
School Food Purchase Study-III Final Report

Authors:

Nick Young
Salli Diakova
Thomas Earley
Justin Carnagey
Ann Krome
Cherie Root

Submitted by:

Agralytica Inc.
(formerly Promar International)
333 N. Fairfax Street, Suite 202
Alexandria, VA 22314

Submitted to:

Office of Research and Analysis
USDA Food and Nutrition Service
3101 Park Center Drive, Room 1014
Alexandria, VA 22302

Project Director: Nick Young

Project Officer: John R. Endahl

This study was conducted under Contract No. AG-3198-D-09-0015 with the Food and Nutrition Service, United States Department of Agriculture.

This report is available on the Food and Nutrition website: <http://www.fns.usda.gov/ora>

Suggested Citation:

U.S. Department of Agriculture, Food and Nutrition Service, Office of Research and Analysis, School Food Purchase Study-III, by Nick Young *et al.* Project Officer: John R. Endahl, Alexandria, VA: March 2012.

Non-Discrimination Policy:

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communications of program information (Braille, large point, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Adjudication, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410 or call toll free (866) 632-9992 (Voice). Individuals who are hearing impaired or have speech disabilities may contact USDA through the Federal Relay Service at (800) 877-8339; or (800) 845-6136 (Spanish). USDA is an equal opportunity provider and employer.

School Food Purchase Study-III

FINAL REPORT

CONTENTS

ACKNOWLEDGEMENTS	XIV
EXECUTIVE SUMMARY	I
SECTION 1: INTRODUCTION	8
1.1 School food programs	8
1.2 Purpose and objectives of the study	9
1.3 Report organization	13
SECTION 2: METHODOLOGY	14
2.1 Overview	14
2.2 Sample design and selection	14
2.2.1 Sample design	14
2.2.2 Sampling procedure	16
2.3 Data collection instruments	17
2.4 Recruitment and training	18
2.4.1 Recruitment	18
2.4.2 SFA training / Data negotiation	19
2.5 The final sample and participation rates	19
2.5.1 Participation level	19
2.5.2 Non-response	19
2.5.3 Derivation of final weights	20
2.6 Data collection and processing: food acquisitions	20
2.6.1 Data receipt, checking, transcription and entry	20
2.6.2 Final response by district characteristics	21
2.6.3 Prices	22
2.6.4 Food procurement variables	23
2.7 Data collection and processing: district characteristics and procurement practices	23
2.7.1 Survey collection procedures	23
2.7.2 District characteristics and procurement practice variables	24
2.8 Data edit checks	25
2.9 Standard errors	25
SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS	26

3.1	Introduction	26
3.2	Overall school district characteristics	26
	3.2.1 Number of districts and student enrollment	26
	3.2.2 Urbanicity and poverty levels	32
	3.2.3 Year round operations	38
3.3	Characteristics of school feeding programs	39
	3.3.1 Participation in NSLP and SBP	39
	3.3.2 Number of lunches and breakfasts served	40
	3.3.3 Meal prices	45
	3.3.4 À la carte food sales	50
	3.3.5 Programs served other than NSLP and SBP	55
	3.3.6 Food service management companies	57
	3.3.7 Menu planning systems	60
	3.3.8 Meal preparation facilities	63
	3.3.9 Miscellaneous school meal program features	66
	3.3.10 Participation in reimbursable lunch and breakfast programs	69
SECTION 4: MARKET AND POLICY SETTING		71
4.1	Market conditions and influences	71
	4.1.1 Price changes	73
	4.1.2 State budgets	74
	4.1.3 Comparison to the supply/demand situation in SY 1996/97	75
4.2	The policy setting	77
	4.2.1 The NSLP and SBP	77
	4.2.2 Recent school meal initiatives	79
	4.2.3 The USDA Foods donation program, SY 2009/10	81
	4.2.4 Department of Defense Fruit and Vegetable Program donations, 2009/10	87
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS		90
5.1	Introduction	90
5.2	Methodological considerations	90
5.3	School food acquisitions, SY 2009/10	91
	5.3.1 Total food acquisitions - great diversity	91
	5.3.2 Most frequently acquired foods	100
	5.3.3 Importance of donated USDA Foods	103
5.4	Comparison of acquisitions in SY 1996/97 and SY 2009/10	108
	5.4.1 Overall changes in the composition of the school food market basket	108
	5.4.2 Price effect on acquisitions	116
	5.4.3 Changes in beverage use	116
	5.4.4 Changes in fresh fruit and vegetable acquisitions	117
	5.4.5 The role of donated USDA Foods	118
5.5	Comparison of number of food items acquired in SY 1996/97 and SY 2009/10	119

5.5.1	Comparison of the mean number of food items	119
5.6	À la carte foods purchases and availability to students	120
5.6.1	Methodological considerations	120
5.6.2	Comparison of food acquisitions for à la carte and reimbursable offerings	121
SECTION 6: SCHOOL FOOD PROCUREMENT PRACTICES		125
6.1	Food service decision making	125
6.1.1	Vendor selection	125
6.1.2	Food selection	130
6.1.3	Food traceability	134
6.1.4	Buying locally: farm to school programs	135
6.2	Use of USDA Food donation program	139
6.2.1	Utilization of USDA food entitlement funds	139
6.2.2	Perceptions about the Department of Defense Fresh Fruit and Vegetable program	140
6.2.3	Perceptions about the USDA donated food program	140
6.3	Use of branded fast food products	143
6.4	School food vendors	146
6.4.1	Number of vendors used	146
6.4.2	Receiving USDA donated USDA Foods	147
6.4.3	Services provided by vendors	149
6.5	Procurement pricing methods	150
6.5.1	Procurement methods	150
6.5.2	Pricing methods	154
6.6	Cooperative buying	157
SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS		160
7.1	Introduction	160
7.2	The average purchase costs of all purchased foods by food subgroup	161
7.3	The average purchase costs of the top 50 purchased foods	163
7.4	Food service management companies	165
7.5	Menu planning systems	169
7.5.1	Differences in purchase costs among districts with different menu planning systems	169
7.6	School district location	177
7.6.1	Differences in purchase costs between urban and rural districts	177
7.7	Poverty levels	181
7.7.1	Differences in purchase costs among districts with students from households with different levels of poverty	181
7.8	Regions	189
7.8.1	Differences in purchase costs between regions	190

7.9	Size of school districts	206
7.9.1	Differences in purchase costs between school districts of different sizes	206
7.10	Summary of differences between categories	213
7.10.1	Difference between categories for all food purchases	213
7.10.2	Difference between categories for all the fifty most purchased foods	214
7.11	Multivariate analysis of food purchase behavior	216
SECTION 8: COMPARISONS OF FOOD ACQUISITIONS AND COSTS BY PROCUREMENT PRACTICES		217
8.1	Introduction	217
8.2	Degree of procurement centralization	217
8.3	Relationship between food cost and responsibility for vendor selection	220
8.4	Relationship of cost per pound and decision maker responsible for food selection	222
8.5	Relationship between cost per pound and procurement method	225
8.6	Relationship between cost per pound and pricing method	227
8.7	Relationship between cost per pound and participation in cooperative buying	230
APPENDIX I: SCHOOL FOOD PURCHASE STUDY METHODOLOGY		232
1.1	Study objectives and associated variables	232
1.1.1	The food procurement variables	232
1.1.2	The SFA characteristic variables	234
1.1.3	The SFA procurement, preparation and serving practice variables	235
1.2	Sample selection	236
1.2.1	Primary requirement I: Measuring annual purchases	237
1.3	Recruitment and training	242
1.4	Data collection and processing	245
1.4.1	Food purchase information	246
1.4.2	Procurement Practices Survey data	248
1.4.3	Merging the databases	249
1.5	Valuation of donated USDA Foods	249
1.6	Derivation of final weights	251
1.7	Evaluation of standard errors	252
APPENDIX 2: PROCUREMENT PRACTICES SURVEY		254
APPENDIX 3: NCES DEFINITIONS OF URBANICITY		279
APPENDIX 4: COMPLETE LIST OF TOP SELLING A LA CARTE FOODS AND CLASSIFICATION SYSTEM		281
APPENDIX 5: TOP 100 MOST PURCHASED FOOD ITEMS		284
APPENDIX 6: SCHOOL DISTRICTS ACQUIRING FOOD ITEMS AS USDA FOODS, SY 2009/10		287

APPENDIX 7: TOP 50 FOOD ITEMS FOR A LA CARTE OFFERING	291
APPENDIX 8: FOOD CATEGORIES	294
APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS	295
9.1 Introduction	295
9.2 Food service management companies	296
9.3 Menu planning systems	301
9.4 School district location	308
9.5 Poverty levels	312
9.6 Regions	319
9.7 Size of school districts	337

List of tables

Table 1-1: Federal government reimbursement rates for the National School Lunch Program and the School Breakfast Program, SY 2009/10	9
Table 2-1: Number of school districts in the sample by region	16
Table 2-2: Numbers of responding public unified NSLP school districts in the sample by their characteristics (weighted and unweighted).....	21
Table 2-3: Standard error of estimate for selected variables.....	25
Table 3-1: Total student enrollment and number of public unified NSLP school districts by size of district, SY 2009/10.....	26
Table 3-2: Number of schools and student enrollment by size of district and type of school, SY 2009/10.	28
Table 3-3: Student enrollment, average daily attendance, and number of students with no access to the school lunch and breakfast programs in public unified NSLP school districts by size of district and grade category, SY 2009/10.....	29
Table 3-4: Estimated enrollment in public unified NSLP school districts by size of district enrollment and by grade category, SYs 1996/97 and 2009/10.....	31
Table 3-5: Number of school districts and student enrollment by degree of urbanicity and size of school district.....	33
Table 3-6: Number of public unified NSLP school districts by level of poverty and size of school district, SY 2009/10.....	36
Table 3-7: Number of public unified NSLP school districts and student enrollment by level of poverty and location, SY 2009/10.....	37
Table 3-8: Number of public unified NSLP school districts operating partial-year and year-round, by size of school district, SY 2009/10.....	38
Table 3-9: Number of schools in public unified NSLP school districts operating year-round programs, by grade category and by school district enrollment, SY 2009/10.....	39
Table 3-10: Number of schools in public unified NSLP school districts, by grade category and by participation in school meals programs, SY 2009/10.....	40
Table 3-11: Percentage share of schools in public unified NSLP districts by grade category and participation in school meal programs, SYs 2009/10 and 1996/97	40
Table 3-12: Number of NSLP lunches served in public unified NSLP school districts by type of meal and size of school district, SY 2009/10.....	41
Table 3-13: Number of SBP breakfasts served in public unified NSLP school districts by type of meal and size of school district, SY 2009/10.....	43
Table 3-14: Mean, median, and range of student lunch prices by size of public unified NSLP school district, SY 2009/10.....	46
Table 3-15: Comparison of mean lunch prices and inflation adjusted price (real 2009/10), by size of district and grade category, SYs 1996/97, and 2009/10	47
Table 3-16: Mean, median, and range of student breakfast prices by size of public unified NSLP school district, SY 2009/10.....	48
Table 3-17: Comparison of mean breakfast prices and inflation adjusted price (real 2009/10), by size of district and grade category, SYs 1996/97 and 2009/10	49
Table 3-18: Use of à la carte sales among public unified NSLP school districts by size of district, SY 2009/10	50
Table 3-19: Percent of public unified NSLP schools offering à la carte foods at lunch and breakfast, by size of district and grade category, SYs 1996/97 and 2009/10	51

Table 3-20: À la carte sales revenues of public unified NSLP school districts, by size of district, SY 2009/10	52
Table 3-21: Comparison of à la carte food sales revenues among public unified NSLP school districts, SY 1996/97 and SY 2009/10, real 2009/10 prices.....	54
Table 3-22: Number of public unified NSLP school districts identifying specified foods as one of ten top selling à la carte food items, by elementary and middle/secondary, SY 2009/10'.....	54
Table 3-23: Number and share of public unified NSLP school districts serving other programs, by size of district and type of program,	56
Table 3-24: Sales revenue from other programs served by public unified NSLP school districts, SY 2009/10'.....	57
Table 3-25: Food service management companies serving public unified NSLP school districts, by size of district, SY 2009/10.....	58
Table 3-26: Comparison of public unified NSLP school districts under FSMC operation and not under FSMC operation, by district income and urbanicity, SY 2009/10.....	59
Table 3-27: Number of public unified NSLP school districts by type of menu planning system, SY 2009/10	61
Table 3-28: Number of schools in public unified NSLP school districts by type of menu planning system and grade category, SY 2009/10	62
Table 3-29: Number of public unified NSLP school district kitchens by type of kitchen and size of school district, SY 2009/10.....	65
Table 3-30: Mean number of kitchens operated by school districts by type of kitchen and size of district, SY 09/10	66
Table 3-31: Food service options offered by public unified NSLP schools by size of district, SY2009/10	66
Table 3-32: Food service options offered by public unified NSLP school districts, by grade category, SY 2009/10.....	68
Table 3-33: Mean rates of participation in the reimbursable lunch programs of public unified NSLP school districts, by meal type and size of school district, SY 2009/10.....	69
Table 3-34: Mean rates of participation in the reimbursable breakfast programs of public unified NSLP school districts, by meal type and size of school district, SY 2009/10.....	69
Table 3-35: Mean rates of participation in the reimbursable breakfast programs of public unified NSLP school districts, by meal type and size of school district, SY 1996/97 and 2009/10.....	70
Table 4-1: Comparison of changes in selected components of the producer price index, SYs 1996/97 and 2009/10.....	76
Table 4-2: Federal cost of school food programs, real 2009/10 prices.....	78
Table 4-3: Average costs per participant and meal for NSLP & SBP cash payments and USDA Food costs, real 2009/10 prices	79
Table 4-4: Allocation of entitlement and bonus dollars spent on food groups, SY 2009/10.....	82
Table 4-5: Volume share of entitlement and bonus purchases.....	83
Table 4-6: Comparison of donated entitlement and bonus USDA Foods delivered to child nutrition programs, SY 1984/85, SY 1996/97 and SY 2009/10	84
Table 4-7: Department of Defense Fruit and Vegetable Program donations, 2009/10	87
Table 5-1: Summary of dollar value of food acquisitions by public unified NSLP school districts, SY 2009/10	94
Table 5-2: Summary of volume of food acquisitions by public unified NSLP school districts, SY 2009/10	98
Table 5-3: Share of the total value of acquisitions for the ten leading food subgroups acquired by public unified NSLP school districts, SY 2009/10	101
Table 5-4: Share of total value and volume of individual food items acquired by public unified NSLP school districts, SY 2009/10.....	102

Table 5-5: Summary of top 50 food items acquired by public unified NSLP districts by number of items in major food groups and share of total acquisitions, SY 2009/10.....	102
Table 5-6: Share of the total value of acquisitions by public unified NSLP school districts that is accounted for by donated USDA Foods and processed foods containing donated USDA Foods as an ingredient, SY 2009/10	103
Table 5-7: Share of total fresh fruit and vegetable acquisitions through DoD by public unified NSLP school districts, SY 2009/10.....	105
Table 5-8: Share of public unified NSLP school districts acquiring food items that received it as a donated USDA Food, selected food items, SY 2009/10	107
Table 5-9: Comparison of summary volume of food acquisitions by public unified NSLP school districts, SYs 1996/97 and 2009/10.....	110
Table 5-10: Volume change of food acquisitions by public unified NSLP school districts between SYs 1996/97 and 2009/10.....	114
Table 5-11: Comparison of the volume of acquisitions for major beverage subgroups in public unified NSLP school districts, SYs 1996/97 and 2009/10	116
Table 5-12: Comparison of fresh fruit and vegetable acquisitions in SY 1996/97, and SY 2009/10.....	117
Table 5-13: Comparison of the mean number of individual food items acquired by public unified NSLP school districts, SYs 1996/97 and 2009/10, by school district enrollment	120
Table 5-14: Characteristics of school districts that provided à la carte food purchase data.....	120
Table 5-15: Summary of mean cost per pound of food acquisitions by public unified NSLP school districts for à la carte and reimbursable offerings, SY 2009/10.....	121
Table 5-16: Comparison of the top 50 food items offered on à la carte basis vs. all food offerings.....	124
Table 5-17: Comparison of volume per 1,000 students and expenditure per 1,000 students for some top food items offered on à la carte basis only and in all food offerings.....	124
Table 6-1: Number of public unified NSLP school districts by decision-maker with primary responsibility for vendor selection, by size of school district, SY 2009/10	126
Table 6-2: Criteria considered by public unified NSLP school districts in selecting vendors, by size of school district, SY 2009/10.....	128
Table 6-3: Number of public unified NSLP school districts by decision-maker with primary responsibility for food selection, by size of school district, SY 2009/10.....	131
Table 6-4: Product specifications used by public unified NSLP school districts in the procurement of food, SY 2009/10.....	133
Table 6-5: Use of food safety criteria in product specifications by public unified NSLP school districts in the procurement of food, SY 2009/10.....	134
Table 6-6: : Number and percent of public unified NSLP school districts by ability to trace foods back to specific points in the supply chain, and by size of district, SY 2009/10.....	135
Table 6-7: Number of public unified NSLP districts located in a state that has a State Farm to School Program, SY 2009/10.....	136
Table 6-8: Number of public unified NSLP districts with a buying program for locally grown produce, SY 2009/10.....	137
Table 6-9: USDA entitlement and utilization of entitlement funds by public unified NSLP school districts by size of district, SY 2009/10.....	139
Table 6-10: Comparison of the quality and prices of fresh produce from the Department of Defense and commercial products.....	140
Table 6-11: Features of the USDA donated food program that are most commonly liked or disliked by public unified NSLP school districts, SY 2009/10	141

Table 6-12: Number and share of public unified NSLP school districts offering branded food products by size of district, SY 2009/10.....	144
Table 6-13: Share of public unified NSLP schools that feature branded products, by size of district and grade category, SY 2009/10.....	144
Table 6-14: Share of districts using branded products by form in which they receive them and size of district, SY 2009/10.....	145
Table 6-15: Share of public unified NSLP school districts that feature individual branded foods, by size of district, SY 2009/10.....	145
Table 6-16: Branded food products sales by public unified NSLP school districts by size of district, SY 2009/10.....	146
Table 6-17: Mean number of vendors used by public unified NSLP school districts, in SY 2009/10, by food group and by size of school district.....	147
Table 6-18: Comparison of the mean and total number of vendors used by public unified NSLP school districts, SYs 1996/97 and 2009/10, by food group	148
Table 6-19: Methods of delivery of USDA donated USDA Foods used by public unified NSLP school districts, SY 2009/10.....	148
Table 6-20: Services provided by vendors to public unified NSLP school districts,.....	150
Table 6-21: Food procurement methods used by public unified NSLP school districts, by food group, SY 2009/10.....	152
Table 6-22: Comparison of percent of public unified NSLP school districts using alternative food procurement methods, by food group, SYs 1996/97 and 2009/10	153
Table 6-23: Pricing methods used by public unified NSLP school districts in food procurement, by food group, SY 2009/10.....	154
Table 6-24: Comparison of percent of public unified NSLP school districts using alternative methods of product pricing, by food group, SYs 1996/97 and 2009/10.....	156
Table 6-25: Participation in cooperative buying by public unified NSLP school districts by size of district, SY 2009/10.....	157
Table 6-26: Comparison of public unified NSLP school district participation in purchasing cooperatives, SYs 1996/97 and 2009/10.....	158
Table 6-27: Effect of cooperative buying programs on the ability to purchase foods and food costs of participating public unified NSLP school districts by size of district, SY 2009/10	159
Table 7-1: Summary of mean cost per unit and volume and value per 100,000 meal equivalents of food purchases by all public unified NSLP school districts, SY 2009/10	161
Table 7-2: Summary of mean cost per unit and volume and value per 100,000 meal equivalents of top 50 food items purchased by all public unified NSLP school districts, SY 2009/10.....	163
Table 7-3: Comparisons of summary of mean cost and volume of food purchases by FSMC and non-FSMC operated public unified NSLP school districts, SY 2009/10	165
Table 7-4: Comparisons of cost and volume of the top 50 food items purchased by public unified NSLP school districts under and not under FSMC operation, SY 2009/10	168
Table 7-5: Comparison of summary of mean cost and volume of food purchases of public unified NSLP school districts by menu planning system, SY 2009/10.....	171
Table 7-6: Comparisons of cost and volume of the top 50 food items purchased by public unified NSLP school districts by menu planning system, SY 2009/10.....	175
Table 7-7: Comparisons of summary of mean cost and volume of food purchases by public unified NSLP school districts by district location, SY 2009/10	177
Table 7-8: Comparisons of cost and volume of the top 50 food items purchased by public unified NSLP school districts by district location, SY 2009/10	180

Table 7-9: Comparisons of summary of mean cost and volume of food purchases of public unified NSLP school districts by poverty level, SY 2009/10	183
Table 7-10: Comparisons of cost and volume of the top 50 food items purchased by public unified NSLP school districts by poverty level SY 2009/10	186
Table 7-11: Comparisons of summary of mean cost of food purchases by public unified NSLP school districts by region, SY 2009/10.....	191
Table 7-12: Comparison of summary of volume per 100,000 meal equivalents of foods purchased by public unified NSLP school districts by region, SY 2009/10.....	194
Table 7-13: Comparison of summary of mean cost per 100,000 meal equivalents of foods purchased public unified NSLP school districts by region, SY 2009/10.....	197
Table 7-14: Comparison of mean cost per pound of top 50 food items purchased by public unified NSLP school districts by region SY 2009/10	200
Table 7-15: Comparison of mean pounds per 100,000 meal equivalents of top 50 food items purchased by public unified NSLP school districts by region SY 2009/10.....	202
Table 7-16: Comparison of mean cost per 100,000 meal equivalents of top 50 food items purchased by public unified NSLP school districts by region SY 2009/10.....	204
Table 7-17: Comparisons of summary of mean cost and volume of food purchases of public unified NSLP school districts by size of district, SY 2009/10	207
Table 7-18: Comparisons of cost and volume of the top 50 food items purchased by public unified NSLP school districts by size of district, SY 2009/10	211
Table 7-19: Comparison of the mean cost per unit, volume and value per 100,000 meal equivalents of categories with the mean for all food purchases by unified public NSLP school districts, SY 2009/10.....	213
Table 7-20: Comparison of the mean cost per unit, volume and value per 100,000 meal equivalents of categories with the mean of the top 50 food items purchased unified public NSLP school districts, SY 2009/10.....	215
Table 8-1: Degree of procurement centralization of public unified NSLP school districts by food category and size of school district, SY 2009/10.....	218
Table 8-2: Mean cost per pound for the top fifty foods purchased by public unified NSLP school districts, SY 2009/10 by extent to which procurement is centralized.....	219
Table 8-3: Comparison of ratio of high/low mean prices by decision-maker	221
Table 8-4: Mean cost per pound for the top fifty foods purchased by public unified NSLP school districts, SY 2009/10, by decision-maker responsible for vendor selection.....	221
Table 8-5: Comparison of ratio of high/low mean prices by decision-maker responsible for food selection, ranked in order of most effective at achieving lowest mean price, SY 2009/10.....	223
Table 8-6: Cost per pound for foods frequently purchased by public unified NSLP school districts, SY 2009/10, by decision-maker responsible for food selection	223
Table 8-7: Comparison of ratio of high/low mean prices by procurement method,.....	225
Table 8-8: Mean cost per pound for the top fifty foods purchased by public unified NSLP school districts, SY 2009/10, by procurement method used.....	225
Table 8-9: Comparison of ratio of high/low mean prices by pricing method, ranked in order of most effective at achieving lowest mean price, SY 2009/10	227
Table 8-10: Mean cost per pound for the top fifty foods purchased by public unified NSLP school districts, by product pricing method, SY 2009/10.....	227
Table 8-11: Cost per pound of foods frequently acquired by public unified NSLP school districts, by participation in cooperative buying, SY 2009/10	230

List of figures

Figure 3-1: Distribution of number of school districts by size.....	27
Figure 3-2: Student enrollment by size of school district	27
Figure 3-3: Distribution of schools by grade category.....	27
Figure 3-4: Average enrollment by size of school district and grade category.....	29
Figure 3-5: Percentage change in number of school districts from.....	30
Figure 3-6: Percentage change in student enrollment by size of school district from SY 1996/97 to SY 2009/10.....	31
Figure 3-7: Estimated distribution of public unified NSLP school districts by location and size of district, SY 2009/10.....	34
Figure 3-8: Estimated student enrollment in public unified NSLP school districts by location and size of district, SY 2009/10.....	34
Figure 3-9: Estimated number and share of school districts by poverty level (students approved for	35
Figure 3-10: Share of school districts by poverty level and size of district, SY 2009/10	35
Figure 3-11: Student enrollment by location of school districts and poverty level, SY 2009/10	38
Figure 3-12: Percentage share of free, reduced price, and full price NSLP lunches served in school districts in SYs 2009/10 and 1996/97.....	42
Figure 3-13: Percentage share of free lunches served by public unified NSLP districts by size of district, SYs 2009/10 and 1996/97	42
Figure 3-14: Percentage share of free, reduced price, and full price SBP breakfasts served in SYs 2009/10 and 1996/97	44
Figure 3-15: Percentage share of free SBP breakfasts served in public unified NSLP school districts, by size of district, SY 2009/10 and 1996/97	44
Figure 3-16: Percentage share of severe need breakfasts served in public unified school districts, by size of district, SY 2009/10 and 1996/97	45
Figure 3-17: Mean, median, and maximum student lunch full prices by district poverty level (share of students eligible for free or reduced price lunch).....	47
Figure 3-18: Mean, median, and maximum student breakfast full prices by poverty level (share of students eligible for free or reduced price lunch) district, SY 2009/10	49
Figure 3-19: Share of school districts offering à la carte foods by size of district, SY s 1996/97 and 2009/10	51
Figure 3-20: À la carte sales revenue per 1,000 students by size of district, SY 2009/10.....	53
Figure 3-21: À la carte total sales revenue by size of school district, SY 2009/10	53
Figure 3-22: Share of national enrollment represented by FSMC, SYs 1996/97 and 2009/10.....	58
Figure 3-23: Share of school districts serviced by FSMCs, SYs 1996/96 and 2009/10.....	58
Figure 3-24: Share of urban and ‘town and rural’ school districts operated by FSMC.....	60
Figure 3-25: Share of public unified NSLP school districts’ use of different menu planning systems.....	62
Figure 3-26: Use of menu planning systems at the school level.....	63
Figure 3-27: Percent of schools offering different food service options,.....	67
Figure 3-28: Percent of schools offering different food service option by grade category, SY 2009/10.....	68
Figure 4-1: Primary factors affecting crop prices	72
Figure 4-2: Price indexes: Finished foods and farm products, July 1996 = 100	73
Figure 4-3: Producer price indexes: Poultry and fluid milk, July 1996 = 100.....	74
Figure 4-4: Producer price index: Tomatoes, July 1996 = 100	74
Figure 4-5: Total state budget shortfall in each fiscal year, \$bn.....	75

Figure 4-6: Federal cost of school food programs,.....	78
Figure 4-7: USDA Foods costs, FY 1980 to 2010, real 2009/10 prices, \$m	82
Figure 5-1: Share of food product acquisitions in SY 2009/10 by public unified school districts, by group (dollar value).....	92
Figure 5-2: Share of purchased foods, donated USDA Foods, and processed with USDA Foods in SY 2009/10 (fair market value).....	93
Figure 5-3: Share of purchased foods, donated USDA Foods, and processed with USDA Foods in SY 2009/10 (pounds)	93
Figure 5-4: Share of leading food subgroups acquisitions by school districts in SY 2009/10 (<i>Value</i>)	101
Figure 5-5: Percentage change in the mean number of food items purchased by school district in SYs 1996/97 and 2009/10 by size of district.....	119
Figure 6-1: Food vendor selection responsibility distribution in public unified NSLP school districts,.....	125
Figure 6-2: Responsibility for vendor selection by size of school district, SY 2009/10	127
Figure 6-3: Comparison of public unified NSLP school district decision-maker responsibility for vendor selection, SYs 1996/97 and 2009/10.....	128
Figure 6-4: Ranking of criteria considered by school district decision makers in vendor selection, by size of district, SY 09/10.....	129
Figure 6-5: Criteria considered by school districts in vendor selection,	130
Figure 6-6: Food selection responsibility distribution in public unified NSLP school districts, SY 2009/10.	130
Figure 6-7: Responsibility for food selection by size of school district, SY 2009/10.....	132
Figure 6-8: Comparison of public unified NSLP school districts decision maker responsibility for food selection, SYs 1996/97 and 2009/10.....	132
Figure 6-9: Number and share of public unified NSLP school districts with inventory control processes in place, by size of district, SY 2009/10.....	134
Figure 6-10: Availability of State Farm to School Program	136
Figure 6-11: Distribution of school districts with programs for buying locally grown produce, by size of district, SY 2009/10.....	137
Figure 6-12: School district definitions of 'locally grown', SY 2009/10	138
Figure 6-13: Distribution of public unified NSLP school districts that offer branded fast food products by size of district.....	143
Figure 6-14: Methods of delivery of USDA donated foods used by school districts, SY 2009/10	149
Figure 6-15: Vendor services used by public unified NSL school districts, SY 2009/10.....	150
Figure 6-16: Food procurement methods used by public unified NSLP school districts, by food group, SY 2009/10.....	152
Figure 6-17: Food procurement methods used by public unified NSLP school districts in SYs 1996/07 and 2009/10, by food group.....	153
Figure 6-18: The three most widely used pricing methods by food group, SY 2009/10	155
Figure 6-19: Major changes in pricing methods between SY 1996/97 and 2009/10	155
Figure 6-20: Comparison of share of school district participation in cooperative buying between SYs 1996/97 and 2009/10	158
Figure 7-1: Farm production regions.....	189

Acronyms and abbreviations used in the study

Acronym	Meaning
AMS	Agricultural Marketing Service
Assisted NuMenu	Assisted Nutrient Standard Menu Planning
CLOC	Commodity Letter of Credit
CN	Child Nutrition
CSV	Cumulative Size Vector
DC	District of Columbia
DoD	Department of Defense
ECOS	Electronic Commodity Online System
EFB	Enhanced Food Based
FFVP	Fresh Fruit and Vegetable Program
FNS	Food and Nutrition Service
FSMC	Food Service Management Company
FY	Fiscal Year
HHFKA	Healthy Hunger-Free Kids Act of 2010
HRG	Homogeneity Response Groups
MDD	Minimum Detectable Difference
m.e.	Meal equivalent
NCES	National Center for Education Statistics
NHANES	National Health and Nutrition Examination Survey
NM	NuMenu/Assisted NuMenu systems
NOI	Net Off Invoice
Non-FSMC	Non Food Service Management Company
NPA	National Processing Agreement
NRR	Nonresponse Rate
NSLP	National School Lunch Program
NuMenu	Nutrient Standard Menu Planning
OMB	Office of Management and Budget
PPS	Procurement Practices Survey
PPS	Probability Proportional to Size
QED	Quality Education Data
SBP	School Breakfast Program
SFA	School Food Authority
SFPS	School Food Purchase Study
SMI	School Meals Initiative for Healthy Children
SNDA	School Nutrition Dietary Assessment Study
SY	School Year
TFB	Traditional Food Based
USDA	US Department of Agriculture

ACKNOWLEDGEMENTS

A study of this nature cannot be successfully completed without the voluntary cooperation of study participants. Assembling months of food procurement data and completing a survey on procurement practices are not trivial exercises. The authors therefore extend special thanks to the Directors and staff of the participating School Food Authorities, the State Child Nutrition Agencies, and the State Distribution Agencies. Four food service management companies – Aramark, Sodexo, Chartwells, and Whitsons – ensured that sampled school districts which they service participated in the study and the four firms also assisted with data collection.

The School Nutrition Association provided a helpful letter to School Food Authorities at the beginning of the study urging that they participate.

The Project Officer for the Food and Nutrition Service was John Endahl of the Office of Analysis and Evaluation. His professional direction and insightful questions helped improve the usefulness of the information that was collected. Other FNS Headquarters and regional staff were helpful throughout the study.

We began the project as Promar International but changed our company name to Agralytica towards the end of the study period. The Agralytica team was led by Nick Young, and the other main contributors were Salli Diakova, Thomas Earley, Justin Carnagey, Maureen Murphy and George Baker.

The food purchase data collection, transcription and verification of over 100,000 food acquisition records was managed by the Ender York team of Ann Krome and Cherie Root, with assistance from Agralytica's Don Berube and a staff of research assistants.

Dr. Lynn Daft, who was Project Director for SFPS-II, provided valuable insight and advice throughout the study. William Verrill and Gene Miller, both former Food Service Directors, did an excellent job of recruiting study participants. Asa Janney assisted in development of the sample and other key statistical tasks.

Mathematica Policy Research staff, led by Mary Kay Crepinsek and Elizabeth Condon, provided input to the study plan and liaised with the data collection team to ensure that the resulting database was amenable to analysis of the nutritional profile of the foods acquired for the school meal programs.

EXECUTIVE SUMMARY

This study is the third School Food Purchase Study (SFPS-III) commissioned by the Food and Nutrition Service (FNS) of the US Department of Agriculture (USDA). The study was undertaken to fulfill the requirements of Section 4307 of the Food, Conservation, and Energy Act of 2008. It provides national estimates of the quantity, value and unit price of food acquisitions by public unified school districts participating in the National School Lunch Program (NSLP) and School Breakfast Program (SBP) during school year (SY) 2009/10. Data on the 48 contiguous states and the District of Columbia were collected from a nationally representative sample of 420 school districts. In addition to providing data on food acquisitions, the participating districts provided information on district characteristics, procurement practices, and food service operations. The study examines the relationship between these factors and the food costs that were incurred, and compares the results to those of SFPS-II which covered SY 1996/97 and used a very similar methodology. SFPS-I, which covered SY 1984/85, used a somewhat different methodology, making direct comparison difficult, but the general trend over the quarter century between the first and third study is discussed where appropriate.

For the first time in this series of studies, the same information was also collected for Hawaii, which is a single school district, and for a representative sample of school districts in Alaska. These two states are covered in a separate report.¹ School food authorities in Puerto Rico provided information on district characteristics, procurement practices, and food service operations but were unable to compile comparable food acquisition data.

A second innovation in this study is that an analysis of the nutritional profile of the acquired food items was undertaken for the first time. The results of that analysis are covered in a separate report.

A third change from the prior studies is that the total cost, quantity, and cost per pound of food acquisitions are calculated per 100,000 meal equivalents served, as well as per 1,000 students with access to the NSLP. (A meal equivalent is one lunch equals 1.5 breakfasts.) The new measure permits better comparisons of cost efficiency.

School food acquisitions

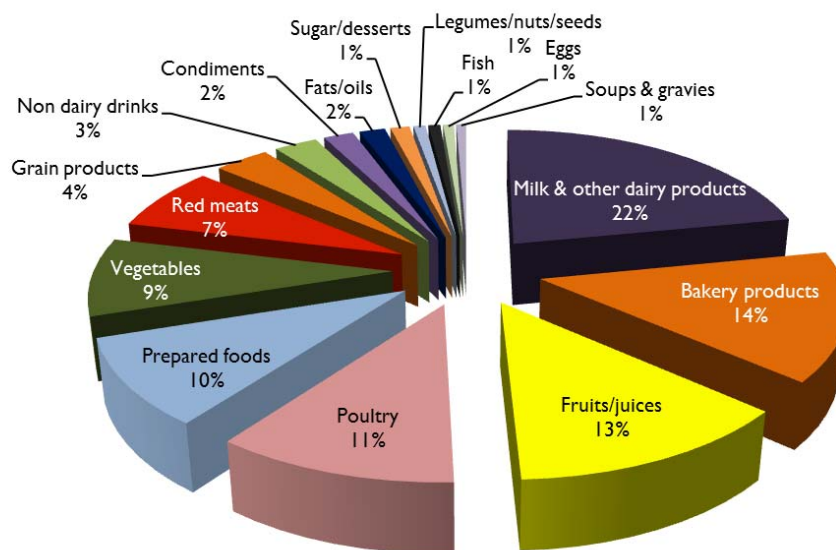
Food acquisitions were classified into three categories: commercially purchased foods, donated USDA Foods, and processed foods containing donated USDA Foods. Each school district is offered a planned assistance level of a certain value of donated USDA Foods and is able to order them through the state distribution agency. Some USDA Foods, like cheese, can be sent to a processor and incorporated in a processed product like pizza. In addition, they can use their entitlement to purchase produce through the Department of Defense Fresh Fruit and Vegetable Program (DoDFresh), under an agreement between USDA and DoD. If USDA ends up providing additional market support for some agricultural products during the course of the school year, these too may be offered to school districts as “bonus” USDA Foods. While the NSLP and SBP are the major programs for which USDA-purchased food items are used, school food facilities may also be servicing other programs like the After School Snack Program.

¹ U.S. Department of Agriculture, Food and Nutrition Service, Office of Research and Analysis, School Food Purchase Study-III: Alaska, Hawaii and Puerto Rico, by Nick Young et al. Project Officer: John R. Endahl, Alexandria, VA: January 2012.

All food acquisitions were classified into 865 food items, which were in turn classified into 16 food groups and 72 food subgroups. The classification system parallels the one used for SFPS-II. Key findings regarding the acquisition of food by NSLP school districts in SY 2009/10 are as follows:

- Unified public school districts, i.e. those that include kindergarten through 12th grade, acquired food valued at more than \$8.5 billion in SY 2009/10. Of the total value of school food acquisitions, 81 percent were purchased commercially, 11 percent were USDA Food donations, and 8 percent were processed foods containing donated USDA Foods. Donations of USDA Foods were valued at “fair market prices” that were determined based on prices paid for the same or similar items that schools purchased commercially. (The values assigned by USDA to the USDA Foods not incorporated in processed products, representing the Department’s acquisition, storage, and delivery cost to the state, averaged 69 percent of the fair market value).
- Milk and other dairy products were the largest food group by value, accounting for 21.8 percent of the total. Bakery products represented 14.6 percent, and fruits and fruit juices 13.0 percent. Poultry, prepared foods, and vegetables all fell in the 9-11 percent range.

