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School Lunch and Breakfast Cost Study

Final Report

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*School Lunch and Breakfast
Cost Study*

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Table of Contents

	Page
Acknowledgements	i
Executive Summary	iii
Chapter One: Introduction	1-1
Overview of the National School Lunch Program and the School Breakfast Program	1-2
Defining Meal Costs	1-5
Chapter Two: Overview of the School Lunch and Breakfast Cost Study	2-1
Overview of the Meal Cost Methodology	2-1
Sample Design and Selection	2-11
Data Collection	2-14
Chapter Three: Estimates of Reported Costs	3-1
Reported Costs of Producing Reimbursable Meals	3-2
Composition of Reported Costs	3-6
Administrative Costs	3-10
Chapter Four: Estimates of Full Costs	4-1
Magnitude and Composition of Unreported Costs	4-2
Full Cost of Producing Reimbursable Meals	4-11
Composition of Full Costs	4-14
Chapter Five: Analysis of School District Indirect Costs	5-1
SFA Practices for Reporting Indirect Costs	5-3
Recovery of SFA Indirect Costs	5-6
Methods Used to Allocate Indirect Costs	5-9
Calculation and Recovery of Indirect Costs from Other Grants	5-13

Table of Contents
(continued)

Chapter Six:	Composition of SFA Revenues and Revenue/Cost Comparisons	6-1
	Composition of Revenues	6-2
	Comparison of Revenue and Cost	6-8
Appendix A:	Sample Design	A-1
	Introduction	A-1
	The Sample of SFAs	A-2
	The Sample of Schools and Kitchens Within SFAs	A-3
	Summary	A-6
Appendix B:	Weighting Methodology	B-1
	Introduction	B-1
	School/Kitchen Weights	B-1
	SFA Weights	B-1
Appendix C:	Estimates of Reported and Full Costs by Type of Meal Production System	C-1
Appendix D:	Regression Models for Reported and Full Cost per Reimbursable Meal	D-1
Appendix E:	Supplementary Tables	E-1

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Brown & Company of Arlington, Virginia was Abt Associates' subcontractor for part of the data collection. Their staff conducted on-site reviews of financial records of each of the participating school districts, and interviewed food service directors and other school district administrators. Milton Hatcher and Tyrone Brown were responsible for the subcontract.

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Executive Summary

STUDY BACKGROUND

The School Lunch and Breakfast Cost Study was carried out by Abt Associates Inc. of Cambridge, Massachusetts, under contract to the Food and Nutrition service (FNS) of the United States Department of Agriculture (USDA). It provides a detailed examination of the cost of producing reimbursable meals in the National School Lunch and Breakfast Programs (NSLP and SBP) during School Year (SY) 1992-93. Information was collected from a nationally-representative sample of 94 School Food Authorities (SFAs). In each SFA, data were collected in a representative sample of schools and kitchens. In total, data were collected in a sample of 540 schools.

The study examined the costs charged to SFAs (reported costs), as well as those costs incurred by the school district in support of SFA operations, but not charged to the SFA (unreported costs). Together, the reported costs and the unreported costs are the full cost of meal production.

NONPROFIT FOODSERVICE OPERATIONS

SFAs are required to be nonprofit and self-sufficient. Usually SFAs operate at the break-even level, i.e., costs should equal revenues from all sources. Nonprofit status is determined by the financial status of the school food service *as a whole* rather than the financial status of each Federal program separately. SFAs are not required to maintain separate cost and revenue records for the NSLP, SBP and other nonprofit school food service activity. SFAs can use Federal lunch and non-severe need breakfast payments to support their overall nonprofit school food service. Federal funds from NSLP can be used to support SBP or non-program food service such as a la carte service.

Because SFAs are nonprofit, reported costs will generally equal revenues. Within this overall status though, SFAs may shift costs between breakfast and lunch, or reimbursable and non-reimbursable meals. If revenues from reimbursable meals exceed the cost of producing these meals, the SFA may use the funds to support a la carte meals. Similarly, if revenues from reimbursable meals are less than the costs, the SFA may use the a la carte revenues to support the cost of reimbursable meals.

Major findings related to SFA revenues and reported costs include:

- On average, SFAs operate at the break-even level, with total revenues about equal to total reported costs.
- Revenues from reimbursable meals exceed the cost of producing those meals. Reimbursable lunches generate a revenue surplus that is used to offset losses from reimbursable breakfasts.
- SFAs also subsidize non-program food service (e.g., a la carte) with surplus revenues from reimbursable lunches.
- Revenues from reimbursable meals (including government subsidies and student payments) accounted for an average of 85 percent of total SFA revenues.

REPORTED COSTS

From an SFA's perspective, reported costs *are* the costs of running the Child Nutrition programs. That is, reported costs are the costs SFAs are expected to cover from revenues derived from food service sales and government reimbursements. Major findings related to the reported cost of producing reimbursable meals include:

- The combined Federal subsidy for free lunches and breakfasts covers the cost of producing these meals. The combined median cost of producing NSLP and SBP meals (\$2.68) was less than the combined Federal subsidy for free meals (\$2.79).
- The reported cost of producing a reimbursable lunch was less than the Federal subsidy for a free lunch. The SFAs' median reported cost of producing a reimbursable lunch was \$1.63, compared with a Federal subsidy of \$1.84 for a free lunch. In 75% of the SFAs, the reported cost of producing reimbursable lunches was less than the Federal subsidy.
- The reported cost of producing a reimbursable breakfast exceeded the Federal subsidy for a free breakfast. The SFAs' median reported cost of producing a reimbursable breakfast was \$1.05, compared with a Federal subsidy of \$0.95 for a free breakfast (\$1.12 for a "severe need" breakfast). In two-thirds of the SFAs, reported costs exceeded the regular reimbursement rate for free breakfasts.

Federal meal subsidies are not intended to cover all costs for all SFAs. It is expected that some SFAs will have reported costs above the subsidy while others will have costs below the subsidy. However, it is intended that, on average, across all SFAs Federal subsidies will cover the costs of producing reimbursable meals.

UNREPORTED COSTS

Most school districts incur some costs in support of the food service operations that are not charged to the SFA budget. In some cases, the school districts chose to bear these costs as a way to subsidize the SFA, while in other cases, the districts carried the costs because the SFA had insufficient funds to cover all expected costs. Major findings related to the unreported costs and the full cost of producing reimbursable meals include:

- Across all SFAs, unreported costs accounted for an average of 17 percent of full costs.
- For the average SFA, the median full cost of producing a reimbursable lunch and breakfast was \$1.88 and \$1.38, respectively.
- Unreported costs are primarily labor, indirect costs, equipment depreciation, and utilities.
- Administrative labor costs accounted for 13 percent of the average SFA's full cost (compared to eight percent of the average SFA's reported cost).

Chapter One

Introduction

The School Lunch and Breakfast Cost Study, conducted for USDA's Food and Nutrition Service (FNS), was designed to "...determine the cost to produce school lunches and breakfasts, including indirect and local administrative costs" (P.L. 101-624). Specifically, the study was intended to meet the following objectives:

- determine the national average cost of producing reimbursable National School Lunch Program (NSLP) and School Breakfast Program (SBP) meals during School Year (SY) 1992-93;
- determine the value of local administrative costs used to produce reimbursable meals;
- determine the composition of indirect costs, the extent to which they are charged to School Food Authority (SFA)¹ accounts, and the basis for these charges;
- determine the composition of SFA revenues, including federal reimbursements, cafeteria sales (student payments for NSLP and SBP reduced- and full-price meals, a la carte, and adult meals, etc.), and State and local cash assistance; and
- determine the extent to which meal production costs vary by the type of meal production/distribution system used by SFAs.

While there have been several previous studies of school meal costs, these efforts have suffered from two important methodological weaknesses:

- They have relied on costs as *reported* by SFAs and have therefore not reflected the cost of all of the resources used by SFAs to produce school meals.
- Because there is no separate accounting of the costs attributable to the production of different meals (e.g., breakfast vs. lunch, reimbursable vs. a la carte meals), past studies have relied on indirect, econometric techniques to convert breakfasts, adult meals, and a la carte sales into NSLP-lunch equivalents (LEQ) to estimate

¹A school district is an educational entity recognized by the State, responsible for the administration of one or more schools but does not necessarily have the legal authority to operate the NSLP and SBP. A School Food Authority is "...the governing body which is responsible for the administration of one or more schools and has the legal authority to operate the Program therein or be otherwise approved by FNS to operate the program." (7CFR210.2).

unit costs. Such indirect measurement techniques do not provide a true measure of the costs of producing reimbursable lunches and breakfasts.

To overcome these problems, the *Meal Cost Methodology Study* (MCM), conducted by Abt Associates for FNS, developed a methodology to identify and measure the full cost of meal production (i.e., including costs that were not charged to the SFA account) and to allocate these costs to different SFA activities.² Abt Associates pilot tested this new direct measurement methodology in 18 SFAs during SY 1990-91 and determined that it is a feasible mechanism for measuring the per-meal costs of reimbursable meals in the NSLP and SBP. This study used the MCM approach (described in Chapter Two) in a nationally-representative sample of SFAs to meet the previously described objectives.

The remainder of this chapter provides brief descriptions of the two programs that are the focus of the study—the NSLP and the SBP—and discusses the issue of defining costs for meals produced and served in these programs.

OVERVIEW OF THE NATIONAL SCHOOL LUNCH PROGRAM AND THE SCHOOL BREAKFAST PROGRAM

The NSLP and the SBP are two of the "Child Nutrition Programs" administered by FNS that operate in every State in the nation. Each program is briefly described below.

The National School Lunch Program

The NSLP is the largest and oldest Child Nutrition Program. The Federal contribution for School Year (SY) 1991-92 was about \$4.4 billion, including donated commodities.

The NSLP provides Federal subsidies for school lunches served to children at all income levels. Eligible institutions include public schools, private non-profit schools, and public or licensed residential child care institutions. Nationally, about 95 percent of all public schools and 29 percent of all private schools participate in the NSLP.³ Any child in a participating school is eligible to purchase a school lunch. About 60 percent of all children in schools regularly participate in the program.⁴

²Glantz, F. et al., **Child Nutrition Meal Cost Methodology Study** (U.S. Department of Agriculture, Food and Nutrition Service, Office of Analysis and Evaluation, 1992).

