit; RDA = recommended dietary allowance; AME = adult male equivalent; FCU = food consumption unit.

TABLE E.9

REGRESSION ESTIMATES FOR THE MONEY VALUE OF PURCHASED FOOD  
PER ENU, MODEL WITH CHECK AND COUPON BENEFIT AMOUNT

Variable	Coefficient	Standard Error	t-Statistic
Constant	30.435	3.241	9.39
<b>Check Benefit Amount</b>	<b>0.108</b>	<b>0.100</b>	<b>1.08</b>
<b>Coupon Benefit Amount</b>	<b>0.277</b>	<b>0.105</b>	<b>2.64</b>
FCU Income	0.063	0.012	5.40
FCU Size in AME	-2.627	0.483	-5.44
Income of Non-FCU Members	-0.002	0.005	-0.48
Sample Person Is Asian	4.262	1.815	2.35
Sampled Person Is Black	1.702	1.310	1.30
Sampled Person Is Hispanic	1.716	1.250	1.37
Sampled Person Didn't Complete 8th Grade	-1.146	1.642	-0.70
Sampled Person Completed High School	0.813	1.139	0.71
Sampled Person Less Than 30 Years Old	-0.842	1.048	-0.80
Children Present in the FCU	-0.306	2.202	-0.14
Elderly Present in the FCU	6.193	3.351	1.85
Female Head Present in the FCU	0.973	1.379	0.71
Number of Observations:	1,077		
Mean of the Dependent Variable:	34.11		
R-squared:	0.109		

SOURCE: Evaluation of the San Diego Cash-Out Demonstration, household survey.

NOTE: All income and benefit amounts are measured in dollars per AME per week.

The regression shown in this table is based on a sample that excludes one observation with an unusually large value for cash income.

ENU = equivalent nutrition unit; AME = adult male equivalent; FCU = food consumption unit.

TABLE E.10

REGRESSION ESTIMATE OF THE MONEY VALUE OF PURCHASED FOOD  
 PER ENU, MODEL WITH INTERACTION BETWEEN CHECK DUMMY  
 AND FOOD STAMP BENEFIT AMOUNT

Variable	Coefficient	Standard Error	t-Statistic
Constant		3.241	9.39
<b>Interaction Between Check Dummy and Food Stamp Benefit Amount</b>	<b>-0.113</b>	<b>0.070</b>	<b>-2.41</b>
Food Stamp Benefit Amount	0.277	0.105	2.64
FCU Income	0.063	0.012	5.40
FCU Size in AME	-2.627	0.483	-5.44
Income of Non-FCU Members	-0.002	0.005	-0.48
Sample Person Is Asian	4.262	1.815	2.35
Sampled Person Is Black	1.702	1.310	1.30
Sampled Person Is Hispanic	1.716	1.250	1.37
Sampled Person Didn't Complete 8th Grade	-1.146	1.642	-0.70
Sampled Person Completed High School	0.813	1.139	0.71
Sampled Person Less Than 30 Years Old	-0.842	1.048	-0.80
Children Present in the FCU	-0.306	2.202	-0.14
Elderly Present in the FCU	6.193	3.351	1.85
Female Head Present in the FCU	0.973	1.379	0.705
Number of Observations:	1,077		
Mean of the Dependent Variable:	34.11		
R-squared:	0.109		

SOURCE: Evaluation of the San Diego Cash-Out Demonstration, household survey.

NOTE: All income and benefit amounts are measured in dollars per AME per week.

The regression shown in this table is based on a sample that excludes one observation with an unusually large value for cash income.

ENU = equivalent nutrition unit; FSP = Food Stamp Program; AME = adult male equivalent; FCU = food consumption unit.

TABLE E.11

REGRESSION ESTIMATES FOR THE MONEY VALUE OF FOOD USED AT HOME  
PER ENU, MODEL WITH CHECK AND COUPON BENEFIT AMOUNT

Variable	Coefficient	Standard Error	t-Statistic
Constant	33.479	3.391	9.87
<b>Check Benefit Amount</b>	<b>0.192</b>	<b>0.104</b>	<b>1.84</b>
<b>Coupon Benefit Amount</b>	<b>0.301</b>	<b>0.110</b>	<b>2.75</b>
FCU Income	0.065	0.012	5.32
FCU Size in AME	-2.934	0.505	-5.80
Income of Non-FCU Members	-0.004	0.005	-0.76
Sample Person Is Asian	3.644	1.899	1.92
Sampled Person Is Black	1.251	1.371	0.91
Sampled Person Is Hispanic	1.636	1.307	1.25
Sampled Person Didn't Complete 8th Grade	-1.406	1.718	-0.82
Sampled Person Completed High School	0.914	1.192	0.77
Sampled Person Less Than 30 Years Old	-0.339	1.097	-0.31
Children Present in the FCU	-0.515	2.303	-0.22
Elderly Present in the FCU	6.177	3.506	1.76
Female Head Present in the FCU	0.081	1.443	0.06
Number of Observations:	1,077		
Mean of the Dependent Variable:	36.31		
R-squared:	0.118		

SOURCE: Evaluation of the San Diego Cash-Out Demonstration, household survey.

NOTE: All income and benefit amounts are measured in dollars per AME per week.

The regression shown in this table is based on a sample that excludes one observation with an unusually large value for cash income.

ENU = equivalent nutrition unit; AME = adult male equivalent; FCU = food consumption unit.

TABLE E.12

REGRESSION ESTIMATES FOR THE MONEY VALUE OF FOOD USED AT HOME  
PER ENU. MODEL WITH INTERACTION BETWEEN CHECK DUMMY AND  
FSP BENEFIT AMOUNT

Variable	Coefficient	Standard Error	t-Statistic
Constant	33.479	3.391	9.87
<b>Interaction Between Check Dummy and Food Stamp Benefit Amount</b>	<b>-0.110</b>	<b>0.074</b>	<b>-1.49</b>
Food Stamp Benefit	0.301	0.110	2.75
FCU Income	0.065	0.012	5.32
FCU Size in AME	-2.934	0.505	-5.80
Income of Non-FCU Members	-0.004	0.005	-0.76
Sample Person Is Asian	3.644	1.899	1.92
Sampled Person Is Black	1.251	1.371	0.91
Sampled Person Is Hispanic	1.636	1.307	1.25
Sampled Person Didn't Complete 8th Grade	-1.406	1.718	-0.82
Sampled Person Completed High School	0.914	1.192	0.77
Sampled Person Less Than 30 Years Old	-0.339	1.097	-0.31
Children Present in the FCU	-0.515	2.303	-0.22
Elderly Present in the FCU	6.177	3.506	1.76
Female Head Present in the FCU	0.081	1.443	0.06
Number of Observations:	1,077		
Mean of the Dependent Variable:	36.31		
R-squared:	0.118		

SOURCE: Evaluation of the San Diego Cash-Out Demonstration, household survey.

NOTE: All income and benefit amounts are measured in dollars per AME per week.

The regression shown in this table is based on a sample that excludes one observation with an unusually large value for cash income.

ENU = equivalent nutrition unit; FSP = Food Stamp Program; AME = adult male equivalent;  
FCU = food consumption unit.

**APPENDIX F**

**AN ECONOMETRIC ANALYSIS OF THE MONEY VALUE OF FOOD USED AT HOME**

This appendix presents results from our estimation of an econometric model of the money value of food used at home by food stamp households. We consider two alternative measures of food use: (1) the money value of *purchased* food used at home, and (2) the money value of *all* food used at home. The second measure includes nonpurchased food, such as home-produced food and food obtained by redeeming a WIC voucher. In the model, household income, the form and amount of the food stamp benefit, and demographic variables explain the variation in food use among food stamp households. By using multivariate regression analysis to estimate the model with data for the sample of food stamp check and coupon recipients in San Diego County, we obtain estimates of the effects of food stamp coupons, food stamp checks, and cash income on food use. Because the design of this study is experimental, these estimates are not essential to the evaluation of the effects of cash-out on food use, but they are quite useful for comparing the findings from this study with findings from the many studies of the effects of food stamps on household food use that have been based on nonexperimental data.

In this appendix, we first describe findings from previous studies. We then present and discuss the findings that are based on data from the household survey (including a discussion of the specification of the econometric model). Finally, we discuss the relationship between the econometric estimates and the findings from Chapter III based on difference-in-means estimates.

#### **A. FINDINGS FROM PREVIOUS STUDIES**

Only two studies have given researchers the opportunity to analyze directly the relative effects of food stamp checks and coupons on food-consumption behavior. These studies are the evaluation of the Puerto Rico Nutrition Assistance Program (Beebout et al., 1985; Devaney and Fraker, 1986) and the evaluation of the SSI/Elderly Food Stamp Cash-Out Demonstration (Blanchard et al., 1982; Butler, Ohls, and Posner, 1985). Neither study had an experimental design that entailed the random assignment of individual food stamp households to treatment (check) or control (coupon) status; instead, econometric models were used to control for differences between check and coupon

recipients and to estimate the relative effects of checks and coupons on food-consumption behavior. The principal findings in the studies, that cash-out had no statistically significant effects on food expenditures or on the money value of food used by food stamp households, were based on comparisons of those econometric estimates.

Researchers in all of the other studies of the effects of food stamps on food consumption lacked data on actual recipients of food stamp checks.<sup>1</sup> Consequently, the researchers first used econometric models to estimate the effects of coupons and ordinary cash income on food consumption, and then inferred the potential effect of cash-out from the difference between the two estimates. However, the inference was based on the tenuous assumption that food stamp checks and ordinary cash income would have the same effect on food consumption.

The nonexperimental studies of the effects of food stamps and ordinary cash income on food consumption used various measures of household food consumption and household income. For example, Johnson, Burt, and Morgan (1981) and Basiotis et al. (1987) define food consumption as the money value of all food (including nonpurchased food) used by a household from its home food supply. In those studies, income is defined to include the imputed value of the nonpurchased food that was used by a household. Smallwood and Blaylock (1985) define food consumption as the money value of purchased food used by a household from its home food supply. Consistent with this definition of food consumption, they omit the value of nonpurchased food from their measure of income. Senauer and Young (1986) define their measure of household food consumption on the basis of food expenditures, rather than food use, thus implicitly excluding nonpurchased food. Their measure of income also excludes the value of nonpurchased food. The basic pattern of the studies cited is either to include the value of nonpurchased food in both the measure of food consumption and the measure of income, or to exclude it from both measures. Either approach can be defended

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<sup>1</sup>Fraker (1990) reviews many of the existing studies of the effects of food stamps on food consumption. These studies include the two that were based on data on recipients of checks and coupons, as well as a much larger number of studies for which no data on check recipients were available.

as a valid way of controlling for the presence of nonpurchased foods and thereby permitting the estimation of the effect of food stamps on the money value of food used that was purchased or on expenditures for purchased food.