**Share of food product acquisitions in SY 2009/10
by public unified school districts (dollar value)**



Source: School Food Purchase Study, 2011

- Of the 72 food subgroups in the study, donated USDA Foods (including DoD) accounted for 40% or more of the value of cheese, turkey, beef and veal, and chicken acquired by school districts, and almost a third of the fruit.
- By volume, school food acquisitions during the year totaled over 9.6 billion pounds. Commercial purchases accounted for 87 percent, donated USDA Foods 8 percent, and

processed foods containing donated USDA Foods 5 percent. Volumes are the actual weights of the food items, whether solids or liquids.

- Milk and dairy products were 39 percent of the total pounds of food acquired, with fluid milk representing 92 percent of that amount. Fruits and juices ranked second at 16 percent, and vegetables were third at just under 10 percent.
- School districts used a wide variety of food items judging from the 865 distinct products acquired by the sample districts. However the top 100 items accounted for 73 percent of the total value of foods acquired.

Comparison of SY 1996/97 and SY 2009/10

Student enrollment in unified public school districts increased 15.6 percent between SY 1996/97 and SY 2009/10. In the 2009/10 October-September fiscal year, roughly corresponding to the 2009/10 July-June school year, 31.7 million children participated in the NSLP, and 11.7 million in the SBP, compared with 26.3 and 6.9 million, respectively in FY 1997. The number of participants in the NSLP rose 20.5 percent and the total lunches served rose 19.7 percent over the 13-year period. For the SBP, participation rose 69.5 percent and breakfasts served rose 65.2 percent. The results of these overall trends and of the ongoing USDA efforts to improve the nutritional profile of school meals can be seen in the changes in food acquisitions between SFPS-II and SFPS-III. A comparison of the two studies shows the following:

- The total volume of food acquired increased 33 percent, slightly more than the 29 percent increase in the number of meals served.
- Poultry, bakery products, and fruits and juices were the food groups with volume increases of more than 50 percent. Food groups with actual declines were grain products (due to a shift to prepared bakery products), fish, fats and oils, and sugar and desserts.
- The increase for vegetables as a group was only 5.8 percent, but after excluding potatoes and potato products, which declined, the increase for other vegetables was 16.4 percent, about the same as the increase in student enrollment.
- There was a clear move toward increased acquisition of foods that offer more convenience in terms of preparation and service. Purchases of prepared foods and soups increased significantly.
- Beverages also showed strong growth. Milk acquisitions were up 35 percent. Acquisitions of fruit juices and water were up even more sharply as they replaced fruit drinks and carbonated beverages.
- The relative importance of fresh produce increased by two-thirds, from 8.4 percent of total pounds of food to 13.8 percent.
- The overall contribution of donated foods to total food acquisitions continues to decline. Twenty-five years ago in SFPS-I it was 11.8 percent by volume and 29.6 percent by value. In SFPS-II the comparable shares were 8.9 and 12.7 percent, respectively. During SY 2009/10, the share of donated foods by volume was 7.8 percent and by value 11.3 percent.

- Only 128 school districts provided usable data regarding à la carte foods, so it was not possible to develop national estimates of their prevalence in school meals. The reporting districts acquired a total of 804 food items, and of these, 589 were offered on an à la carte basis by at least some districts. Most of the top 50 à la carte foods were snack items, ice cream or frozen desserts, cookies, cake, fresh fruits or vegetables, or beverages.

Food procurement practices

Participating school districts completed a Procurement Practices Survey (PPS) that requested information on use of the NSLP, SBP and other federal food programs, food preparation facilities, how they decided what foods to serve and how to procure the ingredients, and other aspects of the food procurement process. The survey questions were mostly the same as for SFPS-II, but some were dropped to make room for questions of current interest like local purchasing and use of the DoD Fresh Fruit and Vegetable Program (DoDFresh). The main findings of interest were as follows:

- Food service directors or managers were most often responsible for making decisions about food selection and choice of vendors. They were the principal decision makers in over 70 percent of the school districts. Only in the smallest group of school districts, with enrollment of less than 1,000 students did other decision makers, like kitchen managers, the business office, or the school board, play a significant role.
- An estimated 85 percent of all school districts used product specifications when purchasing food in SY 2009/10. Style or variety of product, packaging unit, and Child Nutrition labels were used most frequently. Specifications related to whole grain content and fat content or type of fat were used less frequently, although still by the majority of districts. About 80 percent of districts include food safety criteria in specifications.
- An estimated 94 percent of districts had inventory control processes that provided for some degree of traceability in the event of a product recall, primarily through vendors. Ability to trace products used in a recipe or menu item was much more limited, with only 57 percent of districts reporting that capability.
- Locally grown produce programs were reported by 21 percent of districts. Only 35 percent of districts reported having access to a state “farm to school” program that connects school districts to farmers who can provide locally produced food ingredients.
- The estimated average USDA donated food entitlement for SY 2009/10 was just under \$300,000 per school district and ranged from less than \$15,000 for the smallest size districts to over \$1.1 million for the largest ones. Districts spent at least one-third of that on processed products.
- The Department of Defense Fresh Fruit and Vegetable Program received favorable reviews. With respect to quality, 85 percent of districts said it was comparable to commercial products and 11 percent said it was higher. With respect to prices, 56 percent said they were comparable and 23 percent said they were lower than for commercial products.
- Twelve percent of districts and 9 percent of schools offered branded foods from national quick-serve restaurant chains in their food service operation. Pizza was the most common

item. Seven out of every ten districts offering branded foods served them both as reimbursable and à la carte meals.

- Most school districts use one or two vendors for each major product type. The total number of vendors across all products and district sizes averaged 6.7 but ranged from 4.9 in the smallest size group to 12.3 in the largest.
- Food procurement methods that school districts can use fall in two broad categories, formal and informal methods. Under the formal methods of purchasing, school districts solicit competitive sealed bids. Bids can be awarded on the basis of individual pricing of items (*formal line items bid*), or on the basis of lowest combined price for all items in a category (*formal lump sum bid*). Formal procurement methods are used for large purchases over a predetermined cost threshold. The informal procurement methods are used for smaller purchases when prices are usually quoted over the phone or by a sales person. Most districts use formal methods, but for fresh produce, where market conditions and prices can change rapidly, school districts rely more on informal methods.
- Formal pricing methods generally prevailed across all product lines. Fixed price, fixed price with an escalator, and bid or quote were the three most commonly used pricing methods across all product lines. All other formal and informal pricing methods were used only by very few school districts.
- It was estimated that almost half of all school districts participated in some form of cooperative buying with other districts. The smallest size school districts with fewer than 1,000 students were the least likely to participate in cooperative buying. The estimated average share of foods purchased cooperatively by those school districts participating in a cooperative is over 74 percent. Canned/staple foods and frozen foods were the two product lines purchased cooperatively by most districts.

Comparisons of food purchases and costs by school district characteristics

For various categories of school districts, the study compares the total cost, total pounds, and cost per pound of purchased food items per 100,000 meal equivalents (m.e.) to the averages for all districts. Donated USDA Foods and processed products containing USDA Foods are not included in these calculations. The category definitions are based on district size, location, menu planning system, proportion of free and reduced meals, and whether or not a food service management company (FSMC) is involved. The following summaries of these comparisons should be read with the understanding that there are wide confidence intervals where there are small sample sizes, so some results are not statistically significant. In addition, costs other than food ingredient costs are equally important determinants of the total cost of providing school meals.

- Districts that had contracted food service to FSMCs spent 4.8% more than the average on purchased foods per 100,000 m.e. and had an average cost per pound that was 2.7% higher than the average. The school districts without FSMCs constitute the majority and their costs and unit costs were slightly below the average for all districts.

- Use of different menu planning systems had a significant impact on costs. Overall, districts using the Traditional Food Based system had the lowest cost per 100,000 m.e. – 6.8% less than the average, due mostly to acquiring 6.1% fewer pounds of food. Districts using the Enhanced Food Based and NuMenu/Assisted NuMenu systems had costs significantly above the average, by 14.4% and 11.0 percent, respectively. Again this was due primarily to purchase of more pounds of food ingredients, although unit costs for the Enhanced Food Based system were 2.0% above the average.
- Urban school districts had lower costs per 100,000 m.e. than rural districts. Urban districts bought 1.7% fewer pounds at a price per pound almost 1% below the average. Rural districts bought 2.9% more pounds than the average at a unit cost more than 1% higher.
- When one categorizes districts by the share of students approved for free or reduced price meals, one sees stark but perhaps not unexpected differences. Districts with higher incomes, and therefore fewer than 30% of students approved for free or reduced price meals, spent almost 12% more than the average per 100,000 m.e. due mostly to buying more food items, but also at 3% higher prices. Districts with 30-59% of students approved for free or reduced meals had food expenditures close to the average. Less well-off districts, where 60% or more of students were approved, spent 14% less per 100,000 m.e., buying 10% fewer pounds at prices that averaged more than 2% lower.
- The least reliable comparison is by region since with 10 regions the sample sizes are small. Total cost per 100,000 m.e. ranged from 9 or 10% lower than average in the Mountain and Pacific regions to 24% higher than average in the Northern Plains.
- Finally, the study compared costs by size of student enrollment. The only clear pattern here was that the larger the district, the lower the average cost per pound, paralleling the urban-rural comparison. Districts with enrollment of less than 1,000 had unit costs 6.6% higher than the average, while districts with 25,000 or more students had unit costs 3.9% lower than the average. Districts with 5,000 to 24,999 students purchased 3% more pounds than the average while the other three size classes purchased fewer than the average number of pounds.

Comparisons of food purchases and costs by procurement practices

In the Procurement Practices Survey, school districts provided a variety of information about how they actually go about buying the various food ingredients used in preparing school meals. Key findings included the following:

- The majority of districts of any size use a centralized (district-wide) approach for all food groups rather than a decentralized school-level approach or a combination of the two. Only 3 percent of the largest districts report using a decentralized approach. The centralized approach tends to achieve the lowest average unit prices. For the top 50 food items, centralized purchases had the lowest price for 5 of the top 10 and for 22 overall.

- No significant relationship was found between food costs and who has the primary responsibility for vendor selection or food selection.
- Formal bidding methods and formal contract price terms were most successful at achieving the lowest unit price. Reliance on retail prices or “mutually accepted discounts” resulted in the greatest incidence of higher than average prices.
- School districts that purchase through cooperatives have a slight advantage compared to those that do not. For the top 50 food items, cooperative buying achieved the lowest mean price on 30 of the 50. However, most of the differences are smaller than for some of the other comparisons, i.e. the lower price is seldom more than 10 percent less than the higher price.

SECTION I: INTRODUCTION

This study is the third School Food Purchase Study (SFPS-III) commissioned by the Food and Nutrition Service (FNS) of the US Department of Agriculture (USDA). The study was undertaken to fulfill the requirements of Section 4307 of the Food, Conservation, and Energy Act of 2008 (P.L. 110-246), (H.R. 2419). This legislation directed USDA to carry out a nationally representative survey of the foods purchased by school food authorities during the most recent school year for which data were available. This reflected the high levels of Congressional interest in various issues related to food purchasing for school meals, and in the implications for the health of schoolchildren.

The study provides national estimates of the quantity, value and unit price of food acquisitions by public unified school districts participating in the National School Lunch Program (NSLP) and School Breakfast Program (SBP) during school year (SY) 2009/10. Data on the 48 contiguous states and the District of Columbia were collected from a nationally representative sample of 420 school districts. In addition to providing data on food acquisitions, the participating districts provided information on district characteristics, procurement practices, and food service operations. The study examines the relationship between these factors and the food costs that were incurred, and compares the results to those of SFPS-II which covered SY 1996/97 and used a very similar methodology. SFPS-I, which covered SY 1984/85, used a somewhat different methodology, making direct comparison difficult, but the general trend over the quarter century between the first and third study is discussed where appropriate.

I.1 School food programs

The National School Lunch Program (NSLP) and the School Breakfast Program (SBP) are the two main programs through which the Federal government supports the provision of meals to elementary and secondary schools in the US. The NSLP is the older and larger of the two programs. Since 1998 it has also included reimbursement for snacks served in afternoon programs to students in some schools. In Fiscal Year 2010 the NSLP reached 31.7 million children each day and the SBP program reached 11.7 million children each day.

Public or nonprofit private schools as well as nonprofit private residential child care institutions may participate in the NSLP and/or SBP. Participating school districts and independent schools receive cash subsidies and donated USDA Foods from the US Department of Agriculture (USDA) for each meal they serve.

USDA's Food and Nutrition Service (FNS) administers both programs. The level of assistance that participating schools receive is calculated on the basis of the number of reimbursable meals they have served and the eligibility status of children to receive free or reduced price meals. The income eligibility guidelines for 2009/10 were as follows:

- Children from families with household income less than 130% of the national poverty level were eligible to receive free meals;
- Children from families with household income between 130 and 185% of the national poverty level were eligible to receive reduced price meals. Students could not be charged more than 40 cents for lunch and 30 cents for breakfast.

- Children from families with household income higher than 185% of the poverty level paid full price for school meals. Prices are set by the local School Food Authority (SFA)².

The Federal government reimbursement rates per meal for school year 2009/10 (SY 2009/10) are given in the following Table I-1.

Table I-1: Federal government reimbursement rates for the National School Lunch Program and the School Breakfast Program, SY 2009/10

Type of meal	Lunch			Breakfast	
	Regular reimbursement rate ¹	Average USDA Food entitlement	Total subsidy	Regular reimbursement rate	Severe need reimbursement ²
	----- dollars per meal -----			----- dollars per meal -----	
Free	2.68	0.1950	2.8750	1.46	1.74
Reduced price	2.28	0.1950	2.4750	1.16	1.44
Full price	0.25	0.1950	0.4450	0.26	0.26

¹ Reimbursement rates in Alaska and Hawaii are higher. Also, districts that served more than 60 percent of their lunches free or at reduced price in the second prior school year receive an additional \$0.02 in reimbursement on each meal.

² Schools that served 40 percent of their lunches free or at reduced price in the second prior school year qualify to receive severe need reimbursements for free or reduced-price breakfasts.

Source: USDA, FNS

In addition to the cash reimbursements, schools are entitled to receive USDA purchased foods at a value of about 25 cents for each meal served (entitlement foods), although the average use of that entitlement is slightly less than that amount. Also USDA 'bonus' foods can be made available when a particular food is receiving specific market support. The donated entitlement and bonus foods that schools can obtain from the USDA depend on the quantities available and market prices. Schools can use some of their entitlement dollars to purchase fresh produce through the Department of Defense (DoD) as the result of an agreement between USDA and DoD.

In FY 2010 the cost of NSLP meal reimbursements was \$9.8 billion, and the SBP meal reimbursements cost \$2.9 billion. Donated entitlement and bonus USDA Foods valued at \$1.13 billion were also provided to participating school districts for those two programs.

1.2 Purpose and objectives of the study

This study is referred to as SFPS-III – the third School Food Purchase Study, following earlier ones conducted in the 1980s and 1990s. The primary purpose of this study was to develop statistically valid national estimates of food acquisitions, including both commercially purchased foods and USDA donations, made by public unified school districts participating in the NSLP and/or SBP in school year 2009/10. Unified districts are those that include kindergarten through 12th grade. The restriction to public districts

² School Food Authority (SFA) is the term for the governing body responsible for the administration of one or more schools and which has the legal authority to operate the NSLP and SBP. Throughout this report it is used interchangeably with School District.

excludes schools operated by religious organizations, charter schools, and other special schools. Another purpose of the study was to compare the results with those from an earlier similar study (SFPS-II) that was conducted in school year 1996/97, and assess the changes that have occurred over the last thirteen years.

The specific objectives and research questions that the study was designed to answer are detailed below. Certain comparisons of purchasing performance were originally specified in terms of cost per 1,000 students with access to the NSLP, the same measure as was used in SFPS-II. In the course of the work it was determined that a more useful measure is cost per 100,000 meal equivalents, where a lunch equals one meal and a breakfast equals two-thirds of a meal (i.e. a meal equals 1.5 breakfasts). The latter factor is recommended by the National Food Service Management Institute and is consistent with the data reported in the 2008 School Lunch and Breakfast Cost Study. The original measure, cost per 1,000 students, is used in this report only for comparison with SFPS-II.

Objective 1: Develop national estimates of the types, amounts, and costs of food acquired (purchased food and USDA donations) by public unified school districts participating in USDA-sponsored child nutrition programs.

Research questions:

- I-1 What is the total quantity (in pounds), total value (in dollars), and per unit value (dollars per pound) of all food acquired nationally by school districts participating in USDA-sponsored school nutrition programs in SY 2009/10 by individual food product, distinguishing among:
 - (a) purchased foods not containing donated USDA Foods;
 - (b) donated USDA Foods; and
 - (c) purchased foods containing donated USDA Foods as ingredients?

- I-2 What is the estimated dollar value per thousand students of foods acquired by school districts participating in USDA-sponsored school nutrition programs in SY 2009/10 by individual food product, distinguishing among: (a) purchased foods not containing donated USDA Foods, (b) donated USDA Foods, and (c) purchased foods containing donated USDA Foods as ingredients?

- I-3 How many school districts report the acquisition of each individual food product, distinguishing among: (a) purchased foods not containing donated USDA Foods; (b) donated USDA Foods; and (c) purchased foods containing donated USDA Foods as ingredients?

- I-4 How does the volume of donated USDA Foods to participating school systems in SY 2009/10 compare to national estimates of the volume of donated USDA Foods acquired by school systems, by individual food product?

- I-5 What are the characteristics of (a) purchased foods not containing donated USDA Foods, (b) donated USDA Foods, and (c) purchased foods containing donated USDA Foods as ingredients and what are the differences in costs?

Objective 2: Describe any changes in the mix of foods acquired by schools since the last study of school food purchases (SY 1996/97) and the extent to which acquired foods are prepared or processed, and the extent to which the relative costs of school food purchases have changed.

Research questions:

- 2-1 What changes occurred in the composition of foods acquired nationally by NSLP school districts by major food groups measured both in total quantity and total value between SY 1996/97 and SY 2009/10, distinguishing among: (a) purchased foods not containing donated USDA Foods, (b) donated USDA Foods, and (c) purchased foods containing donated USDA Foods as ingredients?
- 2-2 What changes occurred in the per unit value of individual food products acquired by NSLP school districts between SY 1996/97 and SY 2009/10, distinguishing between: (a) purchased foods not containing donated USDA Foods and (b) purchased foods containing donated USDA Foods?
- 2-3 What changes occurred in the dollar value per thousand students of individual food products acquired by NSLP school districts between SY 1996/97 and SY 2009/10 distinguishing among: (a) purchased foods not containing donated USDA Foods, (b) purchased foods containing donated USDA Foods, and (c) donated USDA Foods?
- 2-4 What changes occurred between SY 1996/97 and SY 2009/10 in the extent to which foods acquired by NSLP school districts are already prepared or processed?
- 2-5 To what extent have changes in the mix of foods acquired by school districts between SY 1996/97 and SY 2009/10 resulted from factors external to the school meals programs (e.g., because of changes in relative prices or the availability of different USDA Food donations)?

Objective 3: Compare the mix of foods acquired by various subgroups.

Research questions:

Are there differences in the mix of foods and the prices paid for each of the following:

- 3-1 FSMC (Food Service Management Company) districts and Non-FSMC supplied districts?
- 3-2 Nutrient Standard menu-planning school districts and food-based menu-planning school districts?
- 3-3 Urban and rural school districts?
- 3-4 Districts with different meal preparation facility types?
- 3-5 Districts with different enrollment size?

- 3-6 Districts with different levels of poverty?
- 3-7 Districts with different levels of free and reduced price eligible students?
- 3-8 Districts in different regions?

Objective 4: Describe current school food purchase practices and identify relationships between food purchase practices and school district characteristics and the cost of foods to schools.

Research questions:

- 4-1 What practices are school systems following in the purchase of food and how have they changed since SFPS-II?
- 4-2 What is the principal basis of selection among foods and among alternative sources of supply?
- 4-3 How important is the availability of local foods and what priority has been attached to purchasing food of local origin?
- 4-4 What is the level of competitiveness of the local food service market?
- 4-5 What practices are followed in the receipt of food including USDA donated USDA Foods?
- 4-6 What are the relationships between school food procurement practices and (a) school district characteristics, (b) school food costs, and (c) the mix of foods purchased and how have these changed since SFPS-II?
- 4-7 What aspect of existing food procurement practices causes SFAs the most concern?

Objective 5: Describe the extent to which à la carte foods are available to students and the types and value of à la carte foods purchased.

Research questions:

- 5-1 Of the individual food products acquired by SFAs in 2009/10, which are used: (a) exclusively for à la carte offerings, (b) for both à la carte and reimbursable meals, and (c) for reimbursable meals only?
- 5-2 What was the total value (in dollars) of food identified for use predominantly as à la carte in 2009/10?
- 5-3 What are the changes in the types of foods used predominantly for à la carte in 2009/10 compared with the results of SFPS-II?

I.3 Report organization

In addition to this introductory section, the report contains seven more sections as follows:

- Section 2 describes the methodology used to conduct the study, including a description of the sample design and selection process, response rates, data collection and data processing procedures.
- Section 3 describes the characteristics of public unified school districts in the 48 contiguous states and the District of Columbia (DC) that participated in the NSLP and SBP in school year 2009/10.
- Section 4 provides information about the economic and policy factors that could have had an impact on food procurement decisions at the time the study was conducted.
- Section 5 summarizes the estimates of volume and value of the foods purchased during SY 2009/10 by school districts in the 48 contiguous states and DC and examines the changes that have occurred since SY 1996/97 when the previous similar study was conducted.
- Section 6 covers the procurement practices of public NSLP school districts and, again, looks into the changes that have occurred since the earlier study.
- Section 7 compares food acquisitions and costs by district characteristics such as size of enrollment, urban versus rural, etc.
- Section 8 examines the relationships between procurement practices and school food purchases in SY 2009/10.
- Several appendices provide additional detail about the study methodology and findings.

A separate Statistical Report contains detailed statistical tables that were used to derive the results presented in this report.

In addition to the 48 contiguous states and the District of Columbia, the same research was conducted for the first time in Alaska and Hawaii. The findings of that research are presented in a separate report.

Finally, a nutritional analysis of the acquired food items, undertaken for the first time, is provided in a separate report.

SECTION 2: METHODOLOGY

2.1 Overview

The data required to meet the research objectives were collected during and after the 2009/10 school year by two separate data collection exercises. Both involved the collection of data from the same sample of school districts. The first, which is referred to as the food purchase survey (FPS), involved the collection of information from districts on the foods that they had purchased or received as donated USDA Foods. The second required the completion of a survey of procurement practices by an individual with responsibility for managing food service in the school district. The latter will be referred to as the procurement practices survey (PPS). This survey also collected some general descriptive data on the characteristics of the school district.

A data collection team was assembled to recruit school districts into the sample, to identify the most appropriate method of collecting data from each district, and to train staff in the assembly of purchase and donation records and their delivery to a data collection office. The data collection team then verified the data and transcribed it for data entry.

The procurement practices survey instrument was delivered to an identified individual in each school district by mail and e-mail. Follow-up assistance with the completion of the form was by telephone.

Identical information was also collected from a random sample of districts in Alaska and from the single school district in Hawaii. Puerto Rico initially agreed to participate, but was unable to mobilize the necessary food purchase data. A completed procurement practices survey form was received.

The following sub-sections review the key elements of the methodology. A more detailed description of every step of the methodology used in this study is provided in Appendix I.

2.2 Sample design and selection

2.2.1 Sample design

The study covered all unified public school districts in the contiguous 48 states and District of Columbia that participate in the NSLP. This is a subset of the total number of school districts since not all participate in the NSLP. In addition, private, charter and special schools are also excluded from the study.

A list of SFAs in the contiguous 48 states and District of Columbia was purchased from Quality Education Data Inc. (QED), a company that maintained an educational database.³ The data set was purchased from QED on March 16, 2009 and the sample was selected on March 31, 2009.

The QED database provided details of enrollment by district, participation in the NSLP, participation of Food Service Management Companies (FSMCs) in managing food service, percentage of students approved for free or reduced lunches, and details of school district food service contacts. Various alternative lists

³ The QED database and brand was subsequently purchased by MCH Strategic Data in September 2010.

had been reviewed and rejected. The main alternative, the database of the SFA verification summary reports required by FNS (Form FNS-742), was considered incomplete as it excluded SFAs that did not have any students approved for free or reduced price meals.

The sampling procedure identified gave due consideration to representative sampling, measuring of annual purchases, and ensuring that the mix of foods among different food subgroups could be compared. Based on an analysis of these factors, it was decided that a sample of 400 school districts would be required to provide appropriate levels of statistical significance. This sample was chosen using a probability proportional to size (PPS) sampling design.

Based on the non-response experience of the 1996/97 School Food Purchase Study, it was decided to prepare a sampling frame of 600 School Food Authorities.

Representative sampling

To facilitate the examination of differences the sample was stratified by the Farm Production Regions defined by USDA. A map of the regions is in Figure A1-1 in Appendix I. The distribution of the sample among the regions is provided in Table 2-1. The distribution by state is shown in Table A1-2, Appendix I. In addition, the sample was stratified by the use of FSMC management of the districts' food service operations.

Some public unified school districts that participated in the NSLP in SY 2009/10 do not receive donated USDA Foods. These include all 289 school districts in Kansas⁴ and the 56 districts that receive cash or commodity letters of credit (CLOC). They were kept in the database for drawing the sample. Of the 600 school districts in the sample, eight were in Kansas, two were CLOC districts, and one district received cash.

Finally, to ensure appropriate representation of larger districts, a modification of simple PPS sampling was used. This was necessary because the standard PPS can sometimes shift the sample too far toward the large units leaving the smaller units underrepresented. The modification involved drawing the sample with probability proportional to *a power* of enrollment rather enrollment alone. The power was set at a level less than one to yield a sampling probability for the largest districts in each stratum sufficient to allow for non-response.

Measuring annual purchases

To derive national estimates for the food acquisitions during SY 2009/10 it was necessary to collect data for the whole period. This is because school food procurement practices are subject to seasonal influence. For example, some school systems are in school year-round while others (the majority) are not and do not purchase foods in the summer. Holidays, vacations and even weather changes can also influence food acquisitions.

To reduce the burden on SFAs, each district in the sample was asked to provide food purchase data for three months of the school year (one quarter) only. To ensure that the data collected reflected annual

⁴ Source: Kansas Department of Education

purchases, sample districts were assigned evenly to all quarters of the year, 150 districts for each quarter. The school year quarters for which school districts were asked to provide data were defined as follows:

- Quarter 1: July 1 - September 30, 2009;
- Quarter 2: October 1 - December 31, 2009;
- Quarter 3: January 1 - March 31, 2010; and
- Quarter 4: April 1 - June 30, 2010.

The allocation of the sample by region and by quarter is provided in Table A1-3 in Appendix I. The same sampling frame and similar methodologies for sample selection were used in the 1996/97 School Food Purchase Study. This facilitates comparisons of the results of the two studies.

Table 2-1: Number of school districts in the sample by region

Region	Number of school districts
Northeast	113
Lake States	42
Midwest	74
Northern Plains	13
Appalachia	61
Southeast	78
Delta	23
Southern Plains	68
Mountain	43
Pacific	85
Grand total	600

Source: School Food Purchase Study, 2011

2.2.2 Sampling procedure

The sampling procedure involved the following steps:

- First, each of the ten geographic strata was assigned a fraction of the 600 districts equal to that stratum's share of total student enrollment.
- Next, school districts within each stratum were selected by applying the following systematic procedure:
 - Develop an appropriate power of enrollment for each stratum;
 - Raise the measure of size of each school district by the power of enrollment;
 - Develop a skip interval equal to the sum of all size measures of districts in the region divided by the sample size for the region;
 - Order school districts within the region by their measure of size and establish a cumulative size distribution;

- Select a random start number between zero and the skip interval;
 - Determine the first district in the sample by the random start number using the cumulative size distribution of the ordered set of districts in the region;
 - Draw the remainder of the sample for the region by repeatedly adding the skip value to the random number and finding the district whose value falls within that range.
- Finally, the sample school districts were allocated to quarters of the school year for which they were to provide data. The school districts sampled in each geographical stratum were divided into four groups, one for each quarter, keeping the total enrollment in each quarter as close to equal as possible. In addition, the 11 school districts included in the sample that did not receive donated USDA Foods were allocated among quarters to keep their distribution as even as possible.

2.3 Data collection instruments

Instruments to collect data on school food purchases and procurement practices were developed. These followed closely the instruments that had been developed for the 1996/97 school food purchase study to assist comparisons. There was no standard form used to collect the food purchase data. School districts were asked to provide source documents that included detailed information about the foods purchased and donated USDA Foods received during the specified 3-month time period. A data negotiation protocol was developed for use during recruitment to determine the least burdensome approach to obtaining the information.

Districts could choose to supply food purchase data through one or several of the following:

- Vendor summaries;
- Copies of invoices;
- Tally sheets; and
- Bid specifications.

Regardless of the method the school district elected to use, the following data elements associated with food purchases and USDA Food donations needed to be included on the source documents:

- Type of product purchased (e.g., turkey burger, cheese pizza, canned tomatoes);
- Brand name, if a branded product;
- Product code number;
- Unit size (pack size, case size, etc.);
- Number of cases (units) purchased;
- Unit price;

- Total cost;
- Fuel or other additional charges; and
- Rebates/discounts or credits.

After coding and compilation of the data, each school district was provided with a data summary form to review for accuracy and to identify or confirm foods used in à la carte meal offerings.

Similar to the previous study, the procurement practices survey instrument collected basic descriptive information on the district, its food service organization, and procedures. It also requested responses on new issues of interest to FNS, such as the use of the Department of Defense Fresh Fruit and Vegetable Program, the use of local foods, and the development of food safety protocols.

The instruments were tested in SFAs in Maryland, Virginia, and North Carolina, and some minor adjustments were made. Under the Paperwork Reduction Act of 1980, a package was prepared for FNS to submit to the Office of Management and Budget (OMB). The instrument and the survey plan were approved by OMB in time for data collection to begin in July 2009.

The final procurement practices survey form is provided in Appendix 2.

2.4 Recruitment and training

2.4.1 Recruitment

Prior to starting recruitment, the FNS Regional Offices were notified of the study and the procedures that would be used for recruitment. Also, the Child Nutrition Program Directors in all states were informed about the study, the sampled districts from their state and the timing (quarter) of the school districts' proposed participation. Directors were asked to verify the school districts' participation in the NSLP and to confirm the food service contacts. It was determined that a small number of districts were not participating in school meals programs. These were not contacted and were classified as ineligible.

A letter of introduction was sent to the sampled SFAs in advance of the quarter in which they were to participate. They were notified that they would be contacted shortly to discuss participation in the study.

Recruitment began in earnest on May 1, 2009. The two recruiters were both former school district food service directors. The initial contact with the SFA was designed to obtain agreement to participate. During this call, the recruiters described the benefits of collecting the data and informed them of the administrative allowance that was available to all participants to cover some of their costs of participating, such as potential out-of-pocket expenses associated with assembling and sending the data. The administrative allowance depended on the number of reimbursable lunches served in October 2008 and varied between \$100 and \$400. School districts that agreed to participate were sent a reimbursement check. A total of \$137,655 or an average of \$328 per district was paid as administrative allowances.

Recruitment of the school districts serviced by the major food service management companies (FSMCs) started by contacting senior executives at the corporate offices of the 4 largest companies to ensure commitment to participation. Three out of the four were very cooperative, encouraged their districts to agree to participate, and even assisted with collecting all necessary data. One FSMC, Preferred Meal Systems, a supplier of plated meals, refused to participate.

2.4.2 SFA training / Data negotiation

Representatives of the SFAs that agreed to participate were sent a briefing document explaining more about the study and outlining the various data collection procedures. This was followed by a telephone call from the data collection team negotiator. In this call, the negotiator elaborated the level of detail of food purchase data required and discussed alternative methods of providing the data.

2.5 The final sample and participation rates

2.5.1 Participation level

Out of the 600 sampled school districts, eight did not to participate in the NSLP and were not eligible for participation in the study. Of the remaining 592 districts, 444 agreed to participate. During the data collection process an additional 24 districts either cancelled their participation or could not provide complete sets of food purchase data before the cut-off for data collection. Overall, 420 districts (70%) either responded to the procurement practices survey or provided food purchase data by our final cutoff date (October 31, 2010). This response rate resulted in the original target of 400 participating districts being exceeded. The participation rates were 69 and 68 percent respectively for the procurement practices and food purchase surveys. The participation rate for those that completed both surveys was 67 percent. Details of the participation status for the two data collection exercises are shown in Table A1-4 in Appendix I.

The participation rate was about the same as that of SFPS-II when 324 districts out of an original sample of 475 districts provided full information (68%).

2.5.2 Non-response

Statistical testing for variations in non-response rates

We used a logistic model to test whether the nonresponse rate varied significantly among groups or types of school districts. The results showed no significant variation by region or quarter. The enrollment size of a school district was not significant. This effect was tested two ways. One method was to enter the number of students. The other used the size rank of school districts within the region. Neither was significant.

The only significant effect was for FSMC status, which is harmless and controlled because we stratify on that factor. School districts with an FSMC were more likely to be nonresponsive. The p-value on this test was less than one percent. This result indicates that it was important to stratify by FSMC status, not only to reduce the overall variance of the estimates, but also to control for the different response rate.

Reasons for non-response

One hundred and seventy two eligible school districts did not participate in the study. Of these, 24 had initially indicated that they would participate but failed to meet their commitment. The remaining 148 districts indicated that they did not want to participate at the time of the initial recruitment call. The most common reason for non-participation was the lack of staff or other resources to assist, followed by staff changes or related issues (e.g. illness, maternity leave, change in staff management, etc.). Twenty four districts did not give a reason for refusal to participate (four of which simply hung up on recruiters). Four other districts were uncomfortable undertaking the study and one had been unhappy with a previous (unidentified) study. Three others had recently participated in a similar study and were not prepared to assist with another one. Six indicated that their FSMC did not want to participate, and one FSMC-managed district could not provide the data before the deadline, despite the full backing for the study from senior FSMC management. The reasons for non-participation are itemized in Table AI-5 of Appendix I.

2.5.3 Derivation of final weights

To produce national estimates for public unified school districts participating in the NSLP and/or SBP, three sets of weights were developed for the final sample of school districts in the 48 contiguous states and the District of Columbia. Different sets of weights were necessary because the response rates for the procurement practices survey and the submission of food purchase data were different. The three sets of weights derived were for those who provided food purchase data, those who submitted procurement practices data, and the intersection of those who submitted both sets of data.

A detailed description of the weighting methodology is provided in Appendix I.

2.6 Data collection and processing: food acquisitions

2.6.1 Data receipt, checking, transcription and entry

Food purchase and donation records for the specified quarter of the school year were sent by the SFA to the SFPS-III data collection office. During the training/data negotiation call with each SFA, the least burdensome form of retrieving and sending the data was agreed. Typically these were vendor summaries, copies of invoices, and bid specifications. Upon receipt, data were first checked for completeness and errors, and any obvious problems were referred back to the district for clarification. The next step was to transcribe them into a standard transcription code, check again for accuracy (e.g. unit sizes and codes, product characteristics, etc.) and then add them to the database. At this point final detailed checks and edits were performed. Following finalization of the data of each school district, a copy was sent to the district for checking and for identification of food categories used in à la carte offerings.

Food acquisitions were assigned to three different categories: (1) purchased food products not containing donated USDA Foods; (2) donated USDA Foods (entitlement and bonus); and (3) processed foods containing donated USDA Foods. Donated products from the Department of Defense Fresh Fruit and Vegetable Program were also identified.

2.6.2 Final response by district characteristics

Table 2-2 below shows the number of SFAs that responded according to their characteristics (FSMC management, menu planning systems adopted, urbanicity, poverty levels, region and enrollment).

Table 2-2: Numbers of responding public unified NSLP school districts in the sample by their characteristics (weighted and unweighted)

	Number of responding districts:			Number in weighted sample		
	PPS	FPS	Both	PPS weight	FPS weight	Intersection weight
FSMC/non-FSMC						
FSMCs	78	74	74	1,462	1,368	1,392
Non FSMCs	338	330	330	9,364	9,294	9,344
Completed FPS but no PPS data	-	4	-		85	
Total	416	408	404	10,826	10,747	10,736
Menu Planning¹						
NuMenu	102	93	93	1,844	1,826	1,836
EFB	65	65	65	1,810	1,837	1,836
Trad.	231	224	224	6,749	6,601	6,642
Completed FPS but no PPS data	-	4	-		85	
Total	398	386	382	10,402	10,348	10,315
Location						
Urban	207	199	199	2,994	2,931	2,969
Rural	209	205	205	7,832	7,732	7,767
Completed FPS but no PPS data	-	4	-		85	
Total	416	408	404	10,826	10,747	10,736
Free or reduced meals						
Poverty <30%	138	133	133	4,328	4,256	4,306
Poverty 30-59	194	187	187	4,374	4,250	4,267
Poverty >60%	84	84	84	2,124	2,156	2,163
Completed FPS but no PPS data	-	4	-		85	
Total	416	408	404	10,826	10,747	10,736
Region						
Northeast	73	69	69	2,257	2,255	2,255
Lake States	27	25	25	1,123	1,001	1,054
Midwest	52	51	51	2,473	2,474	2,474
Northern Plains	11	11	11	321	321	321
Appalachia	46	46	46	562	562	562
Southwest	54	53	53	492	490	490
Delta	17	17	17	424	424	424
Southern Plains	55	54	54	1,469	1,464	1,468
Mountain	30	29	29	649	627	643
Pacific	51	49	49	1,055	1,045	1,045
Completed FPS but no PPS data	-	4	-		85	
Total	416	408	404	10,826	10,747	10,736

	Number of responding districts:			Number in weighted sample		
	PPS	FPS	Both	PPS weight	FPS weight	Intersection weight
Size of school						
Less than 1,000	32	32	32	3,652	3,652	3,652
1,000-4,999	156	152	152	5,195	5,027	5,084
5,000-24,999	149	143	143	1,675	1,682	1,695
25,000 or more	79	77	77	304	301	305
Completed FPS but no PPS data	-	4	-		85	
Total	416	408	404	10,826	10,747	10,736

¹ Districts that reported use of more than one menu planning system are not included in this tabulation.
Source: School Food Purchase Study, 2011

2.6.3 Prices

a) Purchased food products

The prices of purchased products were identified from the invoices or vendor lists sent by the SFAs. In some cases the bid specs were used to confirm product identification and to match to the price. Delivery charges were identified separately and at the data editing stage these were allocated across all products in proportion to the volume of product delivered.

b) Donated USDA Foods

Valuation – fair market price and USDA/DoD price

Entitlement and bonus USDA Foods were valued in two different ways. The first method was to establish a fair market price. This was the price of similar products purchased from the marketplace by the district. If the district did not purchase the product, a state average was used. If neither the district nor the state purchased the product, the regional or national average was used. Each data record was marked with the method of imputation. This method was also used for SFPS-II.

The second method was to use the price charged by the government agency procuring and delivering products to the district. The food distribution division of FNS arranges delivery of requested entitlement and bonus donations purchased by USDA. These are delivered to a single location within the state and not to individual districts unless it is a large district. The price includes a delivery charge to that single location but not the cost of subsequent delivery to individual districts.

We also had to identify two prices for deliveries under the DoD Fresh Fruit and Vegetable Program. The procedure was similar to that for the USDA donations. However, DOD donations are delivered directly to an individual district and hence prices include all the costs of getting the product to a district.

Identification and pricing of processed products containing USDA Foods

Processed foods containing donated USDA Foods, such as chicken nuggets and cooked ground beef patties needed to be identified. This identification was particularly difficult for beef and turkey products. USDA buys and distributes turkey deli meat, but schools may also choose to have USDA bulk turkey diverted to a

company that processes it into turkey deli meat. The identification of processed products containing donated USDA Foods was based on pack size and by going back to the original data to check for more information. For some products, like turkey or cooked beef crumbles, the pack size of the product donated by USDA was distinctively different from pack sizes for processed products containing donated USDA Foods. Sometimes the identification was based on whether or not the district received the product as part of their state delivery of other items. It was also important to identify a comparable fair market price for these products. This was identified by looking for comparable processed products purchased by the SFA or by other SFAs in the state, region, or nation.

2.6.4 Food procurement variables

To develop national estimates of the types, volumes, and value of foods acquired by NSLP school districts in SY 2009/10 we used the same variables as in SFPS-II for SY 1996/97. These are listed below and full descriptions are provided in Appendix I.

- Name of the individual food item
- Form in which the food is acquired
- Volume of acquisition
- Mean cost per pound of food item
- Total cost of food item acquisition
- Cost per thousand students of food item acquired, or cost per 100,000 meal equivalents
- Donated USDA Foods
- Purchased processed food items containing one or more donated USDA Foods
- Period of purchase
- Food items used in à la carte offerings
- Change of volume of acquisition and share of total volume
- Change in per unit food item cost
- Change in total cost per thousand students (or per 100,000 meal equivalents) of food item acquisition

2.7 Data collection and processing: district characteristics and procurement practices

2.7.1 Survey collection procedures

The procurement practices survey collected information on school district characteristics as well as details on how the procurement of food was organized. The survey instrument was completed by the person with responsibility for school district food service.

Procurement practices survey instruments, accompanied with a cover letter, were sent to participating school districts at the end of the quarter for which they were assigned to provide data. Respondents were asked to return the completed survey by a specified date, typically within one month of receipt. Non-responding SFAs were reminded by email and then, if necessary, contacted by telephone. For some it took multiple attempts to contact them and persuade them to complete and return the survey.

Returned surveys were reviewed for completeness, accuracy, and consistency. Whenever problems were identified, the SFA was contacted by telephone and/or email to obtain full and accurate data. Once all questions were resolved, the survey was entered into the database.

2.7.2 District characteristics and procurement practice variables

To facilitate easy comparisons with 1996/97 results, most variables used in the analysis are identical to those used in the earlier study. Some new variables of interest to FNS were added. The following two groups of variables were used:

1. **SFA characteristics** variables to describe key features of the public unified school food universe and to assess and interpret food procurement practices.
 - School district enrollment
 - Number of schools and student enrollment by grade category
 - Program participation by meal category
 - Meal prices
 - Number of students approved for free or reduced price meals
 - Receipts from other food program sales
 - Regional location of school district
 - Urbanicity
 - Income

2. **SFA food procurement** variables.
 - Food service options
 - Indicators of à la carte activity
 - Other food programs served
 - Indicators of vendor use and availability
 - Procurement methods
 - Product pricing
 - Use of food service management companies
 - Cooperative buying
 - Product specifications
 - Preparation facilities
 - Storage and delivery of food
 - Inventory control processes
 - Menu planning
 - School district decision making
 - Branded food products
 - USDA donated commodities
 - Locally grown produce

2.8 Data edit checks

The food purchase data was assembled in two separate datasets, one for commercially purchased foods and one for USDA Foods. These datasets were checked for inconsistencies and outliers. The distribution of cost per pound was undertaken for each food group to identify outliers. Each of these outliers was reviewed against the original data sent by the school district and amendments made as necessary.

The procurement practices survey data set was subject to detailed review. Each school district record was reviewed to ensure that the answers to all questions were consistent and logical as respondents were routed through the survey instrument. Edit checks were also carried out variable by variable to determine that the coding scheme had been followed in every case and as a double check for outliers. Where inconsistencies were identified, the districts were contacted to clarify their responses. In addition, the answers to various open questions in the procurement practices survey were coded.

2.9 Standard errors

The standard errors of population totals for the 48 contiguous states and the District of Columbia were estimated using a bootstrap or resampling technique that is very similar to the method used in the previous survey in 1996/97. The goal of the bootstrap program was to mimic the behavior of repeated samples taken from the QED data. The major steps in this bootstrap procedure are described in Appendix I

The estimated standard errors for a selected list of prominent food items and SFA characteristics, and the confidence intervals calculated on the basis of a 90 percent confidence level are provided in Table 2-3.

Table 2-3: Standard error of estimate for selected variables

Variable	Unit	48-State projection	Standard error	90-Percent confidence interval		Confidence interval as % of estimate
				Lower bound	Upper bound	
All acquired food	\$m	\$8,536	\$128.3	\$8,323	\$8,749	5.0%
Purchased ground beef	\$m	\$38	\$2.5	\$34	\$42	21.7%
Donated ground beef	\$m	\$56	\$5.2	\$47	\$64	31.0%
Purchased 2% fluid milk	\$m	\$70	\$5.8	\$60	\$80	27.5%
Purchased 1% flavored milk	\$m	\$550	\$21.1	\$515	\$585	12.7%
Purchased 1% flavored milk	tons	673,247	24,432	632,852	713,642	12.0%
Number of lunches served	mill	5,054	100	4,887	5,221	6.6%
Number of free lunches served	mill	2,771	84	2,627	2,915	10.4%
Number of SFAs with an FSMC	count	1,462	86	1,319	1,605	19.5%
Number of NSLP schools	count	87,832	1533	85,329	90,335	5.7%

Source: School Food Purchase Study, 2011

SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

3.1 Introduction

This chapter describes some of the key characteristics of the public unified school districts in the 48 contiguous states and the District Columbia that participated in the NSLP in SY 2009/10. These include the basic characteristics of school districts such as enrollment, location (rural, suburban or urban), household poverty levels and year-round operations. We examine the characteristics of the school food program including participation in NSLP and SBP, the number of lunches and breakfasts served, meal prices, à la carte sales, programs served other than NSLP and SBP, food service management company involvement, menu planning systems, meal preparation facilities, and miscellaneous food service issues.

3.2 Overall school district characteristics

3.2.1 Number of districts and student enrollment

Some 48.3 million students attended an estimated 10,826 public unified school districts that provided meals through the NSLP in SY 2009/10 in the 48 contiguous states and the District of Columbia (Table 3-1). It should be noted that this estimated number of school districts is lower than the data provided by the NCES Common Core of Data and the database of the SFA verification summary reports required by FNS (Form FNS-742). The differences are mainly in the numbers of smaller school districts and occur principally because these databases also include charter school districts, which are not included in the QED database used for drawing the sample and were not covered by the study. Some SFAs participating in the study undoubtedly served some individual charter schools, but that information was not collected as part of the research. It is assumed that such schools and their students are included in the data reported in the Procurement Practices Survey.

Table 3-1: Total student enrollment and number of public unified NSLP school districts by size of district, SY 2009/10

School district enrollment	Total student enrollment		Number of school districts	
	Number of students	Percent of total	Number of school districts	Percent of total
Less than 1,000	2,005,143	4.1%	3,652	33.7%
1,000-4,999	11,916,706	24.7%	5,195	48.0%
5,000-24,999	16,975,532	35.1%	1,675	15.5%
25,000 or more	17,430,892	36.1%	304	2.8%
All districts	48,328,273	100.0%	10,826	100.0%

Source: School Food Purchase Study, 2011

The number of school districts is highly skewed toward the smaller districts, while the number of enrolled students is skewed toward the larger districts. As seen from Table 3-1 and the following Figures 3-1 and 3-2, the smallest school districts in terms of student enrollment (fewer than 1,000 students enrolled) accounted for one-third of all school districts, but for just 4 percent of all enrolled students in SY 2009/10.

SCHOOL FOOD PURCHASE STUDY-III
SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

The largest school districts (more than 25,000 enrolled) accounted for less than 3 percent of all districts, but for over one third of all enrolled students.

Figure 3-1: Distribution of number of school districts by size

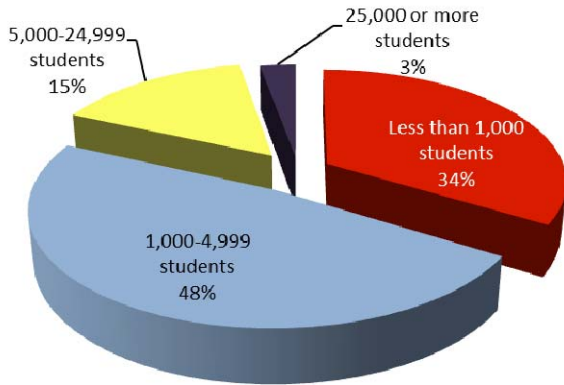
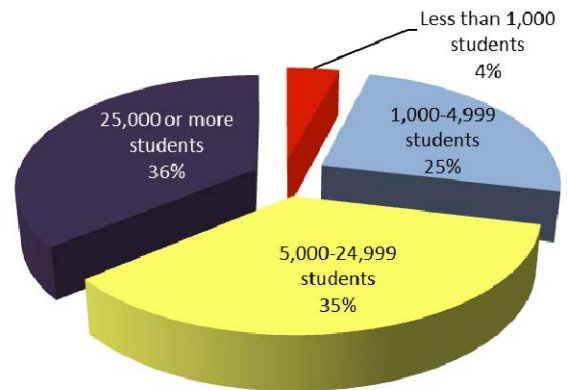


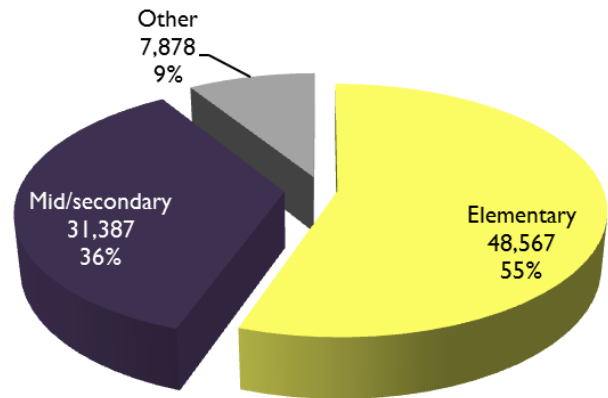
Figure 3-2: Student enrollment by size of school district



Source: School Food Purchase Study, 2011

There were 87,832 schools in the school districts in SY 2009/10 (Table 3-2). As seen in Figure 3-3, more than half of these were elementary schools. Just over one third of the schools were middle/secondary schools, and fewer than 10% were other types of schools. By far the largest number of the latter was mixed grades, distantly followed by alternative schools, preschools, and special education schools. Also, a small number of districts reported having charter and private schools within their jurisdiction.

Figure 3-3: Distribution of schools by grade category



Source: School Food Purchase Study, 2011

Overall, larger school districts operate schools with larger student enrollment per school. Elementary schools have smaller student enrollment and lower average enrollment per school than middle/secondary schools. 'Other' schools have the lowest average student enrollment. On average, enrollment in elementary schools was 470 students per school compared with 746 students per school in middle/secondary schools. Table 3-2 and Figure 3-4 illustrate the average enrollment by size of school district and grade category.

SCHOOL FOOD PURCHASE STUDY-III

SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

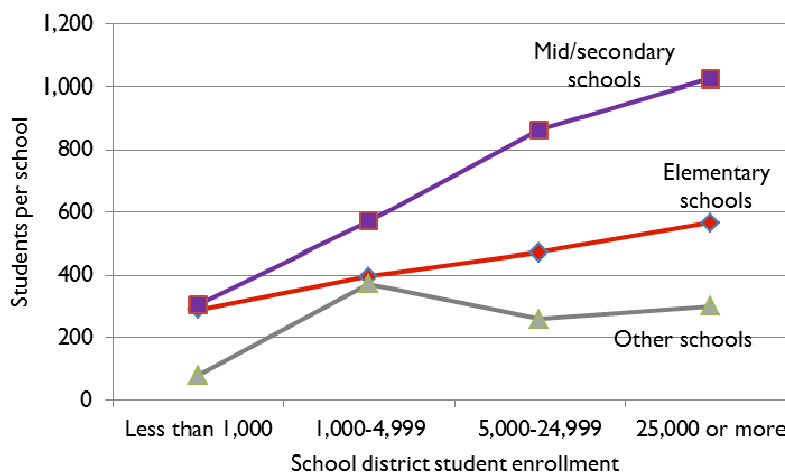
Table 3-2: Number of schools and student enrollment by size of district and type of school, SY 2009/10

	Less than 1,000		1,000-4,999		5,000-24,999		25,000 or more		Total
	Number	Percent of total	Number	Percent of total	Number	Percent of total	Number	Percent of total	Number
Elementary schools									
Schools	2,590	5.3%	13,787	28.4%	17,051	35.1%	15,139	31.2%	48,567
Student enrollment	750,743	3.3%	5,478,793	24.0%	8,042,916	35.2%	8,563,554	37.5%	22,836,006
Students/school	290		397		472		566		470
Mid/secondary schools									
Schools	3,666	11.7%	10,043	32.0%	9,728	31.0%	7,949	25.3%	31,387
Student enrollment	1,125,896	4.8%	5,741,866	24.5%	8,401,256	35.9%	8,152,515	34.8%	23,421,533
Students/school	307		572		864		1,026		746
Other schools									
Schools	1,607	20.4%	1,864	23.7%	2,040	25.9%	2,367	30.0%	7,878
Student enrollment	128,503	6.2%	696,047	33.6%	531,360	25.7%	714,823	34.5%	2,070,733
Students/school	80		373		260		302		263
All schools (total)									
Schools	7,864	9.0%	25,695	29.3%	28,819	32.8%	25,455	29.0%	87,832
Student enrollment	2,005,143	4.1%	11,916,706	24.7%	16,975,532	35.1%	17,430,892	36.1%	48,328,273
Students/school	255		464		589		685		550

Source: School Food Purchase Study, 2011

SCHOOL FOOD PURCHASE STUDY-III
SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

Figure 3-4: Average enrollment by size of school district and grade category



Source: School Food Purchase Study, 2011

While this study covered only school districts participating in the NSLP, not all schools within each district participated in the program. Thus, student enrollment is not a precise indicator of the number of students who have access to school meals. Moreover, not all students attend school every single day. To more accurately assess the number of students who can potentially receive school meals, we asked respondents to report average daily attendance and the number of students who do not have access to school lunches and/or breakfasts. The national estimates are shown in Table 3-3. Overall, only a very small number of students, representing about half a percent of total enrollment, had no access to school lunches, and one percent had no access to school breakfast.

Compared to the results of the similar study conducted in 1996/97, the number of school districts has increased modestly from 10,083 to 10,826 (7 percent increase). While there are now more school districts within each size category, the number of larger districts has grown at a faster rate than the smaller districts. The growth rate of the number of school districts in each size category is shown in Figure 3-5.

Table 3-3: Student enrollment, average daily attendance, and number of students with no access to the school lunch and breakfast programs in public unified NSLP school districts by size of district and grade category, SY 2009/10

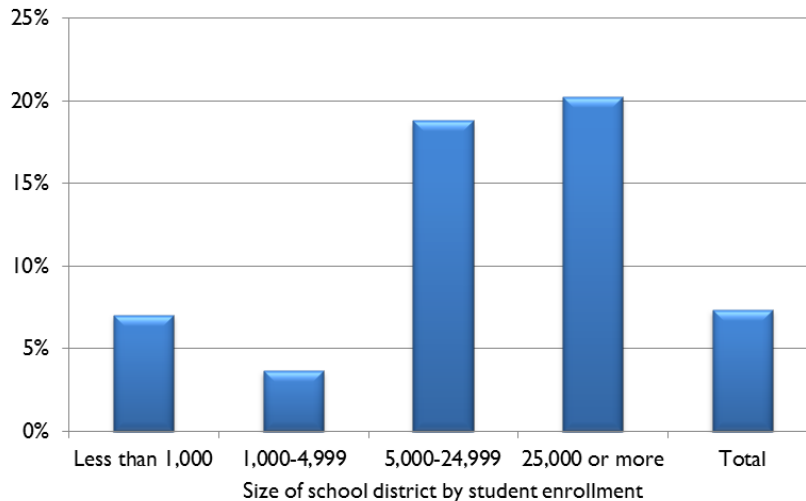
School district enrollment	Elementary	Mid/ Secondary	Other	Total
Less than 1,000				
Total student enrollment	750,743	1,125,896	128,503	2,005,143
Average daily attendance	718,883	1,039,008	119,016	1,876,907
Average daily attendance (%)	95.8%	92.3%	92.6%	93.6%
Students with NO access to school lunches	1,730	0	0	1,730
Students with NO access to school breakfast	11,102	0	0	11,102
1,000-4,999				
Total student enrollment	5,478,793	5,741,866	696,047	11,916,706
Average daily attendance	5,161,616	5,389,767	649,320	11,200,703

SCHOOL FOOD PURCHASE STUDY-III
SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

School district enrollment	Elementary	Mid/ Secondary	Other	Total
	-----Number of Students-----			
Average daily attendance (%)	94.2%	93.9%	93.3%	94.0%
Students with NO access to school lunches	56,521	496	12,034	69,051
Students with NO access to school breakfast	93,634	62,118	29,466	185,218
5,000-24,999				
Total student enrollment	8,042,916	8,401,256	531,360	16,975,532
Average daily attendance	7,587,689	7,867,265	483,736	15,938,155
Average daily attendance (%)	94.3%	93.6%	91.0%	93.9%
Students with NO access to school lunches	111,371	16,730	6,266	134,367
Students with NO access to school breakfast	157,633	79,624	12,257	249,513
25,000 or more				
Total student enrollment	8,563,554	8,152,515	714,823	17,430,892
Average daily attendance	8,123,445	7,561,512	655,155	16,343,429
Average daily attendance (%)	94.9%	92.8%	91.7%	93.8%
Students with NO access to school lunches	26,196	910	22,769	49,875
Students with NO access to school breakfast	105,365	8,530	34,659	148,554
Total				
Total student enrollment	22,836,007	23,421,534	2,070,733	48,328,273
Average daily attendance	21,591,633	21,857,552	1,907,228	45,359,195
Average daily attendance (%)	94.6%	93.3%	92.1%	93.9%
Students with NO access to school lunches	195,818	18,137	41,069	255,023
Students with NO access to school breakfast	367,734	150,271	76,382	594,387

Source: School Food Purchase Study, 2011

Figure 3-5: Percentage change in number of school districts from SY 1996/97 to SY 2009/10



Source: School Food Purchase Studies 1998 and 2011

SCHOOL FOOD PURCHASE STUDY-III
SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

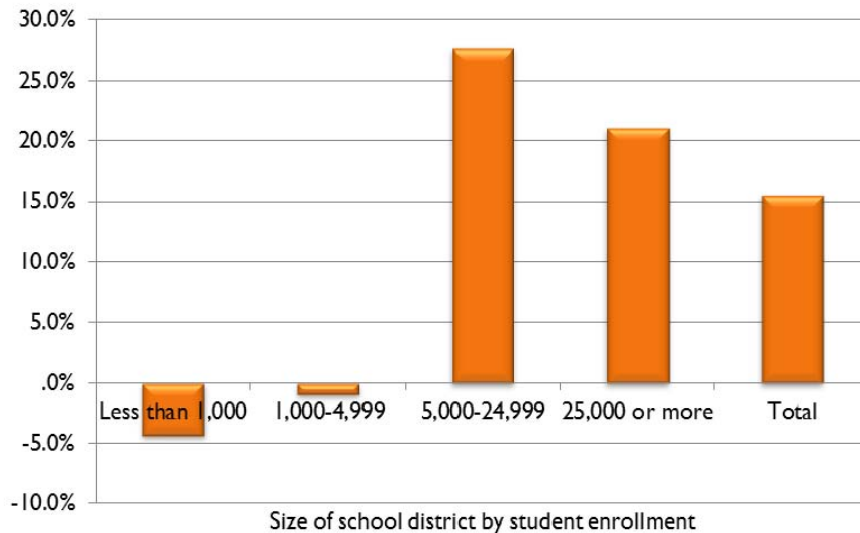
The estimated number of enrolled students has increased by 15.6% since SY 1996/97, from 41.8 million to 48.3 million. This increase, however, is not uniform. Enrollment has increased significantly in the larger school districts over the last ten years, and decreased in the smaller ones. The estimated student enrollment by size of district and by grade category in SY 1996/97 and SY 2009/10 is shown in Table 3-4 and the growth rate in student enrollment by size of school district is shown in Figure 3-6. Over the period, enrollment increased most in the two largest district size classes. This may be partly due to lack of population growth in rural areas where the smallest school districts tend to be located.

Table 3-4: Estimated enrollment in public unified NSLP school districts by size of district enrollment and by grade category, SYs 1996/97 and 2009/10

Grade category	School year	All districts		Less than 1,000		1,000-4,999		5,000-24,999		25,000 or more	
		Enrollment	(%)	Enrollment	(%)	Enrollment	(%)	Enrollment	(%)	Enrollment	(%)
Elementary	1996/97	19,719,285	100	719,451	3.6	5,183,315	26.3	6,412,234	32.5	7,404,285	37.5
	2009/10	22,836,007	100	750,743	3.3	5,478,793	24.0	8,042,916	35.2	8,563,554	37.5
Mid/Secondary	1996/97	18,619,795	100	782,950	4.2	5,650,823	30.3	5,887,464	31.6	6,298,557	33.8
	2009/10	23,421,534	100	1,125,896	4.8	5,741,866	24.5	8,401,256	35.9	8,152,515	34.8
Other	1996/97	3,467,223	100	592,192	17.1	1,190,836	34.3	993,160	28.6	691,036	19.9
	2009/10	2,070,733	100	128,503	6.2	696,047	33.6	531,360	25.7	714,823	34.5
Total	1996/97	41,806,303	100	2,094,593	5.0	12,024,975	28.8	13,292,858	31.8	14,393,878	34.4
	2009/10	48,328,273	100	2,005,143	4.1	11,916,706	24.7	16,975,532	35.1	17,430,892	36.1

Note: Percentages might not add to 100 due to rounding.
Source: School Food Purchase Studies 1998 and 2011

Figure 3-6: Percentage change in student enrollment by size of school district from SY 1996/97 to SY 2009/10



Source: School Food Purchase Studies 1998 and 2011

3.2.2 Urbanicity and poverty levels

a) Urbanicity

The number of school districts and student enrollment by school location are provided in Table 3-5. The definitions of school districts and location are the same as those used by the National Center for Education Statistics (NCES). These are provided in Appendix 3.

Over half of all school districts (51.6 percent) are located in rural areas. Figure 3-7 illustrates that these are mostly small districts. The larger districts with more than 5,000 students are located primarily in city and suburban locations where over 75 percent of all students are enrolled. Estimated student enrollment by size of district and location are shown in Figure 3-8.

SCHOOL FOOD PURCHASE STUDY-III

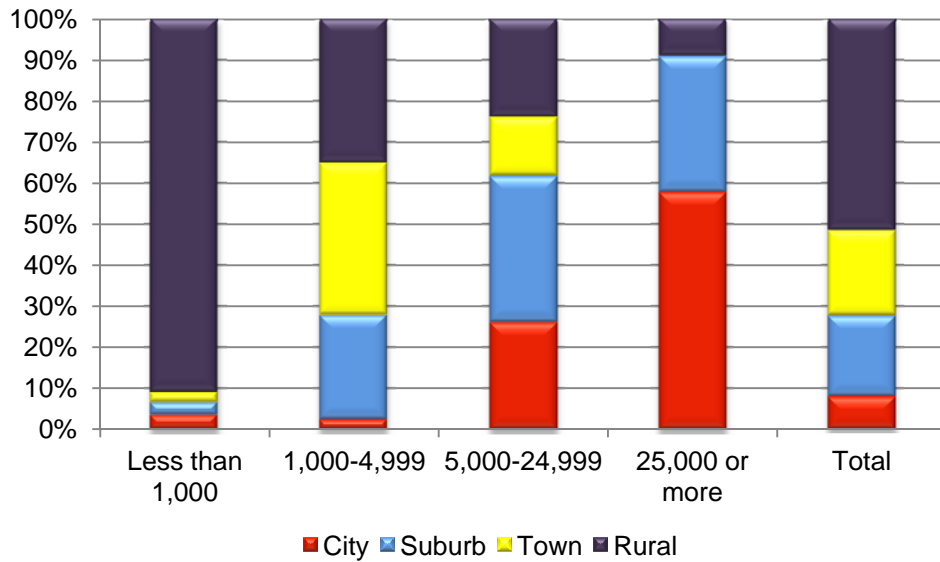
SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

Table 3-5: Number of school districts and student enrollment by degree of urbanicity and size of school district

Location	School district enrollment									
	Less than 1,000		1,000-4,999		5,000-24,999		More than 25,000		Total	
	School districts	Student enrollment	School districts	Student enrollment	School districts	Student enrollment	School districts	Student enrollment	School districts	Student enrollment
City: Large	-	-	-	-	26	429,017	86	7,614,031	113	8,043,047
City: Mid-size	-	-	-	-	71	1,380,671	84	3,030,528	154	4,411,199
City: Small	129	29,335	123	308,950	339	3,671,375	6	213,192	597	4,222,853
Subtotal: City	129	29,335	123	308,950	436	5,481,062	176	10,857,751	864	16,677,099
Suburb: Large			901	2,540,603	449	4,703,068	79	4,654,578	1,428	11,898,249
Suburb: Mid-size	111	88,279	204	633,595	90	923,614	13	667,952	418	2,313,440
Suburb: Small			217	295,667	58	676,835	9	240,797	284	1,213,299
Subtotal: Suburb	111	88,279	1,322	3,469,865	597	6,303,518	101	5,563,327	2,130	15,424,989
Town: Fringe	-	-	554	1,148,766	67	532,910	-	-	621	1,681,676
Town: Distant	-	-	956	1,932,493	89	563,775	-	-	1,045	2,496,268
Town: Remote	88	49,812	410	1,140,704	84	529,124	-	-	582	1,719,640
Subtotal: Town	88	49,812	1,920	4,221,963	239	1,625,809			2,248	5,897,584
Rural: Fringe	1,075	763,206	804	1,901,999	293	2,730,207	28	1,009,814	2,200	6,405,226
Rural: Distant	1,132	654,828	891	1,740,252	110	834,936	-	-	2,133	3,230,016
Rural: Remote	1,116	419,681	135	273,678	-	-	-	-	1,251	693,359
Subtotal: Rural	3,323	1,837,716	1,830	3,915,928	403	3,565,143	28	1,009,814	5,584	10,328,601
Total	3,652	2,005,143	5,195	11,916,706	1,675	16,975,532	304	17,430,892	10,826	48,328,273

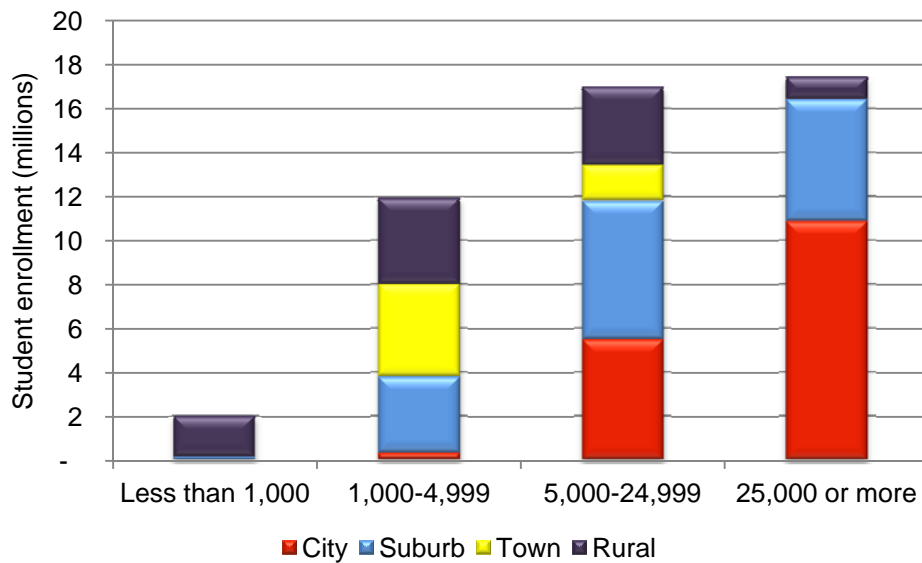
Source: School Food Purchase Study, 2011

Figure 3-7: Estimated distribution of public unified NSLP school districts by location and size of district, SY 2009/10



Source: School Food Purchase Study, 2011

Figure 3-8: Estimated student enrollment in public unified NSLP school districts by location and size of district, SY 2009/10



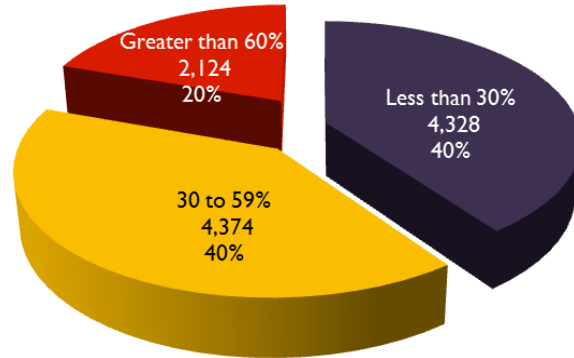
Source: School Food Purchase Study, 2011

b) Poverty levels

The percentage of students approved for free or reduced lunches was used as a proxy for poverty levels. This may understate the number from poor households as some of those that are eligible may not apply.

Twenty percent of all school districts had more than 60 percent of their students approved for free or reduced lunches (see Table 3-6 and Figure 3-9). These districts accounted for 23 percent of total district enrollment.

Figure 3-9: Estimated number and share of school districts by poverty level (students approved for free or reduced lunch)

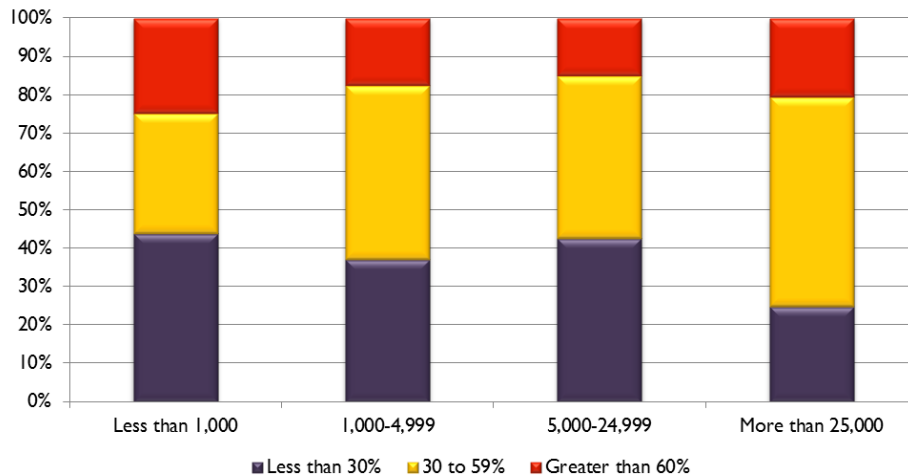


Source: School Food Purchase Study, 2011

There was some variation of this distribution when looking at the different sizes of school districts (Figure 3-10):

- Twenty five percent of the smallest districts (less than 1,000 enrollment) had more than 60 per cent of their students approved for free or reduced meals. This represented only 15.5% of all enrolled students in these districts
- In comparison, 20 percent of the largest districts had more than 60 percent of their students approved, but this represented 35.8 percent of the student enrollment.
- Both of the midsize districts had a lower share of approved students than the smallest and largest districts.
- Forty four per cent of the smallest districts had less than 30% of their students from poor households, compared with 25% of the larger districts.

Figure 3-10: Share of school districts by poverty level and size of district, SY 2009/10



Source: School Food Purchase Study, 2011

SCHOOL FOOD PURCHASE STUDY-III

SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

Table 3-6: Number of public unified NSLP school districts by level of poverty and size of school district, SY 2009/10

Share of students approved for free or reduced lunch	School district enrollment									
	Less than 1,000		1,000 - 4,999		5,000 - 24,999		25,000 or more		Total	
	School districts	Student enrollment	School districts	Student enrollment	School districts	Student enrollment	School districts	Student enrollment	School districts	Student enrollment
Less than 30%	1,605	999,187	1,934	4,793,832	714	6,979,754	76	3,206,301	4,328	15,979,073
row percent	37.1%	6.3%	44.7%	30.0%	16.5%	43.7%	1.7%	20.1%	100.0%	100.0%
column percent	44.0%	49.8%	37.2%	40.2%	42.6%	41.1%	24.9%	18.4%	40.0%	33.1%
30 to 59%	1,143	694,906	2,354	5,029,880	710	7,504,980	167	7,979,336	4,374	21,209,103
row percent	26.1%	3.3%	53.8%	23.7%	16.2%	35.4%	3.8%	37.6%	100.0%	100.0%
column percent	31.3%	34.7%	45.3%	42.2%	42.4%	44.2%	54.8%	45.8%	40.4%	43.9%
Greater than 60%	903	311,049	907	2,092,994	252	2,490,798	62	6,245,255	2,124	11,140,097
row percent	42.5%	2.8%	42.7%	18.8%	11.9%	22.4%	2.9%	56.1%	100.0%	100.0%
column percent	24.7%	15.5%	17.5%	17.6%	15.0%	14.7%	20.4%	35.8%	19.6%	23.1%
Total	3,652	2,005,143	5,195	11,916,706	1,675	16,975,532	304	17,430,892	10,826	48,328,273
row percent	33.7%	4.1%	48.0%	24.7%	15.5%	35.1%	2.8%	36.1%	100.0%	100.0%
column percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: School Food Purchase Study, 2011

SCHOOL FOOD PURCHASE STUDY-III
SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

Table 3-7 and Figure 3-11 illustrate the students in poor households by location of district. The following can be observed:

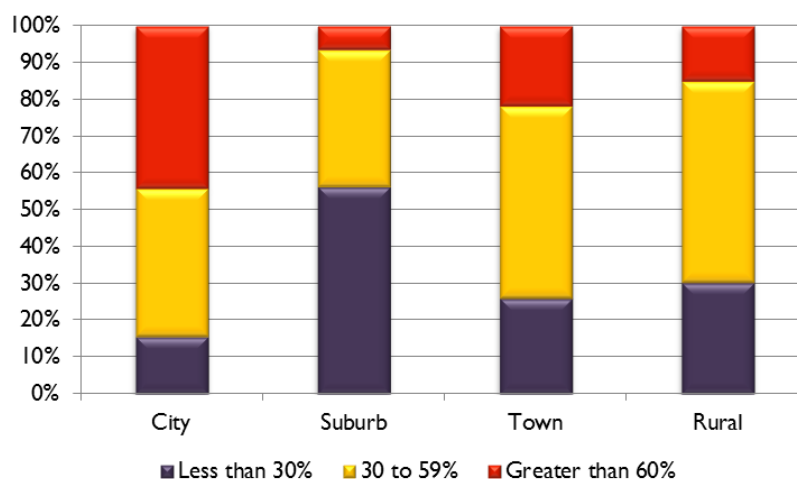
- Just less than 16 percent of the students in cities were enrolled in school districts with less than 30 percent of their students approved for free or reduced lunch. The remainder was almost evenly split between school districts with more than 60 percent and between 30 and 59 percent of students living in poor households.
- The largest share of students in suburbs, 56 percent, were enrolled in school districts with less than 30 percent of students living in poor households, and only 6 percent were in districts with more than 60 percent of their students approved for free or reduced price lunch.
- In towns and rural areas, the largest share of students was enrolled in districts with between 30 and 59 percent of students approved for free and reduced price lunch. A slightly larger share of students in rural areas was enrolled in districts with more than 60 percent of students living in poor households than the urban students.

Table 3-7: Number of public unified NSLP school districts and student enrollment by level of poverty and location, SY 2009/10

Location	Student in poor households							
	Less than 30%		30 to 59%		Greater than 60%		Total	
	Number of districts	Number of students	Number of districts	Number of students	Number of districts	Number of students	Number of districts	Number of students
City	310	2,630,887	362	6,698,252	192	7,347,960	864	16,677,099
row percent	35.9%	15.8%	41.9%	40.2%	22.2%	44.1%	100.0%	100.0%
column percent	7.2%	16.5%	8.3%	31.6%	9.0%	66.0%	8.0%	34.5%
Suburb	1,467	8,675,809	575	5,776,977	88	972,204	2,130	15,424,988
row percent	68.9%	56.2%	27.0%	37.5%	4.1%	6.3%	100.0%	100.0%
column percent	33.9%	54.3%	13.1%	27.2%	4.1%	8.7%	19.7%	31.9%
Town	537	1,534,045	1,218	3,077,778	491	1,285,762	2,248	5,897,584
row percent	23.9%	26.0%	54.2%	52.2%	21.8%	21.8%	100.0%	100.0%
column percent	12.4%	9.6%	27.9%	14.5%	23.1%	11.5%	20.8%	12.2%
Rural	2,013	3,138,334	2,218	5,656,096	1,354	1,534,170	5,584	10,328,601
row percent	36.0%	30.4%	39.7%	54.8%	24.2%	14.9%	100.0%	100.0%
column percent	46.5%	19.6%	50.7%	26.7%	63.7%	13.8%	51.6%	21.4%
Total	4,327	15,979,075	4,373	21,209,103	2,125	11,140,096	10,826	48,328,272
row percent	40.0%	33.1%	40.4%	43.9%	19.6%	23.1%	100.0%	100.0%
column percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: School Food Purchase Study, 2011

Figure 3-1 I: Student enrollment by location of school districts and poverty level, SY 2009/10



Source: School Food Purchase Study, 2011

3.2.3 Year round operations

A relatively small number of school districts operate at least a portion of their school meal operations on a year-round basis rather than having the traditional three-month break in the summer.

This study estimates that in SY 2009/10 only 324 public school districts, or just 3 percent of all districts, operated year-round (see Table 3-8). This is less than the estimated 4.3 percent (431 districts) in SY 1996/97. The largest school districts were more likely to be holding year-round classes – 18.5 per cent of the districts with more than 25,000 enrollment. However, as will be seen in Table 3-9, only a very small number of schools (1,186) in these large districts have year-round classes.

Table 3-8: Number of public unified NSLP school districts operating partial-year and year-round, by size of school district, SY 2009/10

School district enrollment	Partial-year		Year-round		All districts Number
	Number	Percent	Number	Percent	
Less than 1,000	3,523	96.5%	129	3.5%	3,652
1,000-4,999	5,171	99.5%	24	0.5%	5,195
5,000-24,999	1,561	93.2%	115	6.8%	1,675
25,000 or more	248	81.5%	56	18.5%	304
All Districts	10,503	97.0%	324	3.0%	10,826

Source: School Food Purchase Study, 2011

Table 3-9 shows that a slightly higher percentage of ‘other’ schools were engaged in year round operation, followed by elementary schools. The share of middle/secondary schools operating year-round was less than one percent.

SCHOOL FOOD PURCHASE STUDY-III
SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

Table 3-9: Number of schools in public unified NSLP school districts operating year-round programs, by grade category and by school district enrollment, SY 2009/10

School district enrollment	Grade category			
	Elementary	Mid/ Secondary	Other	Total
Less than 1,000				
Total number of schools	2,590	3,666	1,607	7,864
Number of schools year-round	-	-	129	129
Percent of year-round	0.0%	0.0%	8.0%	1.6%
1,000-4,999				
Total number of schools	13,787	10,043	1,864	25,695
Number of schools year-round	35	23	-	58
Percent of year-round	0.3%	0.2%	0.0%	0.2%
5,000-24,999				
Total number of schools	17,051	9,728	2,040	28,819
Number of schools year-round	224	21	23	268
Percent of year-round	1.3%	0.2%	1.1%	0.9%
25,000 or more				
Total number of schools	15,139	7,949	2,367	25,455
Number of schools year-round	964	126	97	1,186
Percent of year-round	6.4%	1.6%	4.1%	4.7%
All districts				
Total number of schools	48,567	31,387	7,878	87,832
Number of schools year-round	1,223	169	249	1,641
Percent of year-round	2.5%	0.5%	3.2%	1.9%

Note: Percentages might not add to 100 due to rounding.

Source: School Food Purchase Study, 2011

3.3 Characteristics of school feeding programs

3.3.1 Participation in NSLP and SBP

All school districts included in the final sample had to participate in the NSLP. However, there was no requirement for schools in the district to participate in the SBP or for all schools within a district to participate in the NSLP. A small number of schools did not participate either in the NSLP, the SBP, or in both programs.

It was estimated that the vast majority of schools, 89.1% out of the 87,832 schools operated by public unified NSLP school districts in the 48 contiguous states and the District of Columbia, participated in both the NSLP and SBP⁵. An additional 9.8 percent of the schools participated only in the NSLP but not in the SBP. Only 145 districts, accounting for 0.2 percent of all districts, participated only in the SBP. Less than 1 percent of all schools within participating districts, 766, primarily in the 'other' schools category, did not participate in either program. 56 percent of all schools were eligible for the SBP 'severe need' program. These estimates are shown in Table 3-10.

⁵ The School Nutrition Dietary Assessment Study III (SNDA-III) identified 85% of public schools offering both lunches and breakfasts in 2004/05. See The School Nutrition Dietary Assessment Study III, Summary of Findings, FNS, Office of Research, Nutrition, and Analysis, November 2007.

SCHOOL FOOD PURCHASE STUDY-III
SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

Table 3-10: Number of schools in public unified NSLP school districts, by grade category and by participation in school meals programs, SY 2009/10

Participation in NSLP/SBP	Elementary schools		Mid/Secondary schools		Other schools		Total	
	Number	%	Number	%	Number	%	Number	%
Participating in both NSLP and SBP	43,618	89.8%	27,996	89.2%	6,663	84.6%	78,278	89.1%
Participating in NSLP only	4,669	9.6%	3,194	10.2%	773	9.8%	8,643	9.8%
Participating in SBP only	66	0.1%	56	0.2%	22	0.3%	145	0.2%
NOT participating in NSLP or SBP	213	0.4%	140	0.4%	419	5.3%	766	0.9%
All schools	48,567	100.0%	31,387	100.0%	7,878	100.0%	87,832	100.0%
SBP 'severe-need' schools*	28,738	59.2%	15,931	50.8%	5,018	63.7%	49,686	56.6%

*SBP severe need is a subset of SBP

Note: Percentages might not add to 100.0% due to rounding.

Source: School Food Purchase Study, 2011

The results for participation in school meal programs are similar to those identified in 1996/97. The main difference is the 13 percentage point increase in participation in the SBP. The number of schools that do not participate in either of the two programs has also decreased since the earlier study from 1.9% to 0.9%. Another significant increase observed since the earlier study is the larger number of severe need schools⁶. Their share has jumped from 41.0 percent to 56.6 percent. The comparison of the results of the two studies is shown in Table 3-11.

Table 3-11: Percentage share of schools in public unified NSLP districts by grade category and participation in school meal programs, SYs 2009/10 and 1996/97

Participation in NSLP/SBP	Elementary schools		Mid/Secondary schools		Other schools		Total	
	SY 96/97	SY 09/10	SY 96/97	SY 09/10	SY 09/10	SY 96/97	SY 96/97	SY 09/10
	percent							
Participating in NSLP	99.8	99.4	98.6	99.4	94.4	90.5	98.1	98.9
Participating in SBP	79.1	89.9	73.7	89.4	84.9	70.4	76.1	89.3
NOT participating in NSLP or SB	0.2	0.4	1.4	0.4	5.3	9.6	1.9	0.9
SBP severe need schools	46.6	59.2	34.5	50.8	63.7	33.8	41.0	56.6

Source: School Food Purchase Studies 1998 and 2011

3.3.2 Number of lunches and breakfasts served

Public unified NSLP school districts in the 48 contiguous states and the District of Columbia served an estimated total of just over 5 billion lunches in SY 2009/10. Nearly 55 percent of these were free and close to 10 percent were served at a reduced price. Just over one third of all lunches served were at full price (see Table 3-12).

⁶ Schools that served 40 percent or more of the reimbursable NSLP lunches free or at a reduced price in the second prior school year to children qualify to receive higher reimbursements for free or reduced-price breakfasts.

SCHOOL FOOD PURCHASE STUDY-III
SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

Table 3-12: Number of NSLP lunches served in public unified NSLP school districts by type of meal and size of school district, SY 2009/10

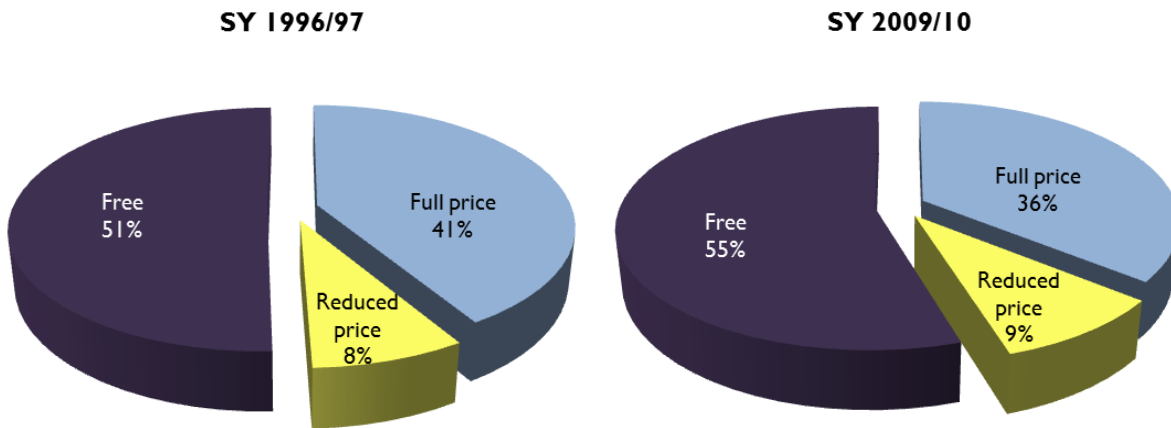
School district enrollment	Number of full price lunches	Number of reduced price lunches	Number of free lunches	Total number of NSLP lunches
Less than 1,000	92,706,587	22,797,124	92,507,826	208,011,537
Row percent	44.6%	11.0%	44.5%	100.0%
Column percent	5.1%	4.8%	3.3%	4.1%
1,000-4,999	576,951,247	129,689,533	646,595,107	1,353,235,888
Row percent	42.6%	9.6%	47.8%	100.0%
Column percent	31.9%	27.4%	23.3%	26.8%
5,000-24,999	673,232,033	157,210,021	900,109,180	1,730,551,233
Row percent	38.9%	9.1%	52.0%	100.0%
Column percent	37.2%	33.2%	32.5%	34.2%
25,000 or more	466,441,680	163,559,219	1,132,394,515	1,762,395,415
Row percent	26.5%	9.3%	64.3%	100.0%
Column percent	25.8%	34.6%	40.9%	34.9%
All Districts	1,809,331,547	473,255,897	2,771,606,629	5,054,194,073
Row percent	35.8%	9.4%	54.8%	100.0%
Column percent	100.0%	100.0%	100.0%	100.0%

Note: Percentages might not add to 100 due to rounding
Source: School Food Purchase Study, 2011

As seen from Table 3-12 the larger the school district, the larger the share of free lunches served. For example, 64.3 percent of the lunches served in the largest school districts were free compared with 44.5 percent free lunches in the smallest districts. The reverse situation is observed for full price lunches; the smaller school districts serve a larger share of full price lunches than the larger districts. There is no significant difference in the share of reduced-price lunches served by the different school districts.

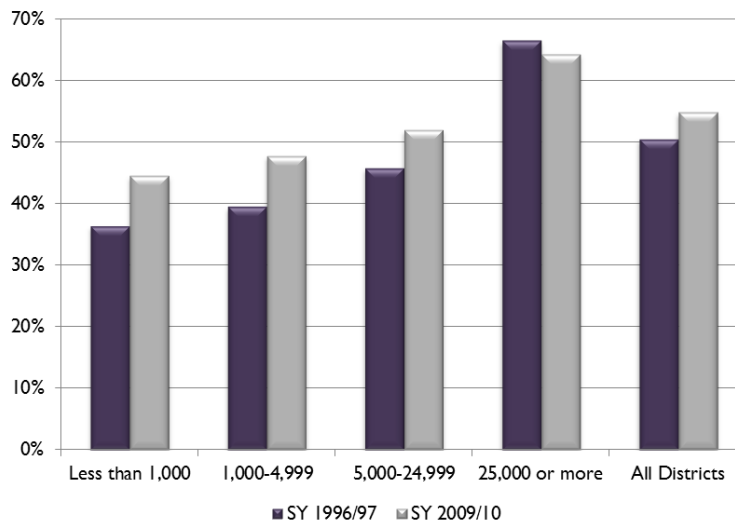
The major difference observed when comparing these results with those of 1996/97 is the somewhat larger share of free lunches served in 2009/10 at the expense of full price lunches (see Figure 3-12). This increase in the share of free lunches served is greater in the smaller size districts. For example, in 1996/97, 36.4 percent of the lunches served in the smallest school districts (less than 1,000 students) were free, and this rose to 44.5 percent in 2009/10. In the largest districts (25,000 students or more), 66.5 percent of the lunches served were free in 1996/97, and the share declined slightly in 2009/10 to 64.3 percent (see Figure 3-13).

Figure 3-12: Percentage share of free, reduced price, and full price NSLP lunches served in school districts in SYs 2009/10 and 1996/97



Source: School Food Purchase Studies 1998 and 2011

Figure 3-13: Percentage share of free lunches served by public unified NSLP districts by size of district, SYs 2009/10 and 1996/97



Source: School Food Purchase Studies 1998 and 2011

Public unified school districts that participated in the SBP served over 1.9 billion breakfasts in SY 2009/10. Nearly 1.4 billion of these, or seven out of ten breakfasts served, were under the 'severe need' provisions. As with school lunches, larger districts were serving a larger share of free breakfasts. About three quarters of all breakfast served were free of any charge and an additional nine percent were at reduced price. Only about 17 percent of all SBP breakfasts were at full price (see Table 3-13).

SCHOOL FOOD PURCHASE STUDY-III

SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

Table 3-13: Number of SBP breakfasts served in public unified NSLP school districts by type of meal and size of school district, SY 2009/10

	Number of full price breakfasts	Number of reduced price breakfasts	Number of free breakfasts	Total number of SBP breakfasts	Number of severe need breakfasts
Less than 1,000	24,525,417	10,197,018	45,391,749	80,114,184	51,260,062
Row percent	30.6%	12.7%	56.7%	100.0%	64.0%
Column percent	7.6%	5.9%	3.2%	4.2%	3.7%
1,000-4,999	90,862,995	47,920,613	299,296,617	438,080,225	287,809,759
Row percent	20.7%	10.9%	68.3%	100.0%	65.7%
Column percent	28.0%	27.7%	21.1%	22.9%	21.0%
5,000-24,999	110,000,873	54,806,978	482,722,573	647,530,424	466,113,386
Row percent	17.0%	8.5%	74.5%	100.0%	72.0%
Column percent	33.9%	31.6%	34.1%	33.8%	34.0%
25,000 or more	98,709,121	60,323,542	589,116,611	748,149,274	565,092,545
Row percent	13.2%	8.1%	78.7%	100.0%	75.5%
Column percent	30.5%	34.8%	41.6%	39.1%	41.2%
Total	324,098,406	173,248,151	1,416,527,550	1,913,874,107	1,370,275,752
Row percent	16.9%	9.1%	74.0%	100.0%	71.6%
Column percent	100.0%	100.0%	100.0%	100.0%	100.0%

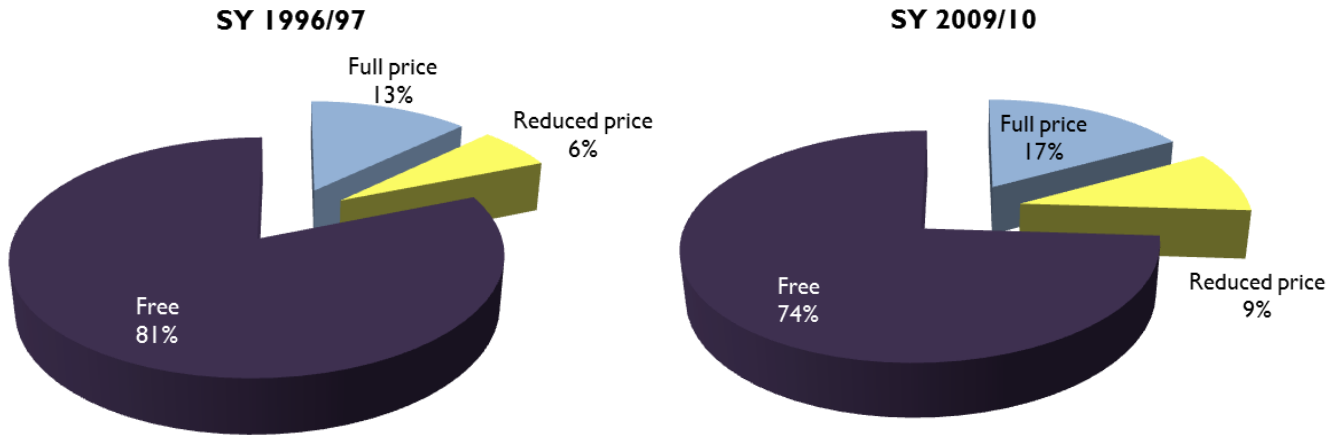
Note: Percentages might not add to 100 due to rounding.

Source: School Food Purchase Study, 2011

The estimated number of SBP breakfast served has grown 70 percent from 1.12 billion to 1.9 billion since 1996/97. For comparison, the number of NSLP lunches served has grown by 30 percent over the same period. This is only partially due to the growth in student enrollment which was 15.6 percent over the period. The increase in participation in the SBP is much higher among the larger districts.

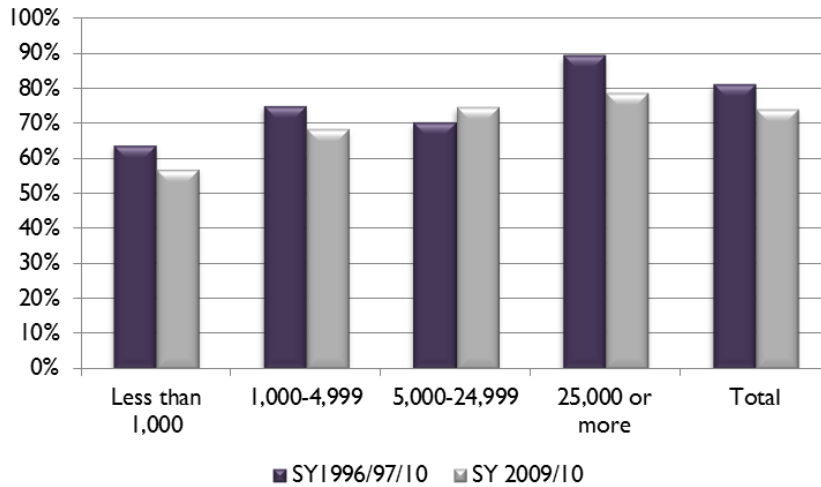
As seen in Figure 3-14 the share of free breakfasts served has decreased from 81 percent in 1996/97 to 74 percent in 2009/10. While the share has fallen in all sizes of districts, it is most prominent in the largest ones (25,000 or more students), where it has dropped from 89.3 to 78.7 percent (see Figure 3-15). The share of severe need breakfasts has significantly increased, however, by almost 12 percentage points, from 59 to 71 percent. This increase tends to be larger in the smaller size school districts (see Figure 3-16).

Figure 3-14: Percentage share of free, reduced price, and full price SBP breakfasts served in SYs 2009/10 and 1996/97



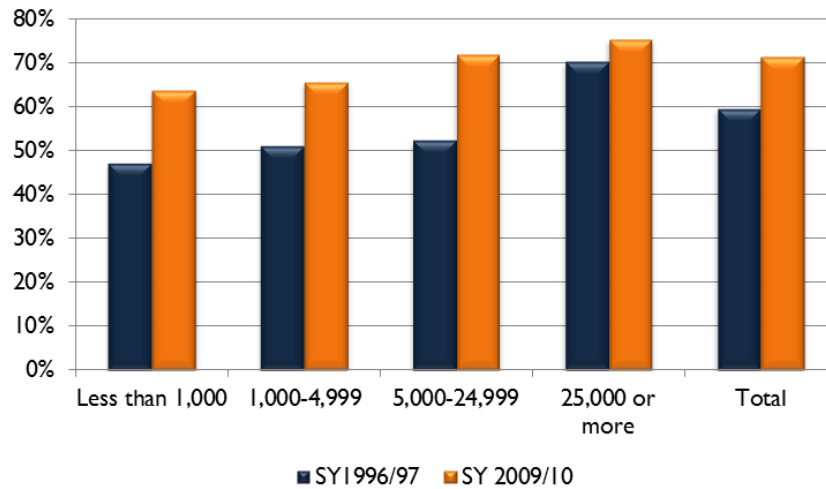
Source: School Food Purchase Studies 1998 and 2011

Figure 3-15: Percentage share of free SBP breakfasts served in public unified NSLP school districts, by size of district, SY 2009/10 and 1996/97



Source: School Food Purchase Studies 1998 and 2011

Figure 3-16: Percentage share of severe need breakfasts served in public unified school districts, by size of district, SY 2009/10 and 1996/97



Source: School Food Purchase Studies 1998 and 2011

3.3.3 Meal prices

a) Lunch

Table 3-14 shows the estimated prices and ranges of prices charged for full and reduced price school lunches during SY 2009/10. A small number of schools do not charge for lunches and have not been included in the calculation of mean and median lunch prices.

All schools in the smallest school districts (1,000 students or less) charged for reduced and full price lunches. Most of the other school districts also charged, but a small number did not; indeed, some did not charge any students. The number of schools that do not charge is therefore quite small. Nationally, only 207 districts had elementary schools that did not charge students approved for reduced price lunch and a separate group of 300 districts had elementary schools that did not charge any students for lunch. At mid/secondary school level, these numbers were 242 and 230 districts, respectively.

The mean full price elementary school lunch was estimated to be \$1.84, and the median was \$1.78. The minimum price charged was \$0.60 and the maximum, \$3.00. For middle/secondary schools these prices were \$2.12, \$2.05, \$0.75, and \$3.25 respectively.

The mean reduced price lunch was \$0.39 in both elementary schools and middle/secondary schools. The median price for both elementary and middle/secondary schools was the same as the maximum reported price of \$0.40. A federal requirement stipulates that a reduced price lunch must not exceed \$0.40. The lowest reported reduced price lunch for elementary schools was \$0.10 and for middle/secondary schools, \$0.25.

Middle/secondary schools charge slightly more than elementary schools for full price lunches. It appears that smaller districts charge less for full price lunches than larger ones.

SCHOOL FOOD PURCHASE STUDY-III
SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

Table 3-14: Mean, median, and range of student lunch prices by size of public unified NSLP school district, SY 2009/10

School district enrollment	Full price lunch				Reduced price lunch			
	Mean	Median	Minimum	Maximum	Mean	Median	Minimum	Maximum
-----dollars-----								
Less than 1,000								
Elementary	1.73	1.75	0.75	2.75	0.38	0.40	0.25	0.40
Middle/Secondary	2.09	2.05	0.75	3.25	0.39	0.40	0.25	0.40
1,000-4,999								
Elementary	1.86	1.78	1.00	2.75	0.39	0.40	0.10	0.40
Middle/Secondary	2.11	2.00	1.25	3.16	0.39	0.40	0.25	0.40
5,000-24,999								
Elementary	1.92	2.00	0.60	3.00	0.39	0.40	0.20	0.40
Middle/Secondary	2.19	2.15	0.90	3.25	0.39	0.40	0.25	0.40
25,000 or more								
Elementary	1.90	2.00	1.00	2.75	0.39	0.40	0.20	0.40
Middle/Secondary	2.15	2.10	1.25	3.25	0.40	0.40	0.20	0.40
All districts								
Elementary	1.84	1.78	0.60	3.00	0.39	0.40	0.10	0.40
Middle/Secondary	2.12	2.05	0.75	3.25	0.39	0.40	0.20	0.40

Source: School Food Purchase Study, 2011.

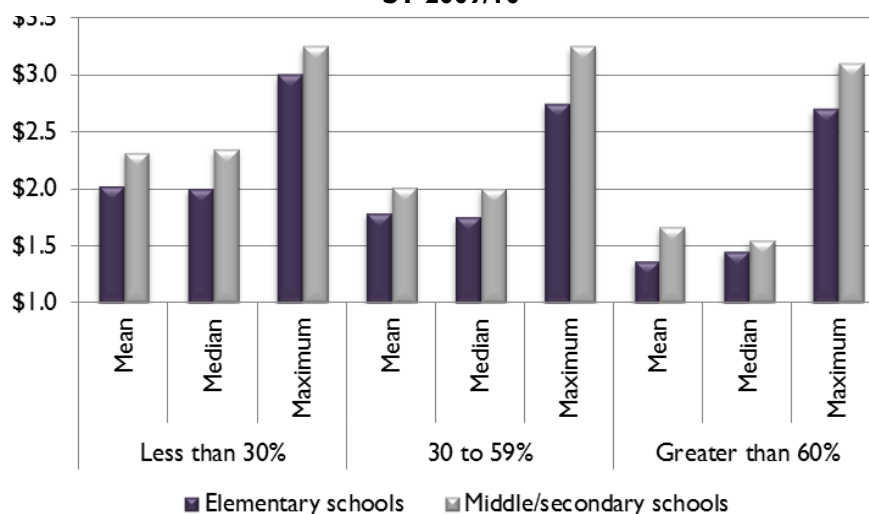
As seen in Figure 3-17, the mean, median, and maximum lunch prices were lower in school districts with a higher percentage of students from poor households and approved for free or reduced lunch.⁷ Also more school districts with a higher share of students living in poor households were serving free lunch to all students in some of their schools. For example, out of the 300 school districts that had elementary schools that served free lunches to all students, 257 were in districts with more than 60 percent of their students approved for free or reduced lunch. And at middle school level, 187 districts out of 230 had more than 60 percent of students approved for free or reduced price lunch.

Table 3-15 adjusts the mean lunch prices in 1996/97 for subsequent inflation using the Producer Price Index for Finished Consumer Foods at the commodity level. This permits comparison to the prices in 2009/10. However, all schools (including those that do not charge for meals) were included in the calculation of mean and median prices in 1996/97. To compare prices on the same basis, the figures for SY 2009/10 were also calculated by including all schools. Over the 13-year period, the mean prices for full price NSLP lunches have risen between 11 and 25 percent depending on grade level and district size. In contrast, mean prices for reduced price lunches have fallen in real terms by an average of 23 percent due to the cap on the nominal price.

⁷ The districts that did not charge for meals were excluded from the calculation of the mean and median values.

SCHOOL FOOD PURCHASE STUDY-III
SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

Figure 3-17: Mean, median, and maximum student lunch full prices by district poverty level (share of students eligible for free or reduced price lunch) SY 2009/10



Source: School Food Purchase Study, 2011

Table 3-15: Comparison of mean lunch prices and inflation adjusted price (real 2009/10), by size of district and grade category, SYs 1996/97, and 2009/10

Student enrollment/grade category	Full price lunch				Reduced price lunch			
	1996/97 mean price	1996/97 mean in 09/10 \$	2009/10 mean price	Change in constant dollars	1996/97 mean price	1996/97 mean in 09/10 \$	2009/10 mean price	Change in constant dollars
Less than 1,000								
Elementary	\$1.14	\$1.51	\$1.73	15%	\$0.39	\$0.52	\$0.38	-27%
Middle/Secondary	\$1.26	\$1.67	\$2.09	25%	\$0.39	\$0.52	\$0.39	-25%
1,000 - 4,999								
Elementary	\$1.21	\$1.60	\$1.78	11%	\$0.36	\$0.48	\$0.36	-25%
Middle/Secondary	\$1.37	\$1.82	\$2.05	13%	\$0.37	\$0.49	\$0.37	-25%
5,000 - 24,999								
Elementary	\$1.22	\$1.62	\$1.85	15%	\$0.37	\$0.49	\$0.37	-25%
Middle/Secondary	\$1.40	\$1.86	\$2.12	14%	\$0.37	\$0.49	\$0.35	-29%
25,000 or more								
Elementary	\$1.21	\$1.60	\$1.82	13%	\$0.35	\$0.46	\$0.34	-27%
Middle/Secondary	\$1.39	\$1.84	\$2.06	12%	\$0.35	\$0.46	\$0.34	-27%
All districts								
Elementary	\$1.21	\$1.60	\$1.78	11%	\$0.36	\$0.48	\$0.37	-23%
Middle/Secondary	\$1.38	\$1.83	\$2.07	13%	\$0.36	\$0.48	\$0.37	-23%

1996/97 values inflated to 2009/10 values by Bureau of Labor Statistics, Producer Price Index: Commodities, Finished Consumer Foods

Source: School Food Purchase Study, 2011

SCHOOL FOOD PURCHASE STUDY-III
SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

b) Breakfast

Table 3-16 shows full and reduced prices charged by school districts for SBP breakfasts. As for lunches, only the schools that charge for breakfast have been included in the calculation.

School districts of all sizes had schools that offered free breakfast to either all students or just those approved for reduced price. A total of 727 school districts had elementary schools that did not charge students approved for reduced price breakfast and a separate group of 1,061 districts had elementary schools that did not charge any students for breakfast. At the mid/secondary school level, these numbers were 932 and 674, respectively.

The mean full price breakfast in elementary schools was \$1.12, the median, \$1.05, the minimum, \$0.40, and the maximum, \$2.00. In middle/secondary schools, these prices were slightly higher, \$1.21, \$1.25, \$0.40, and \$2.09 respectively. No relationship was found between the size of the school district and the charges.

Table 3-16: Mean, median, and range of student breakfast prices by size of public unified NSLP school district, SY 2009/10

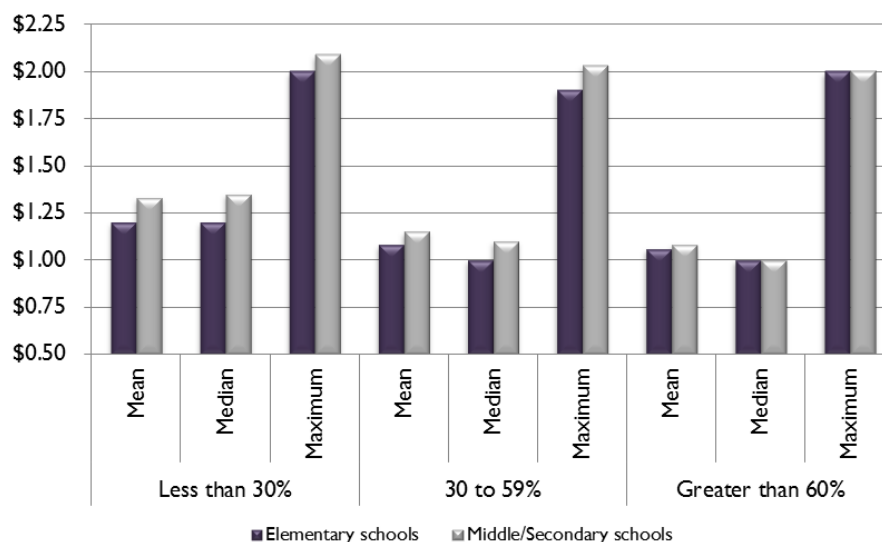
School district enrollment	Full price breakfast				Reduced price breakfast			
	Mean	Median	Minimum	Maximum	Mean	Median	Minimum	Maximum
	-----dollars-----							
Less than 1,000								
Elementary	1.11	1.00	0.40	1.75	0.30	0.30	0.25	0.40
Middle/Secondary	1.22	1.25	0.40	2.00	0.31	0.30	0.25	0.40
1,000-4,999								
Elementary	1.12	1.10	0.50	1.75	0.30	0.30	0.25	0.30
Middle/Secondary	1.20	1.25	0.50	2.00	0.30	0.30	0.25	0.40
5,000-24,999								
Elementary	1.12	1.10	0.50	2.00	0.30	0.30	0.15	0.40
Middle/Secondary	1.22	1.25	0.40	2.09	0.30	0.30	0.20	0.40
25,000 or more								
Elementary	1.10	1.00	0.50	2.00	0.29	0.30	0.20	0.30
Middle/Secondary	1.20	1.20	0.50	2.03	0.29	0.30	0.20	0.30
All districts								
Elementary	1.12	1.05	0.40	2.00	0.30	0.30	0.15	0.40
Middle/Secondary	1.21	1.25	0.40	2.09	0.30	0.30	0.20	0.40

Source: School Food Purchase Study, 2011.

As with lunch, breakfast prices were lower in school districts with a higher percentage of students coming from poor households and approved for free or reduced-price lunch (Figure 3-18). And more school districts with a higher share of students living in poor households were serving free breakfast to all students in some of their schools. Out of the 1,061 school districts that had elementary schools that served free breakfasts to all students, 669 (63 percent) were in districts with more than 60 percent of their students approved for free or reduced-price lunch. And at middle school level, 436 districts out of 674 (65 percent) had more than 60 percent of students approved for free or reduced price lunch.

SCHOOL FOOD PURCHASE STUDY-III
SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

Figure 3-18: Mean, median, and maximum student breakfast full prices by poverty level (share of students eligible for free or reduced price lunch) district, SY 2009/10



Source: School Food Purchase Study, 2011

Breakfast prices have increased significantly more than lunch prices since the earlier study in SY 1996/97 (Table 3-17). After adjustment for inflation, full price breakfasts have increased anywhere between 24 and 36 percent among all school district size groups except the smallest (with less than 1,000 students). In school districts with less than 1,000 students mean full prices for breakfast have risen 63 percent in elementary schools and 95 percent in middle/secondary schools.

Table 3-17: Comparison of mean breakfast prices and inflation adjusted price (real 2009/10), by size of district and grade category, SYs 1996/97 and 2009/10

Student enrollment/ grade category	Full price breakfast				Reduced price breakfast			
	1996/97 mean price	1996/97 mean in 09/10 \$	2009/10 mean price	Change in constant dollars	1996/97 mean price	1996/97 mean in 09/10 \$	2009/10 mean price	Change in constant dollars
Less than 1,000								
Elementary	\$0.44	\$0.58	\$0.95	63%	\$0.24	\$0.32	\$0.30	-6%
Middle/Secondary	\$0.44	\$0.58	\$1.14	95%	\$0.24	\$0.32	\$0.31	-3%
1,000 - 4,999								
Elementary	\$0.59	\$0.78	\$0.97	24%	\$0.26	\$0.34	\$0.29	-16%
Middle/Secondary	\$0.61	\$0.81	\$1.10	36%	\$0.26	\$0.34	\$0.29	-16%
5,000 - 24,999								
Elementary	\$0.61	\$0.81	\$1.07	32%	\$0.23	\$0.31	\$0.29	-5%
Middle/Secondary	\$0.67	\$0.89	\$1.17	32%	\$0.23	\$0.31	\$0.29	-5%
25,000 or more								
Elementary	\$0.63	\$0.84	\$1.03	23%	\$0.24	\$0.32	\$0.28	-12%
Middle/Secondary	\$0.68	\$0.90	\$1.12	24%	\$0.24	\$0.32	\$0.28	-12%

SCHOOL FOOD PURCHASE STUDY-III

SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

Student enrollment/ grade category	Full price breakfast				Reduced price breakfast			
	1996/97 mean price	1996/97 mean in 09/10 \$	2009/10 mean price	Change in constant dollars	1996/97 mean price	1996/97 mean in 09/10 \$	2009/10 mean price	Change in constant dollars
All districts								
Elementary	\$0.59	\$0.78	\$0.98	25%	\$0.24	\$0.32	\$0.29	-9%
Middle/Secondary	\$0.63	\$0.84	\$1.12	34%	\$0.24	\$0.32	\$0.29	-9%

1996/97 values are inflated to 2009/10 values by the following Producer Price Index: Commodities, Finished Consumer Foods (<http://www.bls.gov/data/>).

Source: School Food Purchase Study, 2011

3.3.4 À la carte food sales

Most school districts offer food to students on an à la carte basis as an alternative to reimbursable meals. Districts did not differentiate between à la carte food consumed by adult staff and that consumed by students.

Food availability on an à la carte basis

Table 3-18 shows the estimated number of school districts offering food on an à la carte basis, and the estimated number of students with access to à la carte foods in SY 2009/10.

Table 3-18: Use of à la carte sales among public unified NSLP school districts by size of district, SY 2009/10

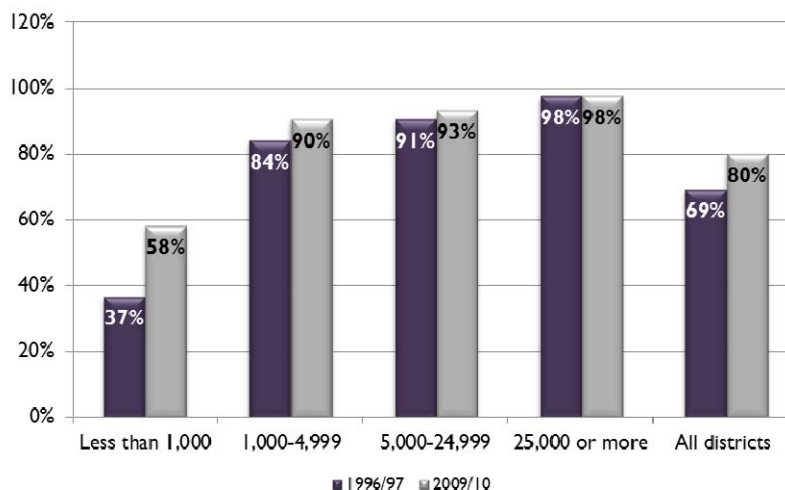
School district enrollment	School districts offering à la carte		Students with access to à la carte	
	Number	Percent of total	Number	Percent of total
Less than 1,000	2,124	58.2%	1,362,999	68.0%
1,000-4,999	4,694	90.4%	10,830,260	90.9%
5,000-24,999	1,561	93.2%	15,993,984	94.2%
25,000 or more	297	97.5%	16,146,594	92.6%
All districts	8,676	80.1%	44,333,837	91.7%

Source: School Food Purchase Study, 2011

Eight out of every ten school districts offered à la carte foods. This is a significant increase since 1996/97 when fewer than seven out of ten districts were offering à la carte foods. As in the earlier study, a greater share of larger school districts offered à la carte foods in SY 2009/10. The largest increase was observed in the smallest districts of less than 1,000 students. As seen in Figure 3-19, just over one third (36.6%) of districts in this size class offered à la carte foods in SY 1996/97. In SY 2009/10, their share has risen to more than half (58.2%). At the same time, the share of the largest school districts (25,000 or more students) offering à la carte has remained unchanged.

SCHOOL FOOD PURCHASE STUDY-III
SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

Figure 3-19: Share of school districts offering à la carte foods by size of district, SY s 1996/97 and 2009/10



Source: School Food Purchase Studies, 1998 and 2011

Nine out of every ten students had access to à la carte foods in SY 2009/10. In districts with 1,000 or more students, more than 90% of the students had access. In the smallest school districts, only 68 per cent of the students had access to à la carte foods. Since SY 1996/97, the overall increase in the percentage of total student enrollment with access is very small. The only large increase in student access to à la carte foods is in the group of small size districts (from 43 percent to 68 percent).

À la carte foods for both lunch and breakfast were more frequently available in middle/secondary schools than in elementary schools. The same situation was observed in the earlier study, although the percentage of schools offering à la carte foods in SY 2009/10 was higher than in SY 1996/97 as seen in Table 3-19. À la carte foods were more commonly available at lunch than at breakfast, with 63.5 percent of districts offering them at lunch versus only 39.6 percent at breakfast.

Table 3-19: Percent of public unified NSLP schools offering à la carte foods at lunch and breakfast, by size of district and grade category, SYs 1996/97 and 2009/10

Grade Category	All Districts		School district student enrollment							
			Less than 1,000		1,000-4,999		5,000-24,999		25,000 or more	
	96/97	09/10	96/97	09/10	96/97	09/10	96/97	09/10	96/97	09/10
Lunch										
Elementary	47.7%	57.5%	23.5%	25.8%	39.3%	55.2%	53.6%	65.4%	55.7%	56.2%
Middle	74.6%	79.8%	39.9%	58.7%	78.1%	83.5%	81.3%	86.1%	79.8%	77.0%
Other	33.3%	35.6%	9.2%	25.5%	33.0%	45.5%	45.5%	41.8%	48.1%	29.3%
Total	54.1%	63.5%	25.2%	41.1%	51.6%	65.6%	61.0%	70.7%	61.5%	60.2%

SCHOOL FOOD PURCHASE STUDY-III
SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

Grade Category	All Districts		School district student enrollment							
			Less than 1,000		1,000-4,999		5,000-24,999		25,000 or more	
	96/97	09/10	96/97	09/10	96/97	09/10	96/97	09/10	96/97	09/10
	Breakfast									
Elementary	20.3%	31.2%	6.6%	17.9%	13.5%	26.8%	23.2%	33.4%	27.7%	35.1%
Middle	45.6%	57.5%	23.4%	49.2%	37.7%	57.3%	60.0%	62.6%	54.0%	55.2%
Other	9.3%	19.8%	5.8%	13.3%	13.9%	19.6%	9.7%	27.3%	4.9%	18.0%
Total	26.7%	39.6%	12.7%	31.5%	21.8%	38.2%	32.7%	42.8%	32.4%	39.8%

Source: School Food Purchase Studies, 1997 and 2011

Revenues from à la carte sales

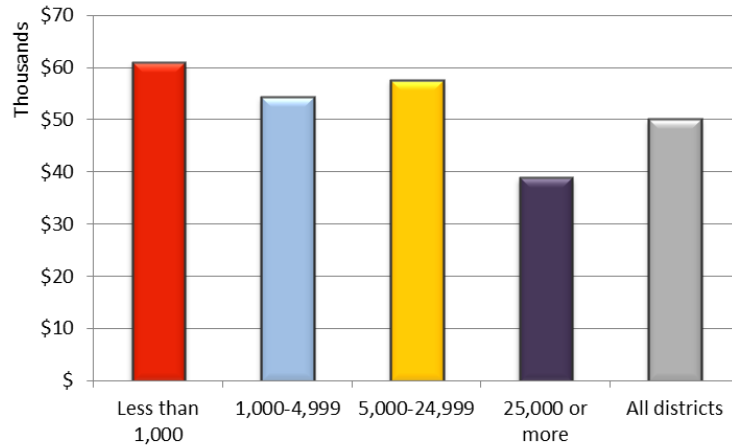
School districts received over \$2 billion from à la carte food sales in SY 2009/10 (Table 3-20). As might be expected, the smallest size class districts with less than 1,000 students had the smallest share of annual sales revenue – just 3.7 percent. On the other hand, these smallest school districts had the largest annual sales revenue per 1,000 students while the largest districts had the smallest revenue per 1,000 students (see Figure 3-20). Districts with 5,000 to 24,999 students accounted for the highest revenue, 41% of the total, followed by the largest size class of districts with 28 percent of the revenue (see Figure 3-21).

Table 3-20: À la carte sales revenues of public unified NSLP school districts, by size of district, SY 2009/10

School district enrollment	À la carte sales revenue, SY 2009/10		
	Total	Mean per district	Yearly revenue per 1,000 students
	----- dollars -----		
Less than 1,000	82,952,268	39,056	60,860
1,000-4,999	587,474,478	125,147	54,244
5,000-24,999	919,666,130	589,251	57,501
25,000 or more	626,637,448	2,111,702	38,809
All districts	2,216,730,324	255,510	50,001

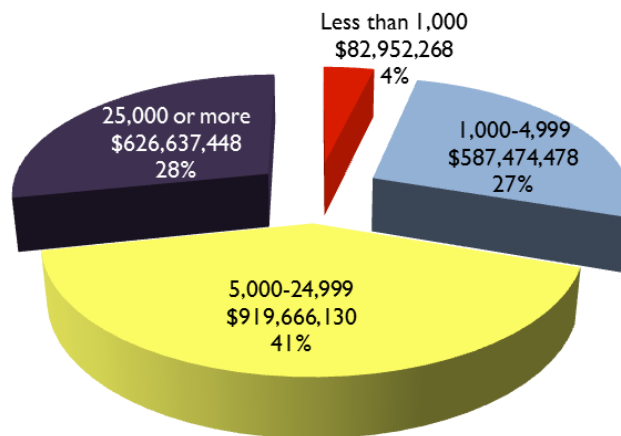
Source: School Food Purchase Study, 2011

Figure 3-20: À la carte sales revenue per 1,000 students by size of district, SY 2009/10



Source: School Food Purchase Study, 2011

Figure 3-21: À la carte total sales revenue by size of school district, SY 2009/10



Source: School Food Purchase Study, 2011

After adjustment for inflation, total sales revenues from à la carte sales have increased by 32 percent since the earlier study. The very large increase in total à la carte sales in the 5,000 to 24,999 enrollment category partly reflects the larger number of districts in this size category in SFPS-III. Mean sales revenues per district however, have increased by only 6 percent. Indeed in some size classes of school districts, they have even decreased. The only increase of mean sales revenues per district, 42 percent, was estimated to have occurred in school districts with 5,000 to 24,999 students. The mean declined for the other three district sizes, and the largest decline in sales revenues occurred in the largest school districts with more than 25,000 students, where it fell by 34 percent. These estimates are provided in Table 3-21.

SCHOOL FOOD PURCHASE STUDY-III

SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

Table 3-21: Comparison of à la carte food sales revenues among public unified NSLP school districts, SY 1996/97 and SY 2009/10, real 2009/10 prices

School district enrollment	Total			Mean per district		
	SY 1996/97	SY 2009/10	Percentage change	SY 1996/97	SY 2009/10	Percentage change
Less than 1,000	\$74,095,076	\$82,952,268	12.0%	\$59,331	\$39,056	-34.2%
1,000-4,999	\$541,987,190	\$587,474,478	8.4%	\$128,605	\$125,147	-2.7%
5,000-24,999	\$531,493,504	\$919,666,130	73.0%	\$415,986	\$589,251	41.7%
25,000 or more	\$534,074,484	\$626,637,448	17.3%	\$2,165,597	\$2,111,702	-2.5%
All districts	\$1,681,650,254	\$2,216,730,324	31.8%	\$240,665	\$255,510	6.2%

1996/97 values are inflated to 2009/10 values by a price inflator - price index – Commodities, Finished Consumer Foods (<http://data.bls.gov/pdq/querytool.jsp?survey=wp>).

Sources: School Food Purchase Studies, 1998 and 2011

Table 3-22: Number of public unified NSLP school districts identifying specified foods as one of ten top selling à la carte food items, by elementary and middle/secondary, SY 2009/10^{1/}

Elementary schools				Middle/secondary schools			
Rank	Food group	Number of districts	% of all districts	Rank	Food group	number of districts	% of all districts
1	snack chips	3,000	27.7%	1	snack chips	4,944	45.7%
2	milk	2,888	26.7%	2	cookies	4,205	38.8%
3	ice-cream	2,471	22.8%	3	pizza	4,141	38.2%
4	pizza	2,284	21.1%	4	water	4,003	37.0%
5	water	1,964	18.1%	5	ice-cream	3,458	31.9%
6	juice	1,883	17.4%	6	juice	2,658	24.6%
7	entree	1,787	16.5%	7	sport drink	2,482	22.9%
8	cookies	1,672	15.4%	8	french-fries	2,449	22.6%
9	snack cakes	1,266	11.7%	9	entree	2,429	22.4%
10	fruit roll-ups	1,157	10.7%	10	milk	2,337	21.6%
11	salad	1,065	9.8%	11	snack cakes	2,041	18.9%
12	sandwiches	1,001	9.2%	12	sandwiches	2,026	18.7%
13	snack	979	9.0%	13	hamburger	1,579	14.6%
14	fruit	948	8.8%	14	fruit roll-ups	1,494	13.8%
15	sport drink	876	8.1%	15	beverage	1,479	13.7%

^{1/} Only the leading 15 foods listed by most school districts as top 10 selling items are presented. The full list is provided in Appendix 4

Source: School Food Purchase Study, 2011

Top selling à la carte foods

Respondents for the school districts that offered à la carte foods were asked to list the ten top selling (in dollar terms) à la carte foods. A total of 59 foods were identified as being top sellers in the elementary schools and 64 foods in the middle/secondary schools. Table 3-22 lists the 15 highest-ranking à la carte foods (ranked by the number of school districts identifying them as being a top 10 selling item) in elementary and middle/secondary schools. There has been a significant increase in the range of à la carte foods offered since 1996/97. The complete list is given in Appendix 4 together with the classification system we have used for coding à la carte foods and some comparisons with 1996/7. These responses however, should be interpreted with care and treated as approximations for the leading à la carte foods sold by school districts. SFAs do not maintain separate records for à la carte foods and their responses

were frequently rather broad (e.g., listing entrees as a top selling item without specifying exactly what kind of food).

3.3.5 Programs served other than NSLP and SBP

Other programs served

Most school districts serve food outside the NSLP and SBP. Most SFA's (8 out of ten) provided meals for staff members in SY 2009/10, and over half catered for some school related events (5 out of ten). In addition, there are a variety of other food programs that school districts serve. Overall, almost all districts (95 per cent) serve at least one program other than NSLP or SBP and, in the largest size class (25,000 or more students), every district serves at least one other program. These estimates are shown in Table 3-23. Typically, the larger districts are more likely to service other programs.

Results were very similar to those for SY 1996/97. The main difference was that programs like the After School Snack Program, the Fresh Fruit and Vegetable Program, and the Seamless Summer Option did not exist earlier. Of these other programs, the After Snack School Program has become the third most popular, offered on average by three out of every ten districts. The Fresh Fruit and Vegetable Program has also gained prominence and on average is offered by two out of ten districts. (This program funds initiatives in selected schools to introduce children to more fruits and vegetables. It is different from the DoDFresh which is procurement related.)

SCHOOL FOOD PURCHASE STUDY-III

SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

Table 3-23: Number and share of public unified NSLP school districts serving other programs, by size of district and type of program, SY 2009/10

Type of program	Less than 1,000		1,000-4,999		5,000-24,999		25,000 or more		All districts	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Staff meals	2982	81.7%	4481	86.3%	1432	85.5%	255	83.8%	8850	81.7%
Non-Reimbursable, School related events	1352	37.0%	3282	63.2%	1131	67.5%	202	66.5%	5713	52.8%
After School Snack Program	324	8.9%	1562	30.1%	917	54.7%	252	82.8%	2998	27.7%
Summer Food Service Program	372	10.2%	1302	25.1%	821	49.0%	191	62.8%	2652	24.5%
Head Start	600	16.4%	1105	21.3%	565	33.7%	143	47.1%	2414	22.3%
Fresh Fruit and Vegetable Program	673	18.4%	653	12.6%	550	32.8%	138	45.3%	2001	18.5%
Public catering	99	2.7%	995	19.1%	598	35.7%	70	23.0%	1704	15.7%
Seamless summer option	461	12.6%	580	11.2%	413	24.6%	105	34.6%	1535	14.2%
Other schools	304	8.3%	417	8.0%	308	18.4%	56	18.2%	1010	9.3%
Other (non-reimbursable)	129	3.5%	312	6.0%	256	15.3%	56	18.5%	748	6.9%
Day care	-	-	335	6.4%	270	16.1%	48	15.8%	623	5.8%
Disaster feeding	-	-	136	2.6%	246	14.7%	65	21.2%	444	4.1%
Child and adult care feeding	-	-	260	5.0%	87	5.2%	48	15.6%	381	3.5%
Elderly nutrition program	98	2.7%	20	0.4%	18	1.1%	9	3.1%	146	1.3%
Districts with no other programs	379	10.4%	125	2.4%	18	1.1%	-	-	522	4.8%
Districts with at least one 'other' program	3,273	89.6%	5,070	97.6%	1,657	98.9%	304	100.0%	10,304	95.2%
Total	3,652	100.0%	5,195	100.0%	1,675	100.0%	304	100.0%	10,826	100.0%

Source: School Food Purchase Study, 2011

Revenues from non-reimbursable food program sales

Most school districts do not keep separate records for foods acquired for these other purposes. Respondents were asked to indicate whether they had included the foods used for other program sales in the food purchase information provided. The respondents who had included these purchases were asked to provide a breakdown between reimbursable and non-reimbursable revenues from other program sales. These estimates are shown in Table 3-24.

Table 3-24: Sales revenue from other programs served by public unified NSLP school districts, SY 2009/10¹

Student enrollment	Reimbursable		Non reimbursable		Total	
	Total	Mean per district	Total	Mean per district	Total	Mean per district
		-----Dollars-----				
Less than 1,000	6,386,145	9,870	7,662,914	11,844	14,049,059	21,714
1,000 - 4,999	99,281,398	31,975	124,251,919	40,017	223,533,317	71,991
5,000 - 24,999	416,423,141	385,934	210,922,520	195,480	627,345,662	581,414
25,000 or more	387,560,882	1,811,032	241,314,892	1,127,640	628,875,774	2,938,672
All districts	909,651,566	180,308	584,152,246	115,788	1,493,803,812	296,096

^{1/} Only districts that had included the foods used for other programs in the food purchase information are included.
Source: School Food Purchase Study, 2011

3.3.6 Food service management companies

Approximately 13.5 percent of all school districts were estimated to use a food service management company (FSMC) to run their food operations in SY 2009/10, up from 9.7 percent in SY 1996/97. The share of national student enrollment served by an FSMC has increased even more, from 9.2 percent to 14.7 percent. As in the earlier study, FSMCs operate a higher proportion of mid-sized school districts. It is within this size group that the largest increase in FSMC-operated districts has been observed. Indeed, the FSMCs' share of the smallest size districts decreased between 1996/97 and 2009/10. The estimates for SY 2009/10 are shown in Table 3-25, and comparisons with SY 1996/97 are provided in Figure 3-22 and Figure 3-23.

The School Nutrition Dietary Assessment Study III undertaken in SY 2004/05 identified a similar proportion of SFA food service operations contracted with FSMCs (13 per cent).⁸ Another review by Lafaive reported a figure of 13.2 percent for public school districts from a survey of state education departments conducted in early 2007.⁹

⁸ See The School Nutrition Dietary Assessment Study III, Summary of Findings, FNS, Office of Research, Nutrition, and Analysis, November 2007.

⁹ See http://www.mackinac.org/8708#_ftnrefviii Food Service Contracting, June 2007.

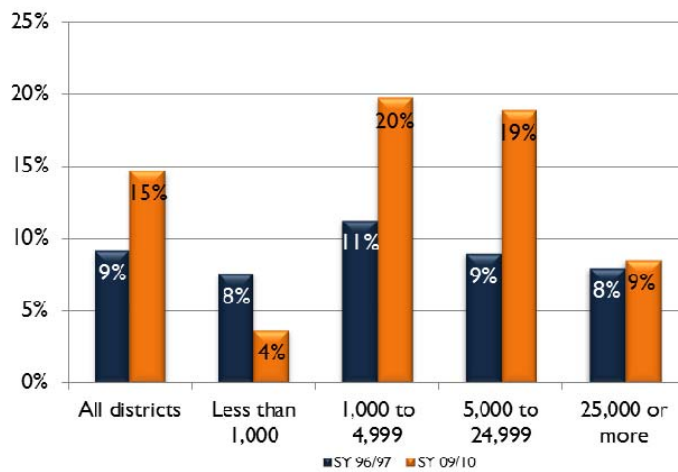
SCHOOL FOOD PURCHASE STUDY-III
SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

Table 3-25: Food service management companies serving public unified NSLP school districts, by size of district, SY 2009/10

Item	All districts	Less than 1,000	1,000 to 4,999	5,000 to 24,999	25,000 or more
Number of districts with FSMC	1,462	176	946	313	27
Share of all districts	13.5%	4.8%	18.2%	18.7%	9.0%
Total enrollment of FSMC districts	7,117,827	73,688	2,351,720	3,205,487	1,486,932
Share of total national enrollment	14.7%	3.7%	19.7%	18.9%	8.5%
Average enrollment of FSMC districts	4,867	420	2,486	10,232	54,244

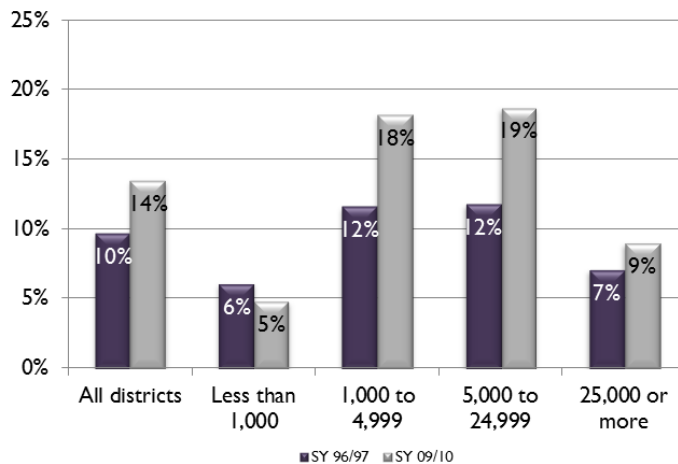
Source: School Food Purchase Study, 2011

Figure 3-22: Share of national enrollment represented by FSMC, SYs 1996/97 and 2009/10



Source: School Food Purchase Studies, 1998 and 2011

Figure 3-23: Share of school districts serviced by FSMCs, SYs 1996/96 and 2009/10



Source: School Food Purchase Studies, 1998 and 2011

SCHOOL FOOD PURCHASE STUDY-III
SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

The largest share, 66 percent, of school districts that have contracted FSMCs to manage their food service operations have the smallest share of students approved for free or reduced meals (less than 30 percent). Only 10 percent of the districts with more than 60 percent of their students living in poor households were operated by an FSMC (see Table 3-26).

As seen in Table 3-26, the school districts operated by FSMCs are mainly from urban areas, and most are located in large suburbs and small cities.

There is a significantly higher number of school districts located in towns and rural areas (72% of all school districts in the 48 contiguous states and DC), but a much larger share of the urban school districts (located in cities and suburbs) is operated by FSMCs than of the town and rural districts as seen in Figure 3-24.

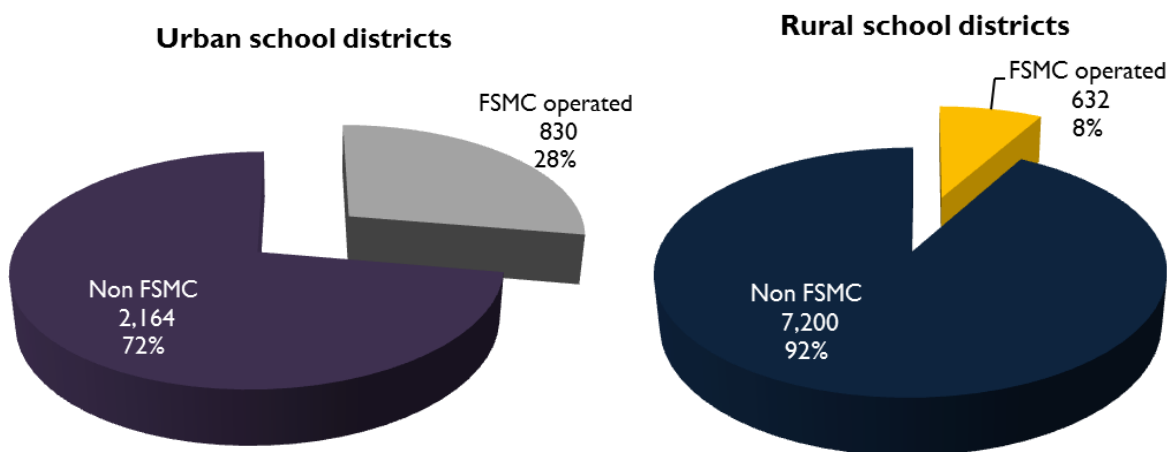
School districts operated by FSMCs have higher sales of à la carte per student than other districts.

Table 3-26: Comparison of public unified NSLP school districts under FSMC operation and not under FSMC operation, by district income and urbanicity, SY 2009/10

Item	Operated by FSMC's		Not operated by FSMC's	
	Number of districts	Percent	Number of districts	Percent
Share of students in households below poverty level				
Less than 30 percent	966	66.0%	3,362	35.9%
30 to 60 percent	351	24.0%	4,023	43.0%
Greater than 60 percent	<u>146</u>	<u>10.0%</u>	<u>1,978</u>	<u>21.1%</u>
Total	1,462	100.0%	9,364	100.0%
School district location				
City: Large	24	1.6%	89	0.9%
City: Mid-size	17	1.1%	138	1.5%
City: Small	261	17.9%	336	3.6%
Suburb: Large	417	28.5%	1,011	10.8%
Suburb: Mid-size	48	3.3%	370	3.9%
Suburb: Small	63	4.3%	221	2.4%
Town: Fringe	131	9.0%	490	5.2%
Town: Distant	156	10.7%	889	9.5%
Town: Remote	83	5.7%	499	5.3%
Rural: Fringe	156	10.7%	2,044	21.8%
Rural: Distant	106	7.2%	2,027	21.7%
Rural: Remote	=	<u>0.0%</u>	<u>1,251</u>	<u>13.4%</u>
Total	1,462	100.0%	9,364	100.0%
À la carte sales per student	\$56.91		\$43.95	

Source: School Food Purchase Study, 2011

Figure 3-24: Share of urban and ‘town and rural’ school districts operated by FSMC



Source: School Food Purchase Study, 2011

3.3.7 Menu planning systems

Schools are required to serve meals that are consistent with and meet the nutritional requirements of the most recent Dietary Guidelines. The School Meals Initiative (SMI) introduced a reform of the school meal program in June 1995.¹⁰ These reforms included menu planning. All SFAs are required to adopt one, or a combination, of the following approaches to menu planning:

- **Traditional Food Based Menu Planning** - specific component and quantity requirements must be met by offering five food items from four food components (meat/meat alternate, vegetables and/or fruits, grains/breads, and milk). Minimum portion sizes are established by ages and grade groups.
- **Enhanced Food Based Menu Planning** - a variation of the traditional approach, designed to increase calories from low-fat food sources in order to meet the Dietary Guidelines. The required food components are retained, but quantities for the weekly servings of vegetables and fruits and grains/breads are increased.
- **Nutrient Standard Menu Planning (NuMenu)** - a computer based menu planning system, designed to assist menu planners in choosing food items that create nutritious meals and meet the nutrient standards. It uses software that analyses the specific nutrient content of menu items automatically while menus are being planned.
- **Assisted Nutrient Standard Menu Planning (Assisted NuMenu)** - a variation of the Nu Menu approach to be used by schools that lack the technical resources to conduct nutrient analysis themselves. These schools can use an outside source (e.g., another school

¹⁰ In June 1995, the School Meals Initiative (SMI) and Public Law 104-149 amended the Federal Regulations 7 CFR Parts 210 and 220. This established the National School Lunch and School Breakfast Programs' nutrition standards, incorporating the Dietary Guidelines for Americans. In May 2000, a final rule was issued by USDA updating the SMI menu planning approaches.

SCHOOL FOOD PURCHASE STUDY-III
SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

district, state agency or a consultant) to plan and analyze a menu based on local needs and preferences.

- **Alternate Menu Planning approach** - in addition to the above four approaches, states and SFAs are allowed to develop their own approaches to menu planning as long as they meet the guidelines in the existing regulations.

Table 3-27 shows the menu planning systems used by SFAs in the 48 contiguous states and the District of Columbia in SY 2009/10. Traditional Food Based Menu Planning was by far the most widely used approach, adopted by six out of ten school districts. Similar proportions, roughly two out of ten districts, were using the Nutrition Standard and the Enhanced Food Based approaches. About 3 percent of districts use more than one approach, with planning done at the school rather than district level. As seen in Figure 3-25, many school districts have switched from Enhanced Food Based menu planning to the Traditional Food Based Menu Planning since 1996/97. At that time, the SMI was in its first years and hence comparisons should bear this in mind. The number of districts using the Traditional Food Based method has doubled. There are now only a negligible number of districts using the Assisted NuMenu.

This study did not explore the reasons for this change. However, the final report of the School Meal Initiative Implementation study undertaken by The Gallup Organization noted that school food directors were 'positive-to-neutral' in their attitude towards SMI in the third year of implementation. The report also suggested that stakeholders had become slightly less positive about the initiative as the initiative had been implemented. In particular, they had difficulty in performing certain key tasks such as adhering to standardized recipes, finding nutritionally comparable substitutions and documenting them, and maintaining food production records.¹¹

Table 3-27: Number of public unified NSLP school districts by type of menu planning system, SY 2009/10

Menu planning system	NuMenu	Assisted NuMenu	Enhanced Food-Based	Traditional Food Based	Other	Total
NuMenu	1,798					
Assisted NuMenu	-	46				
Enhanced Food-Based	22	-	1,810			
Traditional Food Based	93	-	133	6,749		
Other	-	-	12	45	119	
Total						10,826

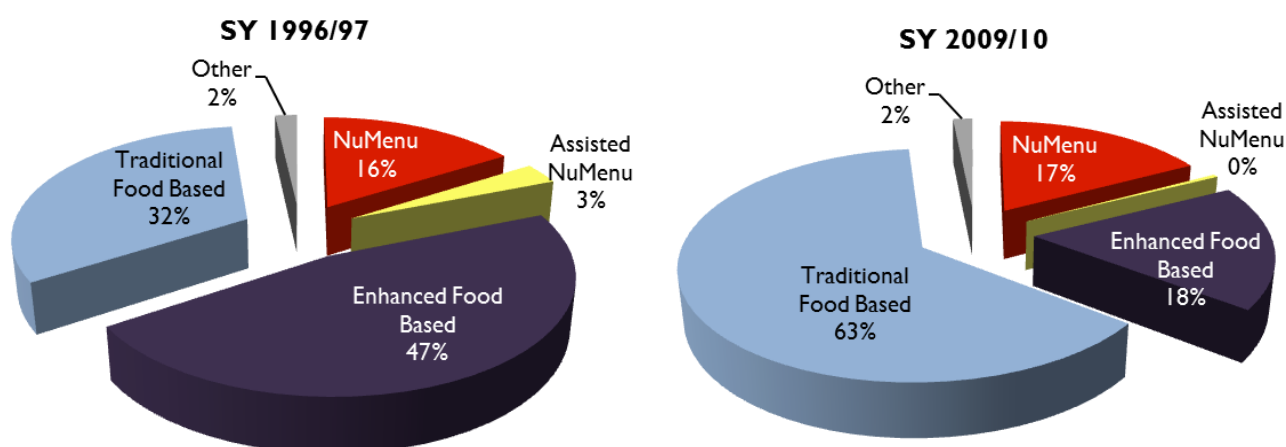
Note: Shaded entries on the diagonal indicate the number of school districts that are using one menu planning system throughout the district. If there are other entries in a column, this identifies the number of districts using the shaded menu planning system in combination with the other. There were no districts using more than two menu-planning systems in combination.

Source: School Food Purchase Study, 2011

¹¹ The School Meals Initiative Implementation Study: Third-year report
<http://www.fns.usda.gov/ora/menu/published/CNP/FILES/SMIYear3.htm> Last modified: 05/22/2009

SCHOOL FOOD PURCHASE STUDY-III
SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

Figure 3-25: Share of public unified NSLP school districts' use of different menu planning systems



Source: School Food Purchase Studies, 1998 and 2011

The use of menu planning systems at school level is shown in Table 3-28. The use of the different menu planning systems at the school level closely corresponded to that at the district level. More than half of all schools were using the Traditional Food Based Menu Planning approach, one quarter (slightly higher share than at district level) were using the NuMenu approach, and another 15 percent were using the Enhanced Food Based approach as seen in Figure 3-26.

The School Nutrition Dietary Assessment Study III (SNDA-III) undertaken in SY 2004/05 also reported use among schools. It reported a lower proportion of schools using Traditional Food Based Menu Planning (48 percent), and a higher proportion using NuMenu and Enhanced Food Based approaches (30 and 22 percent respectively).¹²

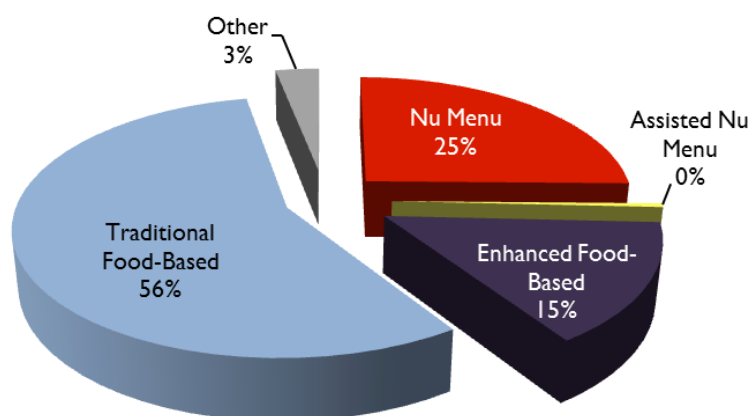
Table 3-28: Number of schools in public unified NSLP school districts by type of menu planning system and grade category, SY 2009/10

Menu Planning System	Elementary		Middle/ Secondary		Other		Total	
	Number	Share	Number	Share	Number	Share	Number	Share
NuMenu	13,129	27%	7,502	24%	1,160	18%	21,791	25%
Assisted NuMenu	247	1%	172	1%	0	0%	419	0%
Enhanced Food-Based	6,642	14%	4,805	16%	1,446	23%	12,893	15%
Traditional Food-Based	27,072	55%	17,661	57%	3,752	58%	48,485	56%
Alternate Menu Planning	1,815	4%	785	3%	66	1%	2,667	3%
Total	48,906	100%	30,924	100%	6,425	100%	86,254	100%

Note: Only schools that participate in NSLP are shown. Percentages might not add to 100 due to rounding.
Source: School Food Purchase Study, 2011

¹² See The School Nutrition Dietary Assessment Study III, Summary of Findings, FNS, Office of Research, Nutrition, and Analysis, November 2007.

Figure 3-26: Use of menu planning systems at the school level



Source: School Food Purchase Study, 2011

3.3.8 Meal preparation facilities

Public unified NSLP districts in the 48 contiguous states and DC operated an estimated 82,594 kitchens in SY 2009/10, just 6 percent short of the number of schools. Study respondents were asked to list the type and number of kitchens they operate using the following classification system:

- **Central kitchens** where meals are prepared for serving at receiving or satellite schools. No student meals are served on-site at a central kitchen.
- **Base kitchen** where meals are prepared for serving on-site and for shipment to other locations (including multiple locations within the same school).
- **Receiving or satellite kitchens** which obtain partially or fully prepared meals from base or central kitchens or an outside vendor. Other than re-heating or refrigeration, no food preparation occurs at a satellite kitchen
- **Combination kitchens** in which some food is prepared for on-site consumption and some food is received fully or partially prepared from a central or base kitchen.
- **On-site kitchens** where all meals served are prepared at the facility in which the kitchen is located.
- **Other** - as described by the respondents

Table 3-29 shows the estimated number and type of kitchens operated by school districts and Table 3-30 shows the estimated mean number of kitchens per school district. Typically, school districts operate more than one type of kitchen within their systems. Every type of kitchen was operated by each size class of school districts. The only exception was that none of the smallest school districts with less than 1,000 students operated central kitchens.

On average, school districts operate 7.6 kitchens per district. This number however, varies greatly by size of district, from 1.5 in the smallest districts to over 80 in the largest. Of the different type of meal preparation facilities:

- On-site kitchens are the most prevalent type. Over 70 percent of all kitchens in each size class of districts are on-site, and for the smallest class, this percentage is almost 90.
- Central kitchens are operated by all but the smallest size class of school districts. They play a more prominent role in large school districts. One in five of the largest school districts operates a central kitchen, compared to less than 1 in 10 districts of the second largest class.
- Base, satellite, and combination kitchens follow a similar pattern; a larger share of the larger districts operates each type. Combination kitchens are less common than base or satellite kitchens among all size districts.

SCHOOL FOOD PURCHASE STUDY-III

SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

Table 3-29: Number of public unified NSLP school district kitchens by type of kitchen and size of school district, SY 2009/10

	Central kitchens		Base kitchens		Satellite kitchens		Combination kitchens		On-site kitchens		Other types		All kitchens	
	# of districts	# of kitchens	# of districts	# of kitchens	# of districts	# of kitchens	# of districts	# of kitchens	# of districts	# of kitchens	# of districts	# of kitchens	# of districts	# of kitchens
Less than 1,000	-	-	546	724	367	367	135	135	3,275	4,364	-	-	3,652	5,591
row percent	0.0%	0.0%	14.9%	13.0%	10.1%	6.6%	3.7%	2.4%	89.7%	78.1%	0.0%	0.0%	100.0%	100.0%
column percent	0.0%	0.0%	14.8%	7.8%	16.4%	2.7%	7.0%	1.1%	37.7%	9.2%	0.0%	0.0%	33.7%	6.8%
1,000-4,999	153	153	1,954	3,203	998	2,267	1,019	2,824	3,973	15,743	22	44	5,195	24,298
row percent	3.0%	0.6%	37.6%	13.2%	19.2%	9.3%	19.6%	11.6%	76.5%	64.8%	0.4%	0.2%	100.0%	100.0%
column percent	42.7%	40.8%	52.9%	34.3%	44.6%	16.9%	52.8%	23.4%	45.7%	33.4%	39.4%	47.8%	48.0%	29.4%
5,000-24,999	138	138	1,001	2,681	685	5,290	654	5,267	1,230	14,800	7	7	1,675	28,194
row percent	8.2%	0.5%	59.7%	9.5%	40.9%	18.8%	39.0%	18.7%	73.4%	52.5%	0.4%	0.0%	100.0%	100.0%
column percent	38.3%	36.6%	27.1%	28.7%	30.6%	39.3%	33.9%	43.7%	14.1%	31.4%	12.0%	7.3%	15.5%	34.1%
25,000 or more	68	85	192	2,725	190	5,527	120	3,838	218	12,295	27	41	304	24,510
row percent	22.4%	0.3%	63.1%	11.1%	62.4%	22.5%	39.4%	15.7%	71.8%	50.2%	8.9%	0.2%	100.0%	100.0%
column percent	19.0%	22.5%	5.2%	29.2%	8.5%	41.1%	6.2%	31.8%	2.5%	26.0%	48.7%	44.9%	2.8%	29.7%
Total	359	376	3,693	9,333	2,240	13,451	1,927	12,064	8,696	47,202	56	92	10,826	82,594
row percent	3.3%	0.5%	34.1%	11.3%	20.7%	16.3%	17.8%	14.6%	80.3%	57.2%	0.5%	0.1%	100.0%	100.0%
column percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note: If districts use more than one kitchen type, they are counted with each kitchen type. Number of districts under all kitchen types will be less than the total for the row.

Source: School Food Purchase Study, 2011

SCHOOL FOOD PURCHASE STUDY-III
SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

Table 3-30: Mean number of kitchens operated by school districts by type of kitchen and size of district, SY 09/10

Enrollment size	Central kitchens	Base kitchens	Satellite kitchens	Combination kitchens	On-site kitchens	Other types	All kitchens
Less than 1,000	-	1.3	1.0	1.0	1.3		1.5
1,000-4,999	1.0	1.6	2.3	2.8	4.0	2.0	4.7
5,000-24,999	1.0	2.7	7.7	8.1	12.0	1.0	16.8
25,000 or more	1.2	14.2	29.1	32.0	56.3	1.5	80.5
Total	1.0	2.5	6.0	6.3	5.4	1.6	7.6

Source: School Food Purchase Study, 2011

3.3.9 Miscellaneous school meal program features

SFAs use a wide array of food service options. These are provided in Table 3-31 and Figure 3-27. As seen in the table and figure, ‘Offer vs. serve’ was the most widely used feature irrespective of the size of the district. ‘Choice of NSLP entrees’ was the second most popular offering, particularly among districts with more than 1,000 students. It was followed by à la carte lunch, and then, less prevalent, à la carte breakfast. Only 19.5 percent used vending machines (more in the largest district), and 19 percent offered free fresh fruit and vegetables (fewer in large districts). Ten percent used electronic debit cards.

Table 3-31: Food service options offered by public unified NSLP schools by size of district, SY2009/10

Food Service Options	All districts ¹	Less than 1,000	1,000 to 4,999	5,000 to 24,999	25,000 or more
	-----Percent of schools-----				
Offer vs. serve	87.3	72.3	86.2	90.0	90.0
Choice of NSLP entrees	73.2	45.7	72.6	80.6	73.8
A la carte items lunch	63.5	41.1	65.6	70.7	60.2
A la carte items breakfast	39.6	31.5	38.2	42.8	39.8
Vending machines	19.5	14.8	16.4	21.0	22.4
Free fresh fruit or vegetables	18.8	12.6	18.7	29.9	8.4
Electronic debit cards	10.2	-	11.8	15.3	5.9
Snack bars	8.6	5.9	8.8	12.4	5.0
Open campus	6.9	18.4	6.7	7.1	3.5
Student stores	6.7	3.4	8.2	5.7	7.3

^{1/} The percentages displayed here are for schools and not for school districts; not all features are offered by all schools within a district.

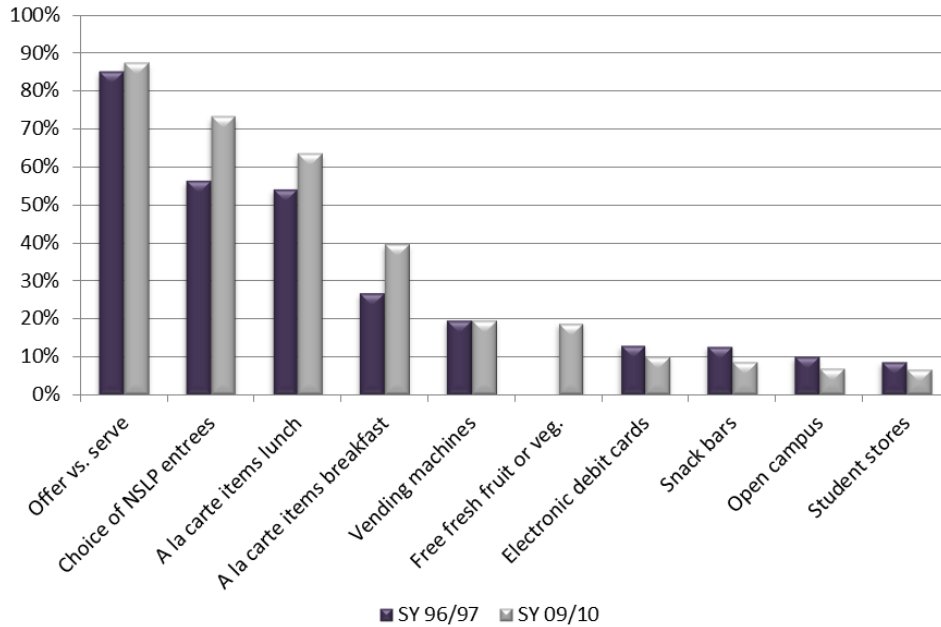
Source: School Food Purchase Study, 2011

The data in Table 3-31 referring to vending machines and school stores conflicts with evidence from a study conducted among schools in 2006. That study indicated that 21.1% of elementary schools, 62.4% of middle schools, and 85.8% of high schools had one or more vending machines from which students could purchase food or beverages. Similarly, the same study reported that 16.7% of elementary schools, 33.0% of middle schools, and 50.1% of high schools had a school store, canteen, or snack bar where students could purchase food or beverages.¹³ There are several possible explanations: the school districts completing our survey did not have full information on vending inventory, that some vending machines

¹³ O’Toole TP, Anderson S, Miller C, Guthrie J. Nutrition services and foods and beverages available at school: results from the School Health Policies and Programs Study 2006. J Sch Health. 2007; 77: 500-521.

were not considered to be part of food service, or that the recent vending inventory had contracted in response to heavy criticism and the passing of restrictive regulations. This subject warrants more detailed study and analysis than can be provided in this report.

Figure 3-27: Percent of schools offering different food service options, SY 1996/97 and SY 2009/10



Source: School Food Purchase Study, 2011

There have been a number of interesting changes since the 1996/97 study. Offerings of a choice of lunch entrees and of à la carte items at lunch and breakfast have risen significantly. Offer versus serve and use of vending machines showed little change. And school district use of electronic debit cards, snack bars, open campus systems, and student stores all declined. The earlier survey did not include a question about free fresh fruit or vegetables. Most of the various food service options are available with greater frequency among middle/secondary schools than among elementary schools. This breakdown is displayed in Table 3-32 and Figure 3-28.

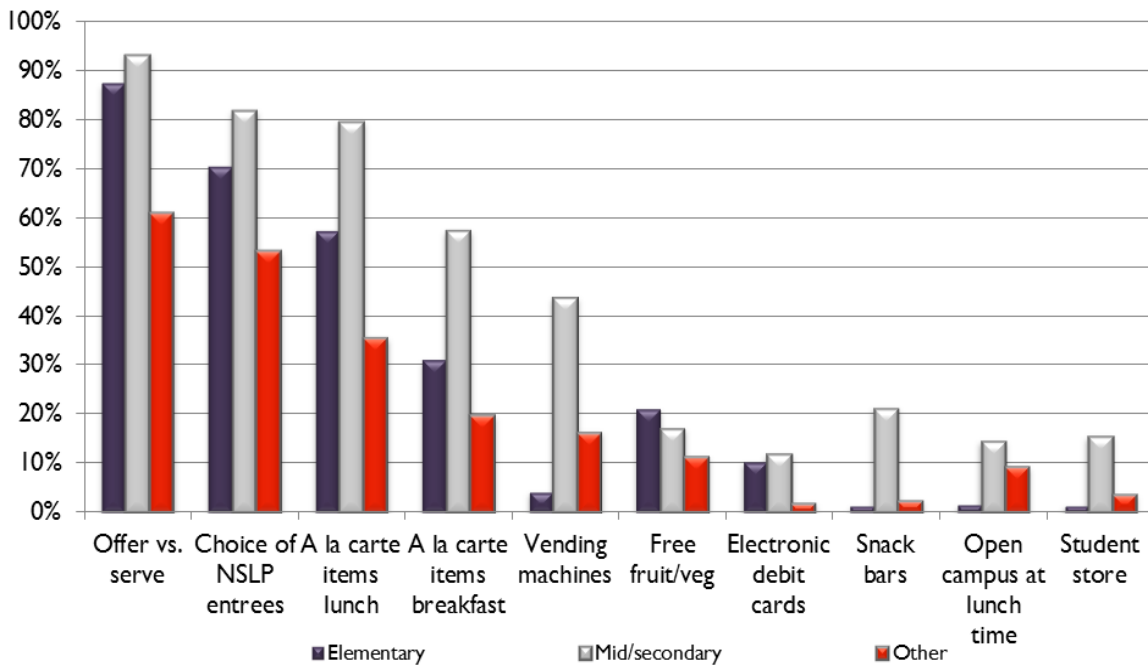
SCHOOL FOOD PURCHASE STUDY-III
SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

Table 3-32: Food service options offered by public unified NSLP school districts, by grade category, SY 2009/10

Food service options	All schools	Elementary	Middle/ secondary	Other
	-----Percent of schools-----			
Offer vs. serve	87.3	87.6	93.4	61.1
Choice of NSLP entrees	73.2	70.8	82.0	53.3
À la carte items lunch	63.5	57.5	79.8	35.6
À la carte items breakfast	39.6	31.2	57.5	19.8
Vending machines	19.5	4.3	43.9	16.5
Free fresh fruit or vegetables	18.8	21.2	17.0	11.4
Electronic debit cards	10.2	10.4	11.9	1.9
Snack bars	8.6	1.4	21.3	2.5
Open campus at lunch time	6.9	1.6	14.6	9.3
Student store	6.7	1.5	15.5	3.6

Source: School Food Purchase Study, 2011

Figure 3-28: Percent of schools offering different food service option by grade category, SY 2009/10



Source: School Food Purchase Study, 2011

3.3.10 Participation in reimbursable lunch and breakfast programs

Participation rates are an indicator of the extent to which eligible students take part in the NSLP and SBP. For this study, participation rates for lunch and breakfast were calculated by dividing the number of lunches/breakfasts served in SY 2009/10 by the number of students eligible for that type of meal, adjusted by the overall rate of attendance for the district. The rate of participation for full price lunches/breakfasts was calculated by dividing the total number of full price lunches/breakfasts by the total enrollments less the number of students certified for free and reduced price meals adjusted by the rate of attendance.

Participation rates for free, reduced, and full price lunches by size of district are shown in Table 3-33 and participation rates for breakfasts are in Table 3-34.¹⁴ As might be expected given the availability of breakfasts, overall participation rates in the lunch program are significantly higher than in the breakfast program. For lunches, but not breakfasts, smaller districts have higher rates of participation.

Table 3-33: Mean rates of participation in the reimbursable lunch programs of public unified NSLP school districts, by meal type and size of school district, SY 2009/10

School district enrollment	Free lunches	Reduced-price lunches	Full-price lunches	All reimbursable lunches
	-----percent of certified eligible students-----			
Less than 1,000	78.8%	80.4%	57.8%	67.7%
1,000-4,999	85.9%	79.4%	59.9%	68.4%
5,000-24,999	76.1%	70.5%	43.9%	57.5%
25,000 or more	74.4%	68.3%	50.2%	55.2%
Total	81.7%	78.0%	56.4%	66.1%

Source: School Food Purchase Study, 2011

Table 3-34: Mean rates of participation in the reimbursable breakfast programs of public unified NSLP school districts, by meal type and size of school district, SY 2009/10

School district enrollment	Free breakfasts	Reduced-price breakfasts	Full-price price breakfasts	All reimbursable breakfasts
	-----percent of certified eligible students-----			
Less than 1,000	38.3%	27.2%	12.6%	26.9%
1,000-4,999	37.6%	26.6%	11.8%	24.1%
5,000-24,999	38.2%	24.1%	12.4%	24.0%
25,000 or more	38.4%	27.4%	16.1%	25.1%
Total	38.0%	26.4%	12.2%	24.9%

Source: School Food Purchase Study, 2011

Table 3-35 compares the NSLP participation rates for SFPS-II in 1996/97 with those of SFPS-III in 2009/10. It shows that the participation rate has increased by 9.5 percent for all reimbursable lunches. There are no comparable data for the SBP. The largest increase has been for full price lunches (10.5 percent), while the

¹⁴ These results differ slightly from official FNS participation rates for reimbursable meals in FY2010. These showed NSLP participation rate at 62.92% and SBP participation rate at 25.67%. <http://www.fns.usda.gov/fns/data.htm>

SCHOOL FOOD PURCHASE STUDY-III
SECTION 3: CHARACTERISTICS OF PUBLIC UNIFIED SCHOOL DISTRICTS

participation rate for free lunches is estimated to have decreased by 1.8 percent. The estimates broadly agree with those made elsewhere, although the methods of calculation may vary slightly. A USDA review quoting data for FY 2008 suggests that participation rates for school lunches are 62 percent.¹⁵ Taking national estimates of NSLP and SBP participation in 2009 (latest available) derived from states¹⁶ and the school students enrolled in schools¹⁷ produces estimates of a 63.6 percent participation rate for NSLP and 23.3 percent for SBP.

Table 3-35: Mean rates of participation in the reimbursable lunch programs of public unified NSLP school districts, by meal type and size of school district, SY 1996/97 and 2009/10

School district enrollment	Free lunches		Reduced-price lunches		Full-price lunches		All reimbursable lunches	
	96/97	09/10	96/97	09/10	96/97	09/10	96/97	09/10
	----- percent of certified eligible students -----							
Less than 1,000	81.4	78.8	77.6	80.4	59.1	57.8	65.2	67.7
1,000-4,999	78.2	85.9	71.7	79.4	47.5	59.9	56.8	68.4
5,000-24,999	77.0	76.1	67.9	70.5	45.5	43.9	55.3	57.5
25,000 or more	76.2	74.4	59.5	68.3	32.8	50.2	52.4	55.2
Total	77.9	81.7	69.1	78.0	45.9	56.4	56.6	66.1

Source: School Food Purchase Study, 2011

¹⁵ See page 8, USDA, The National School Lunch Program: background trends and issues, Economic Research Service, ERR-61, 2008.

¹⁶ See <http://frac.org/reports-and-resources/reports-2/>, Food Research and Action Center

¹⁷ See <http://www.census.gov/hhes/school/data/cps/2009/tables.html>, US Census Bureau, Current Population Survey, October 2009 - Detailed Tables, Table I.

SECTION 4: MARKET AND POLICY SETTING

4.1 Market conditions and influences

The principal interest of this report is the procurement of food by school districts. A wide range of market factors affects the cost of these purchases. Supply and demand interact to influence prices of food in the marketplace and these influence school food procurement, especially during periods of intense state and local government budget restraint.

Over the last three years there has been considerable concern about the level of food prices. In 2011, food prices have peaked once again, only three years after the June 2008 record prices. Price peaks are well recognized. However, prior to 2008, these peaks occurred regularly and were evenly spread (about every 6 to 7 years) and post-peak declines were extended over a fairly long period. This decline represented rational market adjustment as high prices trigger additional production over several months or even years, leading to the establishment of a new equilibrium at more normal prices.

Economists have long attributed price volatility to supply variability as the availability of certain foods has been subject to uncontrollable factors such as the weather. Weather continues to be a major factor affecting availability of farm commodities, and the coincidence of adverse weather in major production regions can disrupt global food supplies. In recent years, significant fluctuations in harvests have occurred in important farming regions in Russia, Ukraine, Brazil, Argentina, Canada, Australia, and the United States.

While these supply factors continue to be important, food markets have also been impacted significantly by major changes in demand. In particular, the continuing growth in population, coupled with advances in income per capita, in large developing countries (especially China and India) has had an important impact on demand for key agricultural commodities. As a result, we have seen demand pressure grow to contribute to recent peaks in food prices. Moreover, the economic growth in these countries has increased demand for some of the inputs used by agriculture, such as energy and fertilizer, increasing farm production costs.

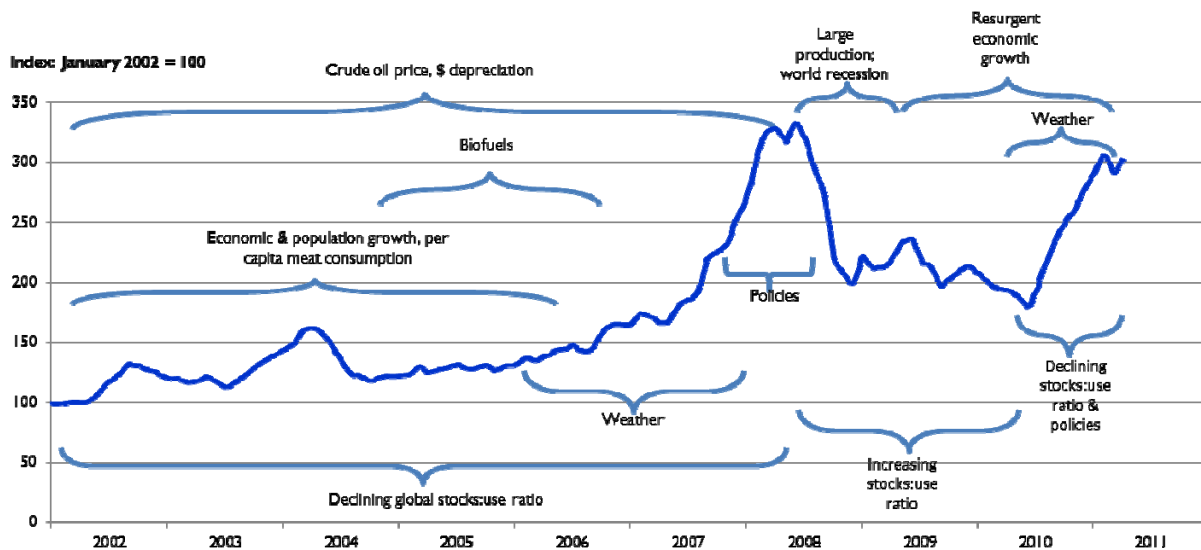
In addition, certain policy innovations have also increased the demand for farm commodities. In particular, the rise in the price of crude oil and reliance on oil imports, often from politically unstable countries, has stimulated policies to increase the production of domestic renewable energy resources. Consequently, policies have been introduced to increase the use of food and feed ingredients as feedstock for bioenergy manufacture (e.g. carbohydrates such as grains and sugar, and lipid sources such as rapeseed, soy, and palm). For example, in the United States roughly forty per cent of domestic US corn production will be used for ethanol production in 2011/12 as a result of mandates and subsidies for incorporation in gasoline. These policies have increased the demand for the raw materials used in food production.

The food market in the United States has also been affected by the value of the US dollar. This has declined steadily since the beginning of this century, only to be temporarily interrupted by the flight to the dollar following the world recession that peaked in 2008/09. As most commodities traded worldwide are priced in dollars, this accelerated the growth in US exports, increased the cost of some food imports, and increased the upward pressure on domestic food prices.

Finally, on the demand side, the general state of the global economy plays an important role. When economic growth stalls, unemployment rises, incomes fall, and the demand for food contracts. In particular, demand for more expensive animal proteins and processed foods is reduced and this contributes to downward pressure on prices. The 2008/09 global recession had an important negative impact on food demand.

The combination of these factors (and others not mentioned) has led to substantial recent volatility in food market prices. Figure 4-1 illustrates the changing price of four key farm commodities since 2002. The dark blue line is a composite price index prepared by USDA's Economic Research Service representing the price of wheat, rice, corn, and soybeans weighted by their share of trade. This 2002-based index peaked in 2004 at roughly 1.5 times the 2002 price and again in early 2008 when it peaked at almost 3.5 times the 2002 price. Since then, it fell rapidly and then increased again from mid-2010. The primary factors identified by USDA economists as affecting the price changes over the period are noted in the figure.¹⁸

Figure 4-1: Primary factors affecting crop prices
(Based on 4 crop prices (wheat, rice, corn, soybeans) weighted by trade shares)



Source: USDA, Economic Research Service calculations from International Monetary Fund, International Financial Statistics.

¹⁸ Trostle R, et al, Why have food commodity prices risen again? Economic Research Service, USDA Research report, WRS-1103, June 2011

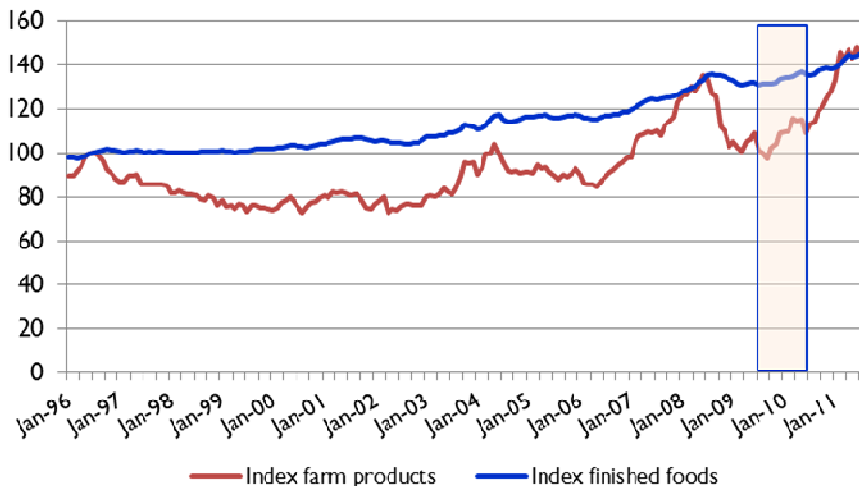
4.1.1 Price changes

The study of food purchases by school districts collected data for the period between July 2009 and June 2010. The data collection period for the 2009/10 study is highlighted by the rectangular box in the following figures. Prices had fallen from the 2008 peak seen in Figure 4-2 and were again in a slight upward trend during the study period.

However, as noted in the School Food Purchase Study that covered SY 1996/97, an increasing proportion of school foods have been processed in one form or another. The manufacturers of processed products and those selling them to consumers at retail and food service are reluctant to respond to every price rise or fall. Consequently, players in a mature food system tend to adjust their margins so that consumer prices are smoothed and reflect longer term changes in the costs of production, processing, distribution and marketing. This difference in the price pattern of (a) farm products and (b) finished food products is starkly illustrated in Figure 4-2. The index shown in this figure is based on July 1996 (July 1996 = 100), the start of the last School Food Purchase Study data collection period. In general, farm prices as indicated by this index were about 25 percent higher in 2009/10 than they were in 1996/7, while finished food prices were roughly one third higher.

The average annual change in the nominal finished foods price index over the 12 years between SFPS-I and SFPS-II (2.1% per annum) and the 13 years between SFPS-II and SFPS-III (2.18% per annum) was almost identical.

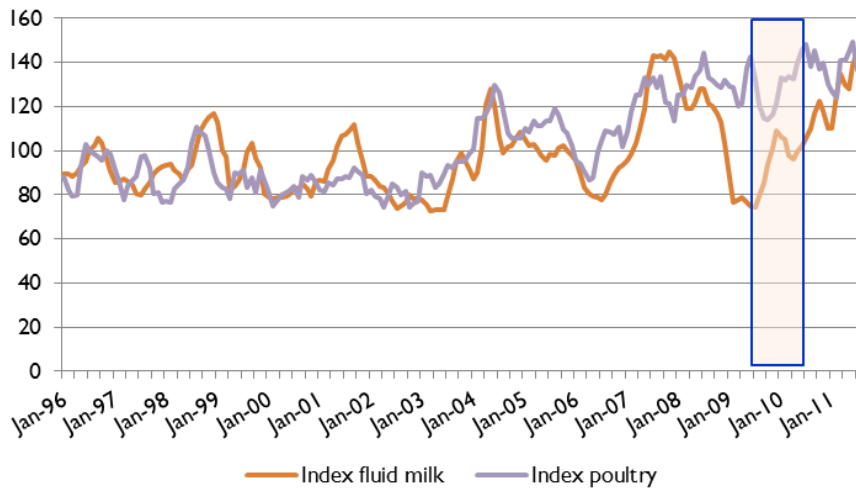
Figure 4-2: Price indexes: Finished foods and farm products, July 1996 = 100



Source Bureau of Labor, Producer price index commodity data

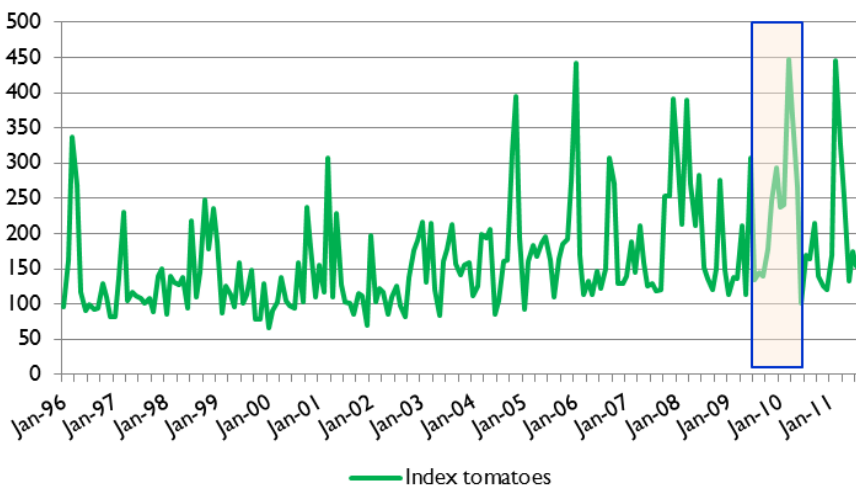
Figure 4-3 and Figure 4-4 illustrate the changing market circumstances faced by school district food service departments for some key commodities. Figure 4-3 shows the US farm price indexes for fluid milk and poultry. Fluid milk prices fluctuate considerably depending upon seasonal local supply availability. Poultry prices fluctuate less, largely because of the strength of demand for the product domestically and in international markets. In contrast, Figure 4-4 illustrates the very volatile price for domestically produced tomatoes. This volatility is a common feature of most US fresh produce markets, reflecting the susceptibility of supply to both weather impacts and supply availability from other countries.

Figure 4-3: Producer price indexes: Poultry and fluid milk, July 1996 = 100



Source Bureau of Labor, Producer price index commodity data

Figure 4-4: Producer price index: Tomatoes, July 1996 = 100

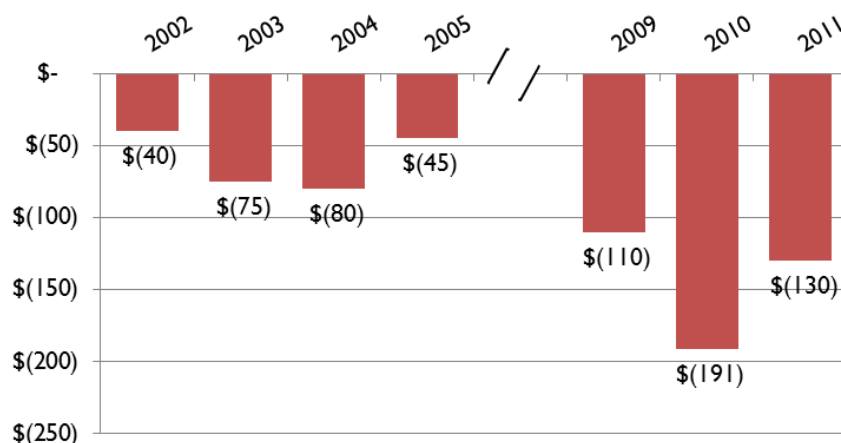


Source Bureau of Labor, Producer price index commodity data

4.1.2 State budgets

The pressure on school district food budgets has been of critical importance. Figure 4-5 illustrates the serious record state budget deficits experienced in 2009 and 2010. Those two years caught the initial brunt of the impact from the recession that began in 2008. Economies were sought in all areas of state expenditure, although we have no evidence that quantifies whether there was a direct impact on school meal expenditures.

Figure 4-5: Total state budget shortfall in each fiscal year, \$bn



Source: data from Center on Budget and Policy, "States Continue to Feel Recession's Impact", June 17, 2011, <http://www.cbpp.org/cms/?fa=view&id=711>

4.1.3 Comparison to the supply/demand situation in SY 1996/97

The analysis of data on prices of specific groups of foods in Table 4-1 shows very high price increases for corn sweeteners and vegetable oils. Corn sweetener prices were depressed in the late 1990s because Mexico blocked imports of US high fructose corn syrup after US corn refiners had expanded capacity in expectation of increased trade after the 1994 signing of the North American Free Trade Agreement. Prices of fats and oils have been pushed up in recent years by government mandates and subsidies for their use in production of biodiesel. The table also shows high price increases for products that are particularly energy intensive (e.g. dehydrated vegetables).

USDA's price index for all farm products went up about 16 percent over the 13-year period. Most of the wholesale price categories tracked by the Bureau of Labor Statistics went up by 15-40 percent due to cost increases beyond the farm level. However, pork prices were little changed because they had been at unusually high levels in 1996/97. The only product group at a lower price was processed eggs (-3%).

SCHOOL FOOD PURCHASE STUDY-III
SECTION 4: MARKET AND POLICY SETTING

Table 4-1: Comparison of changes in selected components of the producer price index, SYs 1996/97 and 2009/10

Product group (as defined by BLS)	Product	% change 1996/97 to 2009/10
All finished products		32.4
All farm products		17.6
Fruit and vegetables	All fresh fruits and melons	13.9
	All citrus fruits	39.1
	Other fruits and berries	15.6
	All fresh and dry vegetables	51.9
	Dry vegetables	80.8
	All fresh vegetables, except potatoes	75.3
Cereals and bakery products	Bakery products	42.0
	Flour and flour base mixes and doughs	35.6
	Milled rice	46.8
	Other cereals	30.3
Meat/seafood	All meats	25.3
	Beef and veal products, fresh or frozen	43.6
	Pork products, fresh, frozen or processed	0.4
	Other meats, fresh, frozen, or canned	22.7
	Processed poultry	17.5
	Young chickens (broilers/fryers/roasters)	20.1
	Turkeys (toms/hens), inc. whole/parts/ground	19.2
	Frozen packaged fish and seafood	41.5
	Canned and cured seafood	21.3
Dairy products	All fluid milk products	33.9
	Natural, processed, and imitation cheese	15.5
	Ice cream and frozen desserts	41.0
Processed fruits/veg./juices	All processed fruits and vegetables	38.6
	Canned fruits and juices	35.0
	Frozen fruits, juices and ades	21.8
	Canned vegetables and juices	39.3
	Frozen vegetables	43.0
	Frozen potatoes	58.0
Sugar and sweeteners	Sugar and confectionery	42.5
	Corn sweeteners	51.4
Fats and oils	All fats and oils	74.1
	Shortening and cooking oil	62.1
Misc. processed foods	All miscellaneous processed foods	32.6
	Processed eggs, liquid, dried, or frozen	-3.0
	Canned dry beans	31.5
	Frozen specialties	24.7
	Sauces and marinades, except tomato	28.3
	Other miscellaneous processed foods	37.4

Source: Department of Labor, Bureau of Labor Statistics

4.2 The policy setting

4.2.1 The NSLP and SBP

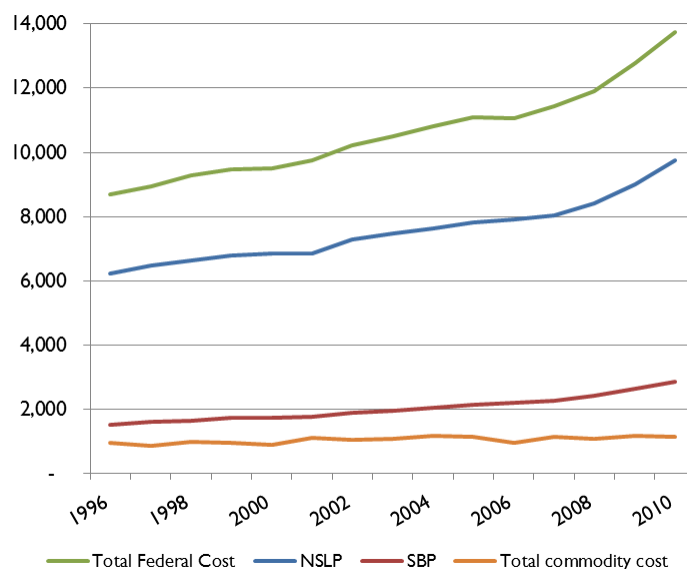
The NSLP and the SBP provide financial support to food service operations in schools. As discussed earlier, that support comes in the form of cash payments that reimburse SFAs for providing school meals that meet USDA nutritional standards. Reimbursement rates vary for lunch or breakfast and whether the student is eligible to receive the meal for free or at reduced or full price. If the household income is below 130 percent of the poverty level, a student is eligible for a free meal. If the household income is between 130 and 185 percent of poverty a reduced price meal is offered with statutory limits on the price of that meal. These reimbursements apply to all SFAs except those in Hawaii and Alaska that receive higher reimbursement rates because of higher costs.

In the 2010 October-September fiscal year (FY) that corresponds to the 2009/10 school year, the total cost to the Federal government was almost \$14 billion, comprising 92% cash payments, and 8% USDA Food costs (with the latter being actual costs rather than “fair market value”).

These programs have serviced an increasing school enrollment and increasing numbers of students that qualify for either free or reduced price meals. In FY 2010, 31.7 million children participated in the NSLP, and 11.7 million in the SBP, compared with 26.3 and 6.9 million in FY 1997. The number of participants in the NSLP rose 20.5 percent and the total lunches served rose 19.7 percent over the 13-year period. For the SBP, average participation rose 69.5 percent and breakfasts served rose 65.2 percent. As a result, the cost has gradually increased, even when inflation is taken into account. Figure 4-6 illustrates the cost to the Federal government since FY 1996, in 2010 dollars. The historic cash payments were inflated by the GDP deflator, and the USDA Food cost by the BLS Commodity producer price index for finished foods. (It excludes payments for the Federal share of State administrative expenses.

USDA Food costs are the USDA-assigned value of food distributed during the fiscal year, including the value of payments to CLOC and cash-in-lieu of USDA Foods schools.)

**Figure 4-6: Federal cost of school food programs,
fiscal years 1996-2010, real 2009/10 prices, \$ millions**



Source: USDA Food Nutrition Service, <http://www.fns.usda.gov/pd/cncosts.htm>

Table 4-2: Federal cost of school food programs, real 2009/10 prices

Fiscal year	Cash Payments				USDA Food Costs			Total Federal Cost
	NSLP	SBP	Special milk	Total payments	Entitle-ment	Bonus	Total costs	
	<i>Millions of dollars</i>							
1996	6,224	1,494	22	7,740	884	63	947	8,687
1997	6,472	1,593	23	8,088	802	39	841	8,929
1998	6,615	1,650	22	8,286	873	116	990	9,276
1999	6,790	1,719	21	8,530	893	59	952	9,483
2000	6,862	1,741	19	8,622	807	65	872	9,493
2001	6,859	1,772	19	8,650	1,036	78	1,114	9,765
2002	7,281	1,885	19	9,185	939	108	1,046	10,232
2003	7,471	1,946	17	9,434	872	190	1,062	10,496
2004	7,624	2,032	16	9,672	911	240	1,151	10,823
2005	7,807	2,132	18	9,957	966	177	1,143	11,100
2006	7,917	2,188	16	10,121	900	34	934	11,056
2007	8,047	2,259	14	10,320	1,111	18	1,129	11,449
2008	8,416	2,409	15	10,840	1,058	19	1,077	11,917
2009	8,994	2,618	14	11,626	971	193	1,164	12,790
2010	9,750	2,859	12	12,621	1,044	84	1,128	13,749

Source: USDA Food Nutrition Service, <http://www.fns.usda.gov/pd/cncosts.htm>

Table 4-2 shows the cash payments and USDA Food costs from fiscal year 1996 to 2010 when expressed in 2009/10 real prices. Table 4-3 expresses the cash payments and total payments on a per meal basis and the USDA Food costs on a per participant basis (because there is no way to allocate them between

breakfast and lunch). The resources available per meal have increased more in real terms for lunches than breakfasts. Overall, the federal cost per meal has increased by roughly 19 percent in real terms over the period between the SFPS-II study covering SY 1996/97 and the current study covering SY 2009/10. If one looks at the increase in real costs per meal equivalent, with 1.5 breakfasts equaling a lunch, it was up more than 21 percent.

Table 4-3: Average costs per participant and meal for NSLP & SBP cash payments and USDA Food costs, real 2009/10 prices

Fiscal year	Cash payments				USDA Food cost			Total Fed. Cost per meal
	Av. \$ per head participating per annum		Av. \$ per meal served		Entitlement	Bonus	Total	
	Lunch	Breakfast	Lunch	Breakfast	Av. annual \$ per head participating (lunch & breakfast)			
1996	240.3	227.0	1.44	1.33	27.2	1.9	29.1	1.60
1997	246.1	230.2	1.47	1.34	24.1	1.2	25.3	1.59
1998	248.7	231.0	1.49	1.35	25.9	3.5	29.3	1.64
1999	251.5	233.3	1.50	1.36	26.0	1.7	27.7	1.64
2000	251.4	230.5	1.50	1.34	23.2	1.9	25.0	1.61
2001	249.4	227.5	1.50	1.33	29.4	2.2	31.6	1.65
2002	260.0	231.3	1.54	1.34	26.0	3.0	28.9	1.67
2003	263.1	230.9	1.57	1.34	23.7	5.2	28.8	1.69
2004	262.9	228.3	1.57	1.33	24.0	6.3	30.4	1.70
2005	263.7	227.8	1.57	1.33	24.8	4.5	29.3	1.69
2006	263.0	224.2	1.57	1.32	22.6	0.9	23.4	1.65
2007	263.0	223.2	1.59	1.32	27.3	0.4	27.7	1.69
2008	271.5	227.0	1.62	1.33	25.4	0.5	25.9	1.70
2009	287.4	236.5	1.73	1.40	22.9	4.6	27.5	1.81
2010	307.6	245.0	1.85	1.45	24.1	1.9	26.0	1.90

Source: USDA Food Nutrition Service, <http://www.fns.usda.gov/pd/cncosts.htm>

4.2.2 Recent school meal initiatives

Considerable attention has focused upon child nutrition in recent years, especially as the number and proportion of young people that are overweight or obese continues to rise. Data from the National Health and Nutrition Examination Survey (NHANES) show that the average annual obesity rate among those aged between six years and 11 years rose from 11.3% to 17.4% between 1988-94 and 2005-08. For those aged 12 to 19 years, the increase was from 10.5% to 17.9%.¹⁹

The school meals programs attempt to ensure that students have available to them food that provides appropriate nutrition for their age. This part of the school food purchase study does not describe the foods that are consumed by students serviced by the school meal programs. Rather, it reviews the foods that have been purchased by school districts that are available to construct school food service menus that attain nutrition standards.

¹⁹ <http://205.207.175.93/HDI/ReportFolders/reportFolders.aspx>

There have been many initiatives to ensure that the nutritional content of school meals is appropriate. In late 1993, the USDA launched the School Meals Initiative for Healthy Children (SMI).²⁰ This reform linked the nutritional content of school meals to dietary standards developed by USDA and the Department of Health and Human Services. The SMI was just being initiated in 1996/97 when the last school food purchase study was undertaken and hence the new menu planning provisions had been introduced but final rules had not been published. However, at the time of the last study, many schools had been taking steps to improve the nutritional content of their meals to reduce the levels of fat, saturated fat, and sodium and to increase the level of carbohydrates. In fact, 19.6 percent of all SFAs had adopted one of the new, computer assisted menu planning systems (then referred to as NuMenus or Assisted NuMenus) at the time of the survey. The last SFPS report concluded "...at the time of this study many school districts were in a state of transition as they gave increased emphasis to the nutritional content of their meals."

Another important initiative taken in the mid-1990s was the introduction of the Department of Defense Fruit and Vegetable Program (DoDFresh). A pilot program was introduced in 1996 with eight states participating by allocating part of their USDA Food entitlement funds to \$3.2 million of fruit and vegetable purchases through the DoD. Today the majority of states participate, plus the District of Columbia and three territories. In FY 2010, the program supplied at least \$58 million of fruit and vegetables according to DoD records for 45 states and Puerto Rico. SFAs can make additional purchases from the program using the cash reimbursements they receive for their free and reduced-price school lunches.

Although DoD cites a \$58 million figure for their sales of fresh produce to schools in FY 2010, FNS has record of payments for such produce totaling \$66 million for the same period. The difference is most likely due to time lags in systems generating bills versus systems paying such bills, resulting in a mismatch between when an invoice is generated and when it is paid.

Following the wide utilization of DoDFresh, Congress introduced another fresh fruit and vegetable program. The Fresh Fruit and Vegetable Program (FFVP) was initially piloted in a small number of states and tribal areas following its authorization in the Farm Security and Rural Investment Act of 2002. The success of the pilot led to the 2004 Child Nutrition and WIC Reauthorization Act authorizing a permanent program. Following a positive pilot program evaluation, the 2008 Farm Bill provided funding to extend the program to selected low-income elementary schools in all 50 states, the District of Columbia, Guam, the Virgin Islands, and Puerto Rico. The states select schools with the highest free and reduced price enrollment to be given priority for participation, and the law included the requirement that each student receives between \$50 and \$75 worth of fresh produce over the school year. Funding began at \$9.9 million in SY 2008/09 and was to be increased to \$150 million subject to annual changes in the Consumer Price Index. The 50 state program was in its infancy at the time of this study. In SY2009/10, \$65 million was authorized for allocation to state agencies. FNS administers the program. Despite the similarity of name, the program is different from the Department of Defense Fresh Fruit and Vegetable Program which deals with the procurement of produce.

Another USDA sponsored initiative has been the encouragement for SFAs to purchase local foods. The 2002 Farm Bill required the Secretary of Agriculture to encourage schools to purchase from local farmers, although at that stage they could not specify any geographic preference in their bid tenders. However, the

²⁰ The Healthy Meals for Healthy Americans Act of 1994 (P. L. 103-448)

2008 Farm Bill allowed schools and school districts to use a local preference in their bid specifications for unprocessed farm products (including market prepared products such as washed vegetables, bagged greens, butchered livestock and poultry, pasteurized milk, and eggs). There are over 30 states that have passed legislation regarding farm to school programs.

US government policy can influence school food purchases in several ways. First, it can adjust the amount of cash payments to school districts to subsidize free and reduced meals. Larger resources allow food service providers to procure from a wider range of ingredients and provide greater flexibility in terms of menu development. Second, it can adjust the volume or composition of donated USDA Foods. And third, it can promote state food service agency approaches and procedures that can result in better use of food resources. The extent to which these can be effective will depend on a wide range of factors, including the local district and school resources and their facilities.

Finally, some note should be made of the reauthorization of the child nutrition programs, including the NSLP and SBP, under the Healthy, Hunger-Free Kids Act of 2010 (HHFKA). This was signed into law on December 13, 2010 and consequently had no direct effect on food purchases in the school year under review, although in many ways it consolidated trends that had been under way for several years. It included provisions to expand access to free and reduced meals, simplify administration, update the nutritional requirements of school meals, bolster support for school districts, promote outreach for the school breakfast program, and improve the nutritional quality of USDA purchased entitlement and bonus foods. The Act also committed to an increase in school meal payments that would be tied to performance in serving meals that meet the upcoming updated school meal nutritional standards.

4.2.3 The USDA Foods donation program, SY 2009/10

The supply of USDA's food donations to school districts continues to be driven by the authorizing statute of the National School Lunch Act of 1946. Specifically, these donations are seen as a means of strengthening the nation's nutritional safety net for schoolchildren and supporting US agricultural markets. The latter is a subsidiary motivation, although the language of the legislation under which the USDA purchases some of the foods has the underlying objective of 'supporting' or 'balancing' markets and farm incomes.²¹

These donations are financed through three funding sources²² and they comprise two separate types of purchases – entitlement and bonus. Entitlement donations provide a guaranteed level of support to school feeding; some entitlement and all bonus products are purchased to keep markets in 'balance', often at the request of commodity groups and after careful economic analysis by USDA. The provision of entitlement donations has increased in nominal terms in recent years, but been stable in real terms. Bonus USDA Foods play a much less important role than they did in the 1980s (see Figure 4-7). In part, this reflects the approach initiated in the 1990 Farm Bill that moved farm policy in a more market-oriented direction.

The legislative authority for these expenditures includes some budget guidance. For example, the 2008 Farm Bill specified that at least \$50 million be spent each year to purchase fresh fruit and vegetables for

²¹ See FNS, USDA, White paper, USDA foods in the National School Lunch Program, May 2010

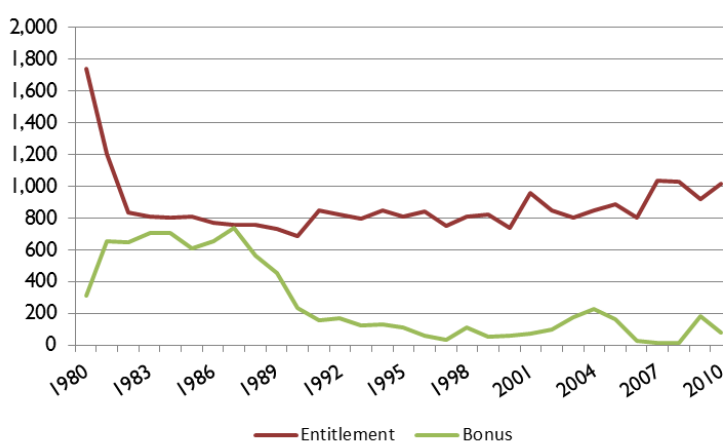
²² Op cit, pps 5-8

SCHOOL FOOD PURCHASE STUDY-III
SECTION 4: MARKET AND POLICY SETTING

distribution to schools and institutions. This allocation is currently used to mobilize Department of Defense procurement facilities under the DoD Fresh Fruit and Vegetable Program (see Section 4.2.4).

In 1981 Congress mandated investigation of alternatives to the donated foods programs. As a result a pilot Commodity Letter of Credit (CLOC) and Cash-in-lieu-of-Commodities program were introduced that provided money rather than food to a small number of districts. Most of these districts continue to be part of a permanent CLOC/CASH program. In addition, Kansas has been permanently eligible to receive cash rather than donated foods since 1975. These programs are funded at between \$16 and 26 million each year.

Figure 4-7: USDA Foods costs, FY 1980 to 2010, real 2009/10 prices, \$m



Source: USDA Food Nutrition Service, <http://www.fns.usda.gov/pd/cncosts.htm>

Table 4-4: Allocation of entitlement and bonus dollars spent on food groups, SY 2009/10

USDA Food	\$ '000	% of total	USDA Food	\$ '000	% of total
Grain and grain products	20,559	2%	Vegetables	84,011	8%
Legumes	25,186	2%	Fresh	4,369	0%
Nuts	4,810	0%	Canned	38,283	4%
Honey	-	0%	Frozen	40,601	4%
Fruit	135,311	13%	Dehydrated potatoes	758	0%
Fresh	8,113	1%	Meat and poultry	511,626	49%
Canned	84,632	8%	Beef	205,671	20%
Frozen	30,253	3%	Pork	47,379	4%
Dried	9,549	1%	Chicken	155,532	15%
Orange juice (canned/froz. conc.)	2,765	0%	Eggs	9,392	1%
Seafood	10,343	1%	Turkey	93,651	9%
Dairy products	262,812	25%			
Total				1,054,659	100%

Source: USDA Food Nutrition Service records, not published

SCHOOL FOOD PURCHASE STUDY-III
SECTION 4: MARKET AND POLICY SETTING

Roughly one-half of USDA (entitlement and bonus) dollar purchases are for meat and another 25 percent are for dairy products (see Table 4-4). The value of direct USDA fresh fruit and vegetable dollar purchases is very small but the category represents 6 percent of total purchases when the \$58 million DoDFresh donations are added to the figures shown in Table 4-4 for school year 2009/10.

Table 4-5 provides a picture of the change in the share of entitlement and bonus dollars spent on different groups of foods. There is now a much lower proportion spent on grains and grain products and legumes. Meat remains high, although chicken purchases have grown at the expense of beef. Fruit volumes as a percentage of total pounds purchased remain the same since 12 years earlier while vegetable purchases have increased considerably, especially frozen vegetables. But the major difference, which is not shown in Table 4-5 or Table 4-6, is the very large increase in the volume and variety of fresh fruit and vegetables because of the USDA funding of DoD procurement of fresh produce. These are shown separately in Table 4-7.

**Table 4-5: Volume share of entitlement and bonus purchases
for SYs 1984/85, 1996/97 and 2009/10**

USDA Food	SY 1984/85		SY 1996/97		SY 2009/10	
	million pounds	% of total	million pounds	% of total	million pounds	% of total
Grain and grain products	230,358	20%	108,637	12%	71,367	6%
Legumes	117,732	10%	75,174	8%	47,027	4%
Nuts	3,736	0%	-	0%	2,406	0%
Honey	6,483	1%	-	0%	-	0%
Fruit	144,058	13%	156,775	17%	224,736	17%
Fresh	13,046	1%	20,516	2%	9,823	1%
Canned	101,962	9%	99,043	11%	167,435	13%
Frozen	17,950	2%	27,999	3%	38,126	3%
Dried	11,100	1%	3,752	0%	4,057	0%
Orange juice (canned/froz. conc.)	-	0%	5,465	1%	5,295	0%
Vegetables	152,254	13%	148,737	16%	292,567	23%
Fresh	-	0%	23,132	2%	11,558	1%
Canned	117,429	10%	51,981	6%	87,935	7%
Frozen	34,825	3%	73,624	8%	180,194	14%
Dehydrated potatoes	-	0%	-	0%	12,880	1%
Meat and poultry	244,588	21%	358,115	39%	457,726	35%
Beef	119,916	10%	159,867	17%	129,422	10%
Pork	7,449	1%	35,698	4%	36,580	3%
Chicken	91,667	8%	82,481	9%	198,826	15%
Eggs	707	0%	9,733	1%	16,686	1%
Turkey	24,849	2%	70,336	8%	76,212	6%
Seafood	7,394	1%	2,743	0%	3,553	0%
Dairy products	235,945	21%	75,877	8%	197,727	15%
Total	1,142,548	100%	926,058	100%	1,297,109	100%

Sources: School Food Purchase Study, 1984/85, and FNS records for 1996/97 and 2009/10

SCHOOL FOOD PURCHASE STUDY-III
SECTION 4: MARKET AND POLICY SETTING

Table 4-6 shows the allocation of donated USDA Foods for each of the School Food Purchase Studies expressed in terms of total volume and volume per meal (pounds per thousand meals). Of note is the disappearance of butter and the very large expansion of fresh potatoes for further processing into frozen French fried potatoes.

Table 4-6: Comparison of donated entitlement and bonus USDA Foods delivered to child nutrition programs, SY 1984/85, SY 1996/97 and SY 2009/10

USDA Food	SY 1984/85		SY 1996/97		SY 2009/10	
	'000 lbs.	pounds/ 1,000 meals	'000 lbs.	pounds/ 1,000 meals	'000 lbs.	pounds/ 1,000 meals
Grain and grain products						
Flour (including bulgur and rolled wheat)	181,735	46.7	78,464	17.8	46,989	6.5
Pasta						
Spaghetti	7,518	1.9	4,647	1.1	4,490	0.6
Macaroni	7,006	1.8	3,163	0.7	2,194	0.3
Other pasta	-		2,756	0.6	2,571	0.4
Rice	22,035	5.7	15,753	3.6	11,681	1.6
Rolled oats	5,431	1.4	1,487	0.3	966	0.1
Cornmeal/grits	6,633	1.7	2,367	0.5	1,478	0.2
Bakery mix	-				998	0.1
Legumes						
Soybean/vegetable oil	40,026	10.3	35,297	8.0	12,775	1.7
Soybean oil shortening	20,581	5.3	7,249	1.6	-	
Salad dressing	-		76	-	-	
Peanut/sunflower butter	11,401	2.9	10,501	2.4	13,281	1.8
Peanuts/peanut granules	3,534	0.9	873	0.2	138	0.0
Dried edible beans	4,058	1.0	1,529	0.3	1,232	0.2
Canned dried beans	12,490	3.2	9,525	2.2	13,381	1.9
Vegetarian beans	25,642	6.6	10,124	2.3	6,220	0.9
Nuts						
Almonds	2,250	0.6	-		-	
Walnuts	1,486	0.4	-		2,406	0.3
Honey	6,483	1.7	-		-	
Fruit						
Fresh						
Pears	5,414	1.4	3,973	0.9	446	0.1
Apples	7,632	2.0	11,073	2.5	5,060	0.7
Grapefruit	-		905	0.2	-	
Oranges	-		4,565	1.0	889	0.1
Blueberries	-		-		3,428	0.5
Canned						
Applesauce	46,065	11.8	23,362	5.3	37,852	5.2
Peaches	25,520	6.6	16,417	3.7	44,170	6.1
Mixed fruit	-		9,336	2.1	26,914	3.7
Pears	30,376	7.8	22,311	5.1	33,363	4.6

SCHOOL FOOD PURCHASE STUDY-III
SECTION 4: MARKET AND POLICY SETTING

USDA Food	SY 1984/85		SY 1996/97		SY 2009/10	
Cherries	-		3,156	0.7	1,036	0.1
Purple plums	-		18	-	-	
Pineapples	1	-	13,635	3.1	-	
Apple slices	-		10,808	2.5	13,598	1.9
Cranberry sauce	-		-		662	0.1
Strawberries	-		-		3,285	0.5
Apricots	-		-		6,555	0.9
Frozen						
Peaches	-		8,196	1.9	13,686	1.9
Tart cherries	12,914	3.3	8,671	2.0	3,106	0.4
Apple slices	-		2,227	0.5	9,554	1.3
Strawberries	-		8,905	2.0	8,971	1.2
Blueberries	5,036	1.3	-		-	
Apricots	-		-		2,809	0.4
Dried						
Figs(nuggets/paste/whole)	330	0.1	198		-	
Dry pitted prunes	2,371	0.6	984	0.2	-	
Prune puree	-		1,868	0.4	-	
Raisins	8,399	2.2	-		1,556	0.2
Date pieces	-		702	0.2	-	
Fruit/nut mix	-		-		683	0.1
Dried cherries	-		-		1,818	0.3
Orange juice (canned and froz. conc.)	-		5,465	1.2	5,295	0.7
Vegetables						
Fresh						
Misc. produce(DOD)	-		18,577	4.2	-	
Potatoes	-		4,555	1.0	-	
Carrots	-		-		3,542	0.5
Corn	-		-		5,776	0.8
Sweet potatoes	-		-		2,240	0.3
Canned						
Green beans	22,290	5.7	-		19,760	2.7
Green peas	-		2,747	0.6	4,664	0.6
Tomato paste	35,891	9.2	5,173	1.2	9,864	1.4
Canned tomatoes	24,652	6.3	8,368	1.9	4,253	0.6
Tomato sauce	-		4,778	1.1	3,689	0.5
Carrots	-		3,167	0.7	3,591	0.5
Spaghetti sauce	-		6,984	1.6	12,707	1.8
Salsa	-		7,306	1.7	8,372	1.2
Corn	23,988	6.2	8,432	1.9	18,595	2.6
Sweet potatoes	10,608	2.7	5,026	1.1	2,440	0.3
Frozen						
French fried potatoes	-		13,890	3.2	127,949	17.7
Potato rounds	11,787	3.0	23,480	5.3	21,899	3.0
Potato wedges	-		18,518	4.2	11,199	1.6

SCHOOL FOOD PURCHASE STUDY-III
SECTION 4: MARKET AND POLICY SETTING

USDA Food	SY 1984/85		SY 1996/97		SY 2009/10	
Sweet potatoes	-		590	0.1	198	0.0
Corn	3,894	1.0	10,480	2.4	12,094	1.7
Carrots	-		3,457	0.8	-	
Green beans	1,038	0.3	-		3,319	0.5
Mixed vegetables	18,106	4.7	-		-	
Green peas	-		3,209	0.7	3,536	0.5
Dehydrated potatoes	-		-		12,880	1.8
Meat and poultry						
Frozen ground beef	115,488	40.0	153,798	34.9	109,226	15.1
Misc. beef products	4,428	1.1	6,069	1.4	20,196	2.8
Frozen pork	-		16,988	3.9	19,759	2.7
Canned pork	7,449	1.9	-		756	0.1
Pork sausage	-		3,365	0.8	-	
Frozen ham	-		15,345	3.5	16,065	2.2
Chicken						
Frozen cut-up	71,378	18.3	30,153	6.8	7,953	0.1
Frozen whole	-		38,908	8.8	154,718	21.4
Bulk chilled	4,932	1.3	-		9,864	1.4
Other forms	15,357	3.9	13,420	3.0	26,291	3.6
Eggs						
Whole frozen	-		8,455	1.9	16,686	2.3
Dry mix	707	0.2	1,278	0.3	-	
Turkey						
Whole frozen	12,127	3.1	9,308	2.1	835	0.1
Frozen ground	-		35,588	8.1	-	
Frozen roasts	11,066	2.8	14,535	3.3	17,788	2.5
Chilled bulk	1,656	0.4	-		31,893	4.4
Other forms	-		10,905	2.5	25,696	3.6
Seafood						
Canned tuna	5,145	1.3	-		2,193	0.3
Canned salmon	2,249	0.6	-		-	
Frozen salmon	-		2,743	0.6	-	
Frozen catfish	-		-		1080	0.2
Frozen Alaskan pollock	-		-		280	0.0
Dairy products						
Cheese						
Cheddar	29,321	7.5	11,861	2.7	18,575	2.6
Processed	75,829	19.5	35,972	8.2	46,972	6.5
Mozzarella	30,384	7.8	23,903	5.4	75,018	10.4
Nonfat dry milk	24,499	6.3	4,141	0.9	47,132	6.5
Butter/butter oil	75,912	19.5	-		-	
Fluid milk	-		-		10,030	1.4

Sources: School Food Purchase Study, 1984/85, and FNS records for 1996/97 and 2009/10

4.2.4 Department of Defense Fruit and Vegetable Program donations, 2009/10

Table 4-7 below shows that apples represent 29 percent of the value of DoDFresh donations for 45 states and Puerto Rico. The next largest purchased items in value terms are oranges (12%), followed by carrots (8%) and lettuce and salads (each item 6%), tomatoes (5%), and pears, strawberries, and grapes (each 4%).

Table 4-7: Department of Defense Fruit and Vegetable Program donations, 2009/10

Item	Pounds '000	Percentage of total	Dollars '000	Percentage of total	Price/lb
Apples/pears	22,070.9	35%	18,899.5	33%	0.86
Apple	18,417.4	29%	16,529.7	29%	0.90
Pear	3,653.5	6%	2,369.7	4%	0.65
Berries	901.7	1%	2,245.8	4%	2.49
Blackberries	0.8	0%	6.6	0%	8.10
Blueberries	60.2	0%	83.8	0%	1.39
Raspberries	1.4	0%	8.8	0%	6.05
Strawberries	839.2	1%	2,146.6	4%	2.56
Brassica	1,350.7	2%	2,107.9	4%	1.56
Bok choy	0.0	0%	0.0	0%	1.09
Cabbage	351.6	1%	208.4	0%	0.59
Coleslaw	124.0	0%	136.9	0%	1.10
Broccoli	604.9	1%	1,163.7	2%	1.92
Cauliflower	270.1	0%	598.8	1%	2.22
Citrus	13,123.6	21%	8,821.7	15%	0.67
Clementine	10.4	0%	20.3	0%	1.95
Grapefruit	826.5	1%	465.4	1%	0.56
Lemon	40.7	0%	71.5	0%	1.75
Lime	0.1	0%	0.1	0%	0.89
Orange	10,268.9	16%	6,962.9	12%	0.68
Satsuma	5.8	0%	6.6	0%	1.15
Tangelo	252.7	0%	139.8	0%	0.55
Tangerine	1,718.4	3%	1,155.0	2%	0.67
Herb	9.3	0%	18.3	0%	1.96
Basil	0.2	0%	1.8	0%	9.51
Cilantro	3.5	0%	10.1	0%	2.87
Garlic	0.9	0%	2.0	0%	2.30
Mint	0.0	0%	0.1	0%	12.78
Parsley	4.7	0%	4.0	0%	0.84
Thyme	0.0	0%	0.4	0%	17.15
Legumes	59.6	0%	144.6	0%	2.43
Green beans	36.8	0%	80.3	0%	2.18
Peas	22.8	0%	64.4	0%	2.82

SCHOOL FOOD PURCHASE STUDY-III
SECTION 4: MARKET AND POLICY SETTING

Item	Pounds '000	Percentage of total	Dollars '000	Percentage of total	Price/lb
Lettuce	7,654.6	12%	7,565.4	13%	0.99
Arugula	0.0	0%	0.0	0%	2.05
Kale/greens	7.9	0%	10.4	0%	1.32
lettuce	3,765.3	6%	3,617.4	6%	0.96
Romaine	412.8	1%	216.2	0%	0.52
Salad	3,336.4	5%	3,423.1	6%	1.03
Spinach	132.3	0%	298.3	1%	2.25
Melon	3,552.2	6%	2,088.4	4%	0.59
Cantaloupe	1,020.2	2%	801.6	1%	0.79
Honeydew	270.3	0%	306.5	1%	1.13
Watermelon	2,261.7	4%	980.3	2%	0.43
Mushroom	26.9	0%	51.0	0%	1.90
Nuts	11.3	0%	75.6	0%	6.67
Almonds	2.6	0%	16.8	0%	6.39
Pecan	7.6	0%	50.4	0%	6.59
Walnuts	1.1	0%	8.4	0%	7.86
Onion	423.1	1%	342.8	1%	0.81
Other fruits	2,178.1	3%	3,087.6	5%	1.42
Fruit mix	19.9	0%	78.6	0%	3.95
Grapes	1,502.3	2%	2,281.0	4%	1.52
Kiwi	645.3	1%	719.6	1%	1.12
Pomegranate	10.6	0%	8.5	0%	0.80
Other vegetable	2,150.1	3%	2,511.6	4%	1.17
Asparagus	0.8	0%	1.9	0%	2.19
Celery	1,177.5	2%	1,515.7	3%	1.29
Corn	21.5	0%	22.6	0%	1.05
Cucumber	633.7	1%	519.1	1%	0.82
Eggplant	9.5	0%	7.5	0%	0.79
Mixed veg	23.0	0%	74.0	0%	3.23
Peppers	284.0	0%	370.8	1%	1.31
Watercress	0.0	0%	0.1	0%	4.17
Potatoes	2,567.4	4%	925.9	2%	0.36
Root vegetable	4,175.1	7%	4,915.1	8%	1.18
Carabites	5.6	0%	18.1	0%	3.21
Carrots	3,695.9	6%	4,542.9	8%	1.23
Jicama	2.6	0%	7.4	0%	2.83
Radish	48.1	0%	81.9	0%	1.70
Swt. potatoes	422.8	1%	264.7	0%	0.63
Turnip	0.1	0%	0.1	0%	1.97
Sprout	0.3	0%	1.2	0%	4.14
Alfalfa sprouts.	0.2	0%	1.0	0%	5.27
Beansprouts	0.1	0%	0.2	0%	2.03
Squash	115.3	0%	108.7	0%	0.94
Pumpkin	0.7	0%	0.7	0%	1.00
Squash	114.6	0%	108.0	0%	0.94

SCHOOL FOOD PURCHASE STUDY-III
SECTION 4: MARKET AND POLICY SETTING

Item	Pounds '000	Percentage of total	Dollars '000	Percentage of total	Price/lb
Stone fruit	517.8	1%	569.3	1%	1.10
Avocado	46.5	0%	60.3	0%	1.30
Cherries	0.5	0%	1.4	0%	3.07
Nectarine	98.3	0%	102.4	0%	1.04
Peach	133.4	0%	139.7	0%	1.05
Persimmons	3.5	0%	7.7	0%	2.21
Plums	235.6	0%	257.8	0%	1.09
Tomatoes	2,186.6	3%	3,081.6	5%	1.41
Tropical fruit	183.0	0%	395.6	1%	12.36
Bananas	1.0	0%	0.0	0%	0.05
Mango	0.2	0%	0.8	0%	5.29
Papaya	0.5	0%	1.2	0%	2.66
Pineapple	161.3	0%	349.5	1%	2.17
Starfruit	20.1	0%	44.0	0%	2.19
Total	63,258	100%	57,957.8	100%	

Source: Department of Defense records

SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

5.1 Introduction

This section provides a summary of the study's findings with regard to national estimates of food acquisitions by unified public school districts in SY 2009/10. Measures of value, quantity in pounds, and unit cost per pound are provided for specific food groups and subgroups. For key measures there are comparisons of the findings to the results of the previous study covering SY 1996/97.

The section includes methodological points to be kept in mind when interpreting the results; a breakdown of the findings for commercial food purchases, donated USDA Foods and processed foods containing donated USDA Foods; and discussions of acquisition of beverages, fresh fruit and vegetables, and à la carte food items.

5.2 Methodological considerations

The data provided in this report are national estimates for the 48 contiguous states and the District of Columbia. Data for Alaska and Hawaii have been collected separately and are provided in a separate report.

All food acquisitions were assigned to one of 865 general food product descriptions ("food items"). Distinctions were made among different forms of product (e.g. fresh, frozen, canned, bone-in, cooked, uncooked, juice pack, etc.) and for other key product characteristics related to nutrition (e.g. whole grain, sweetened, low fat, etc.). Information on brands is not reflected.

Estimates of volume are in pounds of the food as delivered to the school district. Foods arrive in different forms and when aggregated in groups and subgroups are not homogenous (e.g. the milk subgroup can contain fluid milk, condensed milk, dry milk, eggnog, etc.). Therefore, in the case of milk for example, the aggregate weight is not in whole milk equivalent. Individual food product items are more homogenous and the above consideration is not much of an issue at that level.

For comparability with the earlier study, data were aggregated in the same 16 food groups and, whenever possible, the same subgroups. However, new food items have been added and some new subgroups were created. The current study has a total of 72 subgroups. The complete classification system for food items and their combination within different groups and subgroups is presented in the Statistical Appendices report.

Each food acquisition was assigned to one of the following categories: purchased foods, processed foods containing donated USDA Foods, or donated USDA Foods. Processed foods containing donated USDA Foods were the most difficult to identify in school records because they are often the same branded item as that which is purchased in the normal manner, and sometimes arrive in a combined shipment containing both the commercial product and the version containing donated USDA Foods. Two values were assigned to USDA donations - commercial values based on the fair market value of the same product and the USDA assigned values. USDA assigned values are generally lower. One reason for this is that USDA assigned values are for products that are delivered to a single location in the state or to a large district, and do not

include the administrative costs associated with procurement. They do not include charges to individual school districts, except where those are very large.

School districts can use USDA entitlement dollars to purchase fresh fruits and vegetables through the USDA funded Department of Defense Fresh Fruit and Vegetable Program (DoDFresh). Unless specifically identified in tables or text, these purchases are presented as part of the donated USDA Foods.

One methodological issue to keep in mind is that of seasonality. As noted in the SFPS-II report, if a particular product is purchased during one part of the year, for example the autumn months, then the national estimate of the number of school districts purchasing the product will likely underestimate the true number because the purchases are only showing up in the sample for that quarter. However the estimate of the total value and volume of purchases should be representative of the true numbers for the year as a whole.

The seasonality issue also arises in connection with USDA donations, which for many products tend to be concentrated in relatively short periods. For example, if USDA acquires a surplus commodity and offers that inventory to school districts, it will be supplied over a matter of weeks or months, and our methodology may underestimate the number of school districts receiving the USDA Food.

Another methodological concern is the way in which food items and food groups are defined. The more disaggregated the food items in a subgroup, the less relative importance each has. For example, fruit is a subgroup including all fruit, but vegetables are a group with seven subgroups representing different categories of vegetables. Vegetables as a group are second in volume only to milk and dairy products, but most of the vegetable subgroups do not rank high among subgroups, whereas fruit does because it includes all fruit. Where appropriate, this report discusses alternative product groupings when it sheds light on one or another of the key research questions.

5.3 School food acquisitions, SY 2009/10

5.3.1 Total food acquisitions - great diversity

Diversity is the one word that best describes the list of SFA food acquisitions in SY 2009/10. Public unified NSLP school districts in the 48 contiguous states and the District of Columbia acquired 865 food items valued at \$8.5 billion²³ in SY 2009/10. This number of food items does not distinguish the composition of individual products but describes them in general terms (e.g. jams, cookies, cakes, rather than strawberry jam, chocolate cookie, etc.). Thus, had food items been further broken down descriptively, the number of items would have been far greater. Similarly, different container and case sizes for a product are aggregated into a single food item.

A summary of the dollar value of these acquisitions is provided in Table 5-1 and by weight in pounds in Table 5-2. In these summaries, the individual food items have been aggregated into 72 food subgroups and 16 broader food groups (e.g. milk and other dairy products, bakery products, etc.).

²³ Based on fair market value for USDA donations. If the USDA assigned value is used, the total is \$8.2 billion.

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

In Table 5-1, USDA donated foods are presented with two different values. One is an estimated 'fair market value' based on the cost of purchasing comparable products in the open marketplace. The second is the value that USDA assigns to each USDA Food based on the price paid by the Department plus a charge reflecting transportation costs to a single location in the state.

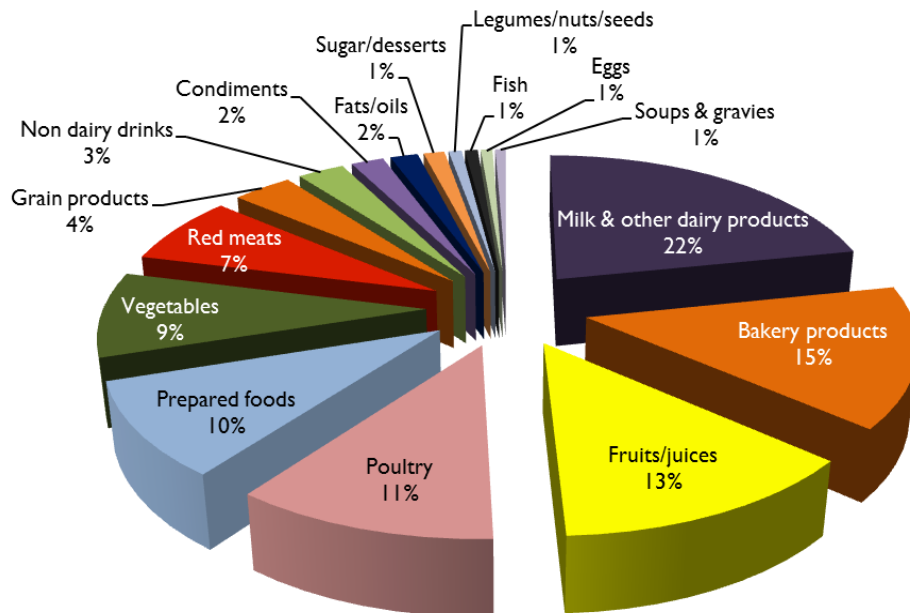
Detailed value and volume information for all 865 individual food items represented in the summaries (Tables 5-1 and 5-2) is provided in the Statistical Appendices report. The value used is the fair market value.

The \$8.5 billion of foods acquired by unified public school districts in SY 2009/10 is equivalent to 76 percent of trade estimates of total food purchases by primary and secondary school systems, and 1.5 percent of all food purchases by commercial and non-commercial food service operations in 2010.²⁴

Figure 5-1 shows the shares of total value by major food group. Dairy products represent the largest group (22 percent), followed by bakery products (15 percent), and fruits and juices (13 percent).

Commercially purchased food products represented 81 percent of the value and 87 percent of the volume of all food acquisitions; USDA donations (fair market value) represented 11 percent of value and 8 percent of the volume, and processed foods containing donated USDA Foods represented 8 and 5 percent respectively. These estimates are shown in Figure 5-2 and Figure 5-3.

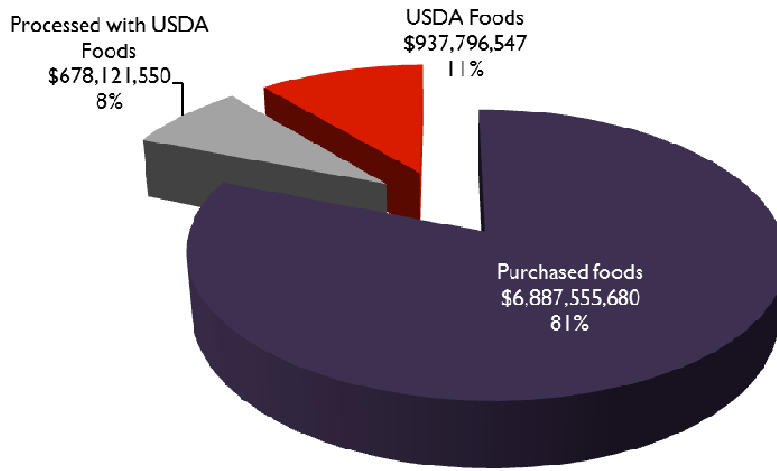
Figure 5-1: Share of food product acquisitions in SY 2009/10 by public unified school districts, by group (dollar value)



Source: School Food Purchase Study, 2011

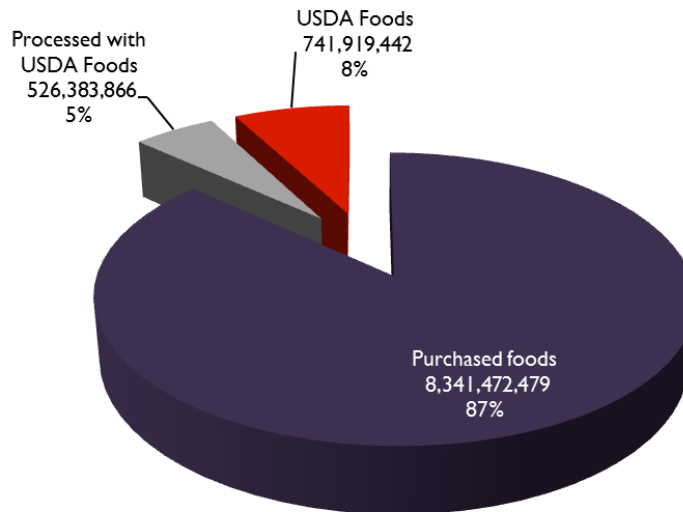
²⁴ Food Industry Review, 2010

Figure 5-2: Share of purchased foods, donated USDA Foods, and processed with USDA Foods in SY 2009/10 (fair market value)



Source: School Food Purchase Study, 2011

Figure 5-3: Share of purchased foods, donated USDA Foods, and processed with USDA Foods in SY 2009/10 (pounds)



Source: School Food Purchase Study, 2011

SCHOOL FOOD PURCHASE STUDY-III

SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

Table 5-1: Summary of dollar value of food acquisitions by public unified NSLP school districts, SY 2009/10

Food groups/subgroups	All foods		Purchased foods		Processed foods containing donated USDA Foods		Donated USDA Foods* (Fair market price)		Donated USDA Foods* (USDA assigned value)	
	Dollar value (\$)	Percent of total (%)	Dollar value (\$)	Percent of total (%)	Dollar value (\$)	Percent of total (%)	Dollar value (\$)	Percent of total (%)	Dollar value (\$)	Percent of total (%)
All foods	8,503,473,776	100	6,887,555,680	100	678,121,550	100	937,796,547	100	669,030,353	100
Bakery products	1,237,643,496	14.6	1,211,849,646	17.6	20,861,815	3.1	4,932,035	0.5	2,690,317	0.4
Biscuits, muffins, pancakes & waffles	231,915,096	2.7	220,859,708	3.2	9,132,963	1.3	1,922,425	0.2	1,141,134	0.2
Bread & rolls	472,884,000	5.6	465,505,505	6.8	4,953,993	0.7	2,424,502	0.3	1,132,787	0.2
Cakes & other bakery desserts	215,489,163	2.5	211,329,755	3.1	3,574,300	0.5	585,108	0.1	416,396	0.1
Crackers	92,909,400	1.1	92,827,812	1.3	81,588	0.0	-	0.0	-	0.0
Pretzels & snack chips	224,445,837	2.6	221,326,866	3.2	3,118,971	0.5	-	0.0	-	0.0
Condiments	164,337,095	1.9	148,353,873	2.2	5,797,137	0.9	10,186,086	1.1	4,412,696	0.7
Catsup & other sauces	126,841,985	1.5	110,880,788	1.6	5,775,111	0.9	10,186,086	1.1	4,412,696	0.7
Flavorings	11,984,220	0.1	11,962,194	0.2	22,026	0.0	-	0.0	-	0.0
Pickles/olives	25,510,890	0.3	25,510,890	0.4	-	0.0	-	0.0	-	0.0
Eggs	58,619,861	0.7	39,375,734	0.6	12,757,192	1.9	6,486,935	0.7	3,974,094	0.6
Eggs	21,269,691	0.3	14,529,487	0.2	253,269	0.0	6,486,935	0.7	3,974,094	0.6
Mixtures with eggs	37,350,170	0.4	24,846,247	0.4	12,503,922	1.8	-	0.0	-	0.0
Fats/oils	139,229,768	1.6	126,850,709	1.8	4,940,470	0.7	7,438,589	0.8	4,996,203	0.7
Butter	3,677,586	0.0	3,677,586	0.1	-	0.0	-	0.0	-	0.0
Margarine	16,338,575	0.2	15,950,537	0.2	388,039	0.1	-	0.0	-	0.0
Salad dressings & mayonnaise	90,085,704	1.1	85,546,218	1.2	4,539,486	0.7	-	0.0	-	0.0
Vegetable oils & shortenings	29,127,903	0.3	21,676,369	0.3	12,945	0.0	7,438,589	0.8	4,996,203	0.7
Fish	64,224,950	0.8	54,558,834	0.8	424,440	0.1	9,241,676	1.0	11,832,836	1.8
Fish	54,033,436	0.6	44,367,320	0.6	424,440	0.1	9,241,676	1.0	11,832,836	1.8
Shellfish	10,191,514	0.1	10,191,514	0.1	-	0.0	-	0.0	-	0.0
Fruits/juices	1,108,983,879	13.0	865,228,590	12.6	6,857,814	1.0	236,897,475	25.3	177,538,510	26.5
Fruits	741,520,935	8.7	504,082,800	7.3	4,943,642	0.7	232,494,493	24.8	174,325,173	26.1
Juices	367,462,943	4.3	361,145,790	5.2	1,914,172	0.3	4,402,982	0.5	3,213,337	0.5

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

Food groups/subgroups	All foods		Purchased foods		Processed foods containing donated USDA Foods		Donated USDA Foods* (Fair market price)		Donated USDA Foods* (USDA assigned value)	
	Dollar value (\$)	Percent of total (%)	Dollar value (\$)	Percent of total (%)	Dollar value (\$)	Percent of total (%)	Dollar value (\$)	Percent of total (%)	Dollar value (\$)	Percent of total (%)
Grain products	299,138,074	3.5	261,128,146	3.8	22,324,682	3.3	15,685,246	1.7	7,601,987	1.1
Breakfast cereals	119,347,545	1.4	116,723,014	1.7	170,242	0.0	2,454,289	0.3	450,876	0.1
Flour & other milled grains	14,428,220	0.2	9,769,774	0.1	-	0.0	4,658,445	0.5	3,376,259	0.5
Flour mix	15,988,849	0.2	15,957,004	0.2	-	0.0	31,845	0.0	31,761	0.0
Mixtures with grain	100,399,557	1.2	78,256,784	1.1	22,142,772	3.3	-	0.0	-	0.0
Pasta & noodles	28,519,227	0.3	22,795,477	0.3	-	0.0	5,723,749	0.6	2,362,694	0.4
Rice, barley & other grains	20,454,677	0.2	17,626,092	0.3	11,668	0.0	2,816,918	0.3	1,380,396	0.2
Legumes/nuts/seeds	65,757,468	0.8	42,243,068	0.6	643,190	0.1	22,871,211	2.4	12,853,535	1.9
Dry beans/peas	37,532,851	0.4	29,025,742	0.4	-	0.0	8,507,109	0.9	5,836,451	0.9
Other nuts	6,109,754	0.1	444,789	0.0	-	0.0	5,664,966	0.6	2,140,553	0.3
Peanuts/peanut butter	13,509,955	0.2	4,677,731	0.1	635,117	0.1	8,197,107	0.9	4,559,718	0.7
Seeds	4,680,815	0.1	4,170,713	0.1	8,073	0.0	502,029	0.1	316,812	0.0
Soybeans & soy products	3,924,093	0.0	3,924,093	0.1	-	0.0	-	0.0	-	0.0
Milk & other dairy products	1,850,865,049	21.8	1,631,819,098	23.7	30,183,750	4.5	188,862,201	20.1	128,840,617	19.3
Cheese	361,765,103	4.3	146,447,001	2.1	30,178,292	4.5	185,139,809	19.7	124,287,957	18.6
Cream	10,186,106	0.1	10,186,106	0.1	-	0.0	-	0.0	-	0.0
Ice cream & ice milk	66,581,903	0.8	66,581,903	1.0	-	0.0	-	0.0	-	0.0
Milk	1,348,769,386	15.9	1,345,041,537	19.5	5,458	0.0	3,722,392	0.4	4,552,660	0.7
Yogurt	63,562,551	0.7	63,562,551	0.9	-	0.0	-	0.0	-	0.0
Non dairy drinks	234,429,814	2.8	234,429,814	3.4	-	0.0	-	0.0	-	0.0
Carbonated	6,242,450	0.1	6,242,450	0.1	-	0.0	-	0.0	-	0.0
Coffee & tea	27,983,211	0.3	27,983,211	0.4	-	0.0	-	0.0	-	0.0
Dry beverage	2,032,086	0.0	2,032,086	0.0	-	0.0	-	0.0	-	0.0
Enriched drinks	87,998,471	1.0	87,998,471	1.3	-	0.0	-	0.0	-	0.0
Fruit drinks	38,706,805	0.5	38,706,805	0.6	-	0.0	-	0.0	-	0.0
Water	71,466,789	0.8	71,466,789	1.0	-	0.0	-	0.0	-	0.0

SCHOOL FOOD PURCHASE STUDY-III

SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

Food groups/subgroups	All foods		Purchased foods		Processed foods containing donated USDA Foods		Donated USDA Foods* (Fair market price)		Donated USDA Foods* (USDA assigned value)	
	Dollar value (\$)	Percent of total (%)	Dollar value (\$)	Percent of total (%)	Dollar value (\$)	Percent of total (%)	Dollar value (\$)	Percent of total (%)	Dollar value (\$)	Percent of total (%)
Poultry	928,260,107	10.9	521,310,426	7.6	231,054,928	34.1	175,894,753	18.8	114,299,903	17.1
Chicken	670,500,886	7.9	403,152,887	5.9	193,609,377	28.6	73,738,623	7.9	48,810,618	7.3
Game birds	34,447	0.0	34,447	0.0	-	0.0	-	0.0	-	0.0
Mixed poultry	50,258	0.0	50,258	0.0	-	0.0	-	0.0	-	0.0
Recipe mix	1,427,251	0.0	671,047	0.0	756,204	0.1	-	0.0	-	0.0
Turkey	256,247,264	3.0	117,401,787	1.7	36,689,347	5.4	102,156,130	10.9	65,489,285	9.8
Prepared foods	829,547,761	9.8	617,560,519	9.0	211,987,242	31.3	-	0.0	-	0.0
Burritos/tacos	66,788,612	0.8	58,512,254	0.8	8,276,358	1.2	-	0.0	-	0.0
Meat or cheese filled pastry	106,300,359	1.3	77,698,676	1.1	28,601,683	4.2	-	0.0	-	0.0
Mixtures with fish	365,917	0.0	365,917	0.0	-	0.0	-	0.0	-	0.0
Pizza	497,498,807	5.9	376,798,879	5.5	120,699,928	17.8	-	0.0	-	0.0
Prepared meals	39,070,480	0.5	34,669,255	0.5	4,401,225	0.6	-	0.0	-	0.0
Prepared sandwiches	119,523,586	1.4	69,515,539	1.0	50,008,047	7.4	-	0.0	-	0.0
Red meats	611,294,648	7.2	381,862,850	5.5	94,715,158	14.0	134,716,640	14.4	105,183,338	15.7
Beef & veal	374,910,066	4.4	202,898,543	2.9	77,905,202	11.5	94,106,321	10.0	79,130,411	11.8
Lamb	30,968	0.0	30,968	0.0	-	0.0	-	0.0	-	0.0
Mixed meats	51,440,613	0.6	51,074,305	0.7	366,308	0.1	-	0.0	-	0.0
Pork	181,417,824	2.1	124,484,314	1.8	16,323,191	2.4	40,610,319	4.3	26,052,927	3.9
Recipe mix	3,495,177	0.0	3,374,720	0.0	120,458	0.0	-	0.0	-	0.0
Soups & gravies	52,919,443	0.6	50,908,566	0.7	2,010,878	0.3	-	0.0	-	0.0
Gravies	14,277,229	0.2	14,277,229	0.2	-	0.0	-	0.0	-	0.0
Soups	38,642,214	0.5	36,631,337	0.5	2,010,878	0.3	-	0.0	-	0.0

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

Food groups/subgroups	All foods		Purchased foods		Processed foods containing donated USDA Foods		Donated USDA Foods* (Fair market price)		Donated USDA Foods* (USDA assigned value)	
	Dollar value (\$)	Percent of total (%)	Dollar value (\$)	Percent of total (%)	Dollar value (\$)	Percent of total (%)	Dollar value (\$)	Percent of total (%)	Dollar value (\$)	Percent of total (%)
Sugar/desserts	104,948,408	1.2	103,866,728	1.5	1,081,680	0.2	-	0.0	-	0.0
Candies/toppings	15,542,164	0.2	15,542,164	0.2	-	0.0	-	0.0	-	0.0
Gelatins	5,952,198	0.1	5,157,925	0.1	794,273	0.1	-	0.0	-	0.0
Jellies, jams & preserves	9,334,368	0.1	9,334,368	0.1	-	0.0	-	0.0	-	0.0
Puddings/pie filling	14,339,108	0.2	14,339,108	0.2	-	0.0	-	0.0	-	0.0
Sherbet/ices	17,800,048	0.2	17,512,641	0.3	287,407	0.0	-	0.0	-	0.0
Sugars	19,242,173	0.2	19,242,173	0.3	-	0.0	-	0.0	-	0.0
Syrups	22,738,348	0.3	22,738,348	0.3	-	0.0	-	0.0	-	0.0
Vegetables	753,273,956	8.9	596,209,080	8.7	32,481,175	4.8	124,583,701	13.3	94,806,317	14.2
Green vegetables	179,590,396	2.1	152,335,828	2.2	157,554	0.0	27,097,014	2.9	21,551,060	3.2
Mixed vegetables	86,459,493	1.0	65,073,951	0.9	-	0.0	21,385,543	2.3	16,575,966	2.5
Mixtures with vegetables	7,116,909	0.1	7,013,028	0.1	99,216	0.0	4,665	0.0	14,320	0.0
Other vegetables	18,817,734	0.2	17,925,559	0.3	-	0.0	892,175	0.1	976,305	0.1
Potatoes & potato products	254,956,598	3.0	199,047,113	2.9	25,447,827	3.8	30,461,659	3.2	25,486,481	3.8
Tomatoes & tomato products	92,283,800	1.1	72,075,890	1.0	5,597,279	0.8	14,610,631	1.6	10,292,117	1.5
Yellow vegetables	114,049,025	1.3	82,737,712	1.2	1,179,299	0.2	30,132,014	3.2	19,910,068	3.0

*/ Includes purchases through the Department of Defense Fresh Fruit and Vegetable Program
Source: School Food Purchase Study, 2011

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

**Table 5-2: Summary of volume of food acquisitions by public unified NSLP school districts,
SY 2009/10**

Food groups/subgroups	All foods	Purchased foods	Processed foods containing donated USDA Foods	Donated USDA Foods
	-----pounds-----			
All foods	9,609,775,788	8,341,472,479	526,383,867	741,919,442
Bakery products	770,354,451	750,451,929	16,007,274	3,895,248
Biscuits, muffins, pancakes & waffles	129,481,378	123,068,685	5,050,961	1,361,732
Bread & rolls	415,054,511	406,629,005	6,099,462	2,326,045
Cakes & other bakery desserts	104,284,458	101,791,075	2,285,913	207,471
Crackers	40,689,945	40,643,853	46,092	-
Pretzels & snack chips	80,844,159	78,319,312	2,524,847	-
Condiments	201,543,654	181,046,135	10,946,218	9,551,301
Catsup & other sauces	147,459,188	126,965,921	10,941,966	9,551,301
Flavorings	9,990,660	9,986,407	4,252	-
Pickles/olives	44,093,806	44,093,806	-	-
Eggs	41,432,428	25,682,904	9,356,162	6,393,361
Eggs	19,992,063	13,378,626	220,076	6,393,361
Mixtures with eggs	21,440,365	12,304,278	9,136,087	-
Fats/oils	123,722,091	108,461,294	6,806,002	8,454,795
Butter	1,916,328	1,916,328	-	-
Margarine	21,140,093	20,505,989	634,104	-
Salad dressings & mayonnaise	72,151,042	66,001,212	6,149,830	-
Vegetable oils & shortenings	28,514,628	20,037,764	22,068	8,454,795
Fish	28,140,481	24,105,280	132,080	3,903,121
Fish	23,690,512	19,655,311	132,080	3,903,121
Shellfish	4,449,969	4,449,969	-	-
Fruits/juices	1,549,354,517	1,270,237,806	10,666,258	268,450,453
Fruits	921,887,042	654,331,712	7,030,779	260,524,551
Juices	627,467,475	615,906,095	3,635,478	7,925,902
Grain products	206,905,821	163,785,622	16,025,946	27,094,252
Breakfast cereals	34,613,649	33,167,556	34,051	1,412,042
Flour & other milled grains	45,373,384	30,410,877	-	14,962,507
Flour mix	13,706,730	13,672,941	-	33,789
Mixtures with grain	59,900,038	43,918,320	15,981,717	-
Pasta & noodles	30,701,871	24,500,911	-	6,200,959
Rice, barley & other grains	22,610,149	18,115,017	10,178	4,484,955

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

Food groups/subgroups	All foods	Purchased foods	Processed foods containing donated USDA Foods	Donated USDA Foods
	-----pounds-----			
Legumes/nuts/seeds	76,640,827	53,774,739	388,908	22,477,180
Dry beans/peas	62,073,527	46,808,328	-	15,265,199
Other nuts	1,137,152	88,722	-	1,048,430
Peanuts/peanut butter	9,456,205	3,123,053	386,151	5,947,001
Seeds	1,863,419	1,644,113	2,757	216,550
Soybeans & soy products	2,110,524	2,110,524	-	-
Milk & other dairy products	3,714,818,319	3,602,056,156	21,115,508	91,646,655
182,244,200	182,244,200	77,893,362	21,100,270	83,250,568
Cream	7,458,150	7,458,150	-	-
Ice cream & ice milk	45,046,736	45,046,736	-	-
Milk	3,427,081,039	3,418,669,714	15,238	8,396,087
Yogurt	52,988,195	52,988,195	-	-
Non-dairy drinks	502,911,693	502,911,693	-	-
Carbonated	10,705,477	10,705,477	-	-
Coffee & tea	42,476,828	42,476,828	-	-
Dry beverage	818,258	818,258	-	-
Enriched drinks	135,230,218	135,230,218	-	-
Fruit drinks	57,886,932	57,886,932	-	-
Water	255,793,981	255,793,981	-	-
Poultry	504,632,490	269,565,730	161,641,561	73,425,199
Chicken	373,607,178	204,568,857	137,743,717	31,294,604
Game birds	5,724	5,724	-	-
Mixed poultry	11,257	11,257	-	-
Recipe mix	731,601	298,646	432,954	-
Turkey	130,276,731	64,681,246	23,464,890	42,130,595
Prepared foods	461,173,841	330,022,115	131,151,726	-
Burritos/tacos	43,447,803	36,745,138	6,702,664	-
Meat or cheese filled pastry	57,764,055	39,609,179	18,154,875	-
Mixtures with fish	78,416	78,416	-	-
Pizza	290,526,499	210,673,607	79,852,891	-
Prepared meals	18,626,343	16,228,057	2,398,286	-
Prepared sandwiches	50,730,726	26,687,717	24,043,009	-

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

Food groups/subgroups	All foods	Purchased foods	Processed foods containing donated USDA Foods	Donated USDA Foods
	-----pounds-----			
Red meats	337,417,322	185,441,672	87,104,965	64,870,684
Beef & veal	221,680,948	99,421,287	73,924,126	48,335,535
Lamb	5,736	5,736	-	-
Mixed meats	28,203,414	27,796,684	406,730	-
Pork	85,430,449	56,203,049	12,692,251	16,535,149
Recipe mix	2,096,774	2,014,916	81,858	-
Soups & gravies	35,878,668	34,050,491	1,828,177	-
Gravies	6,088,273	6,088,273	-	-
Soups	29,790,395	27,962,218	1,828,177	-
Sugar/desserts	113,334,548	112,428,356	906,192	-
Candies/toppings	7,438,447	7,438,447	-	-
Gelatins	4,866,798	4,179,975	686,823	-
Jellies, jams & preserves	8,170,328	8,170,328	-	-
Puddings/pie filling	19,412,390	19,412,390	-	-
Sherbet/ices	17,086,954	16,867,585	219,369	-
Sugars	31,444,732	31,444,732	-	-
Syrups	24,914,899	24,914,899	-	-
Vegetables	941,514,637	727,450,556	52,306,889	161,757,193
Green vegetables	211,625,820	175,330,752	243,391	36,051,677
Mixed vegetables	86,602,427	73,021,842	-	13,580,584
Mixtures with vegetables	4,905,054	4,853,362	49,844	1,848
Other vegetables	15,065,337	14,474,636	-	590,701
Potatoes & potato products	366,044,614	277,010,937	41,511,705	47,521,973
Tomatoes & tomato products	116,085,464	85,387,370	9,474,327	21,223,767
Yellow vegetables	141,185,922	97,371,656	1,027,622	42,786,644

Source: School Food Purchase Study, 2011

5.3.2 Most frequently acquired foods

Despite the great diversity of food items purchased by SFAs in SY 2009/10, a relatively small number of foods seem to have universal appeal and account for most of the value of all food acquisitions. As seen in Table 5-3, the top three food subgroups account for close to one third of the value of all acquisitions (32 percent), the top five subgroups account for almost half (44 percent), and the top ten account for 63 percent of the value of all food acquisitions. The same 10 subgroups were the leaders in SY 1996/97 when they accounted for 60 percent of total acquisitions. These 10 food subgroups represent 14 percent of the total of 72 food subgroups and 36 percent of the 865 acquired food items. Milk features strongly because the National School Lunch Act requires that it must be offered to students at both lunch and breakfast.

If one ranks the subgroups by volume rather than value, and excludes water, the same ten come out on top except that turkey is displaced by green vegetables. The top 10 account for 73 percent of total pounds acquired. If one includes water, it displaces cheese and the top ten then account for 74 percent of total acquisitions. Vegetables do not occur in the list as they are classified as a group and not a subgroup, (see

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

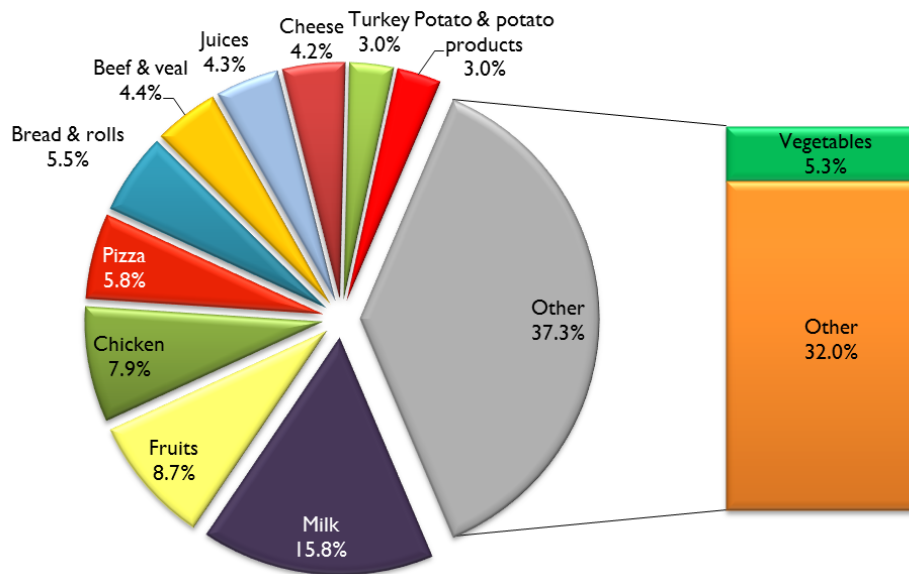
discussion in section 5.2 on construction of groups and subgroups). Vegetables as a group accounted for 5.8 percent of the value of all food acquisitions (Figure 5-4).

Table 5-3: Share of the total value of acquisitions for the ten leading food subgroups acquired by public unified NSLP school districts, SY 2009/10

Food category (subgroup)	Value (\$)	Percent share
1. Milk	1,348,769,386	15.8
2. Fruits	741,520,935	8.7
3. Chicken	670,500,886	7.9
4. Pizza	497,498,807	5.8
5. Bread & rolls	472,884,000	5.5
6. Beef & veal	374,910,066	4.4
7. Juices	367,462,943	4.3
8. Cheese	361,765,103	4.2
9. Turkey	256,247,263	3.0
10. Potato & potato products	254,956,598	3.0
Total	5,364,979,884	62.6

Source: School Food Purchase Study 2011

Figure 5-4: Share of leading food subgroups acquisitions by school districts in SY 2009/10 (Value)



Source: School Food Purchase Study 2011

In order to gauge the relative importance of the most frequently acquired foods at an individual food item level, food items that were purchased in the largest volume in SY 2009/10 were identified and their share of the total value and volume of food acquisitions of the 865 food items was calculated. These estimates are provided in Table 5-4. The top 50 items account for 54 percent of the value of all food acquisitions and hold an even higher volume share (64 percent). The top 100 and 150 food items account for 73% and 83%, respectively, of the value and 79% and 86% of the volume. Thus, a large number of food items

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

account for a small share of food purchases. Indeed, 715 foods (865 minus 150 items) account for only 17% of the value and 13% of the volume. A list of the top 100 food items by value of acquisitions is provided in Appendix 5. (The value and volume of each individual food item is provided in the separate Statistical Appendices report.)

Table 5-4: Share of total value and volume of individual food items acquired by public unified NSLP school districts, SY 2009/10

Number of top items acquired	Share of total value of food acquisitions by source				Share of total volume of food acquisitions by source			
	All foods	Purchased foods	Processed foods containing donated USDA Foods	Donated USDA (Fair market price)	All foods	Purchased foods	Processed foods containing donated USDA Foods	Donated USDA Foods
Top 50	54%	55%	53%	52%	64%	67%	53%	43%
Top 100	73%	72%	79%	73%	79%	79%	79%	66%
Top 150	83%	82%	86%	84%	86%	87%	86%	81%
Top 200	89%	88%	91%	91%	92%	92%	92%	89%
Top 300	95%	95%	97%	98%	96%	96%	98%	96%
Top 400	98%	98%	99%	99%	99%	98%	99%	99%
Top 500	99%	99%	100%	100%	100%	99%	100%	100%

Source: School Food Purchase Study, 2011

Looking further at the type of items acquired most frequently, in the top 50 food items list, milk and dairy products accounted for the largest share. Combined, 6 fluid milk items, three types of cheese products, yogurt and ice cream novelties, accounted for 19.3 percent of the total value of all food items purchased by SFAs in SY 2009/10. The food groups represented in the top 50 list, the number of food items within each group and the share of total volume and value of food purchases that the 50 food items account for are provided in Table 5-5.

Table 5-5: Summary of top 50 food items acquired by public unified NSLP districts by number of items in major food groups and share of total acquisitions, SY 2009/10

Food group	Number of food items in top 50 list	Share of total volume of food acquisitions	Share of total value of food acquisitions
Milk & other dairy products	11	35.9%	19.3%
Bakery products	9	7.0%	8.4%
Poultry	8	3.0%	6.1%
Prepared foods	7	3.0%	6.0%
Fruits/juices	6	6.6%	5.7%
Red meat	3	1.6%	2.9%
Vegetables	3	3.2%	2.5%
Non-dairy drinks	2	3.8%	1.7%
Grain products	1	0.3%	1.3%

Source: School Food Purchase Study, 2011

5.3.3 Importance of donated USDA Foods

A wide selection of foods is made available through the USDA Commodity Donation Program. In SY 2009/10, school districts in the 48 states and the District of Columbia acquired 165 of the 180 food items offered through the Commodity Donation Program. In addition, 232 processed food products acquired by schools in the study contained donated USDA Foods as ingredients. Table 5-6 lists the dollar value of total food subgroup acquisitions, and the percentage that was acquired as donated USDA Foods or processed foods containing donated USDA Foods.²⁵ As can be seen from the table, for some food subgroups the USDA is an important source of supply. The results however, should be interpreted with care because the shares of USDA donations can be misleading since some volumes are very small. For example, over 90% of the supplies of some nuts²⁶ are USDA donations but the total acquired volume and value is rather small; if they were not available through USDA, school districts may not have purchased them at all. In addition, the commodity component of a processed food can represent either a large or small share of the total value of the product, so using the total value, as we have in this analysis, can somewhat overstate the importance of USDA Food donations. The important conclusion however, is that a significant share of some large volume subgroups, like cheese, turkey, or beef and veal for example, has been acquired through USDA.

Table 5-6: Share of the total value of acquisitions by public unified NSLP school districts that is accounted for by donated USDA Foods and processed foods containing donated USDA Foods as an ingredient, SY 2009/10

Food subgroup	Total dollar value of acquisition from all sources	Share of total category value that is donated or processed
1 Other nuts	\$6,109,754	92.7%
2 Peanuts/peanut butter	\$13,509,955	65.4%
3 Turkey	\$256,247,264	54.2%
4 Recipe mix (poultry)	\$1,427,251	53.0%
5 Beef & veal	\$374,910,066	45.9%
6 Cheese	\$361,765,103	42.7%
7 Prepared sandwiches	\$119,523,586	41.8%
8 Chicken	\$670,500,886	39.9%
9 Mixtures with eggs	\$37,350,170	33.5%
10 Flour & other milled grains	\$14,428,220	32.3%
11 Fruits	\$741,520,935	32.0%
12 Eggs	\$21,269,691	31.7%
13 Pork	\$181,417,824	31.4%
14 Yellow vegetables	\$114,049,025	27.5%
15 Meat or cheese filled pastry	\$106,300,359	26.9%
16 Vegetable oils & shortenings	\$29,127,903	25.6%
17 Mixed vegetables	\$86,459,493	24.7%
18 Pizza	\$497,498,807	24.3%
19 Dry beans/peas	\$37,532,851	22.7%
20 Mixtures with grain	\$100,399,557	22.1%

²⁵ 'Fair market value' was used for calculating the value of USDA Foods for this table.

²⁶ The subgroup 'other nuts' includes shell nuts other than peanuts and almond paste.

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

Food subgroup	Total dollar value of acquisition from all sources	Share of total category value that is donated or processed
21 Potatoes & potato products	\$254,956,598	21.9%
22 Tomatoes & tomato products	\$92,283,800	21.9%
23 Pasta & noodles	\$28,519,227	20.1%
24 Fish	\$54,033,436	17.9%
25 Green vegetables	\$179,590,396	15.2%
26 Rice, barley & other grains	\$20,454,677	13.8%
27 Gelatins	\$5,952,198	13.3%
28 Catsup & other sauces	\$126,841,985	12.6%
29 Burritos/tacos	\$66,788,612	12.4%
30 Prepared meals	\$39,070,480	11.3%
31 Seeds	\$4,680,815	10.9%
32 Soups	\$38,642,214	5.2%
33 Salad dressings & mayonnaise	\$90,085,704	5.0%
34 Biscuits, muffins, pancakes & waffles	\$231,915,096	4.8%
35 Other vegetables	\$18,817,734	4.7%
36 Recipe mix (red meat)	\$3,495,177	3.4%
37 Margarine	\$16,338,575	2.4%
38 Breakfast cereals	\$119,347,545	2.2%
39 Cakes & other bakery desserts	\$215,489,163	1.9%
40 Juices	\$367,462,943	1.7%
41 Sherbet/ices	\$17,800,048	1.6%
42 Bread & rolls	\$472,884,000	1.6%
43 Mixtures with vegetables	\$7,116,909	1.5%
44 Pretzels & snack chips	\$224,445,837	1.4%
45 Mixed meats	\$51,440,613	0.7%
46 Milk	\$1,348,769,386	0.3%
47 Flour mix	\$15,988,849	0.2%
48 Flavorings	\$11,984,220	0.2%
49 Crackers	\$92,909,400	0.1%

Source: School Food Purchase Study, 2011

SFAs can use USDA entitlement dollars to purchase fresh fruits and vegetables through the Department of Defense. SFAs acquired a total of 101 fresh fruit and vegetable items in SY 2009/10. Of these, 61 different fruit/vegetable items were purchased through the DoDFresh program. Table 5-7 lists the pounds of these items by acquisition method (commercial purchase, USDA donations, purchase through DoD), and the share represented by purchases through DoD. As seen from the table, close to half of the total volumes of avocado and tropical fruits were purchased through DoD. This finding should be interpreted with care however, because these are generally relatively low volume items. It is more instructive to look at the purchases of some major high volume fresh fruits and vegetables through the DoDFresh program.

- The overall largest volume items (all sources) in order were apples, oranges, bananas, lettuce salad mix, shredded lettuce, and pears. Purchases of these items through DoD represented 5.7, 5.5, 3.0, 23.3, 11.1, and 26.9 percent, respectively, of total acquisitions.

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

- The largest volume items purchased through DoD were, in order, lettuce salad mix, apples, pears, oranges, shredded lettuce, and potatoes. The DoDFresh share of purchases for these six items was 23.3, 5.9, 26.9, 5.5, 11.1, and 8.7 percent, respectively.

As can be seen there is significant overlap between the overall largest volume items (all sources of purchase) and the largest volume items purchased through DoDFresh, indicating the significant role of the DoDFresh program. All these high volume products appear in bold in Table 5-7 for easier recognition.

Table 5-7: Share of total fresh fruit and vegetable acquisitions through DoD by public unified NSLP school districts, SY 2009/10

Food Item	Purchased foods	Processed foods containing USDA Foods	Donated USDA Foods	DoDFresh Program	Total	Percentage share of DoD purchases
----- pounds -----						
1 Avocado	106,507	-	-	102,211	208,718	49.0%
2 Tropical fruit	202,216	-	-	171,402	373,618	45.9%
3 Sweet potatoes	983,999	-	-	409,301	1,393,300	29.4%
4 Mixed vegetables	608,744	-	-	249,162	857,906	29.0%
5 Tangerines	4,554,561	-	-	1,694,111	6,248,672	27.1%
6 Pears	22,414,708	-	31,586	8,258,690	30,704,984	26.9%
7 Grapefruit	1,548,406	-	37,801	567,716	2,153,923	26.4%
8 Oranges, mandarin	554,827	-	-	189,712	744,539	25.5%
9 Lettuce, salad	43,489,344	-	-	13,224,635	56,713,979	23.3%
10 Pomegranates	76,046	-	-	19,484	95,530	20.4%
11 Strawberries	4,744,806	-	-	1,058,393	5,803,199	18.2%
12 Kiwi	5,811,218	-	-	1,078,548	6,889,766	15.7%
13 Tangeloes	615,556	-	-	114,834	730,390	15.7%
14 Starfruit	94,195	-	-	15,047	109,242	13.8%
15 Lettuce, shredded	35,686,703	-	-	4,453,763	40,140,466	11.1%
16 Melons, cantaloupes	10,618,271	-	-	1,319,870	11,938,141	11.1%
17 Tomatoes, cherry/grape,	6,501,214	-	-	738,973	7,240,187	10.2%
18 Peas, snow/pods	614,454	-	-	69,039	683,494	10.1%
19 Radishes	402,739	-	-	42,678	445,417	9.6%
20 Melons, watermelons	16,420,124	-	-	1,635,222	18,055,346	9.1%
21 Potatoes	26,110,323	7,708	-	2,480,639	28,598,670	8.7%
22 Cauliflower, florets	1,867,592	-	-	177,404	2,044,996	8.7%
23 Grapes	21,787,637	-	-	1,945,259	23,732,895	8.2%
24 Broccoli florets	5,179,633	-	-	450,870	5,630,503	8.0%
25 Mushrooms	302,219	-	-	23,283	325,502	7.2%
26 Carrots, bulk	20,634,465	-	-	1,519,934	22,154,398	6.9%
27 Carrots, individual serv.	12,001,390	100,408	185,311	893,118	13,180,228	6.8%
28 Apples	123,848,679	309,846	18,785,505	8,578,898	151,522,929	5.7%
29 Oranges	69,644,539	-	9,145,454	4,543,913	83,333,906	5.5%
30 Onions, green	184,586	-	-	10,646	195,231	5.5%
31 Onions	5,074,848	-	-	278,651	5,353,499	5.2%
32 Celery sticks/diced	7,710,879	-	-	398,250	8,109,128	4.9%
33 Peppers	4,984,631	-	-	256,075	5,240,705	4.9%

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

Food Item	Purchased foods	Processed foods containing USDA Foods	Donated USDA Foods	DoDFresh Program	Total	Percentage share of DoD purchases
----- pounds -----						
34 Lemons	448,786	-	-	21,870	470,656	4.6%
35 Tomatoes	24,499,700	-	-	1,148,571	25,648,272	4.5%
36 Spinach	1,887,469	-	-	77,658	1,965,127	4.0%
37 Cauliflower, heads	964,881	-	-	39,359	1,004,240	3.9%
38 Green beans	401,195	-	-	16,315	417,509	3.9%
39 Cabbage, shrd mix.	2,796,172	-	-	106,350	2,902,522	3.7%
40 Parsley	22,407	-	-	850	23,258	3.7%
41 Melons, honeydew	5,709,817	-	-	202,529	5,912,345	3.4%
42 Cabbage, head	2,831,795	-	-	99,879	2,931,675	3.4%
43 Oranges, peeled/sectioned	3,207,608	-	-	110,644	3,318,251	3.3%
44 Bananas	78,813,271	-	-	2,415,172	81,228,443	3.0%
45 Cucumbers	16,477,126	-	-	512,827	16,989,953	3.0%
46 Cabbage, shredded	1,190,369	-	-	36,356	1,226,725	3.0%
47 Carrots	2,133,594	-	-	58,254	2,191,849	2.7%
48 Broccoli	1,938,781	-	-	53,045	1,991,825	2.7%
49 Alfalfa sprouts	21,318	-	-	600	21,918	2.7%
50 Peaches	3,486,230	-	-	85,613	3,571,842	2.4%
51 Vegetable salad, specialty	73,707	-	-	1,848	75,555	2.4%
52 Lettuce, heads	22,921,306	-	-	512,873	23,434,179	2.2%
53 Plums	3,909,970	-	-	76,450	3,986,420	1.9%
54 Celery	3,149,530	-	-	62,057	3,211,587	1.9%
55 Squash	1,084,827	-	-	18,079	1,102,906	1.6%
56 Pineapple	4,442,570	-	-	52,771	4,495,341	1.2%
57 Apples, individual	8,979,830	90,844	7,951,081	159,812	17,181,567	0.9%
58 Cilantro	95,352	-	-	328	95,680	0.3%
59 Nectarines	2,433,471	-	-	4,749	2,438,220	0.2%
60 Jicama	793,077	-	-	1,413	794,490	0.2%
61 Corn on the cob	451,894	-	-	877	452,770	0.2%

Source: School Food Purchase Study, 2011

The number of school districts that acquire individual food items in the form of USDA Food donations is another indicator of the importance of USDA donations. Out of the 165 food items received by schools in the study as donated USDA Foods (DoDFresh items included) in SY 2009/10, eight food items were received in the form of USDA donations by more than 80 percent of all districts acquiring these items. At least 35 items were received in the form of USDA donations by more than 50 percent of all districts acquiring these items. Table 5-8 shows these 35 items, the number of school districts acquiring them, and the number and percent of these districts acquiring them as a donated USDA Food. The complete list of 165 food items that were available as donated USDA Foods in SY 2009/10 and the number and share of school districts acquiring them is provided in Appendix 6.

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

Table 5-8: Share of public unified NSLP school districts acquiring food items that received it as a donated USDA Food, selected food items, SY 2009/10

Food description	Percent of school districts acquiring food item as a donated USDA Food	Number of school districts acquiring item as a donated USDA Food	Total school districts acquiring food item
1 Apricots, Frozen	100.0%	775	775
2 Cherries, Tart, Dry	100.0%	1,258	1,258
3 Strawberries, Individual Serv	98.9%	1,792	1,813
4 Cherries, Red Tart, Frozen	93.4%	998	1,068
5 Applesauce, Unsweetened	89.8%	5,933	6,608
6 Peaches, Individual Serving	88.9%	2,849	3,204
7 Turkey, Mixed Roasts	86.0%	3,574	4,153
8 Apples, Frozen	85.7%	1,011	1,180
9 Chicken Fajita Strips/Patties, Dark Meat	79.9%	3,430	4,293
10 Sweet Potatoes, Frozen	79.4%	273	344
11 Blueberries, Frozen	76.1%	1,724	2,265
12 Sweet Potatoes, Canned, Light Syrup	72.4%	614	848
13 Dry Beans, Bagged, Miscellaneous	70.9%	436	615
14 Apricots, Canned, Light Syrup	66.8%	1,553	2,325
15 Blackberries, Frozen	64.2%	167	260
16 Oil, Vegetable	62.4%	2,075	3,325
17 Butter, Legume/nut/seed	60.1%	450	749
18 Beef, Ground	59.9%	4,571	7,629
19 Turkey Breasts	59.9%	3,676	6,139
20 Peaches, Frozen	59.1%	149	252
21 Pork, Cuts, Boneless, Raw	58.4%	1,165	1,994
22 Apples, Canned	58.3%	2,964	5,087
23 Cheese, Mozzarella/String	57.0%	4,875	8,553
24 Mixed Fruit, Canned, Light Syrup	55.3%	4,221	7,630
25 Vegetarian Beans, Canned	54.2%	1,917	3,536
26 Green Beans, Canned	54.0%	4,398	8,149
27 Nuts (Not Peanuts), Shelled	53.6%	1,416	2,641
28 Cheese, American/Processed	53.4%	4,650	8,709
29 Cheese, Cheddar	52.9%	4,430	8,374
30 Turkey, Whole	51.7%	344	666
31 Flour, Bread	50.9%	528	1,038
32 Peaches, Canned, Light Syrup	50.8%	4,284	8,433
33 Peanut Butter	50.8%	2,371	4,669
34 Corn on the Cob, Frozen	50.6%	1,890	3,736
35 Pears, Canned, Light Syrup	50.5%	4,067	8,047

Source: School Food Purchase Study, 2011

5.4 Comparison of acquisitions in SY 1996/97 and SY 2009/10

5.4.1 Overall changes in the composition of the school food market basket

Student enrollment has increased an estimated 15.6 percent between SY 1996/97 and SY 2009/10 and NSLP and SBP participation have grown by 20 percent and 69 percent respectively. Overall the number of NSLP and SBP meals served increased by 20 and 65 percent respectively, and the total meal equivalents served by 27 percent. The volume of food acquisitions has increased 33 percent over the same period, slightly greater than the number of school meal equivalents served.

While the increased volume broadly reflects the increase in participation, there were significant changes in acquisitions of some food groups between SYs 1996/97 and 2009/10. The percentage change in food acquisitions by food group over the last 13 years is as follows (the large volume groups appear in bold):

• Poultry	75.3%
• Soups & gravies	69.6%
• Bakery products	68.3%
• Fruits/juices	58.7%
• Eggs	52.9%
• Prepared foods	39.4%
• Milk & other dairy products	35.0%
• Non-dairy drinks	22.4%
• Condiments	16.5%
• Legumes/nuts/seeds	10.6%
• Red meats	7.5%
• Vegetables	5.8%
• Grain products	-2.5%
• Fish	-6.4%
• Fats/oils	-12.6%
• Sugar/desserts	-16.4%

These changes should be interpreted with care however. Viewing the group as a whole does not tell the whole story because there could be important changes in the acquisitions of specific food subgroups. For example, the sugar/desserts group has declined by 16.3 percent as a whole, but within the category, sugars have declined by 49.2 percent while syrups and puddings/pie fillings have increased 64.6 and 24.1 percent respectively. Similarly, grain products have declined 2.5 percent mainly due to the 60.3 percent decline in

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

purchases of flour and other milled grains as districts shifted purchases to prepared bakery products, while the remaining subgroups in this group have increased.

Table 5-9 compares the volumes of foods acquired in SY 1996/97 and 2009/10, and Table 5-10 shows the percentage change in food acquisitions between the two studies.

There is a clear move toward increased acquisition of foods that offer more convenience in terms of preparation and service. For example, purchases of prepared foods and soups, or convenience products requiring easier preparation have increased significantly. Yogurt is the food item that has seen the greatest increase since 1996/97, now 7 times the amount 13 years ago.

While the vegetable group has increased, the volume of potato and potato products, the largest subgroup, has declined by 7.2 percent

Vegetable oils and shortenings, margarine, butter, sugar, and candy toppings have noticeably decreased, as have flour, soybeans and soy products, and legumes. This is a continuation of the longer term trend over the 25 years since SFPS-I. Other continuing trends over that period have been the shift from red meats to poultry, and the steady increase in fruit purchases.

On the beverage front, acquisitions of fluid milk, fruit juices and water grew substantially. The volume of water purchases increased by 450 percent and represented half of the volume of non-dairy beverages purchased. The growth in fruit juices was largely at the expense of fruit drinks as districts shifted to products considered more natural.

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

Table 5-9: Comparison of summary volume of food acquisitions by public unified NSLP school districts, SYs 1996/97 and 2009/10

Food groups/subgroups	All foods		Purchased foods		Processed foods containing donated USDA Foods		USDA/DoD donated foods	