³Committee on Agriculture, Nutrition, and Forestry, U.S. Senate. **Child Nutrition Programs: Description, History, Issues, and Options** (Washington, D.C.: 1983).

⁴Burghardt, J. et al., **The School Nutrition Dietary Assessment Study, School Food Service, Meals Offered, and Dietary Intakes** (Princeton, NJ: Mathematica Policy Research, Inc., 1993).

Federal assistance takes two forms: cash and commodities. To be eligible for Federal subsidy, lunches served must meet nutritional guidelines set forth by the Secretary of Agriculture designed to ensure that the meal provides, on average, one-third of a student's daily nutritional requirements. Federal assistance is performance-based—i.e., reimbursement is provided to States only for meals actually served to students. Two kinds of cash assistance are provided. Under Section 4 of the National School Lunch Act, a cash subsidy is provided for every lunch served, regardless of the income of the child's family. Under Section 11 of the National School Lunch Act, additional cash subsidies are provided for children qualifying for free or reduced-price lunches. Currently, students eligible for a free lunch are those from families with incomes at or below 130 percent of poverty. Reduced-price lunches may be served to students from families whose incomes fall between 130 and 185 percent of poverty. These students may be required to contribute an additional amount of their own money for the lunch—up to \$0.40 per lunch. An additional \$0.02 per lunch is reimbursed for each meal served in schools in which 60 percent or more of the lunches in the second preceding year were claimed as free or reduced-price meals. Total cash reimbursements received by schools during Fiscal Year (FY) 1992 amounted to approximately \$3.8 billion.

The NSLP is the only Child Nutrition Program that requires a matching contribution by States. States are required to provide matching funds equal to up to 30 percent of the amount of Section 4 assistance they received during SY 1980. The actual percentage depends on the average per capita income in the State as compared with the national average. States with average per capita incomes lower than the national average are required to contribute less than 30 percent.

Under Sections 6 and 14 of the National School Lunch Act, schools also receive agricultural commodities for use in school lunches. Entitlement commodity assistance, provided regardless of family income, is available for each meal served (about \$0.14 per lunch for SY 1992-93) and is provided to States based on the estimated number of lunches to be served in the school year. In addition, the school lunch program may receive "bonus commodities"—commodities that do not count against the State's entitlement and which vary from year to year both in amount and the types of commodities provided.

In FY 1992, about 24.6 million lunches were served daily in the NSLP. The per meal lunch reimbursement rates in effect for SY 1992-93 are as follows:

	<u>Regular Reimbursement Rates</u>	<u>Average Entitlement Commodities</u>	<u>Total Subsidy</u>
Paid	\$0.1625	\$0.1400	\$0.3025
Reduced-price	1.2950	0.1400	1.4350
Free	1.6950	0.1400	1.8350

Federal law prohibits schools from charging students who qualify for free lunches, but allows them to charge up to \$0.40 for reduced-price lunches. There is no limit placed on what paying students may be charged for lunch.

The School Breakfast Program

The SBP provides Federal funds for non-profit breakfast programs in eligible schools (i.e., public or private non-profit) and other approved child care institutions. Initiated in 1967, the program is aimed at "nutritionally needy" children⁵. Throughout its early history, legislation stressed the need to reach children in poor areas, especially rural areas where children might have to travel great distances to school, and children of working mothers.

The current cost of the breakfast program (FY 1992) is about \$790 million. As with the NSLP, Federal SBP reimbursement is based on the number of meals served. Per-meal reimbursement rates vary in two ways. First, as in the NSLP, three categories of reimbursement are established according to family income: paid reimbursement is provided for breakfasts served to those from families with incomes above 185 percent of poverty; reduced-price rates are established for breakfasts served to children from families with incomes between 130 and 185 percent of poverty; and free rates are established for breakfast served to children from families with incomes below 130 percent of poverty. Second, a "severe need" rate is established for free and reduced-price breakfasts in schools that served 40 percent or more of their lunches to children below 185 percent of poverty two years prior to the school year for which the rate

⁵Committee on Agriculture, Nutrition, and Forestry, U.S. Senate, 1983.

is claimed.⁶ Schools must also demonstrate that unusually high preparation costs exceed the regular reimbursement. The per meal breakfast reimbursement rates in effect for SY 1992-93 are as follows:

	<u>Regular Reimbursement Rates</u>	<u>Severe Need Reimbursement</u>
Paid	\$0.1875	\$0.1875
Reduced-price	0.6450	0.8225
Free	0.9450	1.1225

Federal law prohibits schools from charging students who qualify for free breakfasts, but allows them to charge up to \$0.30 for reduced-price breakfasts. There is no limit placed on what paying students may be charged for breakfast.

Most subsidies are for meals served in elementary schools; not only do more elementary schools participate in the program, but student participation is much greater in these schools. The great majority of children who participate in the program receive free breakfasts (i.e., have incomes below 130 percent of poverty). In FY 1992, 88 percent of all breakfasts were served free or at a reduced-price rate.

Nonprofit Foodservice Operations

SFAs are required to be nonprofit and self-sufficient. Usually SFAs operate at the break-even level, i.e., costs should equal revenues from all sources. Nonprofit status is determined by the financial status of the school food service *as a whole* rather than the financial status of each Federal program separately. SFAs are not required to maintain separate cost and revenue records for the NSLP, SBP and other nonprofit school food service activity. SFAs can use Federal lunch and non-severe need breakfast payments to support their overall nonprofit school food service. Federal funds from NSLP can be used to support SBP or non-program food service such as a la carte service.⁷

⁶Prior to the 1981 Omnibus Budget Reconciliation Act (OBRA), schools could be designated as severe need if state law required them to operate a breakfast program.

⁷CFR Parts 210 and 220.

DEFINING MEAL COSTS

In existing cost reporting systems, the definition and measurement of meal production costs depends on the vantage point adopted and on how the information is to be used. At the local level, cost accounting systems are designed to inform local managerial decisions. Most often, school districts expect their food service authorities to operate at the break-even level, i.e., costs should equal revenues from all sources. The cost elements included in the SFA's cost accounting system are, for the most part, limited to those costs that the food service authority is expected to cover from revenues generated from food service sales and government reimbursements. However, these costs may not reflect the full cost of meal production in the school district. For example, the SFA costs may exclude the cost of school district resources used to support SFA operations.

Conceptually, the full cost of meal production should include the current cost of **all** resources used in meal production, including those charged to the SFA budget and those charged to other budgets or donated to the SFA. These total costs include:

- **Direct Meal Production Costs.** Direct meal production costs are those directly traceable to meal production and service. They include such items as food cost, SFA food service labor costs, and other identifiable meal production costs (e.g., supplies).
- **Non-meal Production Costs.** These costs, which can be incurred at both the SFA and school district level, are not directly traceable to the production of meals in schools. At the SFA level, these costs include labor for food service administration and other SFA support activities, the cost of the facilities occupied by the SFA, storage and transportation of foods, and transportation of meals within the district. At the school district level, examples include the time spent by business managers who are often responsible for SFA as well as school district purchases; school principals, custodians and secretaries who provide administrative services that facilitate the operation of school cafeterias; and cafeteria and kitchen utility costs that are often included in school district utility bills. Other examples of school district costs include: school facilities used to store and transport inventories of food (and other SFA supplies); district facilities used to prepare and serve meals; and vehicles used to transport meals prepared at central or base kitchens to satellite and receiving kitchens. Some or all of these costs may be directly charged to the SFA and appear as line-items on the SFA financial statement or they may be included as part of an indirect cost rate; or they may be absorbed by the school district and not charged in any way to the SFA.
- **Costs of Other Resources.** Examples of other resources (which may be meal production or non-meal production costs) that do not appear in either SFA or school district budgets are: volunteers and student aides who routinely assist in the cafeteria; and depreciation of capital equipment.

The chapter that follows describes the study methodology, including the approach used to measure reimbursable meal costs, the selection of the study sample, and the data collection activities. Chapter Three presents the estimates of reported costs. Chapter Four presents the estimates of full costs. Indirect costs are discussed in Chapter Five. Chapter Six examines SFA revenues.

Chapter Two

Overview of the School Lunch and Breakfast Cost Study

This chapter provides a detailed description of the School Lunch and Breakfast Cost Study. First, the methodology used to measure meal costs is described. Next, sample selection and recruitment are discussed. The chapter concludes with a discussion of the data collection strategy.

OVERVIEW OF THE MEAL COST METHODOLOGY

The primary objective of the School Lunch and Breakfast Cost Study is to determine the average cost of producing school lunches and breakfasts, including indirect and local administrative costs. In contrast to the methods used by SFAs and in prior research studies, the methodology for this study relies on the direct measurement of costs attributable to the various SFA activities rather than the use of indirect allocation rules.¹ Exhibit 2.1 presents an overview of the study approach.