Virtually all of the studies have produced estimates of the effects of an additional dollar of food stamp coupons and ordinary cash income on food consumption. These effects frequently are referred to as the *marginal propensity to consume food* (MPC) out of coupons and income. In his review of 17 nonexperimental studies, several of which produced multiple estimates of the MPC out of coupons and out of cash income, Fraker (1990) reports that most estimates of the MPC out of income are in the range of .05 to .10, indicating that an additional dollar of income would prompt an average food stamp household to increase its consumption of food by an amount ranging from \$.05 to \$.10. Fraker also reports that most estimates of the MPC out of coupons are in the range of .17 to .47. In each of the reviewed studies, the estimated marginal effect of coupons exceeds that of income, and, with only a few exceptions, the ratio of the estimate of the MPC out of coupons to the estimate of the MPC out of income is between 2 and 10. Thus, the consensus finding of these studies is that the marginal effect of food stamp coupons on food consumption is much stronger than that of ordinary cash income.<sup>2</sup>

If one were willing to assume that food stamp checks would have the same effect on food consumption as would ordinary cash income, then, on the basis of the consensus finding, one might infer that cash-out would reduce greatly the marginal effectiveness with which food stamp benefits increase food consumption by low-income households. The nonexperimental estimates imply that the effectiveness of a marginal dollar of food stamp benefits would be reduced as a consequence of cash-out by a factor of between 2-to-1 and 10-to-1.

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<sup>2</sup>In a paper that was circulated subsequent to Fraker's 1990 literature review, Levedahl (1991) reports on estimates of the MPC out of food stamp coupons and out of ordinary cash income that he obtained by applying a trans-log econometric model to data from the 1979-80 Survey of Food Consumption in Low-Income Households. The sample mean value of the ratio of his estimate of the MPC out of coupons to his estimate of the MPC out of income is 2.7. This value is near the lower end of the range of most of the ratios of these estimates in the studies reviewed by Fraker.

## B. FINDINGS FROM THIS STUDY

This section first describes the linear model that we used to obtain regression estimates of the marginal effects of coupons, checks, and ordinary cash income on the money value of food used from home. We then discuss the regression estimates and the results of statistical tests of the differences among those estimates.

### 1. Model Specification

Our estimates of the marginal effects of coupons, checks, and income on food used at home are based on a linear model that incorporates what we consider the principal desirable elements of the existing models reviewed by Fraker (1990). The model is as follows:

$$(1) \quad MV_i = X_i\beta + \alpha_1CHKBEN_i + \alpha_2COUPBEN_i + \alpha_3INC_i + \alpha_4AME_i + e_i,$$

where:

$i$  = index for households ( $i = 1, \dots, 1,077$ )<sup>3</sup>

$MV$  = money value of *purchased* food used from home (Version 1), or money value of *the sum of purchased and nonpurchased* food used from home (Version 2), per ENU

$INC$  = ordinary cash income (exclusive of food stamp checks) per AME<sup>4</sup>

$COUPBEN$  = the food stamp coupon benefit amount per AME; zero for check recipient

$CHKBEN$  = the food stamp check benefit amount per AME; zero for coupon recipient

$AME$  = household size in AMEs

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<sup>3</sup>In this model, the term "household" refers to the food consumption unit (FCU), unless explicitly stated otherwise. The FCU consists of those individuals in the dwelling unit who are either covered by the sampled person's food stamp benefit or who share food and cooking facilities with the sampled person. Guests are included in the FCU in proportion to the number of meals that they eat from the household's food supply.

<sup>4</sup>In this model, ENU and AME are computed on the basis of the needs of household members and guests for food energy, as indicated by the 1989 recommended dietary allowances for food energy (National Research Council, 1989). See Chapter II, Section C.1, for additional discussion of these measures.

- $X$  = a vector of control variables--primarily demographic variables--that are described in the text below
- $e$  = a random disturbance term
- $\beta$  = a vector of parameters to be estimated
- $\alpha_1$  = the MPC out of food stamp checks; a parameter to be estimated
- $\alpha_2$  = the MPC out of food stamp coupons; a parameter to be estimated
- $\alpha_3$  = the MPC out of ordinary income; a parameter to be estimated
- $\alpha_4$  = an economies-of-scale parameter to be estimated

The  $X$  vector includes dummy variables that indicate the age, education, and race/ethnicity<sup>5</sup> of the person in whose name the household receives its food stamp benefit, as well as other dummy variables that indicate the presence in the household of children, of persons aged 60 years or older, and of a female head.<sup>6</sup> The other variables in the  $X$  vector are an intercept term and the income of persons in the dwelling unit who are not members of the FCU. The latter variable is measured on a per-AME basis. Of these variables, only the regression coefficient on the indicator of Asian race/ethnicity is different from zero at conventional levels of statistical significance. Appendix E provides the full regression results for the equation (1) model.

The dependent variable in the equation (1) model is scaled by a measure of household size in ENUs because that is the best available measure of food use relative to the needs of the household members and guests who are dependent on the household food supply. In principle, we would also like to use the ENU measure of household size on the right-hand-side of the model. However, we do not do so, because we are concerned that the proportion of meals eaten by household members away from home, which is reflected in ENU, is endogenous to the model. That is, we are concerned

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<sup>5</sup>The model includes the first three of the following four mutually exclusive indicators of race and ethnicity: (1) Asian, (2) Hispanic, (3) black (not Hispanic), and (4) white (not Hispanic) or other (not Hispanic).

<sup>6</sup>The female head variable is a dummy variable that equals one if there is either a female head and no male head, or a female head and a male head. It equals zero if there is a male head only.

that the proportion of meals eaten away from home and, hence, the ENU, may be a function of the household's income level and the form and amount of the food stamp benefit. Such endogeneity could result in biased estimates of the coefficients  $\alpha_1$  through  $\alpha_4$  in equation (1). To avoid such bias, we use the exogenous AME measure of household size on the right-hand-side of the model. The AME measure adjusts household size for the age and gender composition of FCU members, but does not adjust for the proportion of meals eaten away from home or for meals served to guests.

As indicated above, in the definition of the dependent variable, *MV*, we estimated two versions of this model. Version 1 explains the variation among households in their use of *purchased food* used at home, whereas Version 2 explains the variation in *the sum of purchased and nonpurchased food* used at home. The estimates of the marginal effects of income and food stamp benefits on the use of purchased food obtained on the basis of the Version 1 model may be compared appropriately with most existing estimates of the MPC out of income and out of food stamp benefits. On the other hand, the estimates obtained on the basis of the Version 2 model may be more appropriate for evaluating the effects of cash-out on the quality of the diets of recipient households. The latter model captures any negative effects that cash-out might have on the use of purchased food, as well as any potentially offsetting positive effects of cash-out on the use of nonpurchased food.

## **2. Estimates of the Model**

We first examine estimates of the model in equation (1) when the dependent variable is the use of purchased food used at home. We then examine estimates when the dependent variable is the sum of purchased and nonpurchased food used. We devote more attention to the former estimates, because they are more comparable to existing estimates of the effects of food stamp benefits and ordinary income on food consumption.

### **a. Results for Purchased Food**

Our estimates of the marginal propensity to consume purchased food ( $MPC_p$ ) from the household food supply out of coupons, checks, and ordinary cash income are presented in the first

three rows in the first column of Table F.1. Those estimates are based exactly on the model described in equation (1). Our estimates of the differences in the  $MPC_p$  out of coupons, checks, and income are presented in the last three rows of the first column. They are based on algebraically equivalent variants of the equation (1) model.<sup>7</sup>

We estimate that the  $MPC_p$  out of food stamp coupons is 0.277. The large t-statistic associated with this estimate (2.64) indicates that we can be highly confident that the true value of the  $MPC_p$  out of coupons is greater than zero.<sup>8</sup> This estimate is in the middle of the range of existing estimates of this relationship, as reviewed by Fraker (1990). It tells us that, for each additional dollar of food stamp benefits in the form of coupons, the use of purchased food is expected to increase by 28 cents. Our estimate of the  $MPC_p$  out of food stamp checks is 0.108. This estimate is not statistically significant. However, it indicates that the best estimate available from the data is that, for each additional dollar of food stamp benefits in the form of checks, the use of purchased food is expected to increase by 11 cents.<sup>9</sup>

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<sup>7</sup>We estimated three algebraically equivalent variants of equation (1). In the first of these, we retained *INC* and *CHKBEN*, dropped *COUPBEN*, and added *COUPBEN* + *CHKBEN*. The coefficient on *CHKBEN* is the coupon-check difference in the  $MPC_p$ . In the second variant, we retained *COUPBEN* and *CHKBEN*, dropped *INC*, and added *INC* + *COUPBEN*. The coefficient on *COUPBEN* is the coupon-income difference in the  $MPC_p$ . In the third variant, we retained *COUPBEN* and *CHKBEN*, dropped *INC*, and added *INC* + *CHKBEN*. The coefficient on *CHKBEN* is the check-income difference in the  $MPC_p$ .

<sup>8</sup>We also can be highly confident that the true value of the  $MPC_p$  is less than one.

<sup>9</sup>We considered several variants of equation (1) during preliminary analysis of the data. In general, the variants did not yield results that differed substantially from those obtained when using exactly the model specified in equation (1). However, a variant in which we expanded equation (1) to include a binary variable designating whether a household received its food stamp benefit in the form of checks or coupons did yield different results. The coefficient on this variable was -2.33, indicating that check recipients spent \$2.33 less than coupon recipients per ENU per week, without regard for the amount of the food stamp benefit. This coefficient was not statistically different from zero. In this variant of the model, the coefficient on the coupon benefit amount was 0.19 and was not significantly different from zero. The coefficient on the check benefit amount was 0.01 smaller than the coefficient on the coupon benefit amount. This difference was not statistically different from zero. We rejected this variant of equation (1) in favor of the original version for two reasons: (1) we believe that the size of the impact of cash-out on food use is related to the size of the food stamp benefit amount, and (2) we believe that the lack of statistical significance of the relevant coefficients reflects a multicollinearity problem that makes it impossible to reliably estimate this equation.

TABLE F.1

ESTIMATES OF THE EFFECTS OF COUPONS, CHECKS, AND INCOME  
ON THE MONEY VALUE OF FOOD USED AT HOME.  
BASED ON A LINEAR MODEL

	Estimated Marginal Effects on the Money Value of Food Used at Home	
	Purchased Food	Purchased and Nonpurchased Food
Coupons	0.277 <sup>††</sup> (2.64)	0.301 <sup>††</sup> (2.75)
Checks	0.108 (1.08)	0.192 <sup>††</sup> (1.84)
Ordinary Income	0.063 <sup>††</sup> (5.40)	0.065 <sup>††</sup> (5.32)
Difference: Coupons - Checks	0.170 <sup>††</sup> (2.41)	0.110 <sup>†</sup> (1.49)
Difference: Coupons - Income	- 0.214 <sup>††</sup> (2.05)	0.236 <sup>††</sup> (2.16)
Difference: Checks - Income	0.044 (0.44)	0.126 <sup>†</sup> (1.21)

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, ordinary least squares regressions.

NOTE: These estimates are based on weighted data for 536 coupon households and 541 check households.

t-Statistics are shown in parentheses.

The regression estimates presented in this table were obtained from several algebraically equivalent variants of the linear model of household food use given in equation (1). Full regression results for equation (1) are provided in Appendix E.

One-tailed statistical tests were performed on all estimated effects shown in this table.

<sup>†</sup>Statistically significant at the 90 percent confidence level, one-tailed test.

<sup>††</sup>Statistically significant at the 95 percent confidence level, one-tailed test.

Our estimates indicate that ordinary cash income also increases the use of purchased food. We estimate that an additional dollar of income causes a food stamp household to increase its use of purchased food at home by about 6 cents. Given the large t-statistic associated with this estimate, we are highly confident that the true  $MPC_p$  out of income is positive.

On the basis of the estimates presented in Table F.1, we are able to test six different hypotheses about the marginal effects of coupons, checks, and income on the use of purchased food at home. Table F.2 presents the formal specifications and empirical outcomes of those tests. Here, we briefly recapitulate in somewhat less formal terminology the conclusions that can be drawn from the tests:

- Test #1:** Coupons increase the use of purchased food.
- Test #2:** Checks increase the use of purchased food.
- Test #3:** Ordinary cash income increase the use of purchased food.
- Test #4:** The effect of coupons on the use of purchased food is greater than that of checks.
- Test #5:** The effect of coupons on the use of purchased food is greater than that of ordinary cash income.
- Test #6:** Our estimates are not sufficiently precise to permit us to conclude that the effect of checks on the use of purchased food is greater than that of ordinary cash income.

With respect to the fundamental objective of this evaluation--to determine whether cash-out has a negative effect on food consumption--Test #4 is the most important test. The results of Test #4 tell us that, in San Diego County, cash-out entails a significant loss in the marginal effectiveness with which food stamp benefits increase the use of purchased food at home. Indeed, our estimates imply that cash-out reduces the marginal effectiveness with which food stamp benefits increase the use of purchased food at home by 61 percent.<sup>10</sup> With regard to Test #2, our estimates are not sufficiently precise to permit us to conclude that checks increase the use of purchased food.

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<sup>10</sup>The estimated 61 percent reduction in the marginal effectiveness of food stamp benefits is based on the estimates of the  $MPC_p$  out of coupons and out of checks in Table F.1:  $(0.277 - 0.108)/0.277 = 0.61$ .

TABLE F.2

RESULTS OF TESTS OF HYPOTHESES ON THE EFFECTS OF COUPONS, CHECKS,  
AND INCOME ON THE MONEY VALUE OF FOOD USED AT HOME

	Test Results for the Money Value of Food Used at Home	
	Purchased Food	Purchased and Nonpurchased Food
<b>Test #1</b>		
Null hypothesis: MPC coupons = 0	Reject null <sup>††</sup>	Reject null <sup>††</sup>
Alt. hypothesis: MPC coupons > 0		
<b>Test #2</b>		
Null hypothesis: MPC checks = 0	Do not reject null	Reject null <sup>††</sup>
Alt. hypothesis: MPC checks > 0		
<b>Test #3</b>		
Null hypothesis: MPC income = 0	Reject null <sup>††</sup>	Reject null <sup>††</sup>
Alt. hypothesis: MPC income > 0		
<b>Test #4</b>		
Null hypothesis: MPC coupons = MPC checks	Reject null <sup>††</sup>	Reject null <sup>†</sup>
Alt. hypothesis: MPC coupons > MPC checks		
<b>Test #5</b>		
Null hypothesis: MPC coupons = MPC income	Reject null <sup>††</sup>	Reject null <sup>††</sup>
Alt. hypothesis: MPC coupons > MPC income		
<b>Test #6</b>		
Null hypothesis: MPC checks = MPC income	Do not reject null	Do not reject null
Alt. hypothesis: MPC checks > MPC income		

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, ordinary least squares regressions.

NOTE: Test results are based on regression estimates provided in Table F.1

MPC = marginal propensity to consume.

<sup>†</sup>Null hypothesis rejected at the 90 percent confidence level.

<sup>††</sup>Null hypothesis rejected at the 95 percent confidence level.

In the context of the existing research on the effects of check and of coupon benefits on household food consumption, Test #6 also is of considerable interest. As noted previously, most studies on this topic necessarily have been based on data sets that provide no information on actual recipients of food stamp checks. Therefore, researchers have had to infer what the effects of checks would be on the basis of estimates of the effects of ordinary cash income on food use. With considerable uncertainty, the researchers have assumed that check benefits would have approximately the same effect on food use as would ordinary cash income. The results of Test #6 do not permit us to conclude with confidence that this assumption is incorrect.

**b. Results for the Sum of Purchased and Nonpurchased Food**

The money value of all food used at home--both purchased food and nonpurchased food--per ENU is a better indicator of a household's nutritional well-being than is the more restricted measure based on purchased food only. In this section, we examine our estimates of the marginal effect of coupons, checks, and income on this broader measure of food use. Although the results are not fundamentally different from those just discussed, some of the differences between the two sets of

income, when compared with the corresponding estimates for purchased food, is that the estimate for checks is larger with the broader measure of food use. For checks, Table F.1 shows that the estimate of the  $MPC_{p+np}$  is 0.192, whereas the estimate of the  $MPC_p$  is 0.108. The estimate of the  $MPC_{p+np}$  out of checks and the estimate of the  $MPC_{p+np}$  out of coupons imply that cash-out reduces the marginal effectiveness with which food stamp benefits increase the money value of all food used at home by 36 percent.<sup>11</sup>

### C. RECONCILIATION OF MPC ESTIMATES AND DIFFERENCE-IN-MEANS ESTIMATES

The difference-in-means estimates presented in Chapter III showed that food stamp cash-out in San Diego County reduces the money value of food used at home by about 7 percent for purchased food and by about 5 percent for the sum of purchased and nonpurchased food.<sup>12</sup> The regression estimates of equation (1) that we have just reviewed indicate that cash-out reduces the marginal effectiveness with which food stamp benefits increase the money value of food used at home by 61 percent for purchased food, and by 36 percent for the sum of purchased and nonpurchased food. In this section, we explain why these disparate sets of estimates may be consistent with each other.

Reconciling the two sets of estimates of cash-out effects requires a knowledge of two facts regarding San Diego County households that receive food stamp benefits. First, food stamp benefits do not represent a large percentage of the monthly economic resources of those households. The average food stamp household in San Diego County receives about \$995 per month in income and food stamp benefits, of which only about \$117, or 12 percent, are food stamp benefits. California's high AFDC guarantee amount is the principal reason why cash income is high and food stamp benefit

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<sup>11</sup>The estimated 36 percent reduction in the marginal effectiveness of food stamp benefits is based on the estimates of the  $MPC_{p+np}$  out of coupons and out of checks in Table F.1:  $(0.301 - 0.192) / 0.301 = 0.36$ .

<sup>12</sup>The simple difference-in-means estimates imply negative cash-out effects on the money value of food used at home of 6.8 percent for purchased food and 4.5 percent for the sum of purchased and nonpurchased food. With the regression-adjusted difference-in-means estimates, the corresponding implied reductions are slightly larger: 7.1 percent for purchased food and 5.3 percent for the sum of purchased and nonpurchased food.

amounts are low for food stamp recipients in San Diego County, 89 percent of whom receive AFDC benefits. Second, at \$286 for purchased food and \$303 for the sum of purchased and nonpurchased food, the monthly money value of food used at home by food stamp households in San Diego exceeds the average value of their food stamp benefits by about 2.6-to-1. These two facts establish the point that, although food stamp benefits provide a critical margin of economic well-being, they are a relatively small element in the economic lives of food stamp households in San Diego County. Of course, this statement is true only on average; in many households, food stamp benefits are very important.

If a transfer program is not a major determinant of the economic status of its participants, then a nonexpansionary change in that program is unlikely to have a large impact on the economic status of the program participants. In the case of the FSP in San Diego, even if we were to make the extreme assumption that every dollar of food coupons generates a dollar's worth of food use that would not otherwise occur, the *elimination* of the program would result in a reduction in food use of "only" 39 percent for the sum of purchased and nonpurchased food (\$117/\$303). This value represents the theoretical upper bound on the impact of any nonexpansionary change in the FSP, including cash-out, on the use of food at home by food stamp recipients in San Diego.

Our difference-in-means estimates in Chapter III show that cash-out is estimated to have reduced the use of purchased food at home by food stamp recipients in San Diego County by 7 percent. This reduction in the total use of food at home is modest, but it is roughly one-fifth of the theoretical upper bound on the full effect of the FSP.

Recognizing that the difference-in-means results and the results obtained through the regression analysis of the model in equation (1) answer two different, but related, questions, gives a slightly different perspective on the reconciliation of the two sets of estimates of cash-out effects. The descriptive results answer the question, "How has cash-out in San Diego affected the use of food at home?" The equation (1) regression results answer the question, "How has cash-out in San Diego

affected the impact of food stamp benefits on the use of food at home?" The relationship between the answers to these two questions is a function of the importance of food stamp benefits in the economic lives of program participants in San Diego. The answers converge or diverge to the extent that food stamp benefits are more or less important in the economic lives of participants. We have seen that the answers to the two questions are, in fact, quite divergent. This finding is to be expected, given that food stamp benefits are, on average, a small proportion of the resources available to FSP participants in San Diego and also are small relative to the money value of food used.

**APPENDIX G**

**CASH-OUT AND THE HOMELESS**

Homeless persons comprise approximately 6 percent of food stamp cases in San Diego County. Because the situations and needs of the homeless are quite different from those of the rest of the food stamp population, we report the results of interviews of the homeless separately in this appendix, rather than including them in the tabulations presented in the main text.

Many parts of the data collection instrument could be applied to the homeless, including those pertaining to food adequacy, food shopping patterns, attitudes toward cash-out, and experiences in cashing food benefit checks. However, we omitted some topics from the interviews, particularly the long module detailing food used at home during the seven days preceding the survey, because they were not conceptually applicable to the homeless population.

We base the analysis reported in this appendix on interviews of 83 homeless food stamp recipients who were randomly selected when they picked up their food stamp benefits at their local welfare offices. We conducted the interviews at two offices, one of which is an inner-city office serving primarily a General Assistance Program clientele and accounting for approximately one-half of all homeless food stamp households in San Diego. The other is a local welfare office in a town in the northwestern part of San Diego County, some distance from San Diego City.

#### **A. HOUSEHOLD CHARACTERISTICS**

The average household size in the sample of homeless persons is about 1.2 persons for check households and 1.4 persons for coupon households (Table G.1).<sup>1</sup> This finding indicates that most of the homeless food stamp cases in the sample consisted of single individuals. None of the cases included an elderly person, and fewer than 15 percent included children.

Most of the homeless were male, unmarried, and unemployed. Roughly 60 percent were older than 35 years of age, and about 70 percent were high school graduates. Whites and blacks were the

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<sup>1</sup>This difference is not statistically significant. Because the sample size for homeless households is relatively small and because homeless check and coupon households tend to be similar, most of the observed differences between check and coupon cases are not statistically significant. Any exceptions are noted in the text.

TABLE G.1  
 DEMOGRAPHIC CHARACTERISTICS OF HOMELESS HOUSEHOLDS  
 (Percentage of Households)

	Mean Value		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
<b>Number of Persons in the FCU</b>	1.24	1.36	-0.11	-8.09	-0.62
<b>Composition of the FCU</b>					
Contains Elderly	0.00	0.00	0.00	0.00	0.00
Contains Children	4.88	14.29	-9.41	-65.85	-1.46
<b>Characteristics of the Sampled Person</b>					
Female	14.63	21.43	-6.79	-31.68	0.80
Married	17.07	16.67	0.41	2.46	0.05
Employed	4.88	2.38	2.50	105.04	0.60
Less Than 35 Years Old	43.90	42.86	1.05	2.45	0.09
<b>Education</b>					
Did not complete elementary school	7.32	2.38	4.94	207.56	1.04
Completed elementary school	24.39	26.19	-1.80	-6.87	0.19
Completed high school	68.29	71.43	-3.14	-4.40	0.31
<b>Race and Ethnicity</b>					
Asian	0.00	0.00	0.00	0.00	0.00
Hispanic	14.63	7.14	7.49	104.90	1.09
Black (not Hispanic)	46.34	54.76	-8.42	-15.38	0.76
White (not Hispanic)	36.59	35.71	0.87	2.44	0.08
Other	2.44	2.38	0.06	2.52	0.02
<b>Sample Size</b>	41	42			

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, unweighted tabulations.

NOTE: None of the differences is statistically significant with a 90 percent two-tailed test.

FCU = food consumption unit.

predominant ethnic groups in the sample, although Hispanics were substantially represented, as well. No Asians were represented.

Fewer than 10 percent reported having any earned income in the month preceding the interview (Table G.2). Similarly, fewer than 15 percent reported receiving Aid to Families with Dependent Children (AFDC) benefits. However, the majority reported receiving other forms of public assistance, most commonly General Assistance.

## **B. FOOD ADEQUACY**

As noted in the introduction to this appendix, although we did not collect data on the food actually used by the homeless during the week preceding the interview, we were able to ask questions about the adequacy of the food available in the preceding month. These results are reported in this section.

Roughly 61 percent of homeless check recipients and 45 percent of homeless coupon recipients reported having enough food in the month preceding the interview, although substantial numbers in both groups indicated that they had not always had the *types* of food that they wanted (Table G.3).

Slightly more check recipients than coupon recipients (78 percent versus 74 percent) indicated that there had been days in the previous month when they had had no food or resources to buy food. Surprisingly, however, as with the nonhomeless recipients, homeless check recipients were less likely than homeless coupon recipients to skip meals due to a the lack of food. The difference between the check recipients and coupon recipients is substantial (49 percent versus 71 percent) and statistically significant.

Check households were more likely than coupon households to use food pantries or food banks (27 percent versus 14 percent), but the difference is not significant. As expected, considerable numbers of homeless respondents (between 65 percent and 70 percent) reported using soup kitchens, but there were no substantial differences between homeless check recipients and homeless coupon recipients.

TABLE G.2

ECONOMIC CHARACTERISTICS OF HOMELESS CHECK AND  
COUPON HOUSEHOLDS

	Mean Value		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
Monthly Cash Income of FCU	\$249.29	\$184.17	65.12	35.36	1.45
Percent Receiving Earned Income	9.76	2.38	7.38	310.08	1.40
Percent Receiving AFDC	4.88	14.24	-9.36	-65.73	1.46
Percent Receiving Other Public Assistance	78.05	64.29	13.76	21.40	1.38
Monthly Food Stamp Benefits of FCU	\$76.88	\$79.67	-2.79	-3.50	0.44
Ratio of Monthly Food Stamp Benefit to Monthly Cash Income Plus the Food Stamp Benefit	34.37	47.37	-13.00	-27.44	-1.81*
Sample Size	41	42			

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, unweighted tabulations.

NOTE: Monthly cash income figures exclude cash Food Stamp Program benefits.

Two-tailed statistical tests were performed on all differences shown in this table.

FCU = food consumption unit; AFDC = Aid to Families with Dependent Children.

\*Statistically significant at the 90 percent confidence level, two-tailed test.

TABLE G.3

HOMELESS RECIPIENTS' PERCEPTIONS OF ADEQUACY  
OF HOUSEHOLD FOOD SUPPLY  
(Percentage of Households)

	Mean Value		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
<b>Adequacy of Food Eaten During Past Month</b>					
Enough of types of food we want to eat	14.63	7.14	7.49	104.90	1.09
Enough, but not always types we want to eat	46.34	38.10	8.25	21.65	0.75
Sometimes not enough	24.39	33.33	-8.94	-26.82	0.89
Often not enough	14.63	19.05	-4.41	-23.15	0.53
<b>Any Days HH Without Food or Resources During Past Month?</b>					
Yes	78.05	73.81	4.24	5.74	0.45
<b>Any HH Member Skip Meals Due to Inadequate Food or Resources During Past Month?</b>					
Yes	48.78	71.43	-22.65	-31.71	2.14**
<b>Got Food at Food Bank, Food Pantry, or a Church</b>					
	26.83	14.29	12.54	87.75	1.41
<b>Ate Once or More Meals at a Church Soup Kitchen, or Senior Center</b>					
	65.85	69.05	-3.19	-4.62	0.31
Sample Size	41	42			

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, unweighted tabulations.

NOTE: Two-tailed significance tests were performed on all differences shown in this table.

"Past month" is the month preceding the survey.

HH = household.

\*\*Statistically significant at the 95 percent confidence level, two-tailed test.

### C. TYPES OF STORES AT WHICH FOOD IS BOUGHT AND SHOPPING PATTERNS

Homeless cash and coupon recipients do not differ significantly in the types of stores at which they buy food or in their reported shopping patterns. However, because the comparative food shopping experiences of the *homeless* and the *nonhomeless* recipients do differ, we present them in this section.

As reported in Chapter IV, more than 95 percent of nonhomeless recipients use supermarkets to buy at least some of their food. In contrast, only about 70 percent of the homeless shop at supermarkets. The homeless compensate by making greater use of other types of food stores; more than 50 percent reported using each of the other store categories asked about in the survey (grocery stores, convenience stores, and specialty shops). The percentages of the homeless using these other types of store are somewhat greater than those of the nonhomeless population.

The numbers of trips that the homeless reported making to the various types of food stores during the month preceding the interview are uniformly higher than the corresponding numbers for the nonhomeless. This finding suggests that the homeless are buying their food in much smaller quantities, which, given a lack of food-storage facilities, is not surprising.

### D. ATTITUDES TOWARD CASH-OUT

In general, the homeless reported attitudes toward cash-out that were similar to those expressed by the nonhomeless sample (data not shown). The most commonly cited advantage of checks was that they could be used to purchase nonfood items (Table G.4). Their convenience and the greater choice of food stores at which they could be used also were frequently mentioned. Fewer homeless respondents than nonhomeless respondents cited any perceived disadvantages of checks. The disadvantage cited most frequently by those who mentioned any disadvantage was that checks did not ensure benefits were spent on food.

The advantages and disadvantages reported for coupons tended to mirror those mentioned for checks. The most commonly mentioned advantage was that coupons ensure that benefits are spent

TABLE G.4

ATTITUDES OF HOMELESS RECIPIENTS TOWARD CHECKS AND COUPONS  
(Percentage of Homeless Giving Responses)

Most Common Response to Question:	Check Recipients	Coupon Recipients
<b>What Is Good About Checks?</b>		
Can be used for item other than food	41.5	52.4
More choice of food stores	14.6	23.8
More convenient	14.6	7.1
<b>What Is Bad About Checks?</b>		
Do not make sure benefits are spent on food	14.6	35.7
Less control over household budgeting	7.3	4.8
<b>What Is Good about Coupons?</b>		
Make sure benefits are spent on food	29.3	50.0
Give more control over household budgeting	7.3	4.8
<b>What Is Bad about Coupons?</b>		
Can not be used for items other than food	41.5	35.7
Fewer choices of food stores	19.5	31.0
Feel embarrassed	4.9	11.9
Sample Size	41	42

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, unweighted tabulations.

on food, and the most commonly mentioned disadvantage was that coupons could not be spent on nonfood items.

#### **E. CHECK-CASHING EXPERIENCES**

Most homeless check recipients appear to have found suitable ways to cash their checks: only 5 percent reported having had problems with the check-cashing process (Table G.5). Approximately 41 percent of the homeless cashed their checks at supermarkets or other food stores, and another 29 percent went to check-cashing agencies. Other recipients used nonfood stores, banks, or other check-cashing facilities.

Fewer than 15 percent of the respondents were required to make a store purchase to cash their checks, although most (71 percent) reported having to pay a check-cashing fee. The average fee for those having to pay a fee was \$0.55.

#### **F. SUMMARY**

Overall, the experiences of the homeless with cash-out appear to be similar to those observed in the nonhomeless population. Check recipients do not tend to report having less adequate food supplies than coupon recipients; indeed, if anything, the contrary is true. In addition, the homeless and the nonhomeless tend to cite similar advantages and disadvantages of checks and coupons. Most of the homeless were able to cash their food checks with relatively few problems and paid either no fees or fees of \$1.00 or less.

TABLE G.5

**CHECK-CASHING EXPERIENCES OF HOMELESS CHECK RECIPIENTS**  
(Percentage of Households)

	All Check Households
<b>Place Where Checks Are Usually Cashed</b>	
Supermarket or grocery store	39.0
Other food store	2.4
Nonfood store	17.1
Bank	9.8
Check-cashing service	29.3
Other	2.4
<b>Were There Problems Cashing Check?</b>	
Yes	5.0
No	95.0
<b>Was Purchase Required to Cash Check?<sup>a</sup></b>	
Yes	12.0
No	88.0
<b>Was a Fee Charged to Cash Check?</b>	
Yes	70.7
No	29.3
<b>Fee Paid to Have Checks Cashed</b>	
\$0.01 to \$1.00	78.6
\$1.01 to \$2.00	7.1
\$2.01 to \$5.00	14.3
Mean for those paying a fee (dollars)	0.55
<b>Sample Size</b>	<b>41</b>

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, unweighted tabulations.

<sup>a</sup>Includes only households that cashed checks at retail stores.

**APPENDIX H**

**EFFECTS OF CASH-OUT ON FOOD AND NONFOOD EXPENDITURES, BASED ON  
DATA FROM THE SCREENER AND HOUSEHOLD SURVEY**

As noted in the body of the report, two different measures of household expenditures for food used at home are available in the survey data set. One measure is based on information from the very detailed food-use section of the main questionnaire, in which we used detailed probes to obtain information on all food items used by the household in the seven days preceding the survey. We obtained the measure of monthly expenditures for food used at home based on these data by summing the prices times quantities used over all purchased food items reported by the household and by multiplying that sum by 4.3 (the number of weeks in a month).

The screener instrument provides a completely independent measure of monthly expenditures for food at home. In the screener, we asked households to estimate the amount of money that they had spent during the previous month in each of four types of food stores: (1) supermarkets, (2) neighborhood grocery stores, (3) convenience stores, and (4) specialty stores. We also asked the households how much of that money had been devoted to nonfood expenditures, thus enabling us to derive a monthly estimate of expenditures for food used at home.

The two sources of survey data on monthly expenditures for food used at home are not consistent with each other. We were most concerned that the average monthly expenditures for food used at home based on the data from the screener are lower than those based on the data from the main questionnaire. According to the main questionnaire, the estimated average monthly expenditure for food used at home per household is \$286, whereas the estimate from the screener data is \$193, approximately 30 percent lower.<sup>1</sup>

To assess the divergent expenditure estimates from the survey, we compared them with two alternative sources of information about food expenditures of low-income households. The two findings from the *monthly money value of purchased food used at home*, which is based on information

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<sup>1</sup>The correlation coefficient between the two measures of expenditures is .5, implying that the two are very significantly correlated with each other, but that each has considerable independent variation. However, because the reference periods covered by the two measures are different, there is no reason to expect that these variables would be correlated fully, even if measurement error were not an issue. Thus, in our judgement, the difference in the means between the two measures is of more concern than is the lack of a greater degree of correlation.

sources were: (1) detailed food-use data collected during the 1979-1980 low-income supplement to the Nationwide Food Consumption Survey (NFCS), and (2) detailed consumer-diary data compiled as part of the 1988-1989 Consumer Expenditure Survey that was conducted by the U.S. Department of Labor, Bureau of Labor Statistics (BLS). When making the comparisons, we used the "Food at Home" component of the Consumer Price Index (CPI) to adjust all dollar values related to food to reflect 1990 prices. We discuss the results in the following paragraphs.

As shown in Table H.1, after adjusting for price inflation, the estimate from the 1979-1980 Supplement to the NFCS of the value of food used at home by low-income households is \$360 per month. The comparable estimate from the San Diego main questionnaire is \$303. (No San Diego screener data are available for this measure.) Thus, the estimates obtained in the main questionnaire are not "high" relative to similar data obtained during the 1979-1980 NFCS.<sup>2</sup>

The BLS did not collect data on nonpurchased food. Therefore, to develop comparisons on the basis of the BLS data, it is necessary to narrow the focus to include only expenditures for food used at home.<sup>3</sup> These data are presented in the second line of Table H.1. The BLS expenditure estimate (\$266) is lower than both the main questionnaire and the screener estimates (\$286 and \$193, respectively). However, the BLS figure is closer to that of the main instrument.

Considering all of the information presented in Table H.1 together, the available evidence provides support for the proposition that the main instrument data are the more accurate. Both the

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<sup>2</sup>We also examined the data from the 1977-1978 NFCS and observed patterns similar to those reported in the text with regard to the 1979-1980 data. Both data sets were also examined on a "per-household-member" basis, and, again, the basic results were not substantially affected.

<sup>3</sup>The BLS estimate was computed on the basis of detailed expenditures estimates that were broken down by the number of persons in the household and by income group. We computed a weighted average of the detailed BLS expenditures for each of these groupings, with the weights reflecting the proportions of households in the size and income categories among households in the San Diego sample. See footnote a of Table H.1 for details on the computation of the BLS estimate. We inflated the BLS data by a factor of 1.087 to account for changes in the relevant component of the CPI between January 1989 and June 1990.

TABLE H.1  
 FOOD-EXPENDITURE ESTIMATES FROM ALTERNATIVE SOURCES  
 (In Dollars)

	1979-1980 Nationwide Food Consumption Survey <sup>a</sup>	1988-1989 Consumer Expenditure Survey <sup>b</sup>	San Diego Main Questionnaire <sup>c</sup>	San Diego Screener
Value of Food Used at Home per Household per Month	\$360	NA	\$303	NA
Expenditures for Food Used at Home per Month	NA	\$266	\$286	\$193

<sup>a</sup>Based on U.S. Department of Agriculture, Human Nutrition Information Service, 1982. The estimate is from Table 2, for Food Stamp Program participants in the West. The estimate was inflated by a factor of 1.555 to account for changes in the Consumer Price Index for Food at Home between the time of the data collection and 1990. The weekly estimate in the table was multiplied by 4.3 to convert to a monthly basis.

<sup>b</sup>Based on U.S., BLS, 1991. The BLS estimate was computed on the basis of detailed expenditures estimates broken down by number of persons in the household, which appear in Tables 33-39 of U.S., BLS, 1991. These tables give average expenditures for food at home, by size of household by income group. A weighted average of the detailed BLS expenditures for each of these groupings was computed, with the weights reflecting the proportions of households in the size and income categories among households in the San Diego sample. (The BLS estimates were computed by summing "food at home" plus 54 percent of "alcoholic beverages," on the basis of unpublished estimates provided to us by the BLS, that 54 percent of alcoholic beverage expenditures are for purchases consumed at home.) We also adjusted the BLS estimates by a factor of 15.2 percent to account for the fact that, as shown in Table 8 of U.S., BLS, 1991, average expenditures in the BLS data are 15.2 percent higher in the West than in the nation as a whole. We inflated the BLS data by a factor of 1.087 to account for changes in the relevant component of the Consumer Price Index between January, 1989 and June, 1990.

<sup>c</sup>Based on the average of check and coupon households.

NA = not available.

NFCS-based estimates and the BLS-based estimates are more consistent with the data from the main survey instrument.<sup>4</sup>

To further assess the likely accuracy of the data from the main questionnaire relative to the data from the screener, we also considered the nature of the questioning sequences in the two instruments. The main questionnaire used a much more detailed questioning sequence and a shorter reference period than did the screener. In addition, in the main questionnaire, unlike the screener, respondents were asked in advance to keep records. Thus, the recall aids used to administer the main questionnaire were much more extensive than those used in the screener. Given these differences, it does not seem surprising that more expenditures would be reported in the main questionnaire data, and it appears likely that the main questionnaire data are the more accurate.

Overall, considering the comparisons of estimates based on the data sources and the nature of the survey questions, we believe that the data from the main questionnaire are likely the more accurate. Therefore, the results presented in the main body of the report are based on the data from the main questionnaire. However, to provide complete information about the research findings, we conducted a second set of analyses of the impact of cash-out on food and nonfood expenditures, based on the screener data. Chapter IV presented the findings obtained from the main questionnaire.

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<sup>4</sup>In addition to obtaining diary information on food expenditures, the BLS Consumer Expenditure Survey data collection process also obtains a second measure of food expenditures, one based on summary survey questions similar to those in our screener. Similarly, the NFCS collects data by using summary questions, as well as by collecting the detailed food-use data on which their main expenditures estimates are based. However, the researchers carrying out these two data collection efforts appear to believe that data based on detailed data collection (either the diary, in the case of the BLS, or the food-use grids, in the case of the NFCS) are likely to be more accurate than data from the summary questions, because the available published estimates from both the BLS and the NFCS are based on the detailed data. Although *published* data from these other data collection

efforts are not available, we have used available unpublished information to conduct some analyses of the screener-type data. The results show no clear pattern with regard to whether screener-type questions or more detailed questions lead to higher expenditure estimates. In unpublished tabulations of a sample of households from the 1979-1980 low-income supplement of the NFCS, MPR found that

The remainder of this appendix presents the findings based on the second measure, *monthly expenditures for food from stores*, which comes from the screener.

The estimates of the impacts of the demonstration on food expenditures differ substantially, depending on which measure of food expenditures is used. Evidence based on data from the main questionnaire suggests only that cash-out significantly reduced expenditures for food used at home (see Chapter IV, Table 2). Moreover, because the reduction was not offset by an increase in expenditures for food used away from home, cash-out reduced total expenditures for food. On the other hand, evidence from the screener suggests that check households spent more--not less--than coupon households for food used at home and for total food expenditures, although neither difference is statistically significant.

For reasons summarized above, we believe that the data from the main instrument are probably more accurate. However, to provide a full overview of the survey findings, the report includes results based on both measures of food expenditures.

The material below is organized into two sections. Section A uses data from the screener and the household survey to describe the findings on the impact of cash-out on expenditures for food used at home, on total expenditures for food, and on food and nonfood expenditure shares. Section B uses data from the screener to present findings on the impact of cash-out on recipient purchasing patterns.

#### **A. IMPACTS ON EXPENDITURES**

This section uses data from the screener and the main instrument to discuss the impact of cash-out on expenditures for food used at home, on total expenditures for food, and on broad categories of nonfood expenditures.

### **1. Expenditures for Food Used at Home**

Data from the screener imply that check households did not spend less than coupon households for food used at home. Table H.2 shows that check households reported spending an average of \$5.31 more than did coupon households (\$196.53 versus \$191.22), although the difference is not statistically significant. Controlling for household size and composition, check households spent \$3.66 more per month per adult male equivalent (AME) than did coupon households (\$89.53 versus \$85.88). This difference is not statistically significant.

### **2. Total Expenditures for Food**

Total expenditures for food, which is the sum of expenditures for food purchased from stores, as obtained from the screener, and of expenditures for food used away from home, as obtained from the main questionnaire, were higher (not lower) for check households than for coupon households. Check households spent \$222.66 per month, whereas coupon households spent \$218.61 per month (Table H.2). This difference of \$4.05 per month is not statistically significant. Adjusting for household size and composition, check households spent \$1.82 more per month per AME, but the difference is not statistically significant.

### **3. Food and Nonfood Expenditure Shares**

On the basis of the amount spent at stores obtained from the screener as the measure of expenditures for food used at home, both check and coupon households allocated about 26 percent of their monthly expenditures to food (Table H.3). Note that, when this measure is used, the expenditure share for all food for check and coupon households is, respectively, about 6 and 8 percentage points smaller than that obtained when the money value of purchased food used at home (from the main questionnaire) is used as the measure; as the discussion in Chapter IV indicates, this difference reflects the lower food-expenditures estimate from the screener.

TABLE H.2

MONTHLY EXPENDITURES FOR FOOD USED AT HOME AND  
FOOD USED AWAY FROM HOME

Measure of Food Expenditure	Mean Value		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
<b>Food Used at Home</b>					
Expenditure for food used at home (per household)	\$196.53	\$191.22	5.31	2.78	0.74
Expenditure for food used at home (per AME)	\$89.53	\$85.88	3.65	4.26	1.41
Percent of total food expenditures for food used at home	89.96	89.47	0.49	0.56	0.50
Percent of meals eaten at home	85.27	84.88	0.39	0.46	0.46
<b>Food Used Away from Home</b>					
Expenditure for food used away from home (per household)	\$25.92	\$28.53	-2.61	-9.15	0.82
Expenditure for food used away from home (per AME)	\$12.88	\$14.95	-2.07	-13.78	1.26
Percent of total food expenditures for food used away from home	10.04	10.53	-0.49	-4.75	0.50
Percent of meals eaten away from home	14.73	15.12	-0.39	-2.65	0.46
<b>Total Expenditures for Food</b>					
Sum of expenditures for food used at home and for food used away from home (per household)	\$222.66	\$218.61	4.05	1.85	0.50
Sum of expenditures for food used at home and for food used away from home (per AME)	\$102.58	\$100.76	1.82	1.81	0.56
<b>Sample Size</b>	542	536			

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: One-tailed statistical tests were performed on all check-coupon differences shown in this table. Data are from the main questionnaire and screener.

AME = adult male equivalent.

TABLE H.3  
EXPENDITURE SHARES, BY BROAD CONSUMPTION CATEGORY  
(Percentages)

Budget Category	Share of Total Expenditures		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
All Food	26.29		0.24	0.92	0.34
Food used at home	23.55	22.91	0.64	2.79	0.95
Food used away from home	2.75	3.14	-0.39	-12.74	1.27
Housing	47.65	47.49	0.16	0.34	0.14
Utilities	8.31	7.88	0.43	5.46	0.94
Medical	0.93	0.49	0.44	89.80	2.32 <sup>††</sup>
Transportation	6.96	7.17	-0.21	-2.93	0.37
Clothing	4.37	4.87	-0.50	-10.27	1.25
Education	0.56	0.36	0.20	55.56	1.61 <sup>†</sup>
Dependent Care	0.69	0.95	-0.26	-28.42	1.12
Recreation	2.52	2.83	-0.31	-10.95	1.08
Personal Items	1.73	1.91	-0.18	-8.90	1.35
Total	100.00	100.00			
Sample Size	542	536			

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: One-tailed statistical tests were performed on all check-coupon differences shown in this table. Data are from the main questionnaire and screener.

<sup>††</sup>Statistically significant at the 95 percent confidence level, one-tailed test.

For the nine nonfood expenditure categories, in only one case--medical expenses--is the mean expenditure share of check households significantly larger than that of coupon households at the 95 percent confidence level, with a one-tailed test. Check households allocated 0.44 percentage points more of their expenditures to medical expenses than did coupon households (0.93 versus 0.49 percentage points). Check households allocated 0.20 percentage points more of their expenditures to education than did coupon households (0.56 versus 0.36 percentage points); the difference is marginally significant.

## **B. IMPACTS ON FOOD-PURCHASING PATTERNS**

Respondents were asked in the screener to report the total amount that the household spent at each type of store (supermarkets, neighborhood grocers, convenience stores, and specialty stores) and then to report the amount that was spent for nonfood items. Thus, we obtained the amount that households spent for food at each type of store by subtracting the amount spent for nonfood items from the total amount spent. We obtained the total amount spent for food by summing up the amounts spent for food across the four categories of stores.

The next two subsections discuss findings based on data from the screener interview on check-coupon household differences in purchasing patterns. The first subsection discusses differences in the amounts spent for food, by type of store. The second subsection discusses differences in the proportion of food expenditures spent at the various types of stores.

### **1. Expenditures for Food from Stores, by Type of Store and per Trip**

Examining amounts spent by households for food, by type of store, reveals that check and coupon households differed significantly in the amounts spent at specialty stores only. Check households spent an average of \$5.37 more at specialty stores than did coupon households (\$15.12 versus \$9.75); this difference is statistically significant at the 95 percent confidence level, with a two-tailed test (Table H.4).

Across all stores, check households spent \$1.24 less per shopping trip than did coupon households (\$23.34 versus \$24.58 per trip), but this difference is not statistically significant. The only statistically significant difference between check and coupon households in expenditures per trip, by type of store, was for expenditures per trip to supermarkets. Check households spent about \$4 less per shopping trip to supermarkets (\$41.34 versus \$45.10 per trip). This difference is statistically significant at the 90 percent level, with a two-tailed test. Check and coupon households did not differ substantially in the amounts spent per shopping trip at any other type of store.

## **2. Expenditure Shares, by Type of Store**

Another way to look at expenditures for food, by type of store, is in terms of expenditure shares, where an expenditure share is the proportion of all reported expenditures for food used at home that was spent at a particular type of store. Table H.4 shows that, for every dollar spent for food, both check and coupon households spent roughly 80 cents at supermarkets, roughly 10 cents at neighborhood grocery stores, and roughly 5 cents each at specialty stores and at convenience stores.

Expenditures for food at specialty stores as a percent of total food expenditures was 1.69 percentage points larger for check households than for coupon households; this difference is statistically significant at the 95 percent confidence level, with a two-tailed test. Expenditures at supermarkets accounted for about 80 percent of the total food expenditures of check households, compared with 82 percent for coupon households. This difference is statistically significant at the 90 percent confidence level, with a two-tailed test.

## **3. Summary**

To summarize the findings on purchasing patterns, check households spent approximately \$5 more than coupon households at specialty stores; this difference is statistically significant. Controlling for the number of trips, check households spent about \$4 less per shopping trip at supermarkets; however, this difference is only marginally statistically significant. Check and coupon households did

TABLE H.4  
EXPENDITURE PATTERNS FOR FOOD USED AT HOME

	Mean Value		Difference in Means		
	Check	Coupon	Absolute	Percentage	t-Statistic
<b>Expenditures for Food Past Month (dollars)</b>					
Supermarket	154.43	154.83	-0.40	-0.26	0.07
Neighborhood grocery store	19.26	16.77	2.49	14.79	1.09
Convenience store	7.38	8.73	-1.35	-15.46	1.12
Specialty store	15.12	9.75	5.37	55.08	2.36**
All stores	196.18	190.08	6.10*	3.21	0.85
<b>Expenditures for Food Past Month per Trip (dollars)</b>					
Supermarket	41.34	45.10	-3.76	-8.34	1.76*
Neighborhood grocery store	10.28	8.69	1.59	18.30	1.33
Convenience store	4.55	4.83	-0.28	-5.80	0.42
Specialty store	15.86	14.96	0.90	6.08	0.44
All stores	23.34	24.58	-1.24	-5.04	0.91
<b>Expenditure Share, by Type of Store (percent)</b>					
Supermarket	79.70	82.21	-2.51	-3.05	1.88*
Neighborhood grocery store	10.14	8.73	1.41	16.15	1.33
Convenience store	3.83	4.43	-0.60	-13.54	1.13
Specialty store	6.33	4.63	1.70	36.50	2.21**
<b>Sample Size</b>	542	536			

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: Two-tailed statistical tests were performed on all check-coupon differences shown in this table.

"Past month" is the month preceding the screener.

\*This result is inconsistent with data from the main questionnaire. See the text of the report for a discussion of the difference.

\*Statistically significant at the 90 percent confidence level, two-tailed test.

\*\*Statistically significant at the 95 percent confidence level, two-tailed test.

not differ in the amounts spent per shopping trip at any other store type. Check and coupon households differed in the proportion of expenditures for food spent at particular types of stores. Expenditures for food at specialty and grocery stores as a percent of total food expenditures were larger for check households than for coupon households. The proportion of expenditures made at supermarkets was lower for check households.

**APPENDIX I**  
**STATISTICAL POWER ANALYSIS**

The survey data provide information about the variances of the key outcome measures used in the analysis. This information can be very useful in designing similar studies in the future. In particular, it is of interest to examine the statistical power that can be attained in difference-in-means and difference-in-proportions tests for alternative sample sizes, given the observed variances.

This appendix shows the relationship between statistical power, sample size, and the size of the true outcome effect being measured for three representative variables considered in the body of the report: (1) the value of purchased food used at home, (2) the amount of food energy in the food used at home per equivalent nutrition unit, and (3) the percent of households attaining the recommended dietary allowance for protein.

Table I.1 shows statistical power levels associated with a difference-of-means test comparing experimental and control averages for the value of weekly purchased food used at home. The power levels shown as entries in the table are the probabilities of detecting a statistically significant impact in the outcome variable when the sample size is that shown in the row heading and the true size of the effect is that shown in the column heading. For instance, the table shows that, if the true effect was 10 percent of the mean, then, with a sample size of 600 treatment observations and 600 control observations, we would have a 68 percent chance of detecting a statistically significant effect. Tables I.2 and I.3 provide comparable information for the other two outcome variables listed above.

TABLE I.1

STATISTICAL POWER LEVELS FOR DIFFERENCE-IN-MEANS TESTS  
FOR THE VALUE OF PURCHASED FOOD USED AT HOME

Number of Observations in Each Group <sup>a</sup>	Assumed True Effect (Expressed as a Percentage of the Mean) <sup>b</sup>			
	4	6	8	10
200	.13	.18	.26	.34
400	.18	.27	.40	.54
600	.21	.36	.52	.68
800	.26	.43	.62	.79
1,000	.29	.50	.71	.86

SOURCE: Table entries are power levels calculated according to the table in A-12b, in Dixon and Massey, 1965, assuming a 95 percent confidence level, one-tailed test.

NOTE: The standard deviation of the outcome variable is assumed to be approximately 53, based on tabulations of the survey data.

<sup>a</sup>Equal treatment and control sample sizes are assumed, so that total observations for the experimental and control groups are twice the numbers shown in the row headings.

<sup>b</sup>The mean is assumed to be \$65.00.

TABLE 1.2  
AVERAGE FOOD ENERGY AS A PERCENTAGE OF THE RDA

Number of Observations in Each Group <sup>a</sup>	Assumed True Effect (Expressed as a Percentage of the Mean) <sup>b</sup>			
	4	6	8	10
200	.16	.24	.35	.47
400	.23	.38	.55	.72
600	.29	.50	.70	.85
800	.35	.60	.81	.93
1,000	.41	.68	.88	.97

SOURCE: Table entries are power levels according to the table in A-12b, in Dixon and Massey, 1965, assuming a 95 percent confidence level, one-tailed test.

NOTE: The standard deviation of the outcome variable is assumed to be approximately 87, based on tabulations of the survey data.

<sup>a</sup>Equal treatment and control sample sizes are assumed, so that total observations for the experimental and control groups are twice the numbers shown in the row headings.

<sup>b</sup>The mean is assumed to be 137 percent.

RDA = recommended dietary allowance.

TABLE I.3

PERCENTAGE OF RECIPIENTS ATTAINING THE RDA FOR FOOD ENERGY

Number of Observations in Each Group <sup>a</sup>	Assumed True Effect (Expressed as a Percentage of the Mean) <sup>b</sup>			
	4	6	8	10
200	.16	.25	.35	.47
400	.23	.38	.56	.72
600	.29	.50	.71	.86
800	.35	.60	.81	.93
1,000	.41	.68	.88	.97

SOURCE: Table entries are power levels according to the table in A-12b, in Dixon and Massey, 1965, assuming a 95 percent confidence level, one-tailed test.

NOTE: The standard deviation of the outcome variable is assumed to be approximately 0.45, based on tabulations of the survey data.

<sup>a</sup>Equal treatment and control sample sizes are assumed, so that total observations for the experimental and control groups are twice the numbers shown in the row headings.

<sup>b</sup>The mean is assumed to be 71 percent.

RDA = recommended dietary allowance.

The following tables, which correspond to Tables III.1, III.6, III.8, and III.9 in the body of the report, present standard errors for our estimates of key outcome variables in the analysis.

TABLE J.1

STANDARD ERRORS OF ESTIMATES FOR KEY OUTCOME VARIABLES  
IN THE ANALYSIS OF THE MONEY VALUE OF FOOD USED AT HOME

	Standard Error of Mean		
	Check	Coupon	Check-Coupon Difference
<b>Money Value of Food Used at Home</b>			
Purchased food	2.28	2.00	2.47
Nonpurchased food	0.62	0.40	0.64
All food used at home	2.36	2.02	2.56
<b>Money Value of Food Used at Home per ENU</b>			
Purchased food	0.86	1.18	0.99
Nonpurchased food	0.38	0.32	0.36
All food used at home	0.91	1.19	1.04
<b>Money Value of Food Used at Home per AME</b>			
Purchased food	0.86	1.10	0.93
Nonpurchased food	0.29	0.27	0.29
All food used at home	0.88	1.11	0.97
<b>Sample Size</b>	<b>542</b>	<b>536</b>	

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: This table presents standard errors of the estimates shown in Table III.1

ENU = equivalent nutrition unit; AME = adult male equivalent

TABLE J.2

STANDARD ERRORS OF ESTIMATES FOR KEY OUTCOME VARIABLES  
IN THE ANALYSIS OF THE AVAILABILITY OF  
FOOD ENERGY AND PROTEIN

Nutrient	Standard Error of Mean		
	Check	Coupon	Check-Coupon Difference
Food Energy (percent of RDA)	3.50	3.93	3.64
Percent for Which Food Energy Equals or Exceeds RDA	3.07	2.82	2.75
Protein (percent of RDA)	6.71	7.38	6.93
Percent for Which Protein Equals or Exceeds RDA	0.95	1.08	0.96
Percent of Food Energy from			
Protein	0.19	0.23	0.20
Fat	0.54	0.52	0.51
Carbohydrate	0.57	0.60	0.56
Sample Size	542	536	

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, weighted tabulations.

NOTE: This table presents standard errors of the estimates shown in Table III.6.

RDA = recommended dietary allowance.

TABLE J.3

**STANDARD ERRORS OF ESTIMATES FOR KEY OUTCOME VARIABLES  
IN THE ANALYSIS OF NUTRIENT AVAILABILITY PER ENU**

Nutrient	Standard Error of Mean		
	Check	Coupon	Check-Coupon Difference
Vitamin A ( $\mu\text{gRE}$ )	8.71	10.25	9.22
Vitamin C (mg)	9.00	12.01	14.13
Vitamin B <sub>6</sub> (mg)	4.59	4.91	4.78
Folate ( $\mu\text{g}$ )	7.26	7.94	9.52
Calcium (mg)	3.75	4.63	4.03
Iron (mg)	6.65	5.10	5.74
Zinc (mg)	3.70	3.44	3.40
Sample Size	542	536	

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: This table presents standard errors of the estimates shown in Table III.8.

ENU = equivalent nutrition unit.

TABLE J.4

STANDARD ERRORS OF ESTIMATES FOR KEY OUTCOME VARIABLES  
IN THE ANALYSIS OF NUTRIENT AVAILABILITY PER ENU

Nutrient	Mean Value		Difference in Means
	Check	Coupon	
Vitamin A	2.47	2.56	2.41
Vitamin C	1.83	2.10	1.91
Vitamin B <sub>6</sub>	2.56	2.64	2.48
Folate	1.79	2.13	1.93
Calcium	3.26	3.14	3.02
Iron	2.69	2.81	2.58
Zinc	3.24	3.11	2.99
Sample Size	542	536	

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

Note: This table presents standard errors of the estimates shown in Table III.9.

ENU = equivalent nutrition unit.

**APPENDIX K**

**DISTRIBUTIONAL EFFECTS OF CASH-OUT**

This appendix presents supplemental information on the effects of cash-out in San Diego on key outcome measures derived from the detailed food-use data that were collected by the household survey. This information can be used to determine whether the effects of cash-out were concentrated among households in the lower halves of the distributions of the outcome measures. The nutritional status of the members of these households is more vulnerable to reductions in food use and nutrient availability than is the case for households in the upper tails of the distributions of the outcome measures.

Tables K.1 through K.3 present the median values of the money value of food used at home, the availability of food energy and protein, and the availability of seven micronutrients. The values shown in these tables are the median value counterparts to the mean values in Tables III.1, III.6, and III.8. A comparison of the two sets of tables reveals that cash-out resulted in reductions in the median values of the availabilities of the money value of food used at home and of most nutrients considered in this study; however, those reductions were generally of the same size or smaller than the corresponding reductions in mean values. This finding indicates that the effects of cash-out were not disproportionately concentrated among households in the lower halves of the distributions of the outcome measures.

Figure K.1 presents cumulative distributions of the money value of food used at home per equivalent nutrition unit (ENU) for check households and for coupon households. Figures K.2 through K.4 present, respectively, cumulative distributions per ENU, for check households and for coupon households, of the availability of food energy, of calcium, and of iron as percentages of the recommended dietary allowances.<sup>1</sup> Figure K.1 shows that cash-out had little effect on households in the lower half of the distribution of the money value of food used at home. Figures K.2 and K.3

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<sup>1</sup>We chose to analyze the effects of cash-out on the cumulative distribution of food energy because the availability of food energy is the best single indicator of overall nutrient availability. We chose to analyze the effects of cash-out on the cumulative distributions of iron and calcium because these were the only micronutrients among the seven considered in this evaluation that the Expert Panel on Nutrition Monitoring has identified as presenting "current," as opposed to "potential," public health issues (Life Sciences Research Office, 1989, page 46).

show that cash-out had little effect on households in the first quartiles of the availability of food energy and calcium and had roughly equal effects on households in the second through fourth quartiles. Figure K.4 shows the virtual absence of any effect of cash-out on the availability of iron among all households, regardless of their location in the cumulative distribution of iron availability.

TABLE K.1  
MONEY VALUE OF FOOD USED AT HOME  
(In Dollars)

Measure of Weekly Food Use	Median Value		Difference in Medians	
	Check	Coupon	Absolute	Percentage
<b>Money Value of Food Used at Home</b>				
Purchased food	58.59	62.95	-4.36	-6.93
All food used at home	61.69	66.62	-4.93	-7.41
<b>Money Value of Food Used at Home per ENU</b>				
Purchased food	30.27	31.87	-1.60	-5.01
All food used at home	32.80	33.49	-0.69	-2.06
<b>Money Value of Food Used at Home per AME</b>				
Purchased food	26.84	28.03	-1.19	-4.26
All food used at home	28.55	29.55	-1.00	-3.36
<b>Sample Size</b>	<b>542</b>	<b>536</b>		

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

ENU = equivalent nutrition unit; AME = adult male equivalent.

TABLE K.2  
AVAILABILITY OF FOOD ENERGY AND PROTEIN

Nutrient	Median Value		Difference in Medians	
	Check	Coupon	Absolute	Percentage
Food Energy (percent of RDA)	121.22	126.17	-4.95	-3.92
Protein (percent of RDA)	226.87	240.87	-14.00	-5.81
Percent of Food Energy from				
Protein	14.53	14.44	0.09	0.58
Fat	37.79	38.83	-1.04	-2.68
Carbohydrate	47.39	46.56	0.83	1.78
Sample Size	542	536		

SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: Nutrient availability from food used at home is given per equivalent nutrition unit, which is defined as the number of equivalent adult males eating all of their weekly meals from the household food supply.

RDA = recommended dietary allowance.

**TABLE K.3**  
**NUTRIENT AVAILABILITY PER ENU**  
**(Percentage of RDA)**

Nutrient	Median Value		Difference in Medians	
	Check	Coupon	Absolute	Percentage
Vitamin A	178.02	175.54	2.48	1.41
Vitamin C	220.16	238.55	-18.39	-7.71
Vitamin B <sub>6</sub>	140.52	146.67	-6.15	-4.19
Folate	192.36	208.23	-15.87	-7.62
Calcium	104.95	110.27	-5.32	-4.82
Iron	137.91	141.16	-3.25	-2.30
Zinc	108.83	111.12	-2.29	-2.06
Sample Size	542	536		

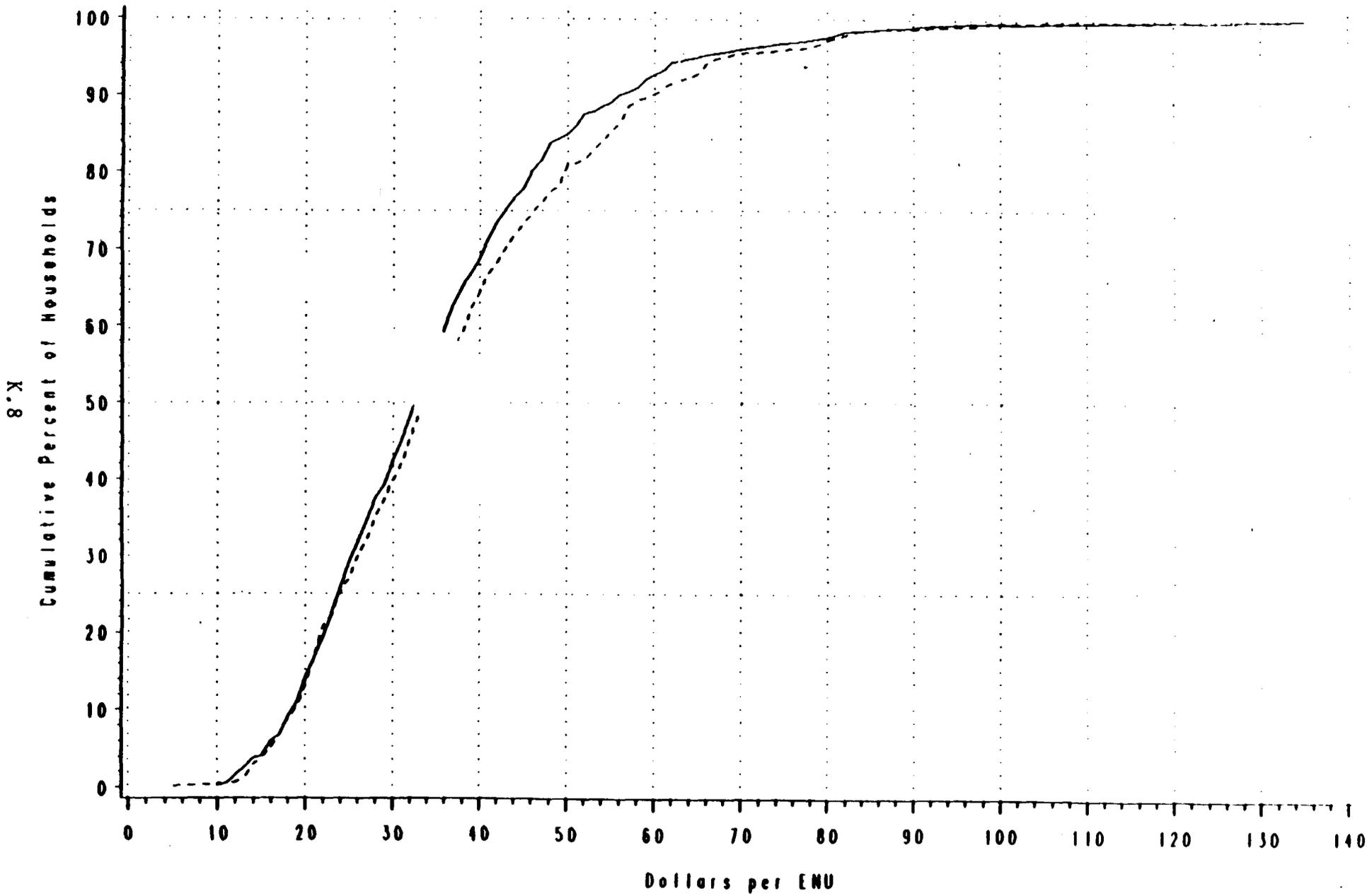
SOURCE: Evaluation of the San Diego Food Stamp Cash-Out Demonstration, household survey, weighted tabulations.

NOTE: Nutrient availability from food used at home is given per equivalent nutrition unit (ENU), which is defined as the number of equivalent adult males eating all of their weekly meals from the household food supply.

RDA = recommended dietary allowance.

FIGURE K.1

CUMULATIVE DISTRIBUTION: MONEY VALUE OF FOOD USED AT HOME



K.8

Check Households: —  
Stamp Households: - - -

FIGURE K.2

CUMULATIVE DISTRIBUTION: FOOD ENERGY

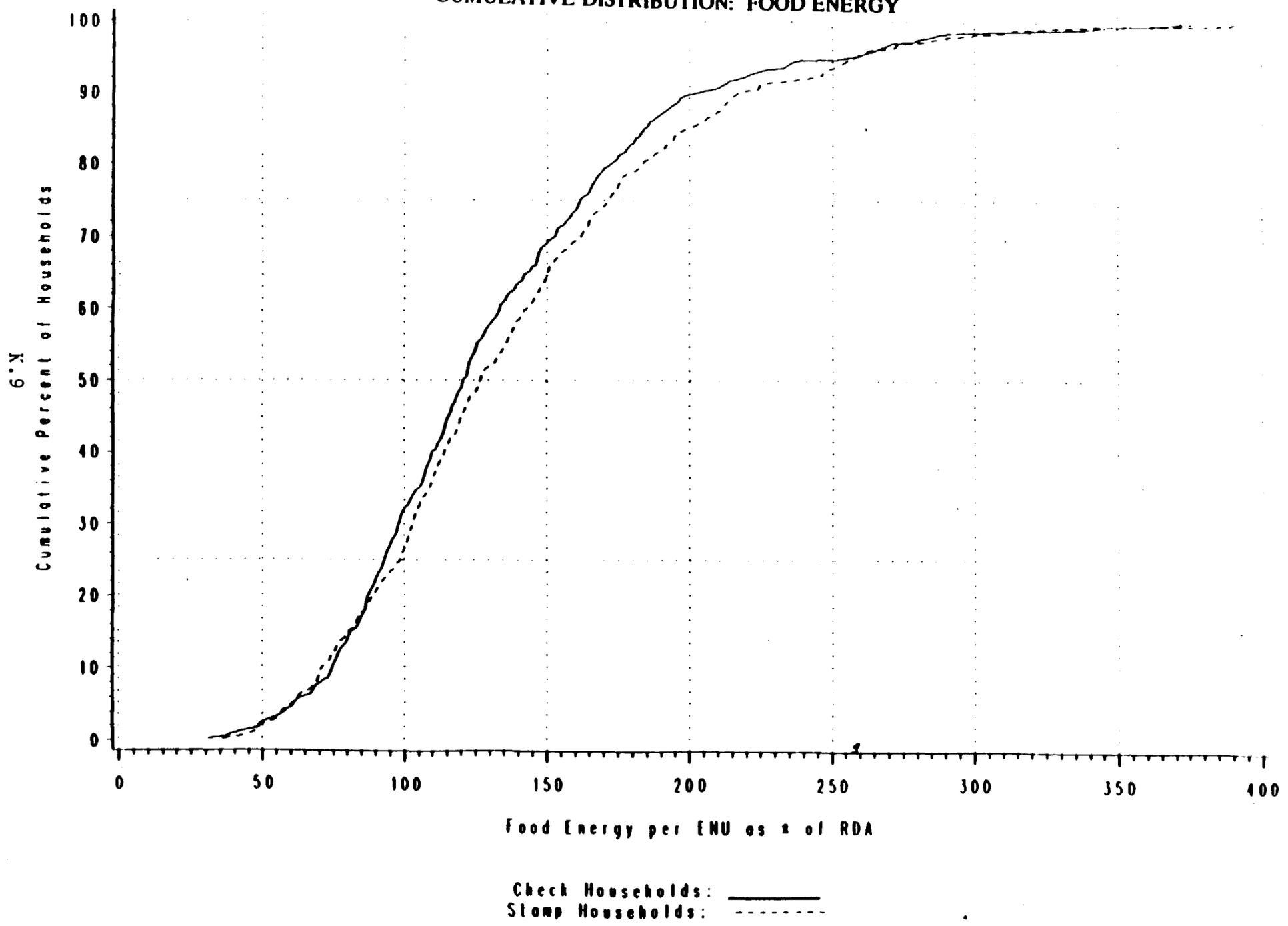
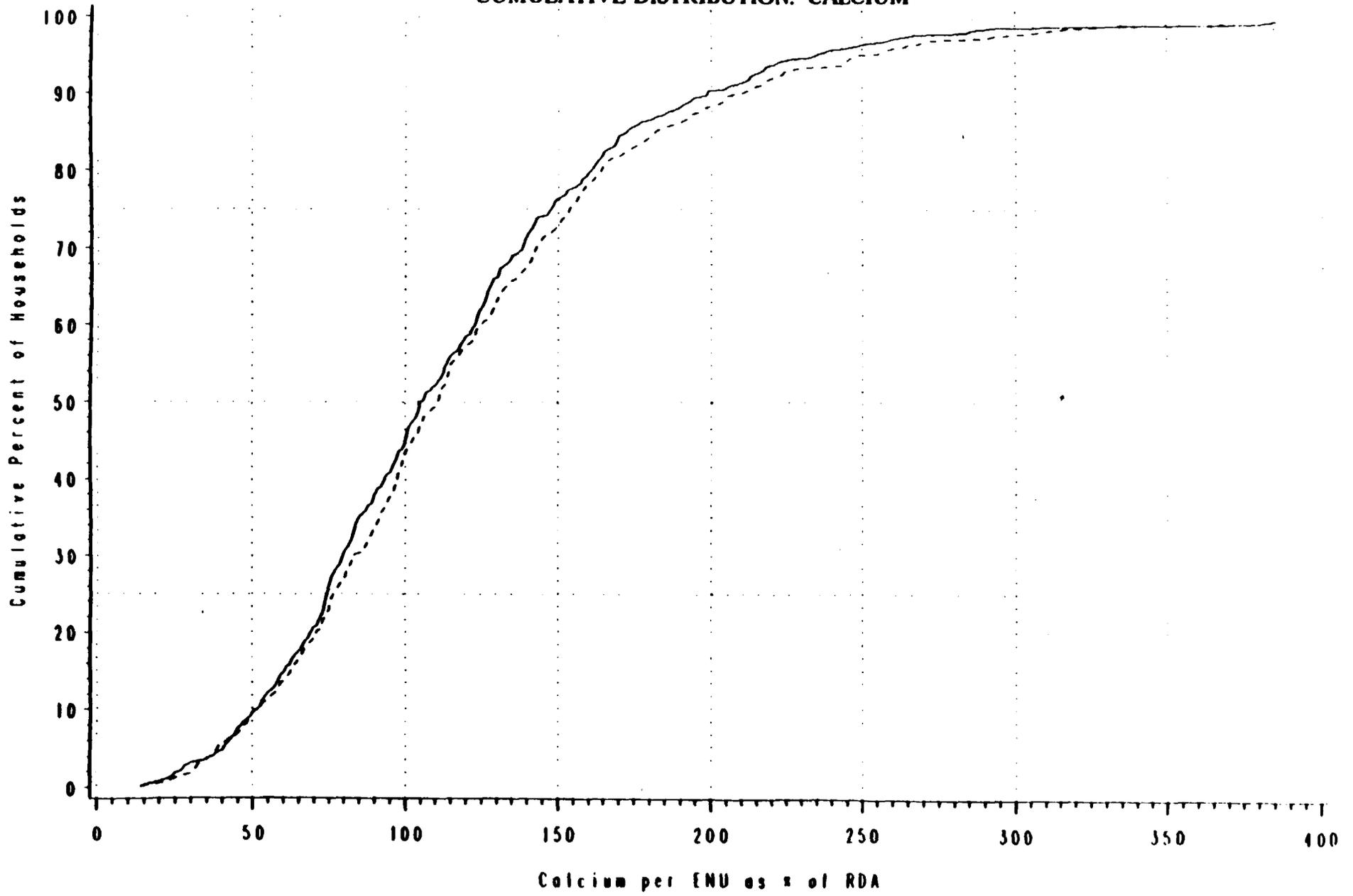


FIGURE K.3

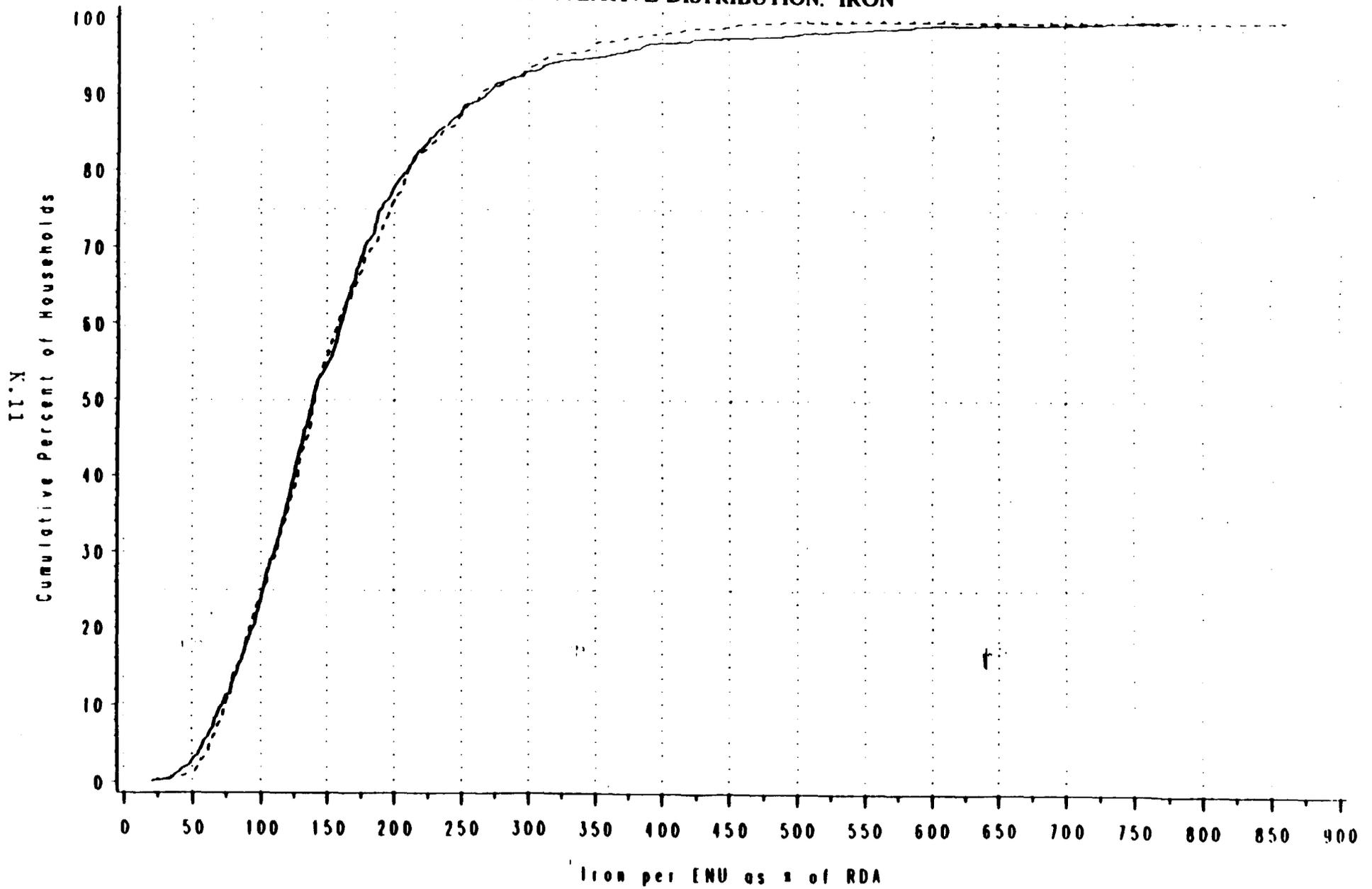
CUMULATIVE DISTRIBUTION: CALCIUM



Check Households: —  
Slamp Households: - - -

FIGURE K.4

CUMULATIVE DISTRIBUTION: IRON



Check Households: —  
Stamp Households: - - -