CHAPTER 4

FINDINGS: CHARACTERISTICS OF NONAPPLICANTS AND APPROVED APPLICANTS

This chapter describes the characteristics of households that did not apply for meal benefits as well as households that applied for and were granted NSLP meal benefits during the 1986-87 school year.

SUMMARY OF FINDINGS

- An estimated 2.65 million households containing 4.27 million students were potentially eligible for meal benefits in the 1986-87 school year but did not apply to receive them.

- Adding the 4.27 million potentially eligible nonapplicant children to the 11.63 million approved applicants (see Chapter 3) yields an estimated total of 15.90 million children eligible for NSLP meal benefits. This represents 40.3% of all public school children nationally.

- Of the 2.65 eligible nonapplicant households, an estimated 39.1% (about 1.03 million households) did not remember receiving an application. Of those, 35.3% (about 360,000 households containing 490,000 students) did not even know of the existence of NSLP meal benefits. This represents about 13.6% of all eligible nonapplicant households.

- There was a substantial difference in the median annual incomes of applicant and nonapplicant households during school year 1986-87 (nonapplicants include both eligible and ineligible families). The median annual income for households approved for free or reduced-price meals was an estimated $13,788. The median annual income for nonapplicant households was $30,000.

- An estimated 91.0% of the households approved for meal benefits were satisfied with the NSLP for financial, nutritional, and other reasons.

- Some applicants had difficulty understanding the application form. An estimated 15.1% of approved applicants had some difficulty in reading the application, and 6.7% did not understand the directions on the application. Of the latter group, about one-third felt the application was not in a language they understood.

- There appears to be some problem with understanding of verification notices. An estimated 5.1% (20,000 households) did not understand the verification notice. Of these, 32.2% felt the verification notice did not clearly identify the types of documents needed, 10.5% felt the notice was not given in a language they understood, and 42.2% felt the notice used words they didn't understand.

- Households that did not respond to the verification request had markedly different household characteristics than other households approved for meal benefits. Nonresponding households tended to be better educated, were more likely to be married, had higher incomes, and were less likely to be the recipient of food stamp or WIC benefits.

- An estimated 20.1% of nonresponders did not know that meal benefits would be terminated if they did not comply with the verification request.

- An estimated one-third (33.4%) of all nonresponders to verification did not remember being asked to show proof of their income.

RESEARCH QUESTIONS

There is little systematic national-level data that describes the characteristics of households that are approved to receive free or reduced-price meals. In addition to information about income, the present study collected a large amount of other descriptive data on approved applicants and on nonapplicants. Two subgroups of nonapplicants are included: (1) those who were ineligible for meal benefits, and (2) those who were eligible but chose not to apply. Three subgroups of approved applicants are described: (1) approved applicants not selected for verification, (2) approved applicants who were selected for verification but who did not respond to the verification request, and (3) approved appli-

cants who were selected for verification and whose benefits did not change.

The following research questions are addressed in this chapter:

- What are the characteristics of nonapplicant households? How do these characteristics vary by subgroup?

- What are the characteristics of households whose applications for meal benefits were approved? How do these characteristics vary by subgroup?

RESEARCH FINDINGS

Findings are divided into two parts, the first section describes the characteristics of nonapplicants for meal benefits during school year 1986-87. The second part contains comparative descriptive characteristics for approved applicant households.

What Are The Characteristics of Nonapplicant Households? How Do These Characteristics Vary By Subgroup?

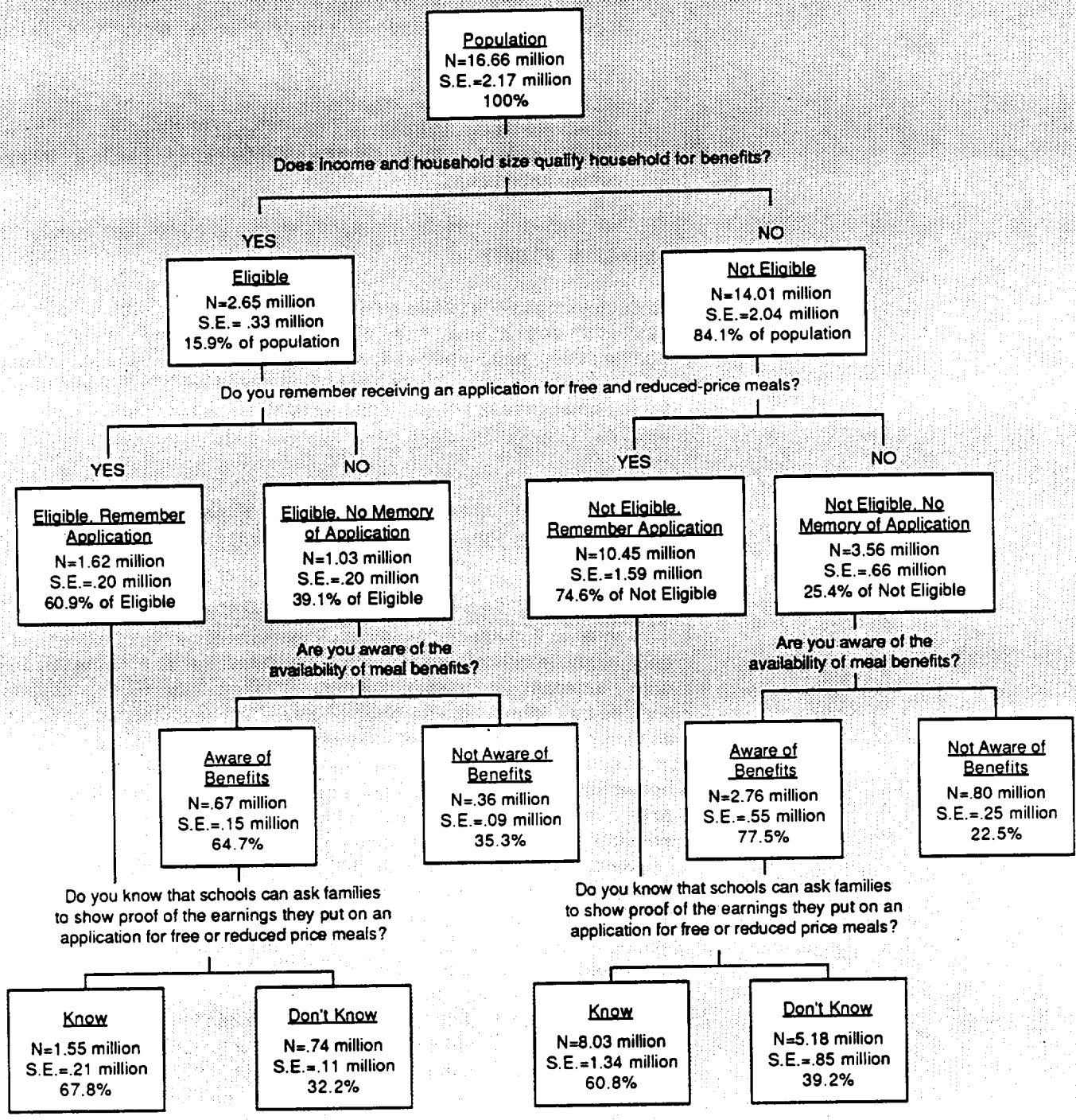
Structure of the Nonapplicant Population. Exhibits 4.1 and 4.2 present national population estimates of the number of nonapplicant households and nonapplicant students, respectively. Taken together, these exhibits show that there are an estimated 16.66 million non-applicant households containing 25.84 million students. An estimated 15.9% of these households were, in fact, potentially eligible for free or reduced-price meals during the 1986-87 school year, while the remaining 84.1% of the households were not eligible. This translates into 2.65 million households (Exhibit 4.1) containing 4.27 million students (Exhibit 4.2) that were potentially eligible for meal benefits in the 1986-87 school year but did not apply to receive them.

Combining the 4.27 million potentially eligible nonapplicant children with the 11.63 million approved applicants (from Exhibit 3.1) yields an estimated total of 15.90 million children eligible for NSLP meal benefits. This represents 40.3% of all public school children nationally (15.90 million eligibles divided by 39.44 million children - see Exhibit 3.1).

EXHIBIT 4.1

NATIONAL ESTIMATES OF INCIDENCE FOR NONAPPLICANT POPULATION

(Number and Percentage of Households)

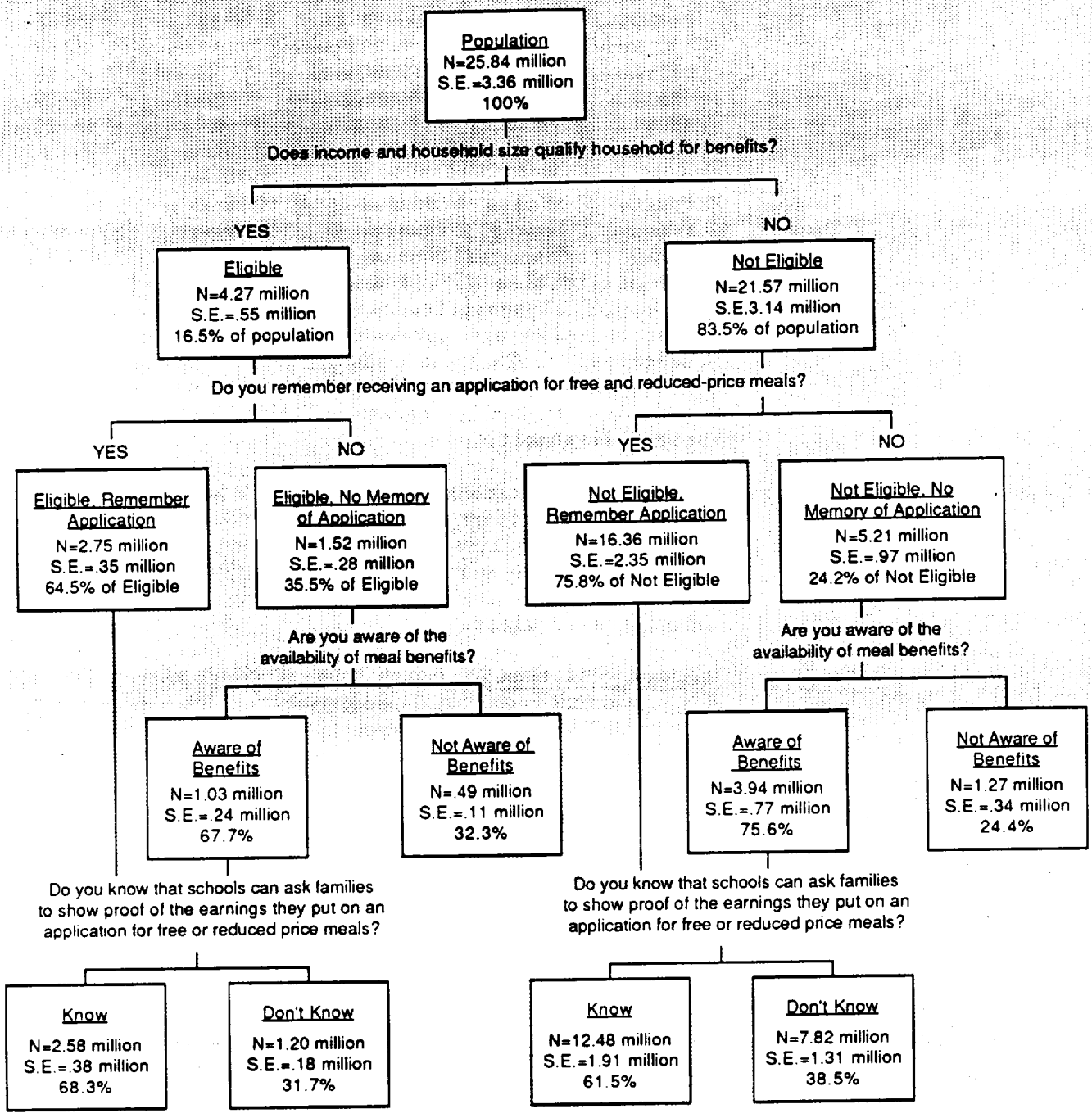


Weighted N=16.6 million households; Unweighted N=796 households
S.E.= Standard Error of the estimate
Source of data: Nonapplicant Telephone Interview

EXHIBIT 4.2

NATIONAL ESTIMATES OF INCIDENCE FOR NONAPPLICANT POPULATION

(Number and Percentage of Students)



Weighted N=25.84 million students; Unweighted N=796 students
S.E.= Standard Error of the estimate
Source of data: Nonapplicant Telephone Interview

To examine this issue further, nonapplicants were asked whether they remembered receiving an application for free and reduced-price meals at the start of the 1986-87 school year. It is estimated that 39.1% of the potentially eligible nonapplicant households did not remember receiving an application, vs. 25.4% of the ineligible nonapplicants. As a result, it is possible that a substantial number of otherwise eligible households (1.03 million eligible households containing 1.52 million students) did not take advantage of the meal programs simply because they did not receive an application for free and reduced-price meals.

Further, of the households that had no memory of receiving an application, an estimated one-third (35.3%) of the eligibles and one-quarter (22.5%) of the ineligibles (13.6% and 5.7% of the eligible and ineligible nonapplicant population of households, respectively) did not know of the existence of meal benefits. This translates into about 360,000 households containing 490,000 students that were eligible for meal benefits, but did not know of their availability.

Finally, an estimated 67.8% (1.55 million) of the eligible applicants and 60.8% (8.03 million) of the ineligible applicants who remembered receiving an application or who at least knew of the existence of meal benefits also knew that schools could ask for proof of earnings.

Characteristics of Nonapplicant Households. Exhibit 4.3 presents national estimates of characteristics of the nonapplicant population broken down into eligible and ineligible subgroups. The median annual income for the population of nonapplicants is estimated to be $30,000 (the mean is $31,907). The total can be decomposed as follows: a median of $30,000 for those that were ineligible for meal benefits, and a median of $14,400 for eligible nonapplicants. Each group has an average household size of about 4 persons, with an average of 1.5 children in the public schools.

What Are The Characteristics of Approved Applicant Households? How Do These Characteristics Vary By Subgroup?

This section includes a discussion of selected characteristics of households whose applications for meal benefits were approved. However, only the

Exhibit 4.3

NATIONAL ESTIMATES OF CHARACTERISTICS OF NONAPPLICANT HOUSEHOLDS, BY MEAL BENEFIT ELIGIBILITY (School Year 1986-87)

Household Characteristic		Meal Benefit Eligibility: Eligible	Ineligible	Total
Annual household income	(Mean)	$14,797	$34,918	$31,907
	(Median)	$14,400	$30,000	$30,000*
	(S.D.)	$7,191	$17,676	$18,026
	WEIGHTED N	2.65 mil.	14.01 mil.	16.66 mil.
	UNWEIGHTED N	212	330	542
Number of household members	(Mean)	4.19	3.99	4.02
	(S.D.)	1.31	0.93	1.01
	WEIGHTED N	2.65 mil.	14.01 mil.	16.66 mil.
	UNWEIGHTED N	212	330	542
Number of children in public schools	(Mean)	1.61	1.54	1.55
	(S.D.)	.83	0.76	0.78
	WEIGHTED N	2.65 mil.	14.01 mil.	16.66 mil.
	UNWEIGHTED N	212	330	542

Source of Data: Nonapplicant Telephone Interview

* The median of $30,000 for the total is the same as the median for the subgroup of ineligible nonapplicants. This occurs because the weighted N of ineligible nonapplicants is large relative to the weighted N of eligible nonapplicants, and because a very large number of cases received the median value of $30,000.

three groups which received In-Home Audits are included. As mentioned in Chapter 2, households that were verified with a resulting change in benefits did not receive an In-Home Audit.

Household Characteristics for Three Verification Groups. The ramaining exhibits in this chapter contain household characteristics for three groups of approved applicants: (1) those verified with no resulting change in benefits, (2) those that did not respond to the verification request, and (3) those not verified. Household characteristics (collected through In-Home Audits) were not collected for applicants who were verified with a resulting change in benefits.

Exhibit 4.4 shows that the mean and median household income across all three groups of applicants is $14,399 and $13,788, respectively. Comparisons of household income between the nonresponders and the other two groups reveal that nonresponding households have significantly higher incomes than households that were verified with no change in benefits and households that were not selected for verification. The mean number of household members is 4.76, a statistic which does not vary much across the three groups of applicants.

The finding that nonresponders have greater incomes leads support to the view that they may have underreported their income at the tme of application and therefore were correctly discouraged from responding by the request for documentation during verification.

Exhibit 4.4 shows that an estimated 46.5% of the heads of approved households were married. This varies by verification group, with 52.7% of nonresponders to verification being married compared with 36.4% of applicants that were verified with no change in benefits. About 18.8% of approved households were divorced, 14.3% were separated, 14.0% were never married, 4.8% were widowed, and 1.6% were not married but living with a partner.

In terms of education level, Exhibit 4.4 shows that an estimated 16.4% of the heads of approved households completed college, 67.0% completed high school but did not attend college, 8.8% completed grades 7 and 8, and 7.2% only completed grades 1-6. These percentages vary somewhat across verification groups. Perhaps most interesting, households that did not respond to the verification request were more likely to complete college (27.4%) than the other groups.

Exhibit 4.4

NATIONAL ESTIMATES OF HOUSEHOLD CHARACTERISTICS, BY VERIFICATION GROUP (School Year 1986-87)

Household Characteristic		Verification Group: Verified, No Change In Benefits	Verification Group: Non-Responder to Verification	Verification Group: Not Verified	Total
Annual household income	(Mean)	$13,680	$15,651	$14,402	$14,399
	(Median)	$12,756	$14,400	$13,788	$13,788
	(S.D.)	$7,097	$8,982	$7,348	$7,366
	WEIGHTED N	.17 mil.	.08 mil.	6.69 mil.	6.94 mil.
	UNWEIGHTED N	661	458	649	1,768
Number of household members	(Mean)	4.88	4.72	4.76	4.76
	(S.D.)	2.0	2.0	2.0	2.0
	WEIGHTED N	.41 mil.	.09 mil.	10.56 mil.	11.46 mil.
	UNWEIGHTED N	1,283	536	972	2,791
Marital status					
Married		36.4%	52.7%	46.8%	46.5%
Not married, living with a partner		2.1	1.4	1.6	1.6
Widowed		4.8	5.6	4.8	4.8
Divorced		19.6	17.5	18.7	18.8
Separated		20.1	13.4	14.1	14.3
Never married		16.9	9.4	14.0	14.0
TOTAL	PERCENT	100.0	100.0	100.0	100.0
	WEIGHTED N	.41 mil.	.09 mil.	10.96 mil.	11.46 mil.
	UNWEIGHTED N	1,280	536	972	2,788
Education					
No schooling		0.3%	0.6%	0.7%	0.7%
Completed grades 1-6		5.1	6.3	7.3	7.2
Completed grades 7-8		7.7	6.1	8.8	8.8
Completed high school		69.2	59.6	66.9	67.0
Completed college		17.7	27.4	16.3	16.4
TOTAL	PERCENT	100.0	100.0	100.0	100.0
	WEIGHTED N	.41 mil.	.09 mil.	10.96 mil.	11.46 mil.
	UNWEIGHTED N	1,273	535	966	2,774
Primary language					
English		93.4%	91.0%	86.2%	86.5%
Spanish		3.9	5.5	9.0	8.8
Other		2.7	3.5	4.8	4.7
TOTAL	PERCENT	100.0	100.0	100.0	100.0
	WEIGHTED N	.41 mil.	.09 mil.	10.96 mil.	11.46 mil.
	UNWEIGHTED N	1,281	535	971	2,787

Source of Data: In-Home Audit

Finally, an estimated 86.5% of all approved households have English as their primary language, and 8.8% gave Spanish as their primary language.

Exhibit 4.5 presents national estimates of the same household characteristics, broken down by verification sampling method (random vs. focused). There are only slight differences in terms of marital status and education between households in SFAs that use random sampling as opposed to focused sampling. It does appear that the primary language spoken in SFAs that use focused sampling is more likely to be Spanish or "other" than in SFAs that use random sampling. This is consistent with the finding reported in Chapter 3 that SFAs using focused sampling are larger than SFAs using random sampling, in that larger SFAs are probably more urban and have a larger non-English speaking population.

Difficulties with Application. A series of questions were asked regarding difficulties experienced with the free and reduced-price lunch application. Exhibit 4.6 shows that an estimated 84.9% of approved households had no difficulties completing the application form, while 15.1% did have some problems.

An estimated 86.3% of approved households understood the directions on the application well or very well, while 6.7% had problems understanding the directions and 7.1% had someone else complete the form. The 6.7% of households that had problems understanding the directions were asked whether the application was in a language they understood. About one-third of these households (34.7% or about 205,000 households) felt that the application form was not in a language they understood. These households are likely a subset of the 15.1% (1.66 million households) of all applicants that reported having some problems with the application.

Participation in FNS Programs. Exhibit 4.7 presents information on the extent to which approved households participate in the NSLP, Food Stamp, and Women, Infants and Children (WIC) programs. It indicates that most households applied in prior school years (96.8% - 1985-86, 79.9% in 1984-85, 66.1% in 1983-84, and 55.5% in 1982-83). These percentages are roughly similar across the different verification groups.

Exhibit 4.5

NATIONAL ESTIMATES OF HOUSEHOLD CHARACTERISTICS, BY VERIFICATION SAMPLING METHOD (School Year 1986-87)

Household Characteristic	Verification Sampling Method: Random	Focused	Total
Marital status			
Married	45.4%	51.4%	46.5%
Not married, living with a partner	1.4	2.9	1.6
Widowed	5.2	3.1	4.8
Divorced	18.7	18.9	18.8
Separated	14.6	13.1	14.3
Never married	14.7	10.5	14.0
TOTAL PERCENT	100.0	100.0	100.0
WEIGHTED N	9.5 mil.	1.95 mil.	11.45 mil.
UNWEIGHTED N	1,812	976	2,788
Education			
No schooling	0.5%	1.2%	0.7%
Completed grades 1-6	6.5	10.8	7.2
Completed grades 7-8	9.5	5.2	8.8
Completed high school	68.3	60.3	67.0
Completed college	15.3	22.7	16.4
TOTAL PERCENT	100.0	100.0	100.0
WEIGHTED N	9.5 mil.	1.95 mil.	11.45 mil.
UNWEIGHTED N	1,797	977	2,774
Primary language			
English	88.7%	75.8%	86.5%
Spanish	7.5	15.2	8.8
Other	3.8	9.0	4.7
TOTAL PERCENT	100.0	100.0	100.0
WEIGHTED N	9.5 mil.	1.95 mil.	11.45 mil.
UNWEIGHTED N	1,810	977	2,787

Source of Data: In-Home Audit

Exhibit 4.6

NATIONAL ESTIMATES REGARDING DIFFICULTIES WITH APPLICATION, BY VERIFICATION GROUP (School Year 1986-87)

Question	Verification Group: Verified, No Change In Benefits	Verification Group: Non-Responder to Verification	Verification Group: Not Verified	Total
Did you have any difficulty reading the application form?				
Yes	13.4%	13.4%	15.2%	15.1%
No	86.6	86.6	84.8	84.9
TOTAL PERCENT	100.0	100.0	100.0	100.0
WEIGHTED N	.39 mil.	.09 mil.	10.52 mil.	11.00 mil.
UNWEIGHTED N	1,237	489	942	2,668
How well did you understand the directions on the application form?				
Very well	64.3%	62.6%	56.6%	56.9%
Well	27.8	28.0	29.5	29.4
Not very well	3.8	5.3	6.4	6.3
Not at all	1.1	1.0	0.3	0.4
Someone else completed the form	3.0	3.1	7.2	7.1
TOTAL PERCENT	100.0	100.0	100.0	100.0
WEIGHTED N	.26 mil.	.07 mil.	8.86 mil.	9.19 mil.
UNWEIGHTED N	1,031	438	877	2,346
(If didn't understand directions) Was the application form in a language that you understood?				
Yes	78.3%	76.6%	64.9%	65.3%
No	21.7	23.4	35.1	34.7
TOTAL PERCENT	100.0	100.0	100.0	100.0
WEIGHTED N	.012 mil.	.004 mil.	.57 mil.	.59 mil.
UNWEIGHTED N	62	43	58	163

Source of Data: In-Home Audit

Exhibit 4.7

NATIONAL ESTIMATES REGARDING PROGRAM PARTICIPATION, BY VERIFICATION GROUP (School Year 1986-87)

Question	Verification Group: Verified, No Change In Benefits	Verification Group: Non-Responder to Verification	Verification Group: Not Verified	Total
National School Lunch Program				
Did you apply for free or reduced-price meals in				
School Year 1986-87? (% yes)	100.0%	100.0%	100.0%	100.0%
School Year 1985-86? (% yes)	97.6	94.3	96.8	96.8
School Year 1984-85? (% yes)	86.3	80.5	79.7	79.9
School Year 1983-84? (% yes)	72.1	65.2	65.8	66.1
School Year 1982-83? (% yes)	65.7	59.1	55.0	55.5
TOTAL WEIGHTED N	.41 mil.	.09 mil.	10.96 mil.	11.46 mil.
UNWEIGHTED N	1,278	508	964	2,750
Food Stamp Program				
Has this household received food stamps for any of the following years?				
School Year 1986-87 (% yes)	63.6%	21.6%	49.1%	49.4%
School Year 1985-86 (% yes)	61.1	19.6	46.2	46.5
School Year 1984-85 (% yes)	56.5	19.9	41.0	41.3
School Year 1983-84 (% yes)	51.4	24.1	36.5	36.9
School Year 1982-83 (% yes)	50.3	26.2	34.5	35.0
WIC Program				
Did anyone in this household receive formula, milk, or food supplements from the WIC program:				
Last month? (% yes)	17.9%	8.9%	13.0%	13.2%
Since the beginning of this school year? (% yes)	19.9	11.4	12.2	12.5

Source of Data: In-Home Audit

Similar data were collected regarding participation in the Food Stamp program. Across all groups, an estimated 49.4% of households approved for NSLP benefits received food stamps during the 1986-87 school year, 46.5% in the 1985-86 school year, 41.3% in the 1984-85 school year, 36.9% in the 1983-84 school year, and 35.0% in the 1982-83 school year. There is a striking difference across verification groups regarding food stamp participation. Only 21.6% of households that did not respond to the verification request received food stamp benefits during school year 1986-87 compared to 63.6% of households that were verified with no benefit change, and 49.1% of households not verified.

Earlier in this report (Exhibit 3.1) it was observed that 24.2% of all applicants were approved for meal benefits on the basis of food stamp participation. Yet Exhibit 4.7 shows that 49.4% of the households participating in the In-Home Audits said that they received food stamps during School Year 1986-87. Several reasons could account for this discrepancy. First, it is possible for a household to receive food stamps for part of the year but not be receiving food stamps at the time of NSLP application. Second, households receiving food stamps are not required to apply for NSLP benefits as a food stamp recipient. For one reason or another households may prefer not to identify themselves as food stamp recipients when applying for free or reduced-price meals. Finally, some of the differences could be due to the difference in methods of measurement (In-Home Audit vs. SFA counts).

Participation varied across groups for the WIC program. Only 8.9% of nonresponder households received WIC benefits in the month prior to the survey, compared to 17.9% for households that were verified and had no change in benefits and 13.0% for households not verified. The same pattern exists for WIC participation since the beginning of the school year.

Satisfaction with the NSLP. Approved applicants were asked how satisfied or dissatisfied they were with the free and reduced-price school meal program. Exhibit 4.8 shows that, overall, 91.0% of approved households were either satisfied or very satisfied. This varied by verification group, with nonresponders to verification being more likely (21.9% vs. 8.8%, respectively) than the other groups to be either dissatisfied or very dissatisfied.

Exhibit 4.8

NATIONAL ESTIMATES OF SATISFACTION WITH NSLP, BY VERIFICATION GROUP (School Year 1986-87)

Question	Verification Group: Verified, No Change In Benefits	Non-Responder to Verification	Not Verified	Total
How satisfied or dissatisfied have you been with the free or reduced-price school meal program?				
Very satisfied	38.8%	27.0%	41.9%	41.7%
Satisfied	52.5	51.1	49.2	49.3
Dissatisfied	7.5	14.7	7.5	7.6
Very dissatisfied	1.2	7.2	1.3	1.4
TOTAL PERCENT	100.0	100.0	100.0	100.0
WEIGHTED N	.41 mil.	.09 mil.	10.96 mil.	11.46 mil.
UNWEIGHTED N	1,162	254	897	2,313
Why have you been satisfied or very satisfied?				
Financially advantageous	31.2%	37.5%	32.6%	32.5%
Happy with quantity or quality of food	30.3	24.3	35.5	35.3
Other	38.5	38.2	32.0	32.2
TOTAL PERCENT	100.0	100.0	100.0	100.0
WEIGHTED N	.32 mil.	.03 mil.	9.40 mil.	9.75 mil.
UNWEIGHTED N	1,029	200	800	2,029
Why have you been dissatisfied or very dissatisfied?				
Unhappy with quantity or quality of food	84.7%	78.6%	89.4%	89.1%
Unhappy with eligibility criteria	2.4	5.5	3.1	3.1
Child has been stigmatized	4.3	0.9	0.7	0.8
Other	8.6	15.0	6.8	7.0
TOTAL PERCENT	100.0	100.0	100.0	100.0
WEIGHTED N	.03 mil.	.01 mil.	.84 mil.	.88 mil.
UNWEIGHTED N	116	48	89	253

Source of Data: In-Home Audit

Of the 91.0% of all approved households that were very satisfied or satisfied with the NSLP, about one-third felt the program was financially advantageous, one-third were happy with the quantity or quality of the food, and one-third gave some other non-specific reason for being satisfied. Of the 9.0% of all approved households that were either dissatisfied or very dissatisfied, most (89.1%) were unhappy with the quantity or quality of the food.

Records Used in Applying. Exhibit 4.9 lists the types of records that approved applicants used when they completed the application for free or reduced-price meals. Many different types of records were used. The most frequently listed records include pay check stubs (38.5%), food stamp authorization (32.9%), social security cards (27.3%), AFDC award letter (19.6%), welfare cards (13.2%), and income tax returns (9.4%). All other types of records were listed by less than 5% of the applicants.

The types of records used vary somewhat by verification group, with nonresponders to verification being more likely than the other groups to use pay check stubs (47.1% vs. 38.4% and 39.9%), and less likely to use evidence of participation in food stamps (10.3% vs. 30.1% and 33.2%) or AFDC (9.6% vs. 20.5% and 19.7%). This pattern makes sense in light of the fact that the nonrespondent group appears to be more educated, and is less likely to participate in the Food Stamp or WIC programs.

Care Used When Completing Application. A series of questions were asked to determine the degree of care used by approved applicants in completing the application form for meal benefits. Exhibit 4.10 indicates that, in general, most applicants said they were extremely careful in providing information about Social Security numbers (84.0%), income (78.3%), sources of income (81.9%) and listing household members (85.2%). These percentages vary little across verification groups.

Knowledge of Income Verification. Approved applicants were asked a series of questions about their thoughts on the likelihood of being verified. Exhibit 4.11 shows that an estimated 78.9% of approved households knew they might be asked for proof of the income they declared when they filled out the application. This percentage was highest for applicants who were verified with no change in benefits (87.4%).

Exhibit 4.9

NATIONAL ESTIMATES REGARDING NSLP APPLICATION PROCEDURES, BY VERIFICATION GROUP (School Year 1986-87)

Question	Verification Group: Verified, No Change In Benefits	Verification Group: Non-Responder to Verification	Verification Group: Not Verified	Total
What records did you use when you filled out the application for free or reduced-price meals?				
Pay check stubs	39.9%	47.1%	38.4%	38.5%
Food stamp authorization	30.1	10.3	33.2	32.9
Social security cards	21.7	21.0	27.5	27.3
AFDC award letter	20.5	9.6	19.7	19.6
Welfare card	23.7	17.5	12.6	13.2
Income tax return	1.8	11.3	9.8	9.4
W2 forms	1.3	2.5	4.4	4.3
Social Security letter	3.0	7.2	3.4	3.4
Child support evidence	2.7	7.3	2.9	2.9
Bank statement	0.9	1.0	2.7	2.6
Court documents	0.7	0.8	1.9	1.9
Self-employment documentation	4.0	4.6	1.5	1.6
SSI documentation	1.7	5.2	1.3	1.4
Unemployment forms	2.3	5.5	1.0	1.1
Workmen's comp. documentation	0.4	1.7	0.6	0.6
TOTAL PERCENT	na*	na*	na*	na*
WEIGHTED N	.41 mil.	.09 mil.	10.96 mil.	11.46 mil.
UNWEIGHTED N	1,283	536	972	2,791

Source of Data: In-Home Audit

*Does not add to 100% as multiple responses were allowed.

Exhibit 4.10

NATIONAL ESTIMATES REGARDING CARE IN COMPLETING NSLP APPLICATION, BY VERIFICATION GROUP (School Year 1986-87)

Question	Verification Group: Verified, No Change In Benefits	Verification Group: Non-Responder to Verification	Verification Group: Not Verified	Total
How careful were you when you filled out the application for free and reduced-price meals?				
Regarding SSNs				
Extremely careful	87.4%	86.5%	83.8%	84.0%
Pretty careful	12.5	12.5	15.3	15.1
Guessed	0.1	1.0	0.9	0.9
TOTAL PERCENT	100.0	100.0	100.0	100.0
WEIGHTED N	.41 mil.	.09 mil.	10.96 mil.	11.46 mil.
UNWEIGHTED N	1,224	499	928	2,651
Regarding income				
Extremely careful	82.6%	78.3%	78.2%	78.3%
Pretty careful	16.6	18.2	20.4	20.3
Guessed	0.8	3.5	1.4	1.4
TOTAL PERCENT	100.0	100.0	100.0	100.0
WEIGHTED N	.41 mil.	.09 mil.	10.96 mil.	11.46 mil.
UNWEIGHTED N	1,218	500	925	2,643
Regarding sources of income				
Extremely careful	84.8%	81.5%	81.8%	81.9%
Pretty careful	14.6	16.3	17.1	17.0
Guessed	0.7	2.2	1.1	1.0
TOTAL PERCENT	100.0	100.0	100.0	100.0
WEIGHTED N	.41 mil.	.09 mil.	10.96 mil.	11.46 mil.
UNWEIGHTED N	1,217	500	925	2,642
Listing household members				
Extremely careful	88.7%	86.7%	85.1%	85.2%
Pretty careful	11.3	12.7	14.7	14.5
Guessed	0.0	0.6	0.2	0.2
TOTAL PERCENT	100.0	100.0	100.0	100.0
WEIGHTED N	.41 mil.	.09 mil.	10.96 mil.	11.46 mil.
UNWEIGHTED N	1,227	501	936	2,664

Source of Data: In-Home Audit

Exhibit 4.11

NATIONAL ESTIMATES REGARDING KNOWLEDGE OF VERIFICATION, BY VERIFICATION GROUP (School Year 1986-87)

Question	Verification Group: Verified, No Change In Benefits	Verification Group: Non-Responder to Verification	Verification Group: Not Verified	Total
When you filled out the application, did you know you might be asked to show proof of income?				
Yes	87.4%	75.9%	78.6%	78.9%
No	12.6	24.1	21.4	21.1
TOTAL PERCENT	100.0	100.0	100.0	100.0
WEIGHTED N	.41 mil.	.09 mil.	10.96 mil.	11.46 mil.
UNWEIGHTED N	1,191	489	897	2,577
(If yes) How sure were you that you would be asked for proof of income?				
Fairly sure	75.1%	63.5%	57.2%	58.0%
Thought might be asked	14.4	24.8	28.6	28.0
Thought would not be asked	1.5	2.7	3.4	3.3
Didn't think about it	8.9	9.0	10.8	10.7
TOTAL PERCENT	100.0	100.0	100.0	100.0
WEIGHTED N	.32 mil.	.06 mil.	7.68 mil.	8.06 mil.
UNWEIGHTED N	1,020	384	731	2,135
(If yes) Did knowing that you might be asked for proof of income make you more careful about completing the application?				
Yes	56.0%	64.5%	61.9%	61.7%
No	44.0	35.5	38.1	38.3
TOTAL PERCENT	100.0	100.0	100.0	100.0
WEIGHTED N	.32 mil.	.06 mil.	7.24 mil.	7.62 mil.
UNWEIGHTED N	1,001	372	710	2,083

Source of Data: In-Home Audit

Applicants who knew they might be asked for proof of their income were then asked how sure they were that they would be asked. More than half of these applicants were fairly sure (58.0%). This varys by verification group, with those that were verified with no change in benefits being most likely to be fairly sure that they would be asked for proof of income (75.1%).

Finally, applicants who knew they might be asked for proof of their income were also asked whether knowing that they might be asked for proof of income made them more careful in completing the application. An estimated 61.7% said "yes", while 38.3% said "no".

Experience with Income Verification. The two groups of households that were verified were asked several questions about their actual experience with verification. First, they were asked whether they had been requested to show proof of the income they provided on the application. Exhibit 4.12 shows that, in total, an estimated 70.9% of the approved households that were verified had been asked to show proof of income. For households that had been verified with no change in benefits, an estimated 76.0% had been asked to show proof (it is possible to be verified without being asked to show proof of income, e.g. if the household is on food stamps and the verification is done by checking with the local welfare office) vs. 66.6% for the nonresponder households. Thus, an estimated one-third (33.4%) of all nonresponders did not remember being asked to show proof of their income.

Second, verified households that had been asked to show proof of their income were asked how they were notified that they were selected for verification. An estimated 49.8% were notified via a letter in the mail, 35.4% had their child bring home a note from school, 5.4% received a telephone call, and the remaining 9.4% gave other answers.

These same households were also asked how well they understood the notice requesting proof of their income. Almost all (94.9%) understood the notice well or very well, while 5.1% (an estimated 20,000 households) did not understand the notice. Households in this latter group were asked a series of questions to identify the nature of the misunderstanding. An estimated 32.2% felt the notice did not clearly identify the types of documents needed, 10.5% felt the notice was not given in a language they understood, and 42.2% felt the notice used words they didn't understand.

Exhibit 4.12

NATIONAL ESTIMATES REGARDING VERIFICATION EXPERIENCES, BY VERIFICATION GROUP (School Year 1986-87)

Question	Verification Group: Verified, No Change In Benefits	Verification Group: Non-Responder to Verification	Total
Have you been asked to show proof of income provided on the application?			
Yes	76.0%	66.6%	70.9%
No	24.0	33.4	29.1
TOTAL PERCENT	100.0	100.0	100.0
WEIGHTED N	.41 mil.	.09 mil.	.50 mil.
UNWEIGHTED N	1,230	491	1,722
(If asked to show proof of income) How were you notified that proof was necessary?			
Telephone call from school	5.3%	5.9%	5.4%
Note brought home by child	35.3	36.3	35.4
Letter in the mail	50.4	46.9	49.8
Other	9.0	10.9	9.4
TOTAL PERCENT	100.0	100.0	100.0
WEIGHTED N	.29 mil.	.06 mil.	.35 mil.
UNWEIGHTED N	857	316	1,173
(If asked to show proof of income) How well did you understand the notice requesting proof?			
Very well	80.7%	70.7%	79.0%
Well	15.0	20.4	15.9
Not very well	3.9	4.8	4.1
Not at all	0.4	4.1	1.0
TOTAL PERCENT	100.0	100.0	100.0
WEIGHTED N	.29 mil.	.06 mil.	.35 mil.
UNWEIGHTED N	858	315	1,173
(If notice was not understood) Did the notice clearly identify the types of documents that were needed?			
Yes	72.3%	55.9%	67.8%
No	27.7	44.1	32.2
TOTAL PERCENT	100.0	100.0	100.0
WEIGHTED N	.013 mil.	.005 mil.	.02 mil.
UNWEIGHTED N	43	28	71

Exhibit 4.12 (continued)

NATIONAL ESTIMATES REGARDING VERIFICATION EXPERIENCES, BY VERIFICATION GROUP (School Year 1986-87)

Question	Verification Group: Verified, No Change In Benefits	Verification Group: Non-Responder to Verification	Total
(If notice was not understood) Was the notice given in a language that you understand?			
Yes	90.4%	87.2%	89.5%
No	9.6	12.8	10.5
TOTAL PERCENT	100.0	100.0	100.0
WEIGHTED N	.015 mil.	.005 mil.	.02 mil.
UNWEIGHTED N	52	35	87
(If notice was not understood) Did the notice use words that you didn't understand?			
Yes	44.2%	37.0%	42.2%
No	55.8	63.0	57.8
TOTAL PERCENT	100.0	100.0	100.0
WEIGHTED N	.014 mil.	.005 mil.	.02 mil.
UNWEIGHTED N	50	33	83
(If asked to show proof of income) What papers or documents were you asked to provide?			
Check stubs	48.5%	61.3%	50.6%
Food stamp documentation	42.5	12.8	37.9
Letter specifying eligibility	36.1	21.2	33.7
Social Security letter	6.2	6.7	6.3
Welfare office letter	6.4	1.5	5.7
Medical card	5.8	0.6	5.0
Child support documentation	4.1	6.1	4.4
Income tax return	2.1	11.1	3.5
Unemployment forms	3.1	2.8	3.1
Birth certificate	3.0	0.1	2.6
Court papers	1.9	2.7	2.0
Child's SS#	1.9	0.9	1.8
W2 forms	1.5	3.9	1.8
Xerox of checks	1.6	0.7	1.4
SSI documentation	0.7	3.7	1.2
TOTAL PERCENT	na*	na*	na*
WEIGHTED N	.30 mil.	.06 mil.	.36 mil.
UNWEIGHTED N	872	319	1,191

*Does not add to 100% as multiple responses were allowed.

Exhibit 4.12 (continued)

NATIONAL ESTIMATES REGARDING VERIFICATION EXPERIENCES, BY VERIFICATION GROUP (School Year 1986-87)

Question	Verification Group: Verified, No Change In Benefits	Verification Group: Non-Responder to Verification	Total
Did you or someone else in your household attempt to get these documents together?			
Yes	97.2%	69.9%	92.8%
No	2.8	30.1	7.2
TOTAL PERCENT	100.0	100.0	100.0
WEIGHTED N	.29 mil.	.06 mil.	.35 mil.
UNWEIGHTED N	863	308	1,171
Would you say that getting these documents together was			
Not difficult at all	81.7%	77.9%	81.2%
Somewhat difficult	16.0	14.3	15.8
Very difficult	2.3	7.8	3.0
TOTAL PERCENT	100.0	100.0	100.0
WEIGHTED N	.29 mil.	.06 mil.	.35 mil.
UNWEIGHTED N	845	217	1,062
Did you know that free or reduced-price school meals would be stopped if you did not provide the requested information?			
Yes	na	79.9%	79.9%
No	na	20.1	20.1
TOTAL PERCENT	na	100.0	100.0
WEIGHTED N	na	.09 mil.	.09 mil.
UNWEIGHTED N	na	536	536

Source of Data: In-Home Audit

The approved applicants were asked what papers or documents they were asked to provide in response to the verification request. The most frequently listed documents were check stubs (50.6%), food stamp documentation (37.9%), and a letter specifying eligibility for federal benefits (33.7%). Other types of documents include income tax returns, letters from social security or welfare offices, documentation of child support, medical cards, W2 forms, court papers, unemployment forms, and many others.

In addition, approved applicants were asked two questions regarding assembling the documents. Almost all households (92.8%) tried to assemble the documentation. As might be expected, the proportion of those who did not try to assemble documentation is much higher for the nonresponder households than for those that were verified with no change in benefits (30.1% vs. 2.8%).

Then, approved applicants were asked how difficult it was to assemble the documentation. Overall, is was not difficult at all for an estimated 81.2%, it was somewhat difficult for 15.8%, and it was very difficult for 3.0% of the applicants.

CHAPTER 5

FINDINGS: ERROR RATES AND FEDERAL SAVINGS

This chapter presents national estimates of error rates that were detected by SFAs in the fall of 1986 and the associated Federal cost savings. These "detected" error rates are compared with "audited" error rates that were calculated by conducting In-Home Audits in the spring of 1987 with samples of previously verified and nonverified applicants.

SUMMARY OF FINDINGS

- The results of income verification as conducted by SFAs in the fall of 1986 were used to calculate detected error rates. Projection of the results of school district income verification activities to all participants in the National School Lunch Program yields a nationally representative error rate of 11.1% due to detected errors. An additional 10.1% of households were assumed to be in error because they were selected for verification but did not respond to the school districts' verification requests. Thus, the nationally projected total error rate is 21.2% (11.1% + 10.1%).

- The nationally representative error rates noted above are somewhat lower than the rates actually found by all school districts (12.2% detected errors, 11.4% nonresponders, 23.6% total error) because some school districts use "focused" sampling to select households for verification. Since the focused sampling procedure is designed to generate a higher-than-expected error rate, data from school districts using focused sampling were excluded from the calculation of nationally representative error rates.

- The estimated Federal cost saving associated with the errors detected through income verification as currently implemented by SFAs is $18.05 million. Of this amount, $7.48 million is attributable to benefit changes resulting from detected errors, while $10.57 million (58.6%) is associated with benefits

denied for failure to respond to the request for income documentation. Further, there is the possibility that additional savings exist because of "deterrence" and "barrier" effects (see the following chapters for discussions of these issues).

- The results of In-Home Audits in spring 1987 were used to calculate audited error rates. Findings are that: (1) 15.1% of students in households that were verified by SFAs in fall 1986 with no resulting change in benefits had income and/or household size changes sufficiently large to alter their benefit status; (2) 41.2% of students in households that did not respond to the SFA's verification request in fall 1986 were classified differently at the time of the In-Home Audit than at the time of their application; and (3) 24.8% of students in households that were not verified by SFAs were misclassified.

- The audited error rate of 41.2% for nonrespondents is much less than the 100.0% error rate that is required by program regulations for nonresponders (i.e. according to program regulations, all nonresponders must have their meal benefits terminated). The 41.2% error rate for nonrespondents can be decomposed into three parts: 18.7% of nonrespondents correctly had their benefits terminated (free to paid, reduced to paid), 14.3% should have had their benefits reduced but not terminated (free to reduced), and 8.2% of nonrespondents qualified for an increase in benefits rather than having their benefits terminated.

- At the time of the In-Home Audit in spring 1987, almost half of the nonresponder households (48.3%) reported that children in the household were receiving free or reduced-price meals. That is, about half of the nonresponding households, which presumably should have had their benefits terminated at the end of the verification period, reported in the spring that they were receiving meal benefits. This has serious implications not only on the estimate of Federal savings resulting from income verification, but also for program implementation.

- Substantial changes in household income occurred during the year. An estimated 61.5% of verified (non-food stamp) households

experienced a change in monthly income of more than $50 between the time of application (August income) and the time of verification (November income). About 36.5% of the households experienced an increase in household income while an estimated 25.0% experienced a decrease.

- There were also changes in household size between time of application (August) and time of the In-Home Audit (April) for a substantial proportion of households--28.7% of those not verified by SFAs, 35.1% of those verified by SFAs with no resulting change in benefits, and 40.9% for nonresponders to the SFAs' verification requests. A substantial proportion (42.5%) of households which had reductions in benefits also had an increase in the number of wage earners in the household.

- SFAs made some mistakes when they determine eligibility at time of application and at time of verification. An estimated 4.6% of students were incorrectly classified at time of application (e.g., declared eligible for free meals but should have been receiving reduced-price meals), and 2.5% of students were incorrectly classified at time of verification (e.g. benefits were not changed but should have been changed from free to reduced).

- Households experience normal changes in income and household size between the time of application and the time of verification, and so the error rate detected by SFAs with respect to meal benefits in the NSLP actually consists of two parts: (1) error attributable to misreporting at the time of application, and (2) error attributable to a failure of households to declare changes in household circumstances that occur during the school year.

RESEARCH QUESTIONS

The purpose of this chapter is to gain an understanding of the extent and nature of error rates in the NSLP. Several sets of data on error rates are available. Data from the mail survey of 1,156 SFAs were used to estimate national error rates as detected by SFAs and to estimate the associated Federal cost savings. Data from In-Home Audits conducted in 98 SFAs were used to estimate the

amount of error due to changes in circumstances, detect the reasons for errors, and estimate the extent of error among verification nonrespondents. Finally, application records and income verification records were used to assess the accuracy of SFA eligibility and verification determinations. The chapter addresses a series of research questions in order to provide descriptive information in these areas:

- What is the overall error rate as detected by current SFA verification procedures?
- What are the net Federal cost savings that result from the changes in benefit status detected by current SFA income verification procedures?
- What is the audited error rate as measured through In-Home Audits?
- What are the major reasons for the misclassification of households?
- How accurate are SFA eligibility and verification determinations?
- What can be concluded about the nature of error rates?

Detected Error Rate

The error rate based on the results of current SFA verification activities is termed the "detected" error rate, as contrasted with "audited" error rates obtained through In-Home Audits. It includes results from SFAs that use random sampling to select the verification sample, SFAs that use focused sampling, and SFAs that verify all applications. Hence, the detected error rate is appropriate as a measure of the amount of error currently being found by SFAs, and is appropriate to use when calculating the savings to the Federal government of current verification activities. However, because this error rate includes results from SFAs that use nonrandom sampling (i.e., focused selection), the detected error rate does not offer the best estimate of the amount of error that exists in the NSLP nationally (see the following discussion of projected and audited error rates).

The detected error rate is calculated using the following ratio:

$$\text{Error Rate} = \frac{\text{(N students with changed benefits)}}{\text{(N students in verified households)}}$$

where the number of students with changed benefits is the number of students in households that were verified by SFAs and that had a resulting change in benefit status (including students in nonresponding households), and the number of students in verified households is the number of students in all verified households, regardless of whether benefits were or were not changed. The total detected error rate can be partitioned into five parts: (1) free benefits changed to paid, (2) free benefits changed to reduced-price, (3) reduced-price benefits changed to paid, (4) reduced-price benefits changed to free, and (5) nonresponders (both free and reduced-price students) changed to paid.

The income information declared by households on the free and reduced-price meal application is for the month prior to application. Because most applications are completed at the start of the school year, income will typically be reported for the month of August. On the other hand, income verification is based on income from the month prior to verification, and because verification is typically done between October and December, the month for which income is reported will vary between September and November, with October and November being the typical months.

Projected Error Rate

Although the detected error rate offers the best estimate of the amount of error in meal benefit status currently being detected by NSLP income verification activities, it does not, as noted above, offer the best estimate of the amount of error that exists in the NSLP. To obtain a better estimate, it is necessary to exclude SFAs using focused sampling methods, and to calculate a projected national error rate estimate based only on SFAs that use random sampling or that verify all applications. SFAs using focused sampling do not select a sample that can be used to generalize to all students in the SFA. This is done by design, not by accident. The effect, however, is that an error rate estimated from SFAs using focused sampling is higher than would be expected in the population of free and reduced-price students, and hence this error rate should not be used to generalize to all students.

On the other hand, an SFA which uses random sampling or which verifies all applications, does generate an error rate which can properly be generalized to all students in the SFA. Hence, it is appropriate to combine the verification results from SFAs that use random sampling with results from SFAs that verify all applications to calculate a projected national error rate.

Audited Error Rate

Both detected and projected error rates are based on SFA reports of the results of their verification activities in fall 1986. This study, however, provides an additional estimate of the NSLP error rate using data collected through In-Home Audits in spring 1987. This audited error rate is derived from information for three groups of applicants: (1) those that were verified by the SFA with no resulting change in benefits, (2) those that were non-responders to the SFA's verification request, and (3) those that were not verified by the SFA. Approved applicants that were verified by the SFA and were found to be in error were not included as a group in the In-Home Audit part of the study.

Audited error rates have been calculated for each of the three verification groups listed above. The calculation involves computing the eligibility status of each household in the sample, and then computing the percentage of households whose status at the time of the In-Home Audit is different from their status either at the time of verification or application. Again, the audited error rates are partitioned so that the reader can determine the amount of error coming from different sources (e.g., a change from free to paid status).

The In-Home Audits were conducted in spring of 1987.* To be consistent with verification procedures used by the SFAs, the interviewers were instructed to verify the prior month's income--generally, income for April 1987. Thus, the error

*This timing occurred because it was necessary to wait until SFA verification was completed in order to draw appropriate samples for the In-Home Audit. Further, clearance of study instruments by the Federal Office of Management and Budget was not obtained until spring of 1987.

rates based on data from the In-Home Audits reflect the status of applicants in April, rather than in November. Therefore, the In-Home Audit data should be viewed as a vehicle for obtaining information on subgroups that SFAs were not able to verify (non-responders), and did not try to verify (not verified), as well as additional information on applicants who were verified with no change in benefits.

RESEARCH FINDINGS

This section contains findings from analyses describing the magnitude of misreporting error in applying for NSLP meal benefits.

What is the Overall Error Rate as Detected by Current SFA Verification Procedures?

Data from the mail survey of SFAs were used to estimate the detected rate of change in benefits due to current income verification procedures used by SFAs. This detected error rate was calculated as the number of students with changes in benefits resulting from SFA income verification procedures divided by the total number of students selected for verification. Exhibit 5.1 shows national estimates of the results of income verification by SFAs in fall 1986 (Exhibit 5.1a provides the corresponding standard errors). Projection of the results of school district income verification activities to all participants in the National School Lunch Program yields a nationally representative error rate of 11.1% due to detected errors. An additional 10.1% of households were assumed to be in error because they were selected for verification but did not respond to the school district's verification requests. Thus, the nationally projected total error rate is 21.2% (11.1% + 10.1%).

The estimate of 11.1% error due to misreporting agrees almost exactly with the 11.0% estimate from the Income Verification Pilot Project* and is close to the 9.6% estimate from the U.S. General Accounting Office's study of income verifica-

*Income Verification Pilot Project, Phase II, Results of Quality Assurance Evaluation. 1982-83 School Year. Silver Spring, MD: Applied Management Sciences, Inc., April 1984.

Exhibit 5.1

NATIONAL ESTIMATE OF NUMBER OF STUDENTS RECEIVING INCORRECT BENEFITS AND DETECTED ERROR RATES* BASED ON CURRENT INCOME VERIFICATION ACTIVITIES
(School Year 1986-87)

Verification Group and Type of Change in Benefits	Verification Sampling Method						Total		Total (Excluding Focused)	
	Random		Focused		Verify All					
	N	%	N	%	N	%	N	%	N	%
Students selected for verification	424,316	100.0	75,388	100.0	243,277	100.0	742,931	100.0	667,543	100.0
Verified by SFA with no change in benefits	315,795	74.4	41,290	54.8	210,389	86.5	567,474	76.4	526,184	78.8
Verified by SFA with a change in benefits	108,521	25.6	34,098	45.2	32,838	13.5	175,457	23.6	141,359	21.2
Verified by SFA with a resulting change in benefits										
Free to paid	21,276	5.0	4,416	5.9	5,905	2.4	31,597	4.3	27,181	4.1
Free to reduced-price	15,708	3.7	6,956	9.2	5,048	2.1	27,712	3.7	20,756	3.1
Reduced-price to paid	12,305	2.9	3,985	5.3	4,691	1.9	20,981	2.8	16,996	2.6
Reduced-price to free	4,634	1.1	1,085	1.4	4,364	1.8	10,083	1.4	8,998	1.3
SUBTOTAL	53,923	12.7	16,442	21.8	20,008	8.2	90,373	12.2	73,931	11.1
Nonresponder to SFA verification request										
Free to paid	38,280	9.0	11,797	15.6	10,673	4.4	60,750	8.2	48,953	7.2
Reduced-price to paid	16,318	3.9	5,859	7.8	2,157	0.9	24,334	3.2	18,475	2.8
SUBTOTAL	54,498	12.9	17,656	23.4	12,830	5.3	85,084	11.4	67,428	10.1

*Error rates are calculated as the weighted number of students whose benefits were changed as a result of SFA verification divided by the weighted total number of students verified.

Source of data: SFA Manager Interview (mail)

Exhibit 5.1a

STANDARD ERRORS FOR NATIONAL ESTIMATE OF NUMBER OF STUDENTS RECEIVING INCORRECT BENEFITS AND DETECTED ERROR RATES BASED ON CURRENT INCOME VERIFICATION ACTIVITIES
(School Year 1986-87)

Verification Group and Type of Change in Benefits	Verification Sampling Method						Total		Total (Excluding Focused)	
	Random		Focused		Verify All					
	N	%	N	%	N	%	N	%	N	%
Students selected for verification	(55,173)		(14,810)		(94,102)		(121,519)		(119,310)	
Verified by SFA with no change in benefits	(49,443)	(2.8)	(8,137)	(2.7)	(83,162)	(1.5)	(107,854)	(2.5)	(106,732)	(2.3)
Verified by SFA with a change in benefits	(11,049)	(2.8)	(7,205)	(2.7)	(11,555)	(1.5)	(18,552)	(2.5)	(15,785)	(2.3)
Verified by SFA with a resulting change in benefits										
Free to paid	(2,623)	(0.6)	(1,424)	(1.2)	(2,452)	(0.9)	(4,083)	(0.5)	(3,725)	(0.5)
Free to reduced-price	(1,697)	(0.5)	(1,481)	(0.8)	(2,539)	(1.0)	(3,548)	(0.5)	(3,120)	(0.5)
Reduced-price to paid	(1,533)	(0.3)	(1,157)	(1.1)	(1,901)	(0.7)	(3,241)	(0.4)	(2,629)	(0.4)
Reduced-price to free	(1,039)	(0.2)	(348)	(0.3)	(1,132)	(0.4)	(1,550)	(0.2)	(1,511)	(0.2)
SUBTOTAL	(5,964)	(1.4)	(3,901)	(2.2)	(7,239)	(2.6)	(11,138)	(1.5)	(9,706)	(1.4)
Nonresponder to SFA verification request										
Free to paid	(4,907)	(1.3)	(2,708)	(2.0)	(7,031)	(1.6)	(8,791)	(1.0)	(8,268)	(1.0)
Reduced-price to paid	(2,152)	(0.5)	(1,588)	(1.5)	(727)	(0.3)	(3,137)	(0.6)	(2,309)	(0.5)
SUBTOTAL	(6,529)	(1.7)	(3,770)	(2.2)	(7,220)	(1.4)	(10,451)	(1.5)	(9,317)	(1.4)

Source of data: SFA Manager Interview (mail)

tion.** However, the estimate of 10.1% error due to nonresponse is substantially higher than the 3.0% estimate from the pilot project, and is lower than the 19.4% estimate from the General Accounting Office's study. These differences are probably due to the fact that the GAO and IVPP studies were based on small, non-representative samples of SFAs, while the present study is based on a large, nationally representative sample.

The nationally representative error rates found by the present study are somewhat lower than the rates actually found by all school districts (12.2% detected errors, 11.4% nonresponders, 23.6% total error) because some school districts use "focused" sampling to select households for verification. Since the focused sampling procedure is designed to generate a higher-than-expected error rate, data from school districts using focused sampling were excluded from the calculation of nationally representative error rates.

The 11.1% detected error rate can be decomposed as follows: 9.8% is from students where the Federal government had been making overpayments (4.1% were changed from free to paid, 3.1% from free to reduced-price, and 2.6% from reduced-price to paid), and the remaining 1.3% is from students where the Federal government had been making underpayments (students changed from reduced-price to free).

As expected, these figures vary by the type of verification procedure used by the SFA with those using focused selection methods detecting a much higher rate of error than SFAs using random sampling. As shown in Exhibit 5.1, the detected error rate is 21.8% for SFAs that used focused sampling, 12.7% for SFAs that used random sampling, and 8.2% for SFAs that verified all applications.

What are the Net Federal Cost Savings That Result From the Changes in Benefit Status Detected by Current SFA Income Verification Procedures?

The results of SFA income verification efforts lead to four types of outcomes for students subject to the regulatory requirements. Students can be:

**School Meal Programs: Options for Improving the Verification of Student Eligibility. Washington, DC: U.S. General Accounting Office, ACED-86-122BR, March 1986.

- found to be receiving correct benefits;
- found to be receiving overpayments and should have their meal status changed from free to reduced, free to paid, or reduced to paid;
- found to be receiving underpayments and should have their meal status changed from reduced to free; or
- denied benefits for failure to comply with the request for income documentation (i.e., the nonresponders).

Students found to have been receiving overpayments and those terminated for nonresponse represent a Federal cost savings--subsidies that would have otherwise been paid are avoided as a result of income verification. Similarly, students found to have been receiving underpayments represent additional costs to the program--subsidies must be increased for these students. The net effect of the two types of changes represents the total change in Federal expenditures attributable to income verification.

The question addressed in this section is "What is the magnitude of the net program cost savings?" The final chapter in this report contains a discussion which combines the savings presented here with estimates of the cost of verification to produce estimates of the cost-effectiveness of verification.

The magnitude of the net savings associated with income verification is related to four factors:

- the number of students whose benefits are changed due to income verification;
- the change in the Federal subsidy associated with each change in benefit status;
- the number of serving days over which the savings is expected to be accrued; and
- the number of meals each student whose benefits are changed would be expected to eat after the change in status has occurred.

Using these factors, the net Federal cost savings can be computed by summarizing the savings over all of the students whose benefit status is altered by income verification:

$$NS = \sum_i S_{PF} + \sum_i S_{PR} + \sum_i S_{RF} - \sum_i C_{FR},$$

where:

NS = net estimated Federal cost savings;

S_{PF} = savings in reduced reimbursements due to not serving free meals to students who should be served paid meals;

S_{PR} = savings in reduced reimbursements due to not serving reduced-price meals to students who should be served paid meals;

S_{RF} = savings in reduced reimbursements due to not serving free meals to students who should be served reduced-price meals; and

C_{FR} = cost of increased reimbursements due to serving free meals to students originally approved for reduced-price meals.

Each of these components is equal to the product of the savings (or cost) per meal and the number of meals the student is expected to consume after benefits are corrected. For example, for students whose benefits were changed from free to paid:

$$S^i_{PF} = D^*\{(L_F^* \text{ Prob } L_F) - (L_p^* \text{ Prob } L_p)\} + D^*\{(B_F^* \text{ Prob } B_F) - (B_p^* \text{ Prob } B_p)\}$$

where:

L_F = Federal subsidy for a free lunch (cash plus commodities);

L_P = Federal subsidy for a paid lunch (cash plus commodities);

B_F = Federal subsidy for a free breakfast (cash);

B_P = Federal subsidy for a paid breakfast (cash);

Prob L_F = the probability of an average student eating a free school lunch on a given day;

Prob L_p = the probability of an average student eating a paid school lunch on a given day;

Prob B_F = the probability of an average student eating a free school breakfast on a given day (equal to zero if breakfast is not offered);

Prob B_p = the probability of an average student eating a paid school breakfast on a given day (equal to zero if breakfast is not offered); and

D = number of serving days from the point of the meal status change to the end of the school year.

Each of these factors can be considered in more detail, and then used to compute estimated national savings.

The number of students whose benefits were changed. As is shown in Exhibit 5.1, 90,373 students are estimated to have been detected by SFAs to be receiving incorrect benefits. To this total must be added those students who were terminated for non-response--an additional 85,084 students. In total, an estimated 175,457 students had their benefits changed as a result of income verification. About 94.3% of these changes (i.e., excluding students whose benefits were increased) resulted in decreased Federal outlays (this estimate is close to the estimate of 97.2% provided in the earlier referenced GAO study).

The change in Federal subsidy. Federal subsidies for lunches and breakfasts are summarized in Exhibit 5.2. Based on these subsidies, the Federal subsidy change associated with each of the various altered benefit approval categories can be computed as follows: change in the regular lunch subsidy for students changed from free to paid = $1.525 - $0.255 = $1.270. The subsidy changes are summarized below:

	Lunch		
Meal Status Change	Regular	Severe Need	Breakfast
Free to paid	$1.270	$1.270	$0.628
Free to reduced	0.400	0.400	0.300
Reduced to paid	0.870	0.870	0.328
Reduced to free	-0.400	-0.400	-0.300

Exhibit 5.2

FEDERAL PER MEAL SUBSIDIES FOR NSLP AND SBP (School Year 1987-88)

Program	Type of Subsidy		Total
	Cash	Entitlement Commodities	
NSLP			
Regular			
Free	$1.405	$0.120	$1.525
Reduced	1.005	0.120	1.125
Paid	0.135	0.120	0.255
Severe Need			
Free	$1.425	$0.120	$1.545
Reduced	1.025	0.120	1.145
Paid	0.155	0.120	0.275
SBP			
Free	0.763	--	0.763
Reduced	0.463	--	0.463
Paid	0.135	--	0.135

Because of the added meal availability, a change in the benefit status for a student in an SFA that offers breakfast has a higher saving than in a lunch-only school district.

The number of days over which the savings will be accrued. This is the number of serving days between the point at which the student's benefit status was changed and the end of the school year. This was calculated for each SFA as the number of serving days from the completion of income verification to the end of the school year.

Probability of a student eating a subsidized meal on a given day. Students do not eat school lunch or school breakfast on every school day--they are absent from school some days, and even when they are in school, they sometimes make other choices (e.g. brown bag from home). Therefore, estimates of savings must be adjusted to take this into account.

The actual probability of eating a school lunch or school breakfast is unknown for each student whose benefits have been changed due to verification. Instead, national average participation rates have been used.* Of those students who are approved for free meals, 94% typically receive a school lunch and 48% receive a school breakfast on any given day. This yields probabilities of participation for free students of 0.94 and 0.48, respectively. For students approved for reduced-price meals the corresponding probabilities are 0.90 and 0.10, respectively; for paid students the associated probabilities are 0.58 and 0.08, respectively.

Combining this information with subsidy rates it is possible to calculate the expected savings for a given day associated with changing a student's approved meal status. For example, the probability that a student approved for free meals will eat lunch on a given day is, as noted above, equal to 0.94. This means that an individual "free" student would be expected to receive $1.434 in Federal funds for school lunch on any given day (i.e., 0.94 x $1.525). Calculating similar estimates for all price categories yields the following results:

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*Final Report: Modeling Student Participation in School Nutrition Programs. Washington, DC: The Urban Institute, Study Conducted for the Food and Nutrition Service, U.S. Department of Agriculture, 1987, pp. 58 and 68.

Meal Status	Lunch		Breakfast
	Regular	Severe Need	
Free	$1.434	$1.452	$0.366
Reduced	1.013	1.031	0.046
Paid	0.148	0.160	0.011

How individual students will actually alter their behavior in response to a change in meal benefit status is unknown. All that is possible to do is to assume that students whose benefits are changed will take on the behavior of students in the eligibility category to which they are moved. In other words, it is assumed that a student approved for free meals who is changed to paid meal status will eat school lunches at the same rate as paid students.

The consequences of this line of reasoning is the following table which represents the expected changes in Federal subsidies resulting from various changes in student meal status. The figures are calculated as the difference between the subsidy values shown above. For example, a student who is changed from free to paid would be expected to still eat school lunches but at a reduced level. Because both free and paid meals receive a Federal subsidy, the expected Federal savings per day is equal to $1.286 for these students (i.e., $0.148 - $1.434).

Meal Status Change	Lunch		Breakfast
	Regular	Severe Need	
Free to paid	-$1.286	-$1.292	-$0.355
Free to reduced	-0.421	-0.421	-0.320
Reduced to paid	-0.865	-0.871	-0.035
Reduced to free	+0.421	+0.421	+0.320

Estimated cost savings due to current income verification activities. As shown in Exhibit 5.3, the Federal cost saving associated with income verification as currently implemented by SFAs is equal to $18.05 million.* Of this amount, $7.47 million

*This is calculated by multiplying the number of children having their benefits changed (Exhibit 5.1) by the difference in Federal subsidy associated with each change, and the number of serving days from the completion of income verification to the end of the school year. The 95% confidence interval for this estimate is from $13.15 million to $22.94 million.

Exhibit 5.3

NATIONAL ESTIMATES OF FEDERAL SAVINGS RESULTING FROM CURRENT INCOME VERIFICATION ACTIVITIES, BY TYPE OF CHANGE IN BENEFIT AND BY VERIFICATION SAMPLING METHOD (School Year 1986-87)

Type of Change In Benefit	Verification Sampling Method			Total	Total (Excluding Focused)
	Random	Focused	Verify All		
Verified with a change in benefit status					
Free to paid	$3,296,135	$739,151	$529,023	$4,564,309	$3,825,158
Free to reduced-price	1,014,935	482,914	157,392	1,655,241	1,172,327
Reduced-price to paid	1,156,818	382,042	288,942	1,827,803	1,445,760
Reduced-price to free	(373,877)	(79,659)	(121,629)	(575,165)	(495,506)
SUBTOTAL	5,094,011	1,524,448	853,728	7,472,188	5,947,739
Nonresponders					
Free to paid	5,661,900	1,970,390	1,417,376	9,049,666	7,079,276
Reduced-price to paid	814,967	545,340	163,375	1,523,682	978,342
SUBTOTAL	6,476,867	2,515,730	1,580,751	10,573,348	8,057,618
TOTAL	11,570,878	4,040,178	2,434,479	18,045,536	14,005,357

Source of Data: SFA Manager Interview (mail)

(41.4%) is associated with benefit changes resulting from detected errors, while $10.57 million (58.6%) is associated with benefits denied to students for failure to respond to the request for income documentation. The $7.47 million savings resulting from detected errors can be decomposed into $8.05 million that would have been overpaid, and $0.58 million that would have been underpaid.

What is the Audited Error Rate as Measured Through In-Home Audits?

Data from In-Home Audits with several groups of approved applicants in a subsample of 98 SFAs were used to estimate audited rates of applicant misreporting. Exhibit 5.4 shows estimates of audited error rates by verification sampling method (random vs. focused sampling)* and for the three verification groups that were interviewed: (1) verified by SFAs with no change in benefits, (2) nonresponders to the SFA's verification request, and (3) not verified by the SFA (Exhibit 5.4a shows corresponding standard errors). The remainder in each group (labeled "No Change") are approved applicants whose audited status is the same as their original application status.

Verified by SFA With No Change in Benefits. Approved applicants in this group of households were verified by SFAs in the fall of 1986 (based on November income) and were all found to be receiving correct meal benefits at that time. Reverification of this group in the spring of 1987 through In-Home Audits (based on April income) revealed error rates of 15.1% in SFAs that use random sampling and 33.6% in SFAs that use focused sampling.** That is,

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*No SFAs that verify all applications were included in the In-Home Audit sample of 98 SFAs.

**Since all families in this group were verified and were found to be receiving correct benefits, it might be assumed that audited error rates for families in SFAs that use random sampling should be the same as in SFAs that use focused sampling. However, such an assumption is incorrect (and does

Exhibit 5.4

AUDITED ERROR RATES* FOR THREE VERIFICATION GROUPS, BY VERIFICATION SAMPLING METHOD, AND TYPE OF CHANGE IN BENEFITS (School Year 1986-87)

Verification Group and Type of Change in Benefits	Verification Sampling Method		
	Random	Focused	Total**
Verified by SFA with no change in benefits			
Free to paid	2.7%	7.1%	na
Free to reduced-price	7.0	13.3	na
Reduced-price to paid	1.6	6.0	na
Reduced-price to free	3.8	7.2	na
ERROR SUBTOTAL	15.1	33.6	na
NO CHANGE	84.9	66.4	na
UNWEIGHTED N	989	294	na
Nonresponder to SFA's verification request			
Free to paid	10.8%	9.3%	na
Free to reduced-price	14.3	23.9	na
Reduced-price to paid	7.9	16.9	na
Reduced-price to free	8.2	6.2	na
ERROR SUBTOTAL	41.2	56.2	na
NO CHANGE	58.8	43.8	na
UNWEIGHTED N	373	163	na
Not verified by SFA			
Free to paid	4.1%	3.1%	3.8%
Free to reduced-price	9.3	8.7	9.1
Reduced-price to paid	3.2	5.0	3.6
Reduced-price to free	8.9	5.6	8.2
ERROR SUBTOTAL	25.5	22.4	24.8
NO CHANGE	74.5	77.6	75.2
UNWEIGHTED N	451	521	972

*Error rates are calculated as the weighted number of children whose benefits would be changed based on the In-Home Audit data, divided by the weighted total number of children verified.

**It is not appropriate to calculate this total for the "verified with no change in benefits" group or the "nonresponder" group, because the results from SFAs using focused sampling do not properly generalize to all students in the SFA. On the other hand, the total can be calculated for the "not verified" group, because the not verified sample was randomly selected for participation in this study, even for focused SFAs.

Source of data: In-Home Audit

Exhibit 5.4a

STANDARD ERRORS FOR THREE VERIFICATION GROUPS, BY VERIFICATION SAMPLING METHOD, AND TYPE OF CHANGE IN BENEFITS (School Year 1986-87)

Verification Group and Type of Change in Benefits	Verification Sampling Method: Random	Focused	Total
Verified by SFA with no change in benefits			
Free to paid	(1.0)%	(1.6)%	na
Free to reduced-price	(1.4)	(3.1)	na
Reduced-price to paid	(0.5)	(2.7)	na
Reduced-price to free	(1.0)	(2.1)	na
ERROR SUBTOTAL	(2.9)	(3.8)	na
NO CHANGE	(2.9)	(3.8)	na
Nonresponder to SFA's verification request			
Free to paid	(2.1)%	(2.2)%	na
Free to reduced-price	(2.1)	(4.5)	na
Reduced-price to paid	(3.0)	(3.6)	na
Reduced-price to free	(2.3)	(2.2)	na
ERROR SUBTOTAL	(3.8)	(5.3)	na
NO CHANGE	(3.8)	(5.3)	na
Not verified by SFA			
Free to paid	(1.7)%	(0.8)%	(1.4)%
Free to reduced-price	(1.4)	(2.6)	(1.1)
Reduced-price to paid	(1.1)	(1.1)	(0.9)
Reduced-price to free	(1.7)	(1.2)	(1.5)
ERROR SUBTOTAL	(2.2)	(3.8)	(2.0)
NO CHANGE	(2.2)	(3.8)	(2.0)

Source of data: In-Home Audit

between the time of SFA verification in the fall and In-Home Audit in the spring, 15.1% of households that were verified by random sampling SFAs with no resulting change in benefits (and 33.6% of households verified by focused sampling SFAs) were found to have income and/or household size changes sufficiently large to alter their benefit status. It should be noted that when comparing this error rate with error rates obtained from the SFA mail survey, the 15.1% and 33.6% error rates are entirely composed of "detected errors" and do not include any errors due to nonresponse.

The language used to describe the results of verification in past studies has considered any household with a discrepancy between meal status as approved and meal status as verified to be an instance of misreporting of income. That is, "discrepancy" and "misreporting" were used interchangeably. The data reported above indicate that the fact that students are misclassified does not necessarily mean that the student's families initially misreported their income.

While the 15.1% and 33.6% error rates certainly reflect the fact that students were erroneously classified, it should be recalled that all of the students in these groups were already verified by SFAs in fall 1986 and were found to be eligible for the meal benefits that they were granted at the time of application. If it is assumed that SFAs did not misclassify these students, the results of the spring 1987 In-Home Audit of these groups of households that were previously verified by SFAs can be viewed as an indication that income and household size undergo normal changes during the school year.

About three-quarters of the 15.1% error rate would lead to a decrease in Federal outlays (overpayments), while one-quarter would increase Federal outlays (underpayments). The 15.1% error rate for random sampling SFAs can be partitioned as follows: 2.7% comes from students who would move from the free to paid categories, that is, they were verified as eligible for free meals in the fall but would not be eligible for free or reduced-price

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not match the data) because even if an SFA using focused sampling has verified a group of families and found them to be correctly classified, that group remains close to the eligibility cutoff, and is more prone to moving across the cutoff point than a randomly selected group.

meals in the spring; 7.0% comes from students who would move from the free to reduced-price category; 1.6% comes from students who would move from the reduced-price to paid category; and finally, 3.8% comes from students who would move from the reduced-price to free category.

For SFAs using focused sampling, the 33.6% error rate can be partitioned as follows: 7.1% free to paid, 13.3% free to reduced-price, 6.0% reduced-price to paid, and 7.2% reduced-price to free. Note that none of this provides evidence that SFAs using focused sampling have a higher percentage of their population in error than SFAs using random sampling. It simply means that SFAs using focused sampling are, indeed, able to "focus" the sample on groups of applicants that are more likely to be in error.

Nonresponders to the SFA's Verification Request. SFAs attempted to obtain verification information from this group of households in the fall of 1986, however no documentation of income was received by the school. Regulations require this group to be terminated from receiving meal benefits. In the spring of 1987, interviewers visited nonresponders at home and verified their income (based on data from April). As shown in Exhibit 5.4, the In-Home Audit data reveal that only 41.2% of the nonresponders in SFAs using random sampling (56.2% in SFAs using focused sampling) should have had their benefits changed.* That is, while Federal regulations require that all nonresponders have their benefits terminated (an assumed 100% error rate), the analysis conducted here shows that around half of all nonresponders qualified for continued meal benefits. Of the 41.2% of the nonresponders in random sampling SFAs that should have had their benefits changed, 10.8% were students who should have been changed from free to paid, 14.3% from free to reduced-price, 7.9% from reduced-price to paid, and 8.2% from reduced-price to free. Exhibit 5.4 shows a similar breakdown of the 56.2% nonresponder error rate for SFAs using focused sampling.

While the 41.2% and 56.2% error rates are high, it should be noted that they include both errors that would have been apparent in the fall, had this group

*Differences in error rates are to be expected between SFAs that use random sampling and SFAs that use focused sampling, simply because the groups being verified are different.

been verified, as well as changes in circumstances that occurred between the fall verification and the spring In-Home Audit. Further, the 41.2% error rate includes students (14.3%) whose benefits should have been reduced (free to reduced-price) rather than terminated, as well as students (8.2%) who actually deserved an increase in benefit level (reduced to free). Thus, current regulations call for the termination of benefits to all nonresponders, but only an estimated 18.7% of nonresponders in SFAs that use random sampling and 26.2% of nonresponders in SFAs that use focused sampling would have their benefits changed to paid status based on an examination of their income and household size.

As part of the In-Home Audit, nonresponders to verification were asked whether they had been required to show proof of the income they declared on their application for meal benefits. An estimated 33.4% of nonrespondents replied that they had not been asked to do so. There are a number of possible explanations for this finding. For example, nonresponders might have forgotten that they received the verification notice; someone in the household might have received the notice, but the person being interviewed might not have seen it; the person being interviewed might not be telling the truth; or, the notice indeed may never have been received. There is no way of knowing which of these explanations is most accurate. The most that can be done is to note that if the notice was simply not received, then up to one-third of all nonrespondents might have supplied documentation if they had received the request. It should be noted, however, that receipt of the verification notice is not required prior to termination of meal benefits. The results of the In-Home Audit (Exhibit 5.5) show that the error rate is higher among nonresponders who claimed that they were not asked to supply proof of their income than among nonresponders who said that they were asked (50.5% error versus 41.6% error, respectively).

Not Verified by SFA. Households which were approved for meal benefits but were never verified represent the largest verification subgroup, since 93.6% of approved applicants are not verified by SFAs. In-Home Audits for a sample of this "not verified by SFAs" group yields an estimated error rate of 24.8%*

*Note that it is appropriate to use data from SFAs that use focused sampling as well as from SFAs that use random sampling to calculate an error rate for the "not verified" group, because the SFA's

Exhibit 5.5

AUDITED ERROR RATES FOR NONRESPONDERS TO SFA VERIFICATION REQUESTS, BY WHETHER HOUSEHOLD REPORTED BEING ASKED TO SHOW PROOF OF INCOME (School Year 1986-87)

Type of Change in Benefits	Have you been asked to show proof of the information provided on the application?	
	Yes	No
Free to paid	11.2%	7.7%
Free to reduced-price	14.4	19.0
Reduced-price to paid	8.0	14.3
Reduced-price to free	8.0	9.5
ERROR SUBTOTAL	41.6	50.5
NO CHANGE	58.4	49.5
UNWEIGHTED N	313	168

Source of data: In-Home Audit

(see Exhibit 5.4). Once again, this rate includes both the errors that would have been detected through the SFA's verification effort, as well as changes in income and household circumstances that occur over the year. The rate can be decomposed as follows: 3.8% were students who would be changed from free to paid, 9.1% were students who would be changed from free to reduced-price, 3.6% were students who would be changed from reduced-price to paid, and 8.2% were students who would be changed from reduced-price to free. As expected, the rates differ little between SFAs that use random and focused sampling.

Termination of Meal Benefits for Nonresponders to SFA Verification Requests. Households that did not respond to the SFA verification requests were surveyed and asked whether any children in the household were currently receiving free or reduced-price school lunches. Children in nonresponding households should have received meal benefits during the first few months of the year, but if SFAs are following program regulations, benefits to children in nonresponding households should have been terminated at the end of the verification period.

Exhibit 5.6 shows that, at the time of the In-Home Audit in spring 1987, almost half of the nonresponder households (48.3%) reported that children in the household were receiving meal benefits. That is, about half of the nonresponding households, which presumably should have had their benefits terminated at the end of the verification period, reported in May that they were still receiving meal benefits.*

There are several reasons why this could occur. One possibility relates to the difficulty of deciding which households are and are not nonresponders. The verification process typically follows a pattern where SFAs send out an initial notice, some households respond (leaving an initial group of nonresponders), a second notice is sent out and more households respond (leaving a reduced group of nonresponders), and so on, until the process stops

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sampling method makes no difference to the selection of a sample of applicants that were not verified.

*It should be noted that this study made no attempt to verify whether nonresponding households actually had their benefits terminated by SFAs.

Exhibit 5.6

ESTIMATED PERCENTAGE OF HOUSEHOLDS REPORTING THAT CHILDREN ARE RECEIVING MEAL BENEFITS AS OF THE TIME OF THE IN-HOME AUDIT IN SPRING 1987

Question	Verification Group: Verified, No Change in Benefits	Verification Group: Nonresponder to Verification	Verification Group: Not Verified
Are any of the children in your household currently receiving free or reduced-price school lunches?			
Yes	96.6%	48.3%	97.6%
No	3.4	51.7	2.4
TOTAL PERCENT	100.0	100.0	100.0
WEIGHTED N	0.22 mil	0.06 mil	8.43 mil
UNWEIGHTED N	1,283	531	972

Source of data: In-Home Audit

because, the SFA decides to stop trying to obtain information from the existing group of nonresponders, or the December 15th cutoff date is reached. Based on anecdotal evidence from SFA managers it is clear that even after the official end of verification, documentation is received from some nonresponders. So the exact definition of a nonresponder may be unclear in some SFAs. Is it the households that do not respond to the initial request for documentation? Is it the households that have not responded by the end of the verification period? Does it include households that have not responded by the end of the verification period but that provided documentation the next week? If this type of confusion occurs, the counts and lists of nonresponders provided as part of this study could have been affected.

A second possibility is that there could have been some confusion over the question asked in the In-Home Audit. Perhaps the person answering the question did not know that meal benefits had been terminated, or interpreted the question as asking whether meal benefits had been received at any time during the school year.

Third, it may be that some nonresponders actually had their benefits terminated, and then reapplied (with appropriate documentation) and were granted benefits again. Since the In-Home Audit was conducted in spring of 1987, nonresponders would have had sufficient time to reapply for and be granted meal benefits between the end of verification and the time of the In-Home Audit.

Fourth, it is possible that individual schools do not receive from the school district the names of students that should have their benefits terminated, or do not understand that these individuals should no longer receive free or reduced-price benefits.

Exhibit 5.7 shows that the results of the In-Home Audit are consistent with these latter hypotheses in that only 11.3% of the nonresponders that continued to receive benefits should have had their benefits changed to paid status (6.4% free to paid plus 4.9% reduced-price to paid) based on a comparison of income and household size reported on their application (August income) and in response to the In-Home Audit (April income). This percentage may have been even smaller if it was based on November income which is the month on which SFA managers would have based their decision.

Exhibit 5.7

AUDITED ERROR RATES FOR NONRESPONDERS TO SFA VERIFICATION REQUESTS, BY WHETHER HOUSEHOLD CONTINUES TO RECEIVE MEAL BENEFITS (School Year 1986-87)

Type of Change in Benefits	Are any of the children in your household currently (May 1987) receiving free or reduced price school lunches?	
	Yes	No
Free to paid	6.4%	14.5%
Free to reduced-price	16.4	15.7
Reduced-price to paid	4.9	13.2
Reduced-price to free	7.8	6.3
ERROR SUBTOTAL	35.5	49.7
NO CHANGE	64.5	50.3
UNWEIGHTED N	278	239

Source of data: In-Home Audit

In any case, the finding that almost half of the nonresponders report that children in their households are receiving meal benefits has serious implications for estimates of Federal savings resulting from income verification. To the extent that nonresponders do not have their meal benefits terminated, the estimated savings associated with the denial of benefits to nonresponders reported earlier in this chapter are overstated by up to 48%. Further, there are also implications for program implementation if it is the case that school district or school level officials are not complying with program regulations that call for the termination of meal benefits for nonresponders.

What are the Major Reasons for the Misclassification of Households?

Several issues are examined in this section. First is an assessment of the ability of SFAs to obtain complete data on a household's income. Second, is the extent to which income changes across the year. Third, is the extent to which household size changes across the year. And fourth, is the extent to which a reduction in meal benefits is due to an increase in the number of wage earners in the household.

Inability of SFAs to Obtain Complete Data. One factor related to the size of applicant error is the extent to which the SFA is able to obtain complete and accurate documentation of the income declared on the application. Clearly, nobody can force applicants to provide complete and accurate income information, and SFA managers have complained that it is difficult to be sure that the documentation supplied in response to a verification request is complete. The same caveat holds for information obtained through the In-Home Audits--if a respondent wanted to misrepresent his or her income there is no way to detect it through a self-declaration process. However, during the In-Home Audits interviewers probed for many different types of income, and so it was possible to obtain better data for respondents that correctly represented their income.

Exhibit 5.8 presents the percentage of total income represented by five different data sources (earnings from jobs, pensions, etc.), for each of three different methods of data collection: (1) data abstracted from the applications submitted by households, (2) data abstracted from the documentation submitted in response to the verification request,

Exhibit 5.8

NATIONAL ESTIMATE OF PERCENTAGE OF TOTAL INCOME REPRESENTED BY DIFFERENT INCOME SOURCES, BY METHOD OF DATA COLLECTION AND BY VERIFICATION GROUP (School Year 1986-87)

Verification Group and Source of Income	Method of Data Collection: Abstraction from Applications	Abstraction from Documentation	In-Home Audit
Verified by SFA with no change in benefits			
Earnings from jobs	75.4%	78.4%	68.9%
SSA/SSI pension, retirement	9.6	9.7	14.5
Unemployment, strike benefits	3.4	3.5	1.7
Welfare, alimony, child support	9.6	6.5	14.5
All other	2.0	1.9	0.4
TOTAL PERCENT	100.0	100.0	100.0
UNWEIGHTED N	664	601	661
Nonresponder to SFA's verification request			
Earnings from jobs	74.6%	na	73.3%
SSA/SSI pension, retirement	9.0	na	8.9
Unemployment, strike benefits	2.2	na	0.6
Welfare, alimony, child support	11.0	na	15.5
All other	3.2	na	1.7
TOTAL PERCENT	100.0	na	100.0
UNWEIGHTED N	469	na	458
Not verified by SFA			
Earnings from jobs	71.5%	na	54.8%
SSA/SSI pension, retirement	8.8	na	9.7
Unemployment, strike benefits	1.9	na	1.0
Welfare, alimony, child support	14.0	na	32.4
All other	3.8	na	2.1
TOTAL PERCENT	100.0	na	100.0
UNWEIGHTED N	658	na	649

Source of data: SFA records, In-Home Audit

na: No verification documents exist because these groups did not submit documentation or were not selected for verification.

and (3) data obtained through the In-Home Audit.

Comparing across methods of data collection, it can be seen that the In-Home Audits derive a relatively larger percentage of total income from welfare, alimony, and child support (14.5%, 15.5%, and 32.4% for the three verification groups, respectively) than is shown on the application (9.6%, 11.0%, and 14.0% for the three verification groups, respectively) or in the verification documentation (6.5%). This suggests that the face-to-face interview is more successful than other methods at eliciting information about this type of income. It is not surprising, given that the interviewers were trained to prompt respondents for different types of income.*

Extent to Which Income Changes Across the Year. Data to address this issue were taken from SFA application records and SFA documentation records. Exhibit 5.9 shows the change in monthly income for all non-food stamp households between application and documentation. Only non-food stamp households were included in the calculation as most food stamp households do not supply income information.

According to program regulations, households are required to report changes in income of $50 per month or $600 per year. Anecdotal evidence suggests that such income changes are rarely reported, if ever. The data in Exhibit 5.9 support the anecdotal evidence by showing that there are substantial income changes during the year for the households that were verified by SFAs.

An estimated 61.5% of all households verified by SFAs (whether or not their benefits were changed) had a change in monthly income of $50 or more between the time of application and the time of verification. It can be seen that 36.5% experienced an increase in income of $50 or more per month, while 25.0% experienced a decrease of $50 or more.

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*This finding is also consistent with the literature. See, for example, Goudreau, K. "An assessment of the quality of survey reports of income from the AFDC programs." Journal of Business and Economics, 1984, or David, M. "The validity of income reported by a sample of families who received welfare assistance during 1959." Journal of American Statistical Association, September 1962, pp. 680-685.

Exhibit 5.9

ESTIMATED CHANGE IN MONTHLY INCOME FOR NON-FOOD STAMP HOUSEHOLDS, BY SIZE OF CHANGE IN INCOME (School Year 1986-87)

Size of Change in Monthly Income	Application vs. Documentation	
+ $1,000 or more	2.4%	
+ 500 to + 999	6.0	
+ 200 to + 499	12.0	36.5%
+ 100 to + 199	9.2	
+ 50 to + 99	6.9	
- 49 to + 49	38.5	
- 99 to - 50	4.0	
- 199 to - 100	4.6	
- 499 to - 200	8.5	25.0%
- 999 to - 500	6.1	
- 1,000 or more	1.8	
TOTAL PERCENT	100.0	
UNWEIGHTED N	1376	
TOTAL WITH CHANGE OF $50 OR GREATER		61.5%

Source of data: SFA application records, SFA documentation records

These percentages are quite comparable to those observed in the Income Verification Pilot Project** where 58.0% of all households had a change of $50 or more per month (38.0% had an increase and 20.0% had a decrease).

When compared with information provided on the application, the above monthly changes in income result in a change in benefit status for 24.0% of those households with income changes of $50 or more (14.3% from free to reduced-price, 1.8% from reduced-price to free, 4.1% from reduced-price to paid, and 2.8% from free to paid). These estimates are higher than those provided by the IVPP which observed a change in benefit status for 15.3% of all households with changes in monthly income of $50 or more.

Details on the sources of changes in monthly income are presented in Exhibit 5.10 for households verified by SFAs with a resulting change in benefits. It can be seen that the majority of changes in income result from changes in earnings from jobs, rather than changes in pensions, unemployment benefits, welfare, or other sources.

Extent to Which Household Size Changes Across the Year. Data to address this issue were drawn from SFA application records and from the In-Home Audit. Exhibit 5.11 shows the estimated change in household size from the time that the application was submitted (August household size) to the time of the In-Home Audit (April household size). The exhibit reflects data only from non-food stamp households, as most of the food stamp households do not report household size on their applications.

Across all of the verification groups, there is no change in household size for 71.0% of the households, decreases in household size for 12.5%, and increases for 16.5%. This varies by group, with households that were not verified mirroring the totals (since they represent 93.6% of the total), and nonresponders to the verification request having the largest changes (increases for 29.7%, no change for 59.1%, and decreases for 11.2%).

Thus, there are changes in household size between

**Income Verification Pilot Project. School Year 1981-82 In-Home Audit Findings. Silver Spring, MD: Applied Management Sciences, Inc. April, 1983, pp. 54-56.

Exhibit 5.10

ESTIMATED CHANGE IN MONTHLY INCOME BETWEEN APPLICATION (AUGUST) AND VERIFICATION DOCUMENTATION (NOVEMBER), FOR NON-FOOD STAMP HOUSEHOLDS VERIFIED BY SFAs WITH A RESULTING CHANGE IN BENEFITS, BY SIZE OF CHANGE IN INCOME, AND BY SOURCE OF INCOME (School Year 1986-87)

Size of Change in Monthly Income	Source of Income					
	Earnings from Jobs	SSA/SSI Pension, Retirement	Unemployment, Strike Benefits	Welfare Alimony, Child Support	All Other	Total
+ $1,000 or more	12.0%	0.0%	0.0%	0.0%	0.0%	10.7%
+ 500 to + 999	16.3	0.8	0.3	1.2	0.0	17.6
+ 200 to + 499	15.8	0.0	0.0	0.4	0.3	16.4
+ 100 to + 199	10.7	0.1	0.2	0.0	0.6	10.6
+ 50 to + 99	7.8	0.3	0.3	0.0	0.0	6.2
- 49 to + 49	22.2	95.0	98.3	94.7	98.9	20.2
- 99 to - 50	3.2	0.0	0.1	0.0	0.2	3.4
- 199 to - 100	0.4	1.2	0.0	2.8	0.0	2.4
- 499 to - 200	4.2	1.5	0.4	0.4	0.0	4.5
- 999 to - 500	3.7	1.0	0.4	0.0	0.0	4.9
- 1,000 or more	3.7	0.0	0.0	0.6	0.0	3.2
TOTAL PERCENT	100.0	100.0	100.0	100.0	100.0	100.0
UNWEIGHTED N	252	252	252	252	252	252
TOTAL WITH CHANGE OF $50 OR GREATER	77.8%	5.0%	1.7%	5.3%	1.1%	79.8%

Source of data: SFA application records, SFA documentation records

Exhibit 5.11

ESTIMATED CHANGE IN HOUSEHOLD SIZE BETWEEN APPLICATION (AUGUST) AND IN-HOME AUDIT (APRIL), FOR NON-FOOD STAMP HOUSEHOLDS BY VERIFICATION GROUP (School Year 1986-87)

Change in Household Size	Verification Group: Verified-- No Change in Benefits	Nonresponder to Verification	Not Verified	Total
Increase by 3 or more	5.3%	7.2%	1.4%	1.5%
Increase by 2	5.9	7.1	3.7	3.8
Increase by 1	13.5	15.4	11.1	11.2
No change	64.9	59.1	71.3	71.0
Decrease by 1	8.4	8.1	8.9	8.9
Decrease by 2	1.1	2.4	2.0	2.0
Decrease by 3 or more	0.9	0.7	1.7	1.6
TOTAL PERCENT	100.0	100.0	100.0	100.0
UNWEIGHTED N	667	474	666	1,807

Source of data: SFA application records, In-Home Audit

time of application (August data) and time of the In-Home Audit (April data) for a substantial proportion of households--29.7% of those not verified by SFAs, 35.1% of those verified by SFAs with no resulting change in benefits, and 40.9% for nonresponders to the SFAs' verification requests. These changes clearly will have an important impact on a household's eligibility for meal benefits.

Extent to Which Reduction in Meal Benefits is Due to an Increase in Number of Wage Earners. To this point it has been shown that many households have changes in income and/or household size over a relatively short period of time that are sufficient to affect their meal benefit status. Such changes can take a number of forms including, for example:

- wage or non-wage income that was unreported on the meal benefit application but is reported as a result of verification;
- additional wages that are earned as a result of a raise, additional commissions, etc.;
- new wages that are earned as a result of obtaining employment;
- new non-wage earning household members, e.g. an additional child or a grandparent; and
- new wage earning household members, e.g. a new spouse.

An additional question that can be posed concerns the extent to which changes in benefits are due to a change in the number of wage earners in the household. Exhibit 5.12 presents data only for non-food stamp households that had a reduction in benefits from application to the In-Home Audit (i.e., free to paid, free to reduced, or reduced to paid).

In total, 42.5% of the households that had reductions in meal benefits also had an increase in the number of wage earners in the household, while 57.5% had no change or a decrease in the number of wage earners. While the household size typically increased for the 42.5% of households that had an increase in the number of wage earners, this was not the case for all households in this group, as it is possible for a new household member who is a wage earner to replace a non-wage earning household member. The most important point is that a new wage earner was present in 42.5% of the cases where a reduction in benefits occurred.

Exhibit 5.12

ESTIMATED CHANGE IN NUMBER OF WAGE EARNERS FOR NON-FOOD STAMP HOUSEHOLDS THAT HAD A REDUCTION IN BENEFITS (School Year 1986-87)

Type of Change in Benefits	Wage Earners	
	No Change or Decrease	Increase
Free to reduced-price	64.2%	35.8%
Reduced-price to paid	86.7	13.3
Free to paid	13.6	86.4
TOTAL PERCENT	57.5	42.5
WEIGHTED N	.98 mil	.72 mil
UNWEIGHTED N	242	216

Source of data: In-Home Audit

How Accurate are SFA Eligibility and Verification Determinations?

SFAs make a determination of the eligibility of each applicant household at the beginning of the school year based on information provided on the free and reduced-price application, and then make a redetermination of eligibility based on information provided in response to the verification request. The question addressed here is "How accurate are the eligibility determinations that are made by SFAs"? Data to address the question are drawn from the case record abstractions in which income and household size data from each sampled household's application and verification documentation were recorded.

Accuracy of Initial Application Decisions. The first issue to be addressed is related to the accuracy of SFA decisions about initial applications. What percentage of households that were approved for meal benefits were correctly approved, and what percentage were incorrectly approved? Because information was only available on the applications that were approved for meal benefits (rather than on applications that were rejected), it is not possible to determine the accuracy of SFA rejection decisions. This is not a large problem, however, since most applications are approved.

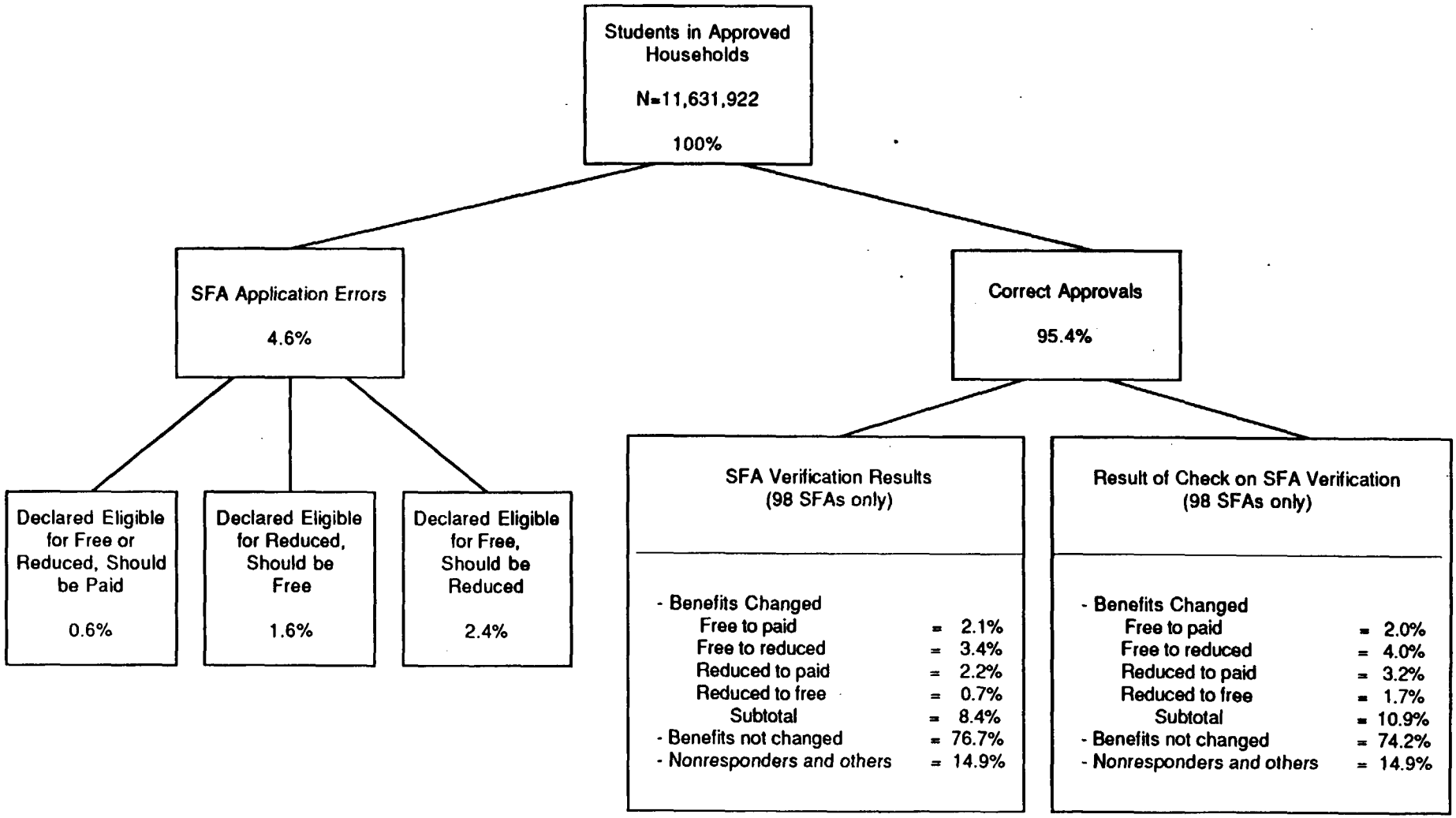
Using the data from SFA records, Exhibit 5.13 shows that of a national estimate of 11.63 million students in households approved for meal benefits (taken from the SFA mail survey) 95.4% were correctly approved. But, this means that 4.6% of all students in approved households were incorrectly classified. That is, analysis of the information provided by households on their application for meal benefits leads to a different decision about their benefit status than the decision made by the SFA.

Exhibit 5.13 shows that 0.6% of all students that were approved were in households declared eligible by SFAs for free or reduced-price meals meals but which should not have been receiving any meal benefits, 1.6% of all students that were approved were in households declared eligible for reduced-price meals but which should have received free meals, and 2.4% of all students that were approved were in households declared eligible for free meals but which should have received reduced-price meals.

While these are small percentages, they translate

Exhibit 5.13

NATIONAL ESTIMATES OF SFA MISCLASSIFICATIONS AT TIME OF APPLICATION AND AT TIME OF VERIFICATION, USING DATA FROM SFA RECORDS (School Year 1986-87)



into large numbers of students. About 535,000 students were misclassified at the time of approval (4.6% of 11.63 million students). On the order of 349,000 of these (0.6% plus 2.4% multiplied by 11.63 million students) were approved for benefits for which they did not qualify, while about 186,000 (1.6% multiplied by 11.63 million million students) were approved for a smaller benefit than they deserved.

There are many possible reasons for these "incorrect" decisions by SFAs. For example, in any system there are bound to be computational errors and such errors must account for a portion of the incorrect SFA decisions. In addition, the income declared on many of the incorrectly classified applications was very close to, although above, the eligibility cutoff. It appears that SFAs sometimes approve such borderline applications, and this may be a major reason for "incorrect" application decisions.

Accuracy of Verification Decisions. The second issue is related to the accuracy of SFA decisions at the time of verification. How do the verification decisions made by SFAs compare with verification decisions made by Abt Associates based on the data contained on the documentation supplied by verified households?

Comparing the results of SFA verification with analysis of the verification documentation leads to several conclusions. First, the 98 SFAs participating in the In-Home Audit concluded that 8.4% of all verified students should have their benefits changed based on the documentation provided, while 76.7% should have no change, and 14.9% were nonresponders (this differs from the data provided by the mail survey of SFAs which reported a 12.2% documented error rate and a 11.4% rate of nonresponse). A check of the SFA's verification shows that 10.9% (instead of 8.4%) should have had benefit changes, and 74.2% (instead of 76.7%) should have had no changes. These are small differences.

The possible reasons for incorrect verification decisions include those listed above for the incorrect application decisions--computational errors, and approval of borderline cases. In addition, there are some cases in which the verified income was quite low, about 25% or 50% of what was declared on the application. For some of these cases the SFA apparently decided that the verified income was really a weekly rather than a monthly figure, and made the verification decision on the

basis of the larger income.

What Can be Concluded About the Nature of Error Rates?

It has been shown that school districts detect an error rate of 11.1%, and that an additional 10.1% of applicants are assumed to be in error because they do not respond to the school districts' verification requests. (Exhibit 5.14 summarizes the nationally representative error rates generated by this study.) However, it has also been shown that substantial numbers of households have changes in monthly income and household size that occur during the school year and that these changes are large enough to alter the benefit status of substantial numbers of households. Therefore, it can be concluded that some portion of the 11.1% error rate detected by school districts occurs because households apply for meal benefits and SFAs verify those applications based on income and household circumstances reported at different times. That is, households apply for meal benefits based on current income which is typically from August, the month prior to the start of school, while SFAs verify those applications during November and December based on current income which is typically from October and November.

The data show that households experience normal changes in income and household size between the time of application and the time of verification, and so the error rate detected by SFAs with respect to meal benefits in the NSLP actually consists of two parts:

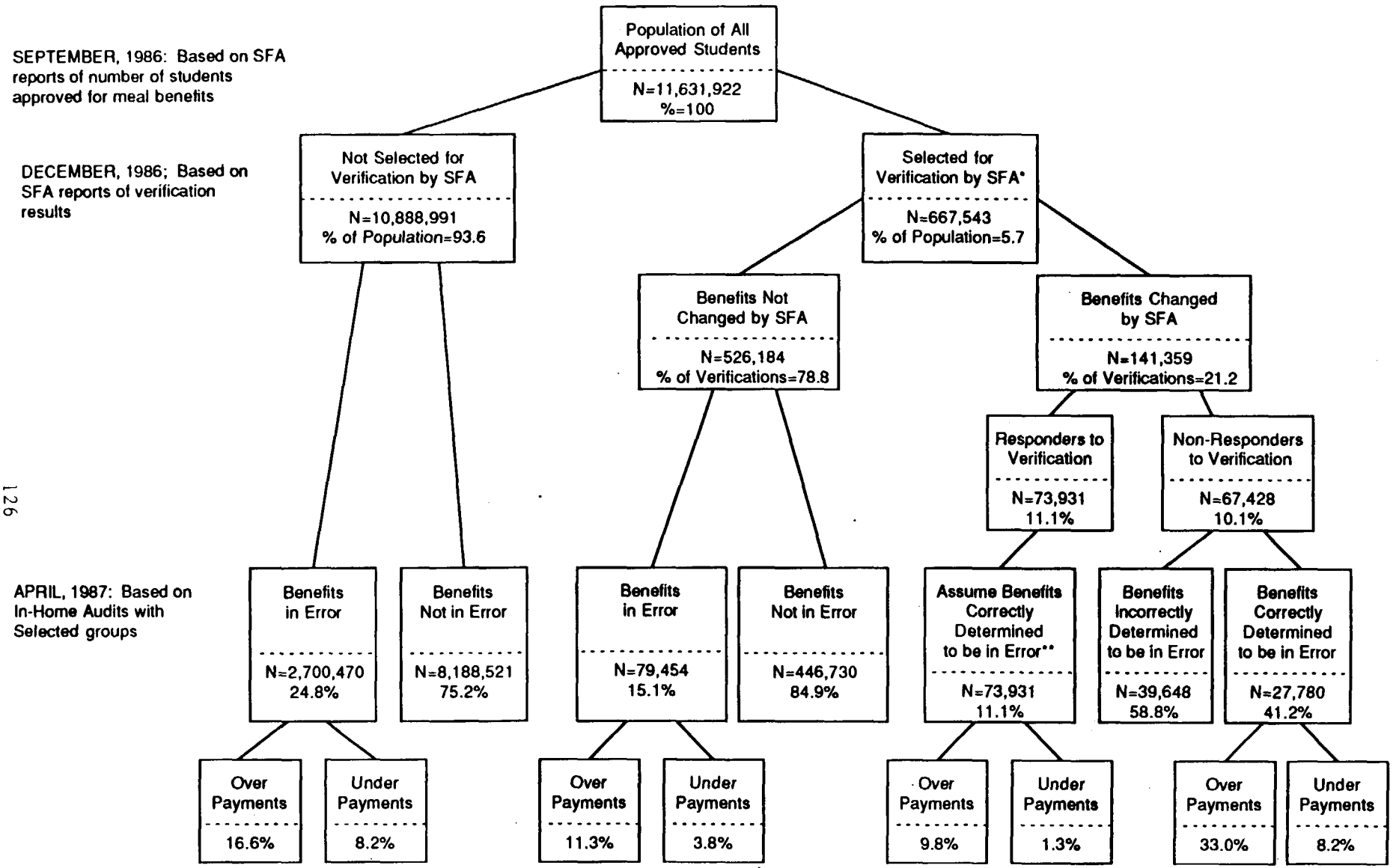
(1) error attributable to misreporting at the time of application, and

(2) error attributable to a failure of households to declare changes in household circumstances that occur during the school year.

This means that the amount of error in the assignment of school lunch meal benefits should be recognized as having both static and dynamic aspects. A fixed portion of error is due to misreporting on applications, and a variable portion is due to a failure of households to report normal changes in income and household size that occur between the time of application and the time of verification. Therefore, there is no single number can be used

Exhibit 5.14

SUMMARY OF PROJECTED NATIONAL ERROR RATES, BY VERIFICATION GROUP AND TIME OF YEAR
(School Year 1986-87)



* Excludes SFAs using focused sampling since national projections are being computed.
If SFAs using focused sampling are included, the total selected for verification is 742,931, or 6.4%.

** In-Home Audits were not conducted in this group. Therefore, the assumption is made that SFAs made the correct benefit determination.

throughout the year to characterize the amount of misclassification in meal benefit assignments--the longer the elapsed time from the point of application, the larger the error rate that will be found.

Such changes in household circumstances should not go unnoticed by SFAs, because FNS requires households experiencing a change in income of $50 or more (or $600 per year) to report that change to the SFA. However, anecdotal evidence from SFA managers suggests that SFAs rarely, if ever, receive a report of changed income from a family that is approved for subsidized meal benefits. Instead, it is more likely that the family will continue to receive meal benefits for the year, and then will decide whether to reapply the following year.

CHAPTER 6

FINDINGS: BARRIERS AND DETERRENCE EFFECTS

This chapter presents findings related to two issues. The first is whether income verification imposes barriers to the application for meal benefits by households that are eligible. The second issue is whether income verification has a deterrence effect. That is, whether it deters ineligible families from fraudulently applying for and receiving free or reduced-price meals.

This study does not provide direct evidence to answer these questions in that it did not involve an experimental test to measure the tendency of eligible and ineligible households to seek meal benefits in SFAs that did and did not implement income verification. In the absence of such direct evidence, this study provides indirect evidence obtained through telephone interviews with nonapplicant households.

SUMMARY OF FINDINGS

- The upper bound on the size of a barrier effect due to income verification is estimated to be $18.68 million annually. This represents a savings to the Federal government and a loss to eligible families, but it is a small effect; less than 1% of total Federal payments for free and reduced-price meals.

- The upper bound on the size of a deterrent effect due to income verification is estimated to be $50.12 million annually. This is also a small effect; about 2% of total Federal payments for free and reduced-price meals.

- An estimated 58.4% of the eligible nonapplicant households reported that they did not apply because they thought they were ineligible.

- If all of the eligible nonapplicants applied for meal benefits, the annual Federal outlays for the NSLP would increase by about $1 billion. Of course, such an event is unlikely since large percentages of the nonapplicants

listed other reasons for not applying, such as a preference for lunches made at home or a preference to pay for their meals.

RESEARCH QUESTIONS

Because the verification of income extends to only a small percentage of the applications in the great majority of SFAs, current verification efforts only "identify" a small number of misclassified applications. As a result, the cost-effectiveness of verification based only on detected errors is questionable. The case for income verification is strengthened greatly if it can be claimed that it not only allows SFAs to catch a few fraudulent applications, but that it also serves as a deterrent to additional fraudulent applications.

On the other hand, the case for verification is weakened to the extent that it is so onerous as to impose barriers preventing program participation by households that are actually eligible for meal benefits. While Federal funds not paid to eligible households are a "savings" of sorts, verification was not instituted with the intent of driving eligible households from the program.

Therefore, the research questions in this area are prompted by a desire to understand whether income verification deters fraudulent applications and whether it presents barriers to participation by eligible households. The following research questions are addressed in this chapter:

- To what extent do eligible and ineligible households not seek meal benefits because of income verification?
- Do eligible nonapplicants understand that they can apply for and receive meal benefits?

Barrier Effect

A household is defined as being subject to a barrier effect if it:

- is eligible for meal benefits,
- knew that schools could ask for proof of the income declared on the application for meal benefits,

- thought about applying for meal benefits, and
- did not apply because of income verification.

The eligibility status of each nonapplicant household is known, questions were asked about the knowledge that nonapplicant households have of income verification, and questions were asked about why households did not apply for meal benefits. Thus, information is available on three of the above four criteria. However, information is not available about the processes that determine each household's decision not to apply for meal benefits. As a result, it is not possible to differentiate households that decided not to apply because of income verification from those that decided not to apply because the application was unclear, or from those that simply preferred to make lunch at home. Most nonapplicants listed several reasons for not applying, and it is not possible to determine which of those reasons is the "real" one. In sum, the measurement of barrier effects is problematic. Thus, the best that can be done is to place an upper bound on an estimate of the size of a barrier effect.

Deterrence Effect

What is meant by deterrence? Income verification has been described as having a deterrent effect to the extent that it prevents fraudulent applications. To be more specific, a household can be defined as being deterred from submitting a fraudulent application if it:

- is ineligible for meal benefits,
- knew that schools could ask for proof of the income declared on the application for meal benefits,
- thought about submitting a fraudulent application, and
- changed its mind about submitting a fraudulent application because it was worried about being caught as a result of having their income verified.

The status of each household's eligibility is known, and questions were asked about their understanding of income verification. However, there is no way to know whether any of the participating households thought about submitting a fraudulent application,

and if so, whether they changed their mind as a result of income verification. As was the case with barrier effects, there are serious problems in measuring the size of a deterrence effect, and the best that can be done is to estimate an upper bound.

RESEARCH FINDINGS

This section presents findings with respect to barrier and deterrence effects of NSLP income verification.

To What Extent Do Eligible and Ineligible Households Not Seek Meal Benefits Because of Income Verification?

Barrier Effect of Income Verification. To estimate the size of any barrier effect due to income verification, it is necessary to set an upper bound on the number of eligible nonapplicant families that could possibly be affected in this way. Exhibit 4.1 shows that an estimated 13.8% of the 2.65 million eligible nonapplicant households (365,000) were not aware of the existance of school meal benefits. An additional 27.9% (740,000 nonapplicant households) did not know that schools could ask families to provide proof of the earnings they declare on an application for meal benefits. This leaves a total of 1.55 million eligible nonapplicant households (2.65 million - 365,000 - 740,000) that could potentially be subject to a barrier effect.

When asked why they did not apply for meal benefits, it is estimated that over half (58.4%) of these nonapplicant households did not apply because they did not think they were eligible (Exhibit 6.1). Presumably these households did not understand the eligibility requirements or were not sufficiently well-informed to apply. In either case, it is unlikely that income verification had any effect on their application decision and therefore does not constitute a barrier effect.

Further investigation into reasons why households did not apply suggests that it is unlikely that income verification had an effect on the application decision for the estimated 41.4% of eligible nonapplicant households that preferred to pay full price or the 39.3% that preferred lunches made at home. In addition, the 10.3% of eligible nonapplicant households that did not apply because they did not want to give income information to the

Exhibit 6.1

REASONS GIVEN BY HEADS OF NONAPPLICANT HOUSEHOLDS FOR NOT APPLYING FOR MEAL BENEFITS, BY MEAL BENEFIT ELIGIBILITY AS DETERMINED BY REPORTED INCOME AND HOUSEHOLD SIZE

(National Estimate of Percentage of Nonapplicant Households in School Year 1986-87)

Reason for Not Applying	Meal Benefit Eligibility as Determined by Reported Income and Household Size		
	Eligible	Ineligible	Total
Didn't think you were eligible	58.4%	83.5%	79.9%
Preferred to pay full price for meals	41.4	49.7	48.4
Preferred lunches made at home	39.3	36.2	36.6
Didn't want to give income information to the school	10.3	5.9	6.5
Application form was hard to understand	7.5	1.0	2.0
Didn't like the possibility of having income verified	2.9	1.7	1.8
TOTAL PERCENT	na*	na*	na*
WEIGHTED N	2.65 mil.	14.01 mil.	16.66 mil.
UNWEIGHTED N	330	466	796
N of nonapplicant households which know that schools can ask for proof of income — WEIGHTED N	1.55 mil.	8.03 mil.	9.58 mil.
N of nonapplicant households which know that schools can ask for proof of income — UNWEIGHTED N	191	275	466
N of nonapplicant households which are aware of existence of meal benefits — WEIGHTED N	2.29 mil.	13.21 mil.	15.50 mil.
N of nonapplicant households which are aware of existence of meal benefits — UNWEIGHTED N	286	434	720

Source of Data: Nonapplicant Telephone Interview

*Does not add to 100% as multiple responses were allowed.

Exhibit 6.2

REASONS GIVEN BY HEADS OF NONAPPLICANT HOUSEHOLDS FOR NOT APPLYING FOR MEAL BENEFITS, BY MEAL BENEFIT ELIGIBILITY AS DETERMINED BY REPORTED INCOME AND HOUSEHOLD SIZE

(National Estimate of Percentage of Students in Nonapplicant Households for School Year 1986-87)

Reason for Not Applying	Meal Benefit Eligibility as Determined by Reported Income and Household Size: Eligible	Ineligible	Total
Didn't think you were eligible	55.7%	81.1%	77.2%
Preferred to pay full price for meals	42.4	47.1	46.3
Preferred lunches made at home	39.1	37.4	37.6
Didn't want to give income information to the school	10.3	5.1	5.9
Application form was hard to understand	9.0	0.7	2.0
Didn't like the possibility of having income verified	2.7	1.5	1.7
TOTAL PERCENT	na*	na*	na*
WEIGHTED N	4.27 mil.	21.57 mil.	25.84 mil.
UNWEIGHTED N	330	466	796
N of students in nonapplicant households which know that schools can ask for proof of income — WEIGHTED N	2.58 mil.	12.48 mil.	15.06 mil.
N of students in nonapplicant households which know that schools can ask for proof of income — UNWEIGHTED N	191	275	466
N of students in nonapplicant households which are aware of existence of meal benefits — WEIGHTED N	3.78 mil.	20.30 mil.	24.08 mil.
N of students in nonapplicant households which are aware of existence of meal benefits — UNWEIGHTED N	286	434	720

Source of Data: Nonapplicant Telephone Interview

*Does not add to 100% as multiple responses were allowed.

school can be classified as households where the application process presented a barrier to the receipt of meal benefits. It should be clear that a barrier effect related to the application process is distinct from any barrier effect due to the verification process.

The only nonapplicant households for which income verification may have acted as a barrier were the estimated 2.9% of eligible households which knew that schools could ask for proof of income and which did not like the possibility of having their income verified (Exhibits 6.1 and 6.2). This group is comprised of about 45,000 households (2.9% * 1.55 million) containing approximately 69,700 students (2.7% * 2.58 million). It should be understood that these numbers provide an upper bound on the size of any barrier effect, because all of the nonapplicants which did not like the possibility of having their income verified also cited at least one other reason for not applying.

Making two assumptions--first, that all of the 69,700 students would have applied in the absence of income verification, and second that all would have qualified for free lunches--leads to the conclusion that income verification imposed a barrier to program participation which affected at the most 69,700 students. This is equivalent to about 0.5% of the total number of students receiving free or reduced-price meal benefits (11.63 million students). The subsidized meals these students would have consumed are valued at an estimated maximum of $18.68 million in the 1987-88 school year. It can be seen that the maximum size of the barrier effect is quite small (less than 1%) relative to the total Federal dollars spent on free and reduced-price meal benefits in FY1986.* Calculation of the $18.68 million barrier effect was done as follows:

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*Total Section 11 expenditures of $2,190 million in FY1986. Source: "Program Data and Analysis." School Food Service Research Review, Volume 11, Number 1, Spring 1987, p.75.

Estimated NSLP Savings
= expenditures that would have been incurred in the absence of a barrier effect - current expenditures

(69,700 students * $1.405 per lunch free reimbursement
+ 69,700 students * $0.12 per lunch commodity value)
* 176 serving days per year
* .94 estimated participation rate
- (69,700 students * $0.135 per lunch paid reimbursement
+ 69,700 students * $0.12 per lunch commodity value)
* 176 serving days per year
* .58 estimated participation rate
= $106,293 * 176 * .94 - $17,774 * 176 * .58
= $17,585,114 - $1,814,370
= $15.77 million

Estimated SBP Savings
= expenditures that would have been incurred in the absence of a barrier effect - current expenditures

= (46,500 students * $0.7625 per breakfast free reimbursement
* 176 serving days per year
* .48 estimated participation rate
- (46,500 students * $0.135 per breakfast paid reimbursement)
* 176 serving days per year
* .08 estimated participation rate
= $35,456 * 176 * .48 - $6,278 * 176 * .08
= $2,995,323 - $88,394
= $2.91 million

Total Estimated Barrier Effect
= $15.77 million + $2.91 million
= $18.68 million.*

Deterrence Effect of Income Verification. Evidence about the size of a deterrence effect will be obtained by employing the logic used earlier to estimate the maximum size of a barrier effect. Exhibit 4.1 shows that there were an estimated 14.01 million ineligible nonapplicant households in school year 1986-87, but that only 8.03 million of these knew about income verification. An examination of the reasons given by ineligible nonapplicant households for not applying for meal benefits shows that only an estimated 1.7% of the ineligible

*The 95% confidence interval for this estimate is from $13.38 million to $23.98 million.

households didn't like the possibility of having their income verified (Exhibits 6.1 and 6.2).

These households meet three of the conditions listed above for being deterred--they were ineligible nonapplicants, they knew about income verification, and they listed a dislike of verification as a reason for not applying. It is not known whether these households thought about submitting a fraudulent application or whether they changed their mind about submitting that application because they might be verified. Further, all of these households also listed other reasons for not applying, and so it is not possible to say that apprehension about income verification was the only reason they did not apply. However, it is possible to say that this group sets an upper bound on the actual number of households deterred.

Applied to the number of ineligible nonapplicant households that knew about income verification (8.03 million), the 1.7% that listed verification as a reason for not applying represent about 137,000 households nationally, containing about 187,000 students. This is equivalent to about 1.5% of the total number of students receiving free or reduced-price meal benefits (11.63 million students). If it is assumed that all of these households would have applied for and would have been granted free meal benefits, it can be calculated that the maximum Federal savings from the deterrent effect of income verification during the 1987-88 school year is $50.12 million. As was the case with the barrier effect estimate, the size of the maximum deterrent effect is small (about 2%) relative to total Federal expenditures for free and reduced-price meals. Calculation of the $50.12 million deterrence effect estimate was done as follows:

Estimated NSLP Savings
= expenditures that would have been incurred in the absence of a deterrence effect - current expenditures

= (187,000 students * $1.405 per lunch free reimbursement
+ 187,000 students * $0.12 per lunch commodity value)
* 176 serving days per year
* .94 estimated participation rate
- (187,000 students * $0.135 per lunch paid reimbursement
+ 187,000 students at $0.12 per lunch commodity value)

* 176 serving days per year
* .58 estimated participation rate
= $285,175 * 176 * .94 - $47,685 * 176 * .58
= $47,179,352 - $4,867,685
= $42.31 million

Estimated SBP Savings
= expenditures that would have been incurred in the absence of a deterrence effect - current expenditures

= (125,000 students * $0.7625 per breakfast free reimbursement)
* 176 serving days per year
* .48 estimated participation rate
- ($125,000 students * $0.135 per breakfast paid reimbursement)
* 176 serving days per year
* .08 estimated participation rate
= $95,313 * 176 * .48 - $16,875 * 176 * .08
= $8,052,042 - $237,600
= $7.81 million.

Total Estimated Deterrence Effect
= $42.31 million + $7.81 million
= $50.12 million.*

It should be emphasized that this represents the largest possible estimate of the size of a deterrence effect, because it assumes that all of the ineligible nonapplicant households that did not like the possibility of having their income verified would have applied for and would have been granted free meal benefits for all their children, and that these children would have participated for the entire year at the average participation rate for children receiving free meals.

Do Eligible Nonapplicants Understand That They Can Apply for and Receive Meal Benefits?

The information on reasons for not applying for meal benefits presented in Exhibits 6.1 and 6.2 was used to obtain estimates of barrier and deterrence effects. It is possible to use this information to learn more about nonapplicants.

*The 95% confidence interval for this estimate is from $35.05 million to $65.19 million.

By far, the most common reason for not applying was that the households didn't think they were eligible for meal benefits. It is not surprising that an estimated 84.9% of the ineligible households did not think they were eligible. However, it is striking that 58.4% of the households which were, in fact, eligible for free or reduced-price meals thought that they were not.

Exhibits 4.1 and 4.2 show that in school year 1986-87, there were an estimated 2.65 million eligible households containing 4.27 million students that did not apply for meal benefits. If all of these eligible nonapplicants applied for meal benefits, it would represent an increase of 36.7% in the total number of students (estimated from the SFA Mail survey at 11.63 million) now approved for free or reduced-price meals.

The income information provided by nonapplicants was used to estimate that 63.9% or 2.73 million of the 4.27 million students in eligible nonapplicant households would qualify for free meals, while the remaining 36.1% or 1.54 million students would qualify for reduced-price meals.* It can also be computed that 66.7% of these students (2.85 million) are in SFAs that have a breakfast program.** At current reimbursement rates,*** this would increase

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*The division of eligible nonapplicants into a group that would be eligible for free meals and a group that would be eligible for reduced-price meals was done on the basis of the household income reported by respondents to the survey of nonapplicants. If all of the eligible nonapplicants qualified for free meals, the increase in Federal outlays would be $1144 million. On the other hand, if all eligible nonapplicants qualified for reduced-price meals, the increase in Federal outlays would be $705 million. It should be noted that data from the Program Information Division of FNS suggest that the majority of nonapplicants would qualify for reduced-price rather than free meals.

**The SFA mail survey yields an estimate of 11.63 million students receiving meal benefits, and an estimate of 7.76 million students in schools which offer the School Breakfast Program.

***It is not necessary to include the extra $.02 subsidy for SFAs in the calculation, since this payment is made whether the student receives free, reduced-price, or paid lunches. That is, whether a student is a nonapplicant is not important to the size of the payment--the Federal payment is $.02 per lunch regardless of the student's eligibility category.

annual Federal outlays for the NSLP and SBP by over $1 billion. Of course, such an event is unlikely since large percentages of the nonapplicants listed other reasons for not applying, such as a preference for lunches made at home or a preference to pay for their meals. Calculation of the potential $1 billion in additional outlays was done as follows:

Estimated Increase in NSLP Outlays
= projected expenditures - current expenditures

= (2.73 million students * $1.405 per lunch free reimbursement
+ 1.54 million students * $1.005 per lunch reduced-price reimbursement
+ 4.27 million students * $0.12 per lunch commodity value)
* 176 serving days per year
* .94 estimated participation rate
- (4.27 million students * $0.135 per lunch paid reimbursement
+ 4.27 million students * 0.12 per lunch commodity value)
* 176 serving days per year
* .58 estimated participation rate*
= $5,895,750 * 176 * .94 - $1,088,850 * 176 * .58
= $975,392,880 - $111,149,808
= $864.24 million

Estimated Increase in SBP Outlays
= projected expenditures - current expenditures

+ (1.82 million students * $0.7625 per breakfast free reimbursement
+ 1.03 million students * $0.4625 per breakfast reduced-price reimbursement)
* 176 serving days per year
* .48 estimated participation rate
- (2.85 million students * $0.135 per breakfast paid reimbursement)
* 176 serving days per year
* .08 estimated participation rate
= $1,864,125 * 176 * .48 - $384,750 * 176 * .08
= $157,481,280 - $5,417,280
= $152.06 million

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*Participation rates are taken from Final Report: Modeling Student Participation in School Nutrition Programs. Washington, DC: The Urban Institute, Study Conducted for the Food and Nutrition Service, U.S. Department of Agriculture, 1987, pp. 58 and 68.

Total Estimated Increase in Outlays
= $864.24 million + $152.06 million
= $1016.30 million.*

Two other reasons for not applying for meal benefits were given by a substantial proportion of nonapplicant households: (1) preferring to pay full price for meals (an estimated 48.4% of all nonapplicant households), and (2) preferring lunches made at home (36.6% of all nonapplicant households). A surprisingly large proportion of eligible nonapplicants (41.4%) cited a preference to pay full price as a reason for not applying, as opposed to 49.7% of ineligible nonapplicants. There was little difference between the two groups in terms of their preference to make lunches at home (39.3% of eligible nonapplicants and 36.2% of ineligible nonapplicants).

Relatively few nonapplicant households listed any other reasons for not applying. Not wanting to give income information to the school was listed by an estimated 6.5% of all nonapplicant households, with eligible nonapplicants giving this reason more often than ineligible nonapplicants (10.3% vs. 5.9%). Difficulties with understanding the application form were listed by 2.0% of all nonapplicants. Again, eligible nonapplicants gave this reason more often than ineligible nonapplicants (7.5% vs. 1.0%).

Note that for the above analysis, nonapplicant households were divided into eligible and ineligible groups on the basis of the income they reported during the interview. It is also possible to redefine the eligible/ineligible groups on the basis of nonapplicant's perceptions of their eligibility. That is, to form two groups defined as "thought we were eligible" and "thought we were ineligible."

Exhibit 6.3 presents reasons for not applying for meal benefits broken down by these two groups. On the whole, there are few differences between the percentages shown on this exhibit and the percentages shown on Exhibit 6.1.

*The 95% confidence interval for this estimate is from $762.32 million to $1,270.28 million.

Exhibit 6.3

REASONS GIVEN BY HEADS OF NONAPPLICANT HOUSEHOLDS FOR NOT APPLYING FOR MEAL BENEFITS, BY MEAL BENEFIT ELIGIBILITY AS DETERMINED BY NONAPPLICANT'S PERCEPTIONS

(National Estimate of Percentage of Nonapplicant Households for School Year 1986-87)

Reason for Not Applying	Meal Benefit Eligibility as Determined by Nonapplicant's Perceptions: Thought Household was Eligible	Thought Household was Ineligible	Total
Preferred to pay full price for meals	56.1%	46.5%	48.4%
Preferred lunches made at home	49.7	33.5	36.8
Didn't want to give income information to the school	3.8	7.1	6.4
Application form was hard to understand	6.0	1.0	2.0
Didn't like the possibility of having income verified	1.5	1.8	1.7
TOTAL PERCENT	na*	na*	na*
WEIGHTED N	3.35 mil.	13.30 mil.	16.66 mil.
UNWEIGHTED N	201	511	712

Source of Data: Nonapplicant Telephone Interview

*Does not add to 100% as multiple responses were allowed.

CHAPTER 7

FINDINGS: COST AND BENEFIT-COST RATIO

This chapter presents a description of the costs and ratio of benefits to costs of income verification in the NSLP as measured during the 1986-87 school year. Cost elements include labor and nonlabor costs, expressed in the form of cost per verified application. Measures of benefits include national estimates of the amount of Federal savings resulting from the implementation of income verification by SFAs.

SUMMARY OF FINDINGS

- The total cost of income verification to SFAs is estimated at $6.27 million for the 1986-87 school year. The total amount of time spent on income verification by public schools participating in the NSLP is estimated to be 628 thousand hours, or about 300 person-years.

- The cost of income verification averaged $10.51 per verified application. Almost all of this ($9.68 or 92.1%) was labor cost, while the remainder ($0.83 or 7.9%) was nonlabor cost. On average, the amount of time required to verify an application is about 1 hour.

- Verification yields a net benefit from the taxpayer's viewpoint and for the Federal government. Each dollar spent by SFAs on income verification generates an estimated $2.88 in Federal savings. If upper-bound estimates of deterrence and barrier effects are included as part of "savings", each dollar spent by SFAs generates an estimated $13.85 in Federal savings.

- Focused sampling has a better benefit-cost ratio than random sampling, although both procedures generate more savings than costs. Spending $1 on income verification generates Federal savings of $4.80 for SFAs that use focused sampling, compared with Federal savings of $2.27 for SFAs that use random sampling. Verification of all applications may have a better benefit-cost ratio than the use of either sampling method, but the small

number of SFAs in the study that verify all applications makes it difficult to place confidence in this conclusion.

- Verification does not yield a net benefit from the SFAs' viewpoint, since they incur all of the costs, but none of the benefits.

RESEARCH QUESTIONS

Prior studies of verification in the NSLP and in other needs-based programs have evaluated alternative procedures in terms of a benefit-cost ratio. Previous chapters in this report have provided information on the savings or benefits of income verification. This chapter presents data on the costs of income verification to SFAs, and on the benefit-cost ratio of verification. The following research questions are addressed:

- What are the costs to SFAs of alternative verification procedures?

- What is the ratio of benefits to costs for income verification?

Prior to presenting findings, it is important to discuss selected measurement issues.

Perspective of the Benefit-Cost Analysis

The first issue concerns the perspective from which a benefit-cost assessment can be made. From the Federal perspective, almost any verification practice will yield a net benefit, since any verification procedure will produce at least some savings in Federal outlays, and these savings will be produced at no cost to the Federal government (assuming no increases in Federal administrative cost subsidies).

From the local perspective, no form of verification yields a net benefit, since all of the burden is borne at the local level, and all of the savings accrue to the Federal government. In fact, SFAs lose income through verification since verification uses local resources (incurs costs) and Federal revenues to the SFA decrease when benefits to children are cut off. In spite of this, it is clear that many SFAs see verification as a necessary procedure, and one that is worth doing even though the benefits do not accrue directly to the SFA. Evidence for this comes from the analysis in Chapter

3 which showed that a large proportion of SFAs verify more applications than is required by program regulations.

Because all of the savings that result from income verification accrue to the Federal government, while all of the costs of verification are borne by SFAs, state and local governments, and/or applicants, it is necessary to consider the benefit-cost ratio of verification from the standpoint of the taxpayer. From the taxpayers' perspective, it matters little at which level of government the savings and costs accrue--any verification practice in which the savings exceed the costs yields a net benefit. This is the perspective which has been adopted for this study.

What Costs to Measure

The second issue concerns what costs should be measured. Clearly, income verification increases the resources used by SFAs since they must select samples, contact households, obtain documentation of income, make eligibility decisions, notify households of decisions, and complete other tasks. This increase in resource use is passed on to the taxpayer in the form of increased local taxes for schools or lower service levels (i.e., doing more with the same level of resources). Therefore, these costs must be included in the benefit-cost comparison. But what about other actors in the system?

Verification imposes a burden on those applicants that are selected for verification. They must assemble and submit the required documentation. However, this burden does not increase the costs of the NSLP to the taxpayers in general. Therefore, these costs may properly be excluded from the benefit-cost assessment.

Depending on which verification procedures are used, verification may also impose additional costs or burdens on State and local governments. For example, verification may involve the exchange of information between the SFA and local welfare or food stamp offices, or between the SFA and the State Department of Labor (e.g., for computer wage-matching). Or, verification may require State Child Nutrition Directors to spend time explaining regulations and keeping records. The costs associated with verification tasks conducted by governmental units other than the SFA should be included in the benefit-cost comparisons in that they ultimately affect the costs of the NSLP that are borne by the

taxpayer. However, because this study focuses only on SFA implementation costs, verification procedures that use non-SFA resources will appear to have a better benefit-cost ratio than they really do. While it is beyond the scope of this study to measure costs incurred by non-SFA governmental units, it is important to recognize the impact of this omission on the benefit-cost comparisons.

Labor Costs. Labor costs for this study were calculated as the product of the number of hours of work spent on income verification tasks (as estimated by the SFA manager) and the average hourly wage for this labor category. The eight labor categories used and average hourly wages are shown below:

Labor Category	Average Wage
• School district officials including superintendent, business manager, etc.	$25.52*
• School-level officials including principals and assistant principals	$20.25*
• Food service director	$14.46**
• Social worker, nurse, teacher	$12.36*
• School district clerks and secretaries	$7.11*
• School-level clerks and secretaries	$6.36*

*These wage estimates were taken from the Statistical Abstract of the United States, 1987, 107th Edition, U.S. Department of Commerce, Bureau of the Census, Washington, DC, 1987, p.128, Average Salary and Wages in Public School Systems. Fringe benefits are not included in these estimates.

**This estimate was derived from the average hourly wages of food service directors in the 90 SFAs participating in FNS' Study of Alternatives to Commodity Donation in the NSLP. Average wages of $12.87 for school year 1984-85 were used, and inflated by two 6% raises, to yield the average wage of $14.46 for school year 1986-87. Fringe benefits are not included.

- Other food service personnel $5.76*
- Other $6.20*

When SFA managers were asked to estimate the amount of time spent on income verification for staff in different labor categories, they were also asked to allocate that time across five different verification functions. These include the following:

- sampling and notifying parents,
- reviewing documentation and third party contacts,
- eligibility determination and notifying parents and schools,
- follow up, and
- other.

Nonlabor Costs. Finally, an estimate of the nonlabor costs incurred in verification activities was supplied by the SFA manager. Four categories of nonlabor costs were used:

- data processing,
- travel,
- overhead, and
- other.

Many SFA managers did not supply cost estimates for nonlabor items, saying that these costs were simply absorbed into other existing budgets. For example, data processing costs usually were picked up by some other part of the school district. Thus, in many cases there are zero nonlabor costs. These zero cost estimates have been included in calculations of nonlabor costs. However, estimates of nonlabor costs based only on SFAs with non-zero nonlabor costs have also been provided.

Out-of-Pocket Costs vs. Burden Imposed by Verification

A third important measurement issue for the benefit-cost analysis is the allocation of costs incurred by SFAs between income verification practices and other school district functions. That is, should costs be measured as the "additional out-of-pocket costs imposed on the SFA by verification", or as the "effort required to conduct verification?"

The former definition would require distinguishing between verification activities that actually add to the out-of-pocket costs required to perform the work

done by the SFA from those that do not. One example of an addition to out-of-pocket costs is the SFA that has to hire an additional employee to handle verification tasks. Clearly, the cost of this new employee is attributable to verification. However, such a definition of costs is quite restrictive, since most SFAs are able to conduct their verification activities with existing staff and resources.

The effort-based definition is broader than the out-of-pocket definition. It requires measurement of the time spent on verification activities (and any nonlabor resources), regardless of whether actual SFA out-of-pocket costs were affected. Under this definition, it matters not if the SFA actually had to pay more for the work done in the service of income verification. All that matters is the amount of time spent. This is the approach that has been used in this evaluation.

Method for Measuring Burden Imposed By Verification

A final issue is how to measure the burden imposed by income verification. Ideally, SFA personnel would maintain time logs and record the amount of time spent on income verification activities on a daily basis. In practice, the timing of the study's data collection effort did not allow for the use of time logs. Rather, it was necessary to interview SFA managers in order to collect retrospective data on the resources (time and overhead) involved in conducting income verification. That is, SFA managers were asked in March/April of 1987 to estimate the amount of labor and other resources that were used in conducting the verifications completed in the prior fall. It is not possible to gauge the accuracy of this retrospective data. All that can be said is that it is not likely to be as accurate as data obtained at the time that verification was being conducted.

It should be noted that this definition of costs is likely to lead to somewhat of an overestimate in labor costs and an underestimate in nonlabor costs. Since SFAs are the ones to bear the costs of verification, and SFA managers are the ones who have estimated the staff time involved in verification activities, it is likely that the time estimates provided are slight overestimates--certainly it is unlikely that SFA managers would underestimate the amount of time it takes to conduct verification. On the other hand, many of the nonlabor costs (computer, travel, etc.) are buried in other school

district accounts, and SFA managers are unable to estimate them. Thus, it is likely that the nonlabor costs reported by SFAs are underestimates of the real costs.

Measurement of Benefits of Income Verification

The benefits of income verification were discussed in Chapter 5, where the results of verification were expressed in terms of the reductions in Federal outlays attributable to the implementation of income verification procedures. Those savings represent the measure of benefits that is used in the analyses presented in this chapter.

RESEARCH FINDINGS

This section contains findings from analyses describing the costs of income verification in the NSLP.

What are the Costs to SFAs of Alternative Verification Procedures?

Cost of Income Verification. Exhibit 7.1 presents national estimates of the burden placed on SFAs by income verification during the 1986-87 school year. This exhibit shows that the national total of 15,703 SFAs required an estimated 628,077 hours to verify (301 person-years assuming 2,088 hours in a person-year) an estimated 597,072 applications at a total cost of $6.27 million. From these estimates it can be calculated that the average SFA verified 38 applications at an estimated total cost of $399, yielding an estimated national cost per verified application of $10.51 and requiring 1.05 hours per verified application. Almost all of the $10.51 cost per verified application is accounted for by labor costs ($9.68 or 92.1%), while the remainder is accounted for by nonlabor costs ($0.83 or 7.9%). This is substantially less than the cost estimate provided by USDA's Income Verification Pilot Project ($25.86 per verified application). The cost difference makes sense since the IVPP results were from a demonstration project on a small sample of SFAs, and the current study has obtained data from a nationwide sample of SFAs that have been conducting income verification for several years and presumably have stable operations in place.

Exhibit 7.1

NATIONAL ESTIMATES OF COST OF AND HOURS SPENT ON INCOME VERIFICATION IN THE NSLP, BY VERIFICATION SAMPLING METHOD: UNIT OF ANALYSIS IS THE APPLICATION (School Year 1986-87)

Verification Sampling Method	Estimated Number of SFAs* (a)	Estimated Number of Applications Verified* (b)	Estimated Total Cost of Verification** (c)	Estimated Number Verified Per SFA (b/a)	Estimated Cost of Verification Per SFA (c/a)	Estimated Cost Per Verified Application (c/b)	Estimated Total Hours Spent on Verification (d)	Estimated Hours Per Verified Application (d/b)
All SFAs								
n	15,703	597,072	$6,272,303	38	$ 399	$10.51	628,077	1.05
(Std. Error)	(1,781)	(110,636)	(743,468)			(2.31)	(89,782)	(0.25)
Random								
n	13,011	334,793	$5,087,252	26	$ 391	$15.20	504,696	1.51
(Std. Error).	(1,612)	(45,887)	(719,867)			(2.99)	(85,486)	(0.33)
Focused								
n	1,626	49,385	$ 842,321	30	$ 518	$17.06	83,866	1.70
(Std. Error)	(300)	(9,101)	(191,225)			(4.99)	(20,196)	(0.52)
Verify All								
n	1,066	212,895	$ 342,730	200	$ 322	$ 1.61	39,496	0.19
(Std. Error)	(344)	(93,780)	(147,054)			(0.98)	(21,778)	(0.13)

*Source of Data: SFA Manager Interview (mail)
Weighted N = 15,703 SFAs
Unweighted N = 1,156 SFAs

**Source of Data: SFA Manager Interview (telephone)
Weighted N = 15,703 SFAs
Unweighted N = 424 SFAs

The method used by SFAs to select the verification sample is clearly related to verification costs and the amount of time spent verifying each application. SFAs using random and focused sampling have similar costs ($15.20 and $17.06 per verification, respectively), however SFAs that verify all applications have much lower costs ($1.61 per verification). While the confidence placed in this estimate is limited due to the small number of SFAs in the sample that verify all applications (unweighted N = 23 SFAs), a closer examination of the SFAs that verify all applications reveals that they tend to be quite small (90% have less than 600 students enrolled). These SFAs may feel that verifying all applications allows them to avoid singling out families for verification, something which is desirable in a small community. Presumably, if an SFA is verifying all applications it has in place a streamlined operation for processing applications and for conducting verification. Finally, it may be that verification in SFAs that verify all applications is simply less intensive than it is in other SFAs, although there is no evidence to support this conjecture.

A similar pattern is seen for the amount of time spent per verification: 1.51 hours per verification for SFAs using random sampling; 1.70 hours for SFAs using focused sampling; and, only 0.19 hours for SFAs that verify all applications.

It should be understood that both types of estimates were generated using the application as the unit of analysis. That is, the total cost of all verification activity in each SFA was weighted to arrive at the national total of $6.27 million, and the number of verifications in each SFA was weighted to arrive at the national total of 597,072 verifications. These two numbers were used to compute the national average cost per verification of $10.51.

This is the correct method of calculating the national cost of income verification, and these cost estimates are used in the benefit cost calculations presented later in this report. However, these national estimates are heavily influenced by the fact that an estimated 36% of the verifications in the country are done by a small number of SFAs (the 6.8% of SFAs that verify all applications) at a very low cost per application ($1.61).

Thus, the average cost per verification of $10.51 is useful for computing national cost estimates, but it is less useful for assessing the costs that income

verification places on a "typical" SFA. To do this, it makes sense to take a different approach to the calculation of the cost of verification--one in which SFAs are the unit of analysis rather than the individual verified application. Using this method, a mean cost per verification is computed for each SFA, and national estimates are based on an average of SFA means. Using this procedure, SFAs which verify all applications are counted only in proportion to their numbers in the population of SFAs (6.8%), not in proportion to the number of applications they verify (36%).

The mean cost per verification is widely different across SFAs. Exhibit 7.2a presents a distribution of SFA means on cost per verification. The means range from less than $1.00 per verification to over $50.00 per verification, with an average of $20.83, standard deviation of $14.71, and median of $16.36. This wide range corroborates the findings of the U.S. General Accounting Office, which found that costs ranged from $15 to $60 per verified application.

Exhibit 7.3 presents national estimates of SFA mean costs and hours required to verify an application broken down by several SFA characteristics. The cost per verification based on SFA means is roughly double the cost per verification when the unit of analysis is the verification ($20.83 vs. $10.51). It also appears that there are some economies of scale since the largest group of SFAs (enrollments over 25,000) has the lowest mean cost per verification ($11.30), the group of SFAs with the next largest enrollment (10,000-24,999) has the next lowest mean cost per verification ($14.04), and the remaining groups of SFAs have per verification costs that range between $19.00 and $24.77.

Yet a third method of calculating cost per verification is to compute a weighted average based on the data presented in Exhibit 7.1. That is, assume a $15.20 cost per verification for the 82.9% of all SFAs that use random sampling, a $17.06 cost per verification for the 10.3% of all SFAs that use focused sampling, and a $1.61 cost per verification for the 6.8% of all SFAs that verify all applications. This yields a weighted average of $14.47 per verification. This estimate is a mix of the two other estimates--it assumes that the cost per verification for the random, focused, and verify all groups is appropriately calculated by using the verification as the unit of analysis; then it weights those estimates by an SFA-level weight--the proportion of SFAs in each group (see Exhibit 7.2b).

Exhibit 7.2a

ESTIMATED NATIONAL DISTRIBUTION OF SFA MEANS ON COST PER VERIFICATION: UNIT OF ANALYSIS IS THE SFA (School Year 1986-87)

Cost Per Verification	Percent of SFAs	Cumulative Percent of SFAs
$0.00 - 4.99	8.5%	8.5%
5.00 - 9.99	21.1	29.7
10.00 - 14.99	16.3	46.0
15.00 - 19.99	9.9	55.8
20.00 - 24.99	14.0	69.8
25.00 - 29.99	7.3	77.0
30.00 - 34.99	2.9	79.9
35.00 - 39.99	5.1	85.0
40.00 - 44.99	5.0	90.0
45.00 - 49.99	2.8	92.8
50.00 - 54.99	5.9	98.7
55.00 and higher	1.3	100.0

Weighted N = 15,703 SFAs
Unweighted N = 424 SFAs
Mean = $20.83
Std. Err. = $ 1.81
Std. Dev. = $14.71
Median = $16.36

Source of Data: SFA Manager Interview (telephone)

Exhibit 7.2b

ESTIMATED NATIONAL COST PER VERIFICATION WEIGHTING BY PERCENTAGES OF SFAS USING DIFFERENT SAMPLING METHODS (School Year 1986-87)

Sampling Method	Cost Per Verification	Percent of SFAs
Random	$15.20	82.9%
Focused	$17.06	10.3%
Verify All	$ 1.61	6.8%

Weighted Mean = $14.47

All data for this exhibit are drawn from Exhibit 7.1

Exhibit 7.3

NATIONAL ESTIMATES OF SFA MEAN COST AND HOURS PER VERIFICATION IN THE NSLP, BY SFA CHARACTERISTIC: UNIT OF ANALYSIS IS THE SFA (School Year 1986-87)

SFA Characteristic		Cost Per Verified Application (Mean)	Cost Per Verified Application (Std. Dev.)	Hours for Verified Application (Mean)	Hours for Verified Application (Std. Dev.)
All SFAs	N	$20.83	$14.71	2.15	2.70
	(Std. Error)	(1.81)		(0.19)	
Enrollment					
25,000 +		11.30	8.50	1.38	1.40
10,000 - 24,999		14.04	7.92	1.17	1.13
5,000 - 9,999		21.06	13.41	1.99	2.28
2,500 - 4,999		19.86	14.47	1.90	2.50
1,000 - 2,499		24.77	15.44	2.98	4.14
600 - 999		23.19	11.64	2.70	2.51
0 - 599		19.00	15.18	1.74	1.64
FNS Region					
Northeast		28.23	15.14	2.68	2.57
Mid-Atlantic		15.30	12.76	1.42	1.32
Southeast		23.92	14.87	1.87	1.32
Midwest		19.25	13.46	2.54	3.91
Southwest		26.90	17.79	2.02	1.25
Mtn Plains		16.04	5.78	1.79	1.94
Western		18.04	11.49	3.81	4.91
SBP Available?					
Yes		20.71	16.54	1.49	1.37
No		20.88	14.02	2.39	3.00

Source of Data: SFA Manager Interview (telephone)
Weighted N = 15,703 SFAs
Unweighted N = 424 SFAs

None of this discussion should obscure the fact that the national estimate of $10.51 per verification is the correct estimate to use--it simply shows that this number is heavily influenced by the inclusion of SFAs that verify all applications.

Functional Breakdown of Costs. The costs described above were derived by summing the costs calculated for each of several functional categories. Exhibit 7.4 shows a breakdown of labor costs into functions, and of nonlabor costs into categories, for the different verification sampling methods. Three functions accounted for almost 80% of all labor costs: sampling and notifying parents (27.5%), reviewing documentation and making third party contacts (24.1%), and eligibility determination and notifying parents and schools (27.3%). These percentages do not vary greatly across SFAs using different verification sampling procedures.

Allocation of Labor Costs to Labor Categories. Exhibit 7.4 also breaks down labor costs according to the type of staff involved in verification activities. Several categories of labor were responsible for substantial portions of the costs of verification activities. These are food service directors (22.8%), school level officials (23.1%), school district officials (13.5%), clerical staff at the district level (14.2%), and clerical staff at the school level (11.8%). All other personnel accounted for the remaining 14.6% of verification labor costs.

Allocation of Nonlabor Costs. In terms of nonlabor costs, most were a part of overhead--95.8% across all types of SFAs. SFAs that verify all applications classified somewhat less of their nonlabor costs as overhead than other SFAs (86.1% as opposed to about 96%), and classified somewhat more as data processing and travel. This is consistent with the earlier hypothesis that in order to verify all applications, SFAs are likely to have a streamlined computerized approach to verification.

What is the Ratio of Benefits to Costs for Income Verification?

This section examines the degree to which income verification yields a net benefit, and the degree to which the random, focused, and verify all procedures yield differential benefit-cost ratios. For this report, the benefit-cost ratio is expressed as the

Exhibit 7.4

NATIONAL ESTIMATE OF BREAKDOWNS OF LABOR AND NONLABOR COSTS OF INCOME VERIFICATION IN THE NSLP, BY VERIFICATION SAMPLING METHOD (School Year 1986-87)

Cost Element	Verification Sampling Method: Random	Focused	Verify All	Total
Labor Costs				
Sampling and notifying parents	26.5%	37.5%	20.8%	27.5%
Reviewing documentation and third party contacts	24.0	22.0	27.8	24.1
Eligibility determination and notifying parents and schools	26.3	28.1	36.0	27.3
Follow up	14.0	8.5	10.0	13.0
Other income verification activities	9.2	4.0	3.5	8.1
TOTAL PERCENT	100.0	100.0	100.0	100.0
WEIGHTED N	13,011	1,626	1,066	15,703
UNWEIGHTED N	326	75	23	424
School-level officials	22.8%	30.7%	13.7%	23.1%
School district officials	13.5	15.2	10.4	13.5
School-level clerks, secretaries	13.5	5.3	4.3	11.8
School district clerks, secretaries	11.3	23.0	29.7	14.2
Food service director	24.9	15.6	13.7	22.8
Other food service personnel	4.1	7.9	25.9	6.2
Social worker, nurse	7.5	2.0	0.5	6.2
Other	2.5	0.4	1.9	2.2
TOTAL PERCENT	100.0	100.0	100.0	100.0
WEIGHTED N	13,011	1,626	1,066	15,703
UNWEIGHTED N	326	75	23	424
Non Labor Costs				
Data processing	0.8%	2.3%	6.2%	1.5%
Travel	1.4	0.9	7.7	1.8
Overhead	96.8	96.0	86.1	95.8
Other	1.0	0.9	0.0	0.9
TOTAL PERCENT	100.0	100.0	100.0	100.0
WEIGHTED N	13,011	1,626	1,066	15,703
UNWEIGHTED N	265	63	19	347

Source of Data: SFA Manager Interview (telephone)

ratio of SFA burden to Federal savings. Both of these variables are measured in terms of dollars, and so it is possible to make statements about the number of Federal dollars saved for each dollar invested by SFAs in verification. If the ratio is less than one it means that verification does not yield a net benefit--it costs more to verify an application than is saved. On the other hand, if the ratio is greater than one, verification does yield a net benefit, since savings per verified application are greater than the costs.

Exhibit 7.5 contains a summary of the benefit-cost calculations performed for this study. The national cost imposed on SFAs by income verification was estimated earlier in this chapter at $10.51 per verification ($6.27 million cost/597,072 verifications). Likewise, the national savings resulting from income verification can be estimated at $30.22 per verification ($18.05 million savings/597,072 verifications). Dividing the savings by the cost shows that each $1.00 in verification expenditures generates a Federal savings of $2.88.

The benefit-cost ratio for different sampling procedures (random, focused, and verify all applications) can also be calculated. From Exhibit 7.5 it can be seen that the costs per verification are similar for SFAs using random sampling ($15.20 per verification) and for SFAs using focused sampling ($17.06 per verification). However, the savings generated by the use of focused sampling ($81.81 per verification) are substantially greater than the savings generated by the use of random sampling ($34.56 per verification). This makes sense given that focused sampling enables SFAs to concentrate their resources on applications that are more likely to be in error. Thus, while both procedures generate more savings than costs, focused sampling has a better benefit-cost ratio than random sampling. Spending $1 on income verification generates Federal savings of $4.80 for SFAs that use focused sampling, compared with Federal savings of $2.27 for SFAs that use random sampling.

It appears that the verification of all applications may yield a better benefit-cost ratio than the use of either random or focused sampling. Each $1 spent on income verification in SFAs that verify all applications generates $7.11 in Federal savings. However, it should be noted that the benefit-cost ratio for verifying all applications is driven by the very low cost per verification ($1.61 per verification) in these SFAs. Since this study was

Exhibit 7.5

SUMMARY OF BENEFIT-COST CALCULATIONS

Statistic	Verification Sampling Procedure			Total
	Random	Focused	Verify All	
Cost Per Verified Application*	$15.20	$17.06	$1.61	$10.51
Savings Per Verified Application**	$34.56	$81.81	$11.44	$30.22
Savings Generated by Spending $1 on Verification***	$2.27	$4.80	$7.11	$2.88

*Ratio of cost to number of verified applications. See Exhibit 7.1 for costs and number of verified applications.

**Ratio of savings to number of verified applications. See Exhibit 5.3 for savings, Exhibit 7.1 for number of verified applications.

***Savings per verified application divided by cost per verified application.

not designed to enable national estimates for SFAs that verify all applications, the sample of this group is small (23 SFAs out of the sample of 424 that completed the telephone survey), and it is unclear that the findings with respect to these SFAs can be generalized to the nation as a whole.

It is also important to consider the potential deterrence and barrier effects of verification. As discussed in Chapter 6, the estimated upper-bound on the size of these effects is $18.68 million for a barrier effect and $50.12 million for a deterrence effect. Thus, the upper-bound on the total savings attributable to income verification equals the sum of the savings due to detected errors, the savings due to deterring potential misreporting, and the "savings" due to erecting barriers to participation by eligible households. The total is $18.05 million + $50.12 million + $18.68 million = $86.85 million. Thus, it is estimated that each dollar spent by SFAs on verification activities would result in a savings of $13.85 to the Federal government if upper-bound estimates of deterrence and barrier effects are included ($86.86 million/$6.27 million). It should be remembered that the study design does not allow great confidence in the estimates of the size of deterrence and barrier effects, and the benefit-cost ratio which includes estimates of savings from deterrence and barriers should be regarded with care.

These findings differ from those of the earlier Income Verification Pilot Project which found that none of the procedures tested yielded net benefits (see discussion in Chapter 1). It is possible that the discrepancy in findings is due to the fact that the earlier project was testing new, innovative procedures, which were probably difficult and costly for SFAs to implement at that time. On the other hand, the present study has measured the costs of procedures which are, by now, firmly in place and which should be relatively streamlined.

Either estimate presented above (with or without savings from deterrence and barrier effects) reflects a substantial savings which indicates that verification clearly yields a net benefit when viewed from the perspective of the taxpayer. That is, from the taxpayer's viewpoint, the increase in costs incurred by school districts (which might be reflected in higher local property taxes), is more than offset by the savings at the Federal level (which might be reflected in, for example, lower Federal taxes, or a reduced Federal deficit).