The methodology consists of four elements:

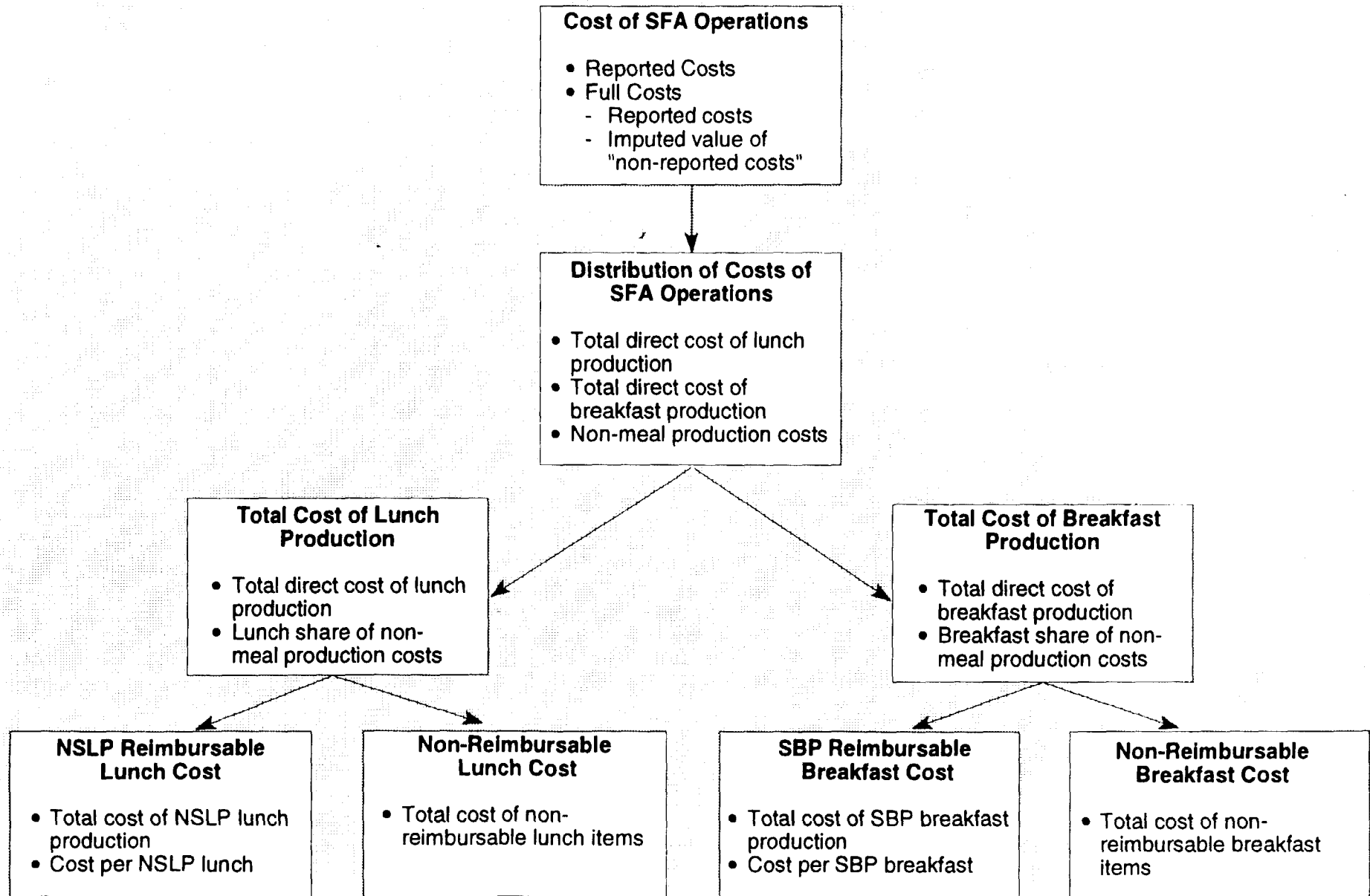
- 1) measuring the full cost of SFA operations;
- 2) distributing the reported and full cost of SFA operations to the production of lunches, the production of breakfasts, and non-meal production activities;
- 3) distributing a share of the cost of non-meal production activities to the production of lunches and breakfasts to obtain the full cost of producing these meals; and
- 4) distributing the reported and full cost of meal production to the production of reimbursable and non-reimbursable meals.

To complete these four processes requires a review of SFA financial statements, meal production records, recipes, invoices, and other documentation. SFA and school district officials are interviewed to provide data to impute the value of school district costs that are not charged to the SFA budget. Data needed to allocate labor costs among SFA activities are obtained through a time study conducted with food service

¹The methodology used in this study was developed and pilot tested as part of the Meal Cost Methodology Study. See Glantz, F. et al, **Child Nutrition Meal Cost Methodology Study** (U.S. Department of Agriculture, Food and Nutrition Service, Office of Analysis and Evaluation, 1992). The methodology measures the *average* cost of producing lunch and breakfast. It is not intended to measure the *incremental* cost of adding a breakfast program to an existing lunch program.

Exhibit 2.1

Overview of Meal Cost Methodology Framework



staff in a sample of schools. Finally, a sample of meals taken by students are observed to obtain data on the distribution of menu items sold in reimbursable and non-reimbursable meals. The relationship between these data collection activities and the four elements of the methodology are summarized in Exhibit 2.2. Each element of the methodology is discussed below.

Exhibit 2.2

Data Collection Activities by Study Component

Element of Methodology	Data Collection Activity
Measure the Full Cost of SFA Operation	<ul style="list-style-type: none"> • review the SFA’s annual financial statement with SFA and school district officials to verify reported costs and to identify unreported costs; and • obtain information needed to impute the value of these unreported costs
Distribute the Reported and Full Costs of SFA Operations Between Lunch Production, Breakfast Production, and Non-Meal Production Activities	<ul style="list-style-type: none"> • review meal production records, recipes, and invoices to directly measure the cost of food used in lunch and breakfast production during a sample time period; and • conduct a time study to identify the labor costs attributable to lunch and breakfast production and non-meal production activities
Distribute a Share of Non-Meal Production Costs to Lunch and Breakfast Production	<ul style="list-style-type: none"> • no separate data collection; allocation of non-meal production costs based on distribution of food and labor costs.
Distribute the Reported and Full Costs of Producing Lunches and Breakfasts Between Reimbursable and Non-Reimbursable Meals	<ul style="list-style-type: none"> • observe a sample of meals taken by students to identify the quantity of each menu item sold that is attributable to reimbursable and non-reimbursable meals.

Measuring the Full Cost of SFA Operations

Full-cost accounting requires that the cost of **all resources** used by the SFA be identified and attributed to SFA operations. These include costs incurred by and charged to the SFA (reported costs), as well as costs incurred by the school district for activities in support of SFA operations. These latter costs may or may not be charged to the SFA. Full-cost accounting also requires that the value of in-kind contributions (e.g., donated commodities and volunteer labor) be included as a cost of SFA operations.

Similarly, full cost accounting of SFA operations requires that a portion of these school district indirect costs be assigned to SFA operations. Indirect costs are those costs that are incurred by the school district in support of SFA and other school district operations, but are not directly traceable to specific activities. The study approach measures the full cost of SFA operations including both those costs that are reported on annual financial statements and unreported costs which must be identified and measured.

The process of identifying unreported costs involves reviewing the SFA's annual expense statement with the SFA director and/or SFA business manager.² Where applicable, the process also involves reviewing the supporting documentation for the school district's indirect cost rate with the school district business manager. The objective of this review is to determine the inclusiveness of each line item on the expense statement--does the reported cost include all of the cost attributable to food service operations? For each line item, this review also seeks to determine if unreported or under-reported costs are included in the school district's indirect cost rate (e.g., if utilities were not included in the SFA's expense statement, this review will determine if utilities were included in the school district's indirect cost rate).

The review of SFA expense statements and school district indirect cost documentation identifies those cost elements for which costs have to be imputed. Respondents are also asked to provide (or identify sources for) the information needed to impute the costs (e.g., to impute the cost of off-budget labor costs, it is necessary to identify the off-budget staff, the amount of time they devote to food service activities, and their wage rates). Principals in a sample of schools are interviewed to identify unreported costs incurred at the school level (e.g., distributing and processing applications for school meal benefits). Exhibit 2.3 summarizes the sequence of activities used to identify and measure unreported costs.

Allocating Food Costs to Breakfast and Lunch

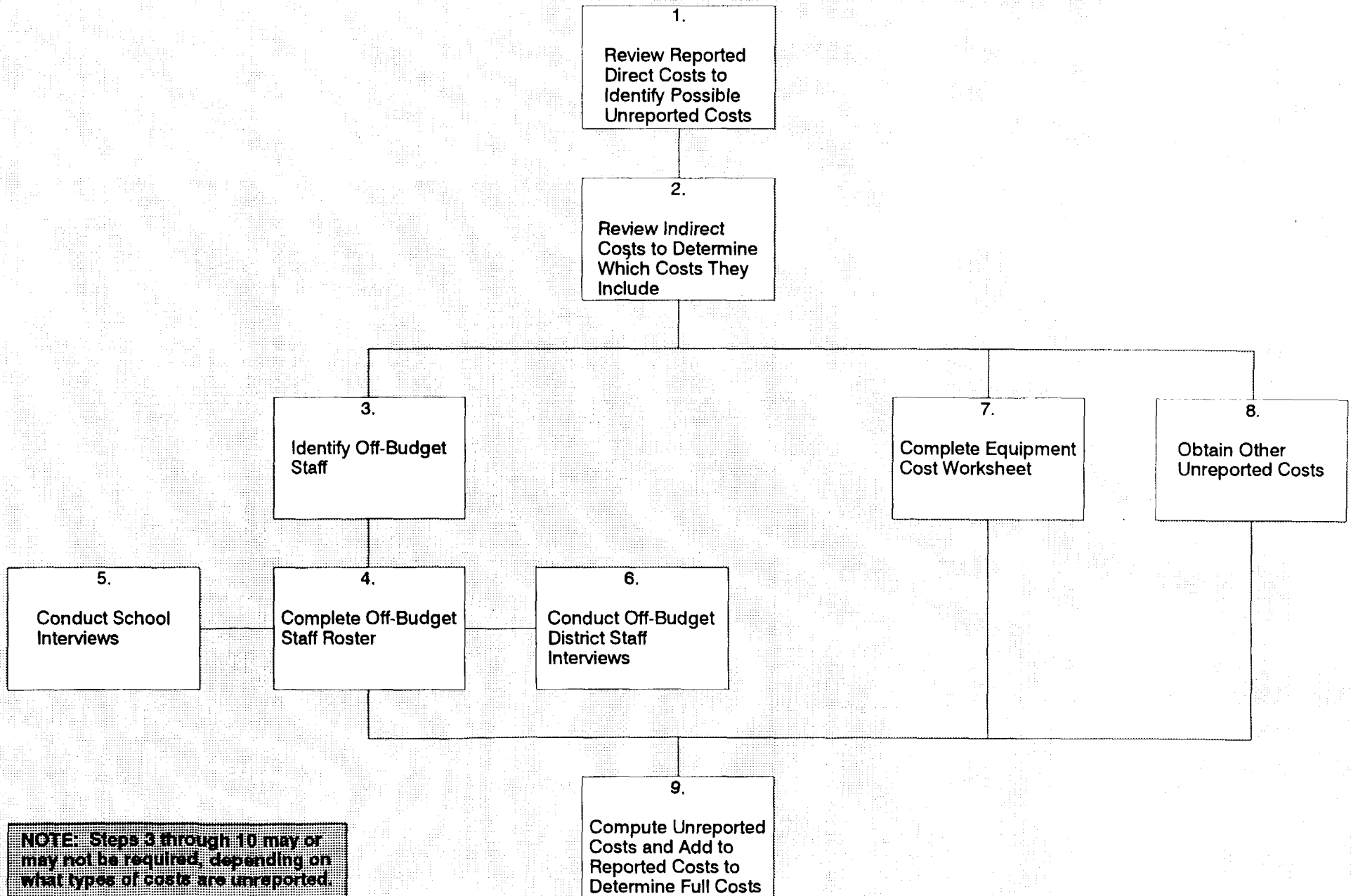
Annual food costs are distributed to breakfast, lunch and other meals using allocation percentages based on the cost of food used during a 5-day study week. The process of identifying the cost of food used in breakfast and lunch production includes the following activities:

- **Prices and Commodities.** Obtaining the average unit price paid for each ingredient (or the USDA-assigned value for donated commodities). SFAs provide master price lists for all foods acquired. These prices are matched to the ingredients used during the 5-day study week by study staff following the completion of data collection.

²The study focused on the costs allowable under the program regulations. While efforts were made to identify and exclude unallowable costs, the estimates of reported and full costs may nevertheless include some unallowable costs that were not identified during the review of SFA expense reports. The inclusion of unallowable costs would tend to overstate both reported and full costs.

Exhibit 2.3

Flowchart for Analysis of Unreported Costs



NOTE: Steps 3 through 10 may or may not be required, depending on what types of costs are unreported.

- **Recipe Records.** A review of recipes used in the production of each food item with the kitchen manager to determine the quantity of the ingredients used in the production of each food item. Study staff record the quantity of each ingredient used, and whether the ingredient was a USDA donated commodity on a Recipe Cost Form.
- **Menu Records.** A review of menu and production records with kitchen managers to identify **all** food items produced for breakfast and lunch during the 5-day study period. Serving size and number of servings produced, including leftovers, are recorded by study staff "meal observers" on a Menu and Production Record.³
- **Sampling Weights.** Applying sampling weights to the food cost estimates for each sample school to obtain district-level estimates.

Exhibit 2.4 summarizes the calculation of the allocation percentages that are used to distribute annual food costs to breakfast, lunch, and other meals.

Identifying and Allocating Labor Costs to SFA Activities

The allocation of SFA labor costs among food service activities is based on the proportion of time devoted to each activity. Two methods are used for distributing staff time and costs among the various food service activities:

- **Daily Time Records for Direct Meal Production Staff.** A *time study* is used for **kitchen staff** and other school-based food service personnel. All food service workers in a sample of schools/kitchens complete Daily Time Records for the 5-day study week. These data are combined with information obtained from an SFA salary schedule to obtain the labor costs attributable to each food service activity. Labor costs for school-based SFA staff are then aggregated to the school district level.
- **Central Staff Rosters and Off-Budget Staff Rosters.** *Professional estimates* made by SFA and school district staff are used to obtain the distribution of time across food service activities for staff not represented in the time study. Professional estimates are made for three groups: central SFA staff; central school district staff; and school staff.
- **Sampling Weights.** Sampling weights are applied to labor cost estimates for each sample school to obtain district-level estimates of the labor cost of school-based staff.

³Copies of the study instruments are included in Appendix E with a description of how each instrument is used.

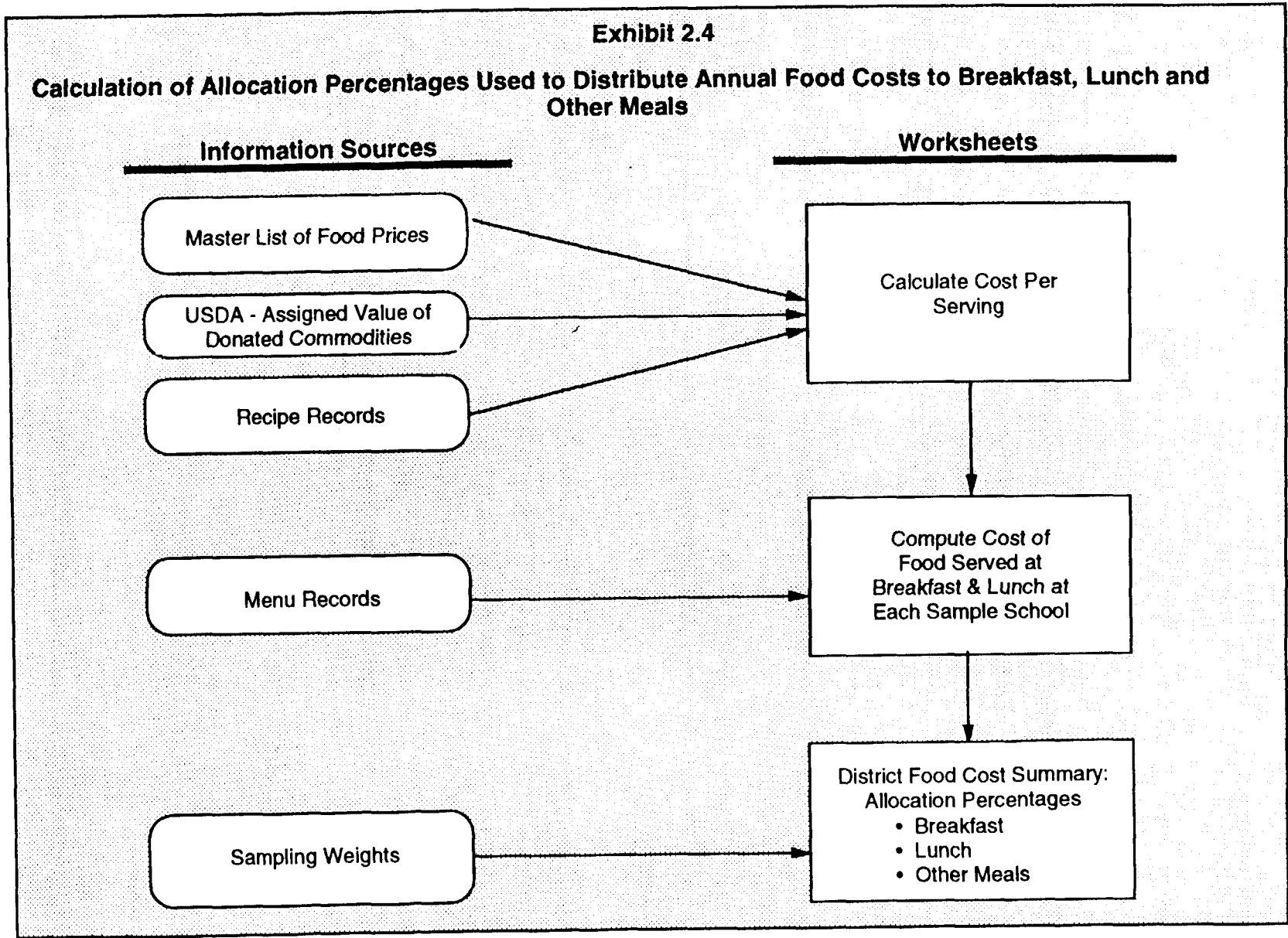


Exhibit 2.5 summarizes the procedures used to estimate the percentage of total annual labor costs attributable to each food service activity.

Allocating "Other" Costs Between Breakfast and Lunch Production

The study methodology directly measures the food and labor costs attributable to breakfast and lunch production. However, a share of direct costs (e.g., supplies, equipment, etc.) must be distributed to breakfast and lunch production to obtain the total reported cost of producing breakfasts and lunches. In the MCM methodology, such costs are distributed between breakfast and lunch in relation to the proportion total of labor and food costs used in breakfast and lunch production. In this way, meal production activities that use a greater amount of labor and food are appropriately credited with a large share of other direct costs.

Allocating Total Lunch and Breakfast Costs to Reimbursable and Non-Reimbursable Meals

The previous steps provide estimates of total annual lunch and breakfast costs. Total annual meal costs (for each type of meal) are allocated to reimbursable and non-reimbursable meals based on the proportion of food costs (for each type of meal) used to produce the food that students actually take as part of reimbursable meals.⁴

To derive these estimates, meal observers record the food items selected by a sample of students taking reimbursable meals in the sample schools. These data are combined with district records of the total number of reimbursable meals served at sample schools during the study week and the previously computed cost per serving (of each food item) to estimate the total food cost of reimbursable meals served at the sample schools. These estimates are then weighted to provide an aggregate district-level estimate of reimbursable food costs. Exhibit 2.6 summarizes the estimation of the percentage of food costs that are reimbursable.

⁴The methodology does not identify those costs that are restricted only to reimbursable meals (e.g., administrative functions related to the meal benefit application and approval process). This results in a slight overstatement of the costs attributable to non-reimbursable meals. Similarly, some high cost foods may require relatively little preparation labor and vice versa. While allocating other costs on the basis of food costs is the best practical option, it is not a perfect measure.

Exhibit 2.5
Estimating the Percentage of Labor Costs Attributable to Each Type of Meal

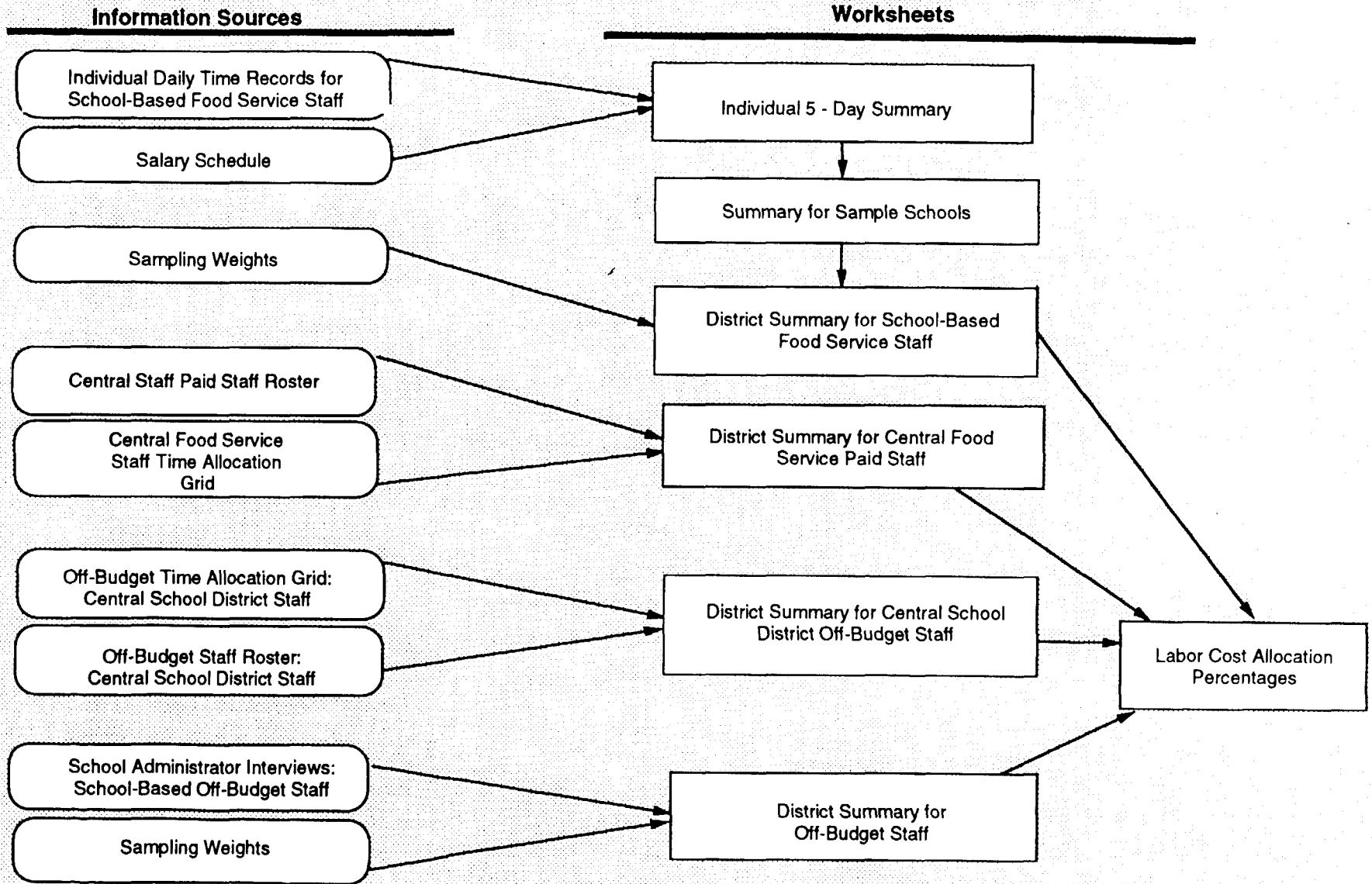
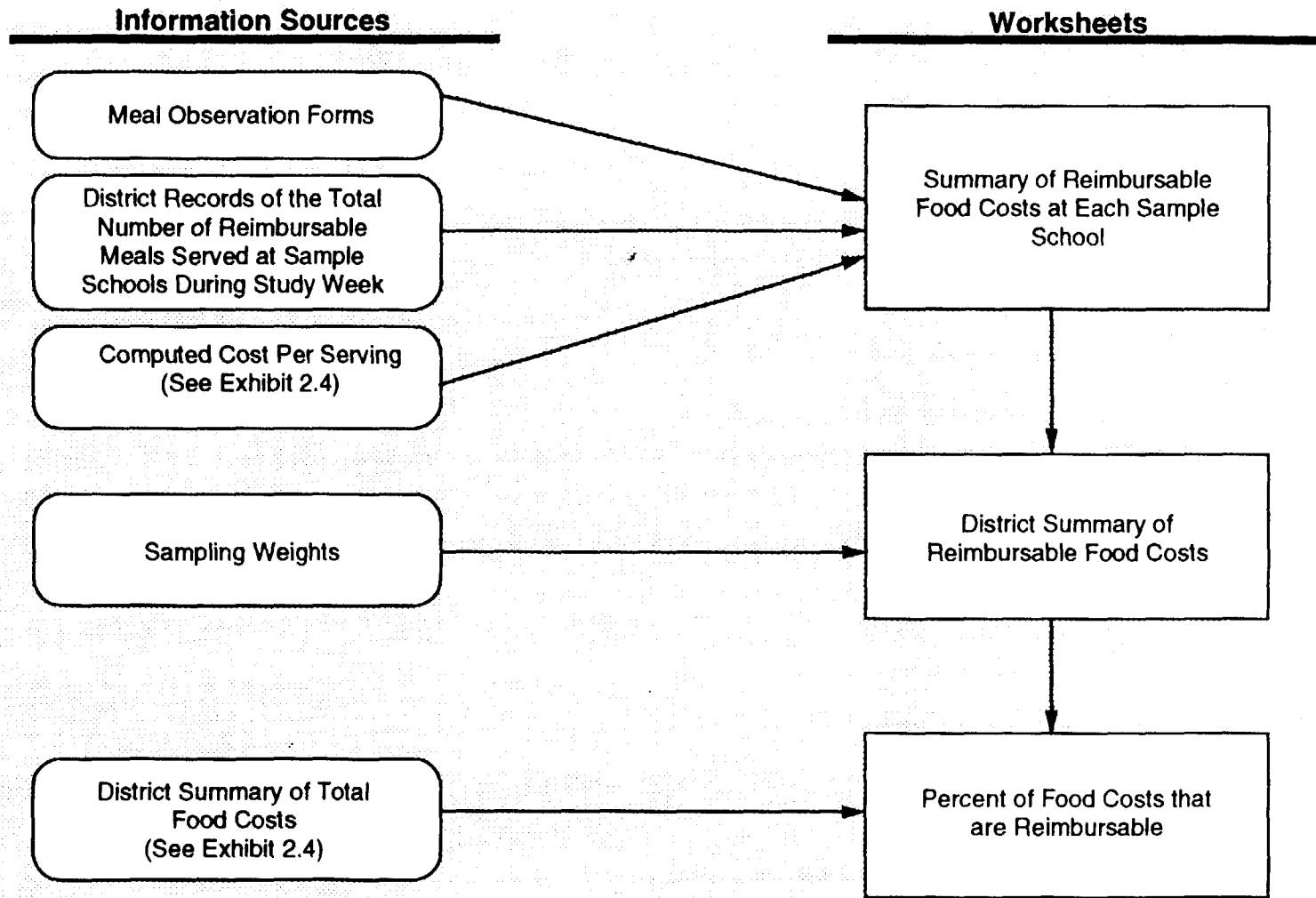


Exhibit 2.6

Estimation of the Percentage of Food Costs that are Reimbursable



SAMPLE DESIGN AND SELECTION

Sample Design

This section presents an overview of the sample design; a more detailed discussion is contained in Appendix A. The School Lunch and Breakfast Cost Study involved the collection of data from a national probability sample of school districts that participate in the NSLP. To select such a sample the study conducted a national listing of SFAs that included information on the size of the lunch and breakfast program and the type of meal production system used.

To construct this listing of SFAs, a telephone survey was conducted of a national probability sample of public school districts in the continental United States to collect information on 1) participation in the School Breakfast Program (SBP), 2) type of meal production system, and 3) total reimbursable lunches and breakfasts served in SY 1991-92. This information was then used only to draw a stratified sample of school districts from among the telephone survey respondents. Detailed meal production cost information was collected on-site for this sample of school districts to calculate national estimates of the mean cost of producing NSLP and SBP meals.

The first step in the overall study was the selection of a stratified national probability sample of 985 school districts to be included in the telephone survey. Interviews were completed with 924 districts for a response rate of 97 percent.

The sample of 924 districts responding to the telephone survey was a large enough sample to allow for the recruiting of a stratified sample of 100 districts for on-site data collection. The stratifiers were type of meal production system, and whether the district participated in the SBP. Four types of meal production systems were used in the stratification:

- **On-site kitchens only.** The SFA has only independent or on-site kitchens which prepare and serve food for the school in which the kitchen is located.
- **Base or central kitchens with satellites.** The SFA uses base kitchens which produce meals for service on-site and for delivery to satellite or receiving schools, and/or central kitchens which prepare food and transport it to satellite or receiving schools. This category does not include any independent kitchens.
- **Combination: mostly on-site kitchens.** The SFA uses a combination of base/central kitchens with satellites and on-site kitchens. In this combination system most of the schools in the SFA have on-site kitchens.
- **Combination: mostly satellite kitchens.** The SFA uses a combination of kitchens, but in this category most of the schools in the SFA have satellite (i.e., receiving) kitchens.

The desired distribution of the second-phase sample by the eight strata is shown in Exhibit 2.7.

Exhibit 2.7

Desired Distribution of the Second-Phase Sample

Production System	Sample Size of NSLP and SBP Districts	Sample Size of NSLP Only Districts	Total SFA Sample Size
Pure System Strata:			
On-site kitchen only	26	8	34
Base or central kitchens with satellites only	26	8	34
Combination system strata:			
Other combination - mostly on-site kitchens	12	4	16
Other combination - mostly satellite kitchens	12	4	16
	76	24	100

Recruiting School Districts

The 924 districts were sorted into the eight cells of the design by production system and presence of the SBP. Within each cell, a target number of districts to be recruited was established. A stratified random sample of 100 districts was selected, together with 64 backup districts to replace districts that refused or could not participate in the study. As the number of refusals increased during the recruiting process, several more backup samples were drawn, bringing the total number of districts contacted to 218. A total of 98 SFAs agreed to participate in the study.

Of the 98 SFAs that were initially included in the study sample, a total of 94 were used in the analysis.⁵ Exhibits 2.8 and 2.9 show the distribution of the 94 SFAs that were used in the analysis. The final sample reflects reclassifications. Reclassification was necessary because in some instances districts had been misclassified on the basis of telephone survey data.

⁵Data collection problems in three SFAs precluded the use of the data from these SFAs in the analysis. In addition, one SFA dropped out of the study during the data collection.

Exhibit 2.8

Distribution of the Final Sample of 94 SFAs by Size and Meal Production System

Production System	SFA Enrollment			Total All SFAs
	Less than 1,000	1,000 - 4,999	5,000 or more	
On-site kitchen only	9	12	13	34
Base/Central only	1	9	13	23
Mostly on-site kitchen	0	4	18	22
Mostly satellite kitchen	2	3	10	15
Total All SFAs	12	28	54	94

Exhibit 2.9

Distribution of the Final Sample of 94 SFAs by Participation in the SBP and Meal Production System

Production System	Participation in the SBP		Total All SFAs
	NSLP and SBP	NSLP only	
On-site kitchen only	27	7	34
Base/Central only	19	4	23
Mostly on-site kitchen	18	4	22
Mostly satellite kitchen	14	1	15
Total All SFAs	78	16	94

In addition to the three stratifying variables that were used in site selection (SFA size, participation in the SBP, and type of meal production system), the percentage of SFA revenues derived from a la carte sales was used as a cross-cutting variable in the analysis. SFAs were divided into two groups—those with relatively high a la carte revenues (at least ten percent of total revenue) and those with relatively low a la carte revenues (less than ten percent of total revenues). Of the 94 SFAs used in the

analysis, 79 were able to separate a la carte revenues from other cafeteria sales (e.g., student payments for full and reduced-price meals, and adult meals). Twenty-nine of these 79 SFAs had a la carte sales which accounted for less than ten percent of total SFA revenue and in 50 SFAs a la carte sales accounted for at least ten percent of total revenues.

DATA COLLECTION

The data collection activities for the School Lunch and Breakfast Cost Study were conducted in Spring/Fall 1993. Study staff were sent to each of the 98 SFAs participating in the study and collected data from 540 schools. During these on-site visits, study staff: 1) conducted unstructured in-person interviews with SFA directors, school and kitchen personnel, and central school district personnel; 2) reviewed financial statements, menus, and meal production records, invoices, and NSLP and SBP meal count records; 3) conducted a time study for selected food service staff; and 4) observed food items selected by students at breakfast and lunch. The data collection for the study involved three phases, each of which is discussed below.

Phase 1: Spring 1993

In preparation for the on-site visits study staff conducted a brief pre-visit telephone interview with SFA directors. The questionnaires for this telephone interview were mailed to the SFA director in advance of the interview to familiarize them with the questions and to allow them to review appropriate records. The pre-visit interview obtained background information needed to plan for the on-site visits and minimize the burden on SFA and school district personnel. Similarly, to prepare for the data collection in each school, study staff conducted a brief telephone interview with kitchen managers.

Phase 2: Spring 1993

During Phase 2, study staff visited each of the 98 SFAs in the study sample. During this site visit study staff obtained the information needed to allocate the SFAs' *reported costs* between lunch and breakfast production and between reimbursable and non-reimbursable meals. This involved the following major activities:

- **Identified the cost of food used in breakfast and lunch production.** Study staff:
 1. Reviewed menu and meal production records with kitchen managers to identify the food items produced for breakfast and lunch during the week of the visit. Serving size and number of servings produced were recorded by study staff on a Menu Record.

2. Reviewed recipes used in the production of each food item produced with the food service manager (or kitchen manager as appropriate) to determine the quantity of each of the ingredients used in the production of each food item. Study staff recorded the quantity of each ingredient used and whether the ingredient was a USDA donated commodity on a Recipe Record.
 3. Reviewed selected invoices with the SFA business manager to obtain the average unit price paid for each ingredient (or the USDA assigned value for donated commodities). Study staff recorded this information on the Recipe Record.
 4. Obtained counts of the number of NSLP-lunches and SBP-breakfasts served at a representative sample of schools during the week of the visit. Study staff recorded these counts on a Meals Served by School Grid.
- **Observed a sample of students at breakfast and lunch.** Study staff recorded the food items selected by a random sample of students in each school. This permits the identification of reimbursable and non-reimbursable meals, and the estimation of the number of servings of each food item selected as part of reimbursable meals.
 - **Identified the labor costs of breakfast production, lunch production, and non-meal production activities.** Study staff:
 1. Obtained a list of all central SFA and school district staff whose salaries are charged to the SFA budget. Salary and work schedule information were recorded by study staff on a Central Food Service Paid Staff Roster. This list was reviewed with the SFA director to identify whose staff who work on both meal production and non-meal production activities.
 2. Conducted a time study of school-based food service staff that work on meal production activities (i.e., produce/serve breakfasts and/or lunches). All food service staff in the sample schools were included in the time study. Study staff reviewed the Daily Time Record with the food service staff participating in the time study. These staff completed a Daily Time Record for a 5-day period.
 3. Obtained professional estimates of the time distribution by function for those central SFA staff not included in the time study. These estimates were obtained through brief discussion with the SFA Director and/or appropriate SFA and school district staff.

Phase 3: Fall 1993

Phase 3 of the data collection focused on the unreported costs attributable to school food service operations. During Phase 3, study staff interviewed SFA and school district staff in each of the SFAs

that participated in Phase 2 of the study to identify the resources used by, but not charged to, the SFA. Information was also obtained to estimate the value of these unreported costs. The Phase 3 data were used to estimate the *full cost* of producing reimbursable lunches and breakfasts.

During the Phase 3 on-site visits, study staff conducted the following major activities:

- **Reviewed the SFA's annual financial statement with the SFA director and/or the SFA business manager.** During this review study staff discussed each of the line items included on the SFA's expense statement with the respondents. The objective of this review was to determine which cost elements had been under-reported (or not reported at all). Study staff sought to identify SFA or school district staff who could provide information regarding these under-reported costs.
- **Reviewed the school district's indirect cost allocation with the school district business manager.** During this review study staff discussed each of the cost elements that were included in the district's indirect cost pool. This review also examined school district practices for charging these costs to food service and other school district operations.
- **Identified "off-budget" staff working on SFA activities.** Through discussion with the SFA director, study staff identified school district personnel that spend some of their time working on food service activities. Study staff completed an Off-Budget Staff Roster (which is identical to the Central Food Service Paid Staff Roster). Professional estimates of time spent on SFA activities were recorded by study staff on an Off-Budget Time Allocation Form.
- **Completed worksheets necessary to impute unreported costs.**

Study Instrumentation

A total of 21 data collection instruments were used in this study. Exhibit 2.10 summarizes the measures, the data collection method, and the respondents. Brief descriptions and copies of all instruments used are contained in Appendix F.

Exhibit 2.10

Data Collection Instruments, Methods and Respondents

Instrument	Method of data collection	Respondent(s)
Phase 1		
1. Previsit Questionnaire	Pre-mailed and telephone follow-up	SFA Director
2. School Information Summary	Telephone interview	Kitchen Manager
3. State Child Nutrition (CN) Director Questionnaire	Pre-mailed and telephone follow-up	State CN Director
4. State Distributing Agency (SDA) Questionnaire	Pre-mailed and telephone follow-up	SDA Director
Phase 2		
5. Menu Record	Record review and discussion	Kitchen Manager
6. Recipe Record	Record review and discussion	Kitchen Manager and SFA Business Manager
7. Cost per Serving Worksheet	Invoice review	Kitchen Manager and/or Business Manager
8. Meal Observation Form	Observation	None
9. Meal Served by School Grid	Record review and interview	SFA Director
10. Daily Time Record	Time-ladder	Kitchen workers
11. School Food Service Staff Roster	In-person interview	SFA Director
12. Central Food Service Paid Staff Roster	In-person interview	SFA Director
13. Central Paid Staff Time Allocation Grid	In-person interview	SFA Director and other managers, if appropriate
Phase 3		
14. Food Service Expense Statement and Supplement	Record review and in-person discussion	SFA Director and/or Business Manager
15. Food Service Revenue Statement Review	Record review and in-person discussion	SFA Director and/or Business Manager
16. Food Service Off-Budget Staff Roster	In-person interview	Individuals identified by the SFA Director
17. Off-Budget Staff Time Allocation Grid	In-person interview	Individuals identified by the SFA Director
18. School Administrator Interview Guide	In-person interview	School Principal
19. School District Indirect Cost Review Guide	Pre-mailed and in-person discussion	School District Business Manager
20. State Education Agency Finance Officer Questionnaire	Pre-mailed and telephone follow-up	SFA Finance Officer
Worksheets for Study Staff		
21. Equipment Cost Worksheet	Worksheet	None

Abt Associates Inc.
School Lunch and Breakfast Cost Study

Chapter Three

Estimates of Reported Costs

This chapter presents an analysis of SFAs' **reported** costs for SY 1992-93. The research questions addressed in this chapter include:

- What is the national average reported cost of producing a reimbursable lunch?
- What is the national average reported cost of producing a reimbursable breakfast?
- What is the composition of reported reimbursable meal costs, i.e., what proportion of reported reimbursable meal costs are attributable to food costs? to labor costs? to other costs?
- What proportion of reported costs are attributable to food service administration?
- How do reported reimbursable meal production costs vary by the type of meal production/distribution system used by SFAs?

The analysis focuses on the costs of producing reimbursable meals and includes only those costs that were charged to SFA budgets.¹ From the SFAs' perspective, reported costs *are* the costs of running the NSLP and SBP. These are the costs that they are expected to cover. However, as noted earlier, many SFAs use school district resources for which they are not charged. The magnitude and composition of these unreported costs is examined in Chapter Four.

In considering the cost estimates discussed in this chapter, readers should recognize that reported costs represent only part of the cost of producing reimbursable meals. The key findings with regard to reported food service costs include:

- The national median reported cost of producing a reimbursable lunch in SY 1992-93 was \$1.63.
- The national median reported cost of producing a reimbursable breakfast in SY 1992-93 was \$1.05.

¹Reported cost may exceed actual cash outlays. For example, some SFAs report indirect costs, but do not actually transfer the funds to the school district's general fund (see Chapter Five). Similarly, depreciation expenses do not involve cash outlays.

- The Federal subsidy for free lunches appears to be sufficient to cover the reported cost of producing reimbursable lunches. In three out of four SFAs (77 percent), the reported cost of producing a reimbursable lunch was less than the total Federal subsidy for a free lunch. Similarly, 77 percent of all reimbursable lunches were produced at a reported cost that was less than the total Federal subsidy for a free lunch.
- The Federal subsidy for free breakfasts does not appear to be sufficient to cover the cost of producing reimbursable breakfasts. The higher severe need reimbursement rate was sufficient to cover reported costs in 60 percent of SFAs, while the regular reimbursement rate for a free breakfast was sufficient to cover reported costs in only 34 percent of SFAs. Fifty-nine percent of all reimbursable breakfasts were produced at a reported cost that was less than the severe need rate (and only 33 percent at a cost that was less than the regular Federal subsidy for a free breakfast).
- On average, food costs accounted for 48 percent of SFAs' total reported costs; labor costs accounted for 44 percent of reported costs; and other costs accounted for the remaining 8 percent of reported costs.
- Administrative labor costs accounted for an average of 8 percent of the average SFA's total reported cost.²

Again, it is important to caution the reader that reported costs do not account for all of the costs of producing reimbursable meals.

REPORTED COSTS OF PRODUCING REIMBURSABLE MEALS

This section presents the national estimates of reported costs for reimbursable meals and provides estimates for several subgroups, including districts that do and do not participate in the SBP; by SFA size; and by the proportion of SFA revenues from a la carte sales.³

Cost per Reimbursable Lunch

The distribution of SFAs by the reported cost of producing a reimbursable lunch in SY 1992-93 is shown in Appendix E (Exhibit E.1). Reported costs per reimbursable lunch ranged from \$0.93 to \$2.50. Exhibit 3.1 summarizes the national mean reported cost of producing reimbursable lunches using both SFAs and NSLP meals as the unit of analysis. Across all SFAs, the mean reported cost is \$1.64 to

²In this study administrative activities were defined quite broadly, and were not limited to those activities that are associated with program regulations (e.g., application, verification, meal counting, etc.). All non-meal production activities were included in "administration" for purposes of this study.

³Cost estimates by type of meal production system are discussed in Appendix C.

Exhibit 3.1

Total Reported Cost per Reimbursable Lunch

	Unit of Analysis is SFA			Unit of Analysis is NSLP Lunch			SFA Sample Size	
	Mean	Median	STD	Mean	Median	STD	Weighted	Unweighted
Total	\$1.64	\$1.63	.34	\$1.69	\$1.66	.30	12,937	94
Participation in SBP								
NSLP and SBP	1.63	1.66	.34	1.69	1.66	.29	8,566	78
NSLP only	1.66	1.63	.34	1.69	1.63	.39	4,371	16
SFA Size								
Small (1-999)	1.67	1.78	.34	1.69	1.78	.36	6,327	12
Medium (1,000-4,999)	1.59	1.62	.36	1.56	1.56	.33	4,537	28
Large (5,000+)	1.64	1.58	.31	1.73	1.67	.27	2,073	54
A la Carte Revenues¹								
< 10% of Total Revenue	1.61	1.54	.31	1.80	1.70	.34	3,673	29
≥ 10% of Total Revenue	1.57	1.61	.28	1.63	1.65	.24	6,311	50

¹Excludes SFAs that did not separately report student payments for reimbursable meals from a la carte sales.

produce a reimbursable lunch. None of the differences among the subgroups of SFAs examined in Exhibit 3.1 is significant at the .05 level of confidence.⁴

When the unit of analysis is the NSLP meal, the mean reported cost of producing a reimbursable lunch in SY 1992-93 was \$1.69.⁵ This reflects the large number of reimbursable lunches served in the small

⁴Reported cost per reimbursable lunch and breakfast by meal production system is presented in Appendix E, Exhibit E.3.

⁵Calculated as the mean cost per reimbursable lunch across all reimbursable lunches served in the Nation, i.e., the NSLP meal is the unit of analysis. This analysis gives equal weight to each reimbursable lunch, and since most reimbursable lunches are produced in large SFAs, the results are influenced by the costs incurred in large SFAs.

number of large SFAs where reported costs are high. Approximately 16 percent of SFAs have enrollments over 5,000. Nearly 60 percent of the reimbursable lunches served in SY 1992-93 were served in these large school districts.

Participation in the SBP and the percent SFA revenues derived from a la carte sales do not appear to significantly affect the reported cost of producing a reimbursable lunch.

As noted in Chapter One, the Federal subsidy for free lunches in SY 1992-93 was about \$1.84 (\$1.70 in cash reimbursements plus \$0.14 in entitlement commodities). This was considerably more than the mean reported cost of producing a lunch (\$1.69). The mean reported cost of producing a reimbursable lunch was less than the total subsidy for a free lunch in three out of four SFAs (77 percent). Similarly, 77 percent of all reimbursable lunches served in SY 1992-93 were produced at a reported cost that was less than the total subsidy for a free lunch.

Cost per Reimbursable Breakfast

The distribution of SFAs by the reported cost per reimbursable breakfast is presented in Appendix E (Exhibit E.2). In SY 1992-93, reported costs per reimbursable breakfast ranged from \$0.58 to \$2.93, with a median cost of \$1.05 and a mean cost of \$1.27 (Exhibit 3.2). There was considerably more variation among SFAs in reported breakfast costs than in reported lunch costs. The coefficient of variation (the standard deviation divided by the mean) for breakfast was 0.47 compared to 0.21 for lunch. The relatively greater variability in the cost per reimbursable breakfast may reflect the variability in unit reported labor costs for breakfast. That is, total breakfast labor costs in a school may be viewed as relatively fixed because of the small size of the breakfast program. Thus, as the number of breakfasts served increases, the reported labor costs per breakfast may be expected to decrease.

When the unit of analysis is the SBP meal, the mean reported cost per reimbursable breakfast was \$1.11. Within each size class, the mean reported cost per reimbursable breakfast is lower when the unit of analysis is the SBP meal. This may reflect the apparent economies of scale in breakfast production—schools serving large numbers of reimbursable breakfasts tend to have lower unit reported costs.

While the reported cost per reimbursable breakfast appears to be higher in SFAs that derived at least ten percent of total SFA revenue from a la carte sales, this difference is not statistically significant.

The regular reimbursement rate for free breakfasts in SY 1992-93 was \$0.95, with a "severe need" rate of \$1.12. In contrast to lunch costs, where the reported cost of producing reimbursable lunches tended

Exhibit 3.2

Total Reported Cost per Reimbursable Breakfast

	Unit of Analysis is SFA ¹			Unit of Analysis is SBP Breakfast			SFA Sample Size	
	Mean	Median	STD	Mean	Median	STD	Weighted	Unweighted
<i>Total SFAs</i>	\$1.27	\$1.05	.60	\$1.11	\$1.05	.29	8,516	78
<i>SFA Size</i>								
Small (1-999)	1.08	1.05	.20	1.06	1.03	.18	4,693	10
Medium (1,000-4,999)	1.65	1.15	.84	1.12	1.03	.42	2,119	17
Large (5,000 +)	1.34	1.09	.71	1.13	1.10	.28	1,704	51
<i>A la Carte Revenues²</i>								
< 10% of Total Revenue	1.06	0.97	.29	1.01	0.92	.27	1,984	25
≥ 10% of Total Revenue	1.39	1.15	.68	1.16	1.17	.28	4,375	40

¹The difference in reported costs between small and medium-size SFAs is significant at the .05 level of confidence.

²Excludes SFAs that did not separately report student payments for reimbursable meals from a la carte sales.

to be less than the Federal subsidy for free lunches, in most SFAs, the reported cost of producing reimbursable breakfasts exceeded the reimbursement rates. In 66 percent of SFAs, reported costs exceeded the regular reimbursement rate for free breakfasts, and in 40 percent of SFAs, reported costs exceeded the higher severe need reimbursement rate. Even when the unit of analysis is the SBP meal, 67 percent of all breakfasts served in SY 1992-93 were produced at a reported cost that exceeded the regular reimbursement rate for a free breakfast (41 percent were produced at a reported cost that exceeded the higher severe need rate).⁶ As noted above, reported costs do not include all of the costs of producing reimbursable meals. On a full cost basis, the proportion of SFAs for which costs exceed the reimbursement rate are even higher (see Chapter Four).

⁶Program administrative data show that in FY 1993, 65 percent of the free breakfasts were reimbursed at the severe need rate and about 56 percent of all breakfasts were severe need.

COMPOSITION OF REPORTED COSTS

As one would expect, food and labor costs accounted for the vast majority (92 percent) of the average SFA's reported costs (Exhibit 3.3). Food costs (including the assigned value of donated commodities) accounted for just under one-half (48 percent) of reported costs, while labor costs accounted for 44 percent of reported costs. All other costs, including supplies, contract services, capital expenditures, indirect charges by the school district, etc., represented only 8 percent of the average SFA's reported costs.⁷

Proportion of Food Costs Attributable to Donated Commodities

The value of USDA donated commodities accounts for a significant proportion of the total reported cost of food used by SFAs. In SY 1992-93 commodities (including bonus commodities) accounted for 17 percent of the total cost of food used by the average SFA; in 70 percent of all SFAs donated commodities accounted for *at least* 15 percent of total food costs (Appendix E, Exhibit E.5). It should be noted that SFAs may use donated commodities for non-reimbursable as well as reimbursable meals.

Proportion of Reported Costs that is Reimbursable

As discussed above, school meal production involves the preparation and service of a la carte items, adult meals, and other food items in addition to the production of reimbursable meals. As there is no separate accounting of the resources used in the production of non-reimbursable meals, the allocation of each SFA's total reported breakfast and lunch costs to reimbursable and non-reimbursable meals was made on the basis of the percentage of breakfast and lunch food costs that are reimbursable. The distribution of SFAs by the percentage of reported costs attributable to the production of reimbursable meals is presented in Appendix E, Exhibit E.6. On average, 89 percent of breakfast costs are attributable to reimbursable breakfasts, while 77 percent of lunch costs are attributable to reimbursable lunches.

There is also very little variation among SFAs in the proportion of breakfast costs that are reimbursable. In one-half of SFAs, reimbursable breakfasts accounted for at least 90 percent of breakfast costs; in nearly all SFAs (95 percent) reimbursable breakfasts accounted for at least 80 percent of breakfast costs. This reflects the fact that, for the most part, the breakfast program in schools consists of reimbursable meals being served to children approved for free and reduced price meals.

⁷The composition of reported costs by meal production system is presented in Appendix E, Exhibit E.4.

Exhibit 3.3
Composition of Food Service Reported Costs

	Percent of SFA Reported Costs									SFA Sample Size	
	Food Costs			Labor Costs			Other Costs				
	Mean	Median	STD	Mean	Median	STD	Mean	Median	STD	Weighted	Unweighted
Total Sample	48.3%	45.5%	11.1%	43.8%	45.9%	11.9%	7.9%	7.0%	5.0%	12,937	94
Participation in SBP											
NSLP and SBP	50.4	48.8	12.0	41.8	43.7	12.6	7.8	7.0	4.9	8,566	78
NSLP only	44.2	44.2	7.7	47.7	50.7	9.5	8.2	6.6	5.2	4,371	16
SFA Size											
Small (1-999)	52.9	49.4	12.9	40.7	45.9	14.3	6.4	6.7	3.4	6,327	12
Medium (1,000-4,999)	44.6	45.5	6.3	46.4	45.7	8.9	9.1	7.0	5.8	4,537	28
Large (5,000 +)	42.2	39.6	6.8	47.8	49.2	6.1	10.0	11.0	5.7	2,073	54
A la Carte Revenues¹											
< 10% of Total Revenues	45.4	45.0	4.9	46.5	45.9	8.1	8.1	5.7	5.5	3,673	29
≥ 10% of Total Revenues	47.3	47.5	7.4	45.3	43.6	6.5	7.4	6.7	5.5	6,311	50

¹Excludes SFAs that did not separately report student payments for reimbursable meals from a la carte sales.

While, on average, the sale of non-reimbursable meals (particularly a la carte food items) is considerably greater at lunch than at breakfast, there is also more variation among SFAs in the relative magnitude of a la carte and adult meals (Appendix E, Exhibit E.6).

Cost Components of Reimbursable Meals

Reimbursable Lunch Costs. Exhibit 3.4 presents the cost components of reimbursable lunches.⁸ For the average SFA, reported food costs per reimbursable lunch were \$0.79 in SY 1992-93, with mean reported labor costs of \$0.71, and other costs averaging \$0.13. There was relatively little variation among SFAs in food costs per reimbursable lunch--in almost half of all SFAs (45 percent) food costs per reimbursable lunch were between \$0.70 and \$0.90 (Appendix E, Exhibit E.7). Similarly, there was relatively little variation among SFAs in reported labor costs per reimbursable lunch, with 43 percent of SFAs reporting labor costs per reimbursable lunch between \$0.60 and \$0.80.

Exhibit 3.4

Reported Cost Components of Reimbursable Lunches

Unit of Analysis	Cost Component									SFA Sample Size	
	Food Costs			Labor Costs			Other Costs				
	Mean	Median	STD	Mean	Median	STD	Mean	Median	STD	Weighted	Unweighted
SFA	\$0.79	\$0.77	0.25	\$0.71	\$0.70	0.27	\$0.13	\$0.12	0.09	12,937	94
Meal	\$0.72	\$0.70	0.14	\$0.79	\$0.77	0.22	\$0.19	\$0.18	0.10	12,937	94

Mean food costs per reimbursable lunch are lower using the meal as the unit of analysis (\$0.72 vs. \$0.79), perhaps reflecting the greater buying power of the large SFAs that serve large numbers of meals. However, it is interesting to note that mean labor costs per reimbursable lunch are higher using the meal as the unit of analysis.

⁸Detailed tables by type of SFA are presented in Appendix E, Exhibits E.9 and E.10.

Reimbursable Breakfast Costs. Exhibit 3.5 presents summary of the cost components of reimbursable breakfasts.⁹ For the average SFA, reported food costs per reimbursable breakfast were \$0.56 in SY 1992-93, with mean reported labor costs of \$0.62, and other costs averaging \$0.10. Labor costs per reimbursable breakfast are considerably more variable than food costs--the coefficient of variation for breakfast labor costs is 0.80 compared to 0.31 for food costs. It is interesting to note that there is considerably more variability in labor costs for breakfast than for lunch (Appendix E, Exhibit E.8). This may reflect the relative differences in the size of breakfast and lunch programs. As noted above, at most schools the breakfast program is quite small with relatively fixed labor costs. Reported labor costs per breakfast may be expected to decrease as the number of breakfasts served increases.

Exhibit 3.5
Reported Cost Components of Reimbursable Breakfasts

Unit of Analysis	Cost Component									SFA Sample Size	
	Food Costs			Labor Costs			Other Costs				
	Mean	Median	STD	Mean	Median	STD	Mean	Median	STD	Weighted	Unweighted
SFA	\$0.56	\$0.55	0.17	\$0.62	\$0.49	0.51	\$0.10	\$0.09	0.07	8,516	78
Meal	\$0.49	\$0.48	0.12	\$0.51	\$0.48	0.23	\$0.12	\$0.11	0.06	8,516	78

The effects of potential economies of scale in breakfast production may also be seen in the mean labor cost per meal. The mean labor cost per breakfast is considerably lower when the reimbursable breakfast rather than SFA is used as the unit of analysis (\$0.51 vs. \$0.62), reflecting the lower breakfast labor costs per meal in SFAs serving large numbers of reimbursable breakfasts.

ADMINISTRATIVE COSTS

Food service administrative costs include the cost of performing administrative activities in support of food service operations, e.g., administrative tasks performed by central food service staff, school-based food service staff (e.g., kitchen managers), central school district personnel, and school administrators

⁹Detailed tables by type of SFA are presented in Appendix E, Exhibit E.11 and E.12.

(e.g., principals). Reported administrative costs include only those costs that are charged to the food service budget. In addition to food service administrative labor costs, it also includes school district (i.e., non-food service) personnel that provide support to food service when the school district charges food service directly for these services.¹⁰

This study has broadly defined food service administration to include regular administrative activities such as planning, budgeting and management for the food service program, and other non-production activities such as maintenance of food service equipment. Exhibit 3.6 examines administrative labor costs in relation to total SFA reported labor costs. For the average SFA, administrative labor accounted for 17 percent of total reported labor costs. As one might expect, there was a good deal of variation among SFAs in the proportion of reported labor costs devoted to administration. At one extreme, 31 percent of SFAs devoted less than 10 percent of reported labor to administrative activities, while at the other extreme 15 percent of SFAs devoted at least 30 percent of reported labor to administration (Appendix E, Exhibit E.13). Some of this variation no doubt reflects differences among SFAs in what is, and what is not, charged to the food service budget. For example, in some school districts, the food service director is charged to the school district budget rather than the food service budget. In such school districts, *reported* administrative labor costs would account for a relatively small proportion of total reported SFA labor costs.

Exhibit 3.7 examines reported administrative labor costs in relation to total reported costs. Administrative labor accounts for a relatively small proportion of total reported costs. For the average SFA, reported administrative labor costs accounted for only eight percent of total reported costs in SY 1992-93. In nine out of ten SFAs (89 percent), administrative labor accounted for less than 15 percent of total reported costs (Appendix E, Exhibit E.14). As one would expect, administrative labor costs were relatively higher in SFAs that participated in both the NSLP and SBP than in SFAs that only participated in the NSLP. Similarly, administrative costs were relatively higher in large school districts (enrollment $\geq 5,000$) than in small districts (enrollment $\leq 1,000$).¹¹

¹⁰As discussed in Chapter Five, only four percent of school districts charge food service directly for support services provided by school district personnel. These costs may be charged to SFA budgets as part of indirect costs. In such cases they would not be included in administrative costs.

¹¹Reported administrative costs by meal production system is presented in Appendix E, Exhibit E.15.

Exhibit 3.6

Administrative Labor Costs as a Percent of Total Reported Labor Costs

	Unit of Analysis is SFA			Unit of Analysis is NSLP Lunch			SFA Sample Size	
	Mean	Median	STD	Mean	Median	STD	Weighted	Unweighted
Total	17.4%	14.8%	10.4	24.0%	23.4%	10.4	12,937	94
Participation in SBP								
NSLP and SBP	18.9	18.1	10.8	25.1	24.1	9.9	8,566	78
NSLP only	14.6	10.9	9.1	14.5	11.7	9.9	4,371	16
SFA Size								
Small (1-999)	17.6	13.6	12.0	21.8	28.3	11.7	6,327	12
Medium (1,000-4,999)	16.7	14.1	8.8	19.0	18.1	9.5	4,537	28
Large (5,000+)	18.7	17.6	8.3	25.6	24.1	10.0	2,073	54
A la Carte Revenues¹								
< 10% of Total Revenues	17.2	10.9	11.1	23.9	23.9	10.2	3,673	29
≥ 10% of Total Revenues	17.5	14.1	8.5	21.2	19.6	8.4	6,311	50

¹Excludes SFAs that did not separately report student payments for reimbursable meals from a la carte sales.

Exhibit 3.7

Administrative Labor Costs as a Percent of Total Reported Costs

	Unit of Analysis is SFA			Unit of Analysis is NSLP Lunch			SFA Sample Size	
	Mean	Median	STD	Mean	Median	STD	Weighted	Unweighted
Total	7.9%	7.1%	4.8	11.0%	10.4%	4.9	12,937	94
Participation in SBP								
NSLP and SBP	8.3	8.3	4.7	11.4	10.6	4.6	8,566	78
NSLP only	6.9	5.8	4.9	7.1	5.8	5.4	4,371	16
SFA Size								
Small (1-999)	7.6	5.8	5.2	9.4	11.1	5.1	6,327	12
Medium (1,000-4,999)	7.8	6.5	4.6	8.3	8.0	4.1	4,537	28
Large (5,000+)	8.7	8.9	3.4	11.9	11.1	4.7	2,073	54
A la Carte Revenues¹								
< 10% of Total Revenues	7.7	6.2	4.7	10.4	9.7	4.6	3,673	29
≥ 10% of Total Revenues	7.9	7.1	4.1	10.0	10.4	3.9	6,311	50

¹Excludes SFAs that did not separately report student payments for reimbursable meals from a la carte sales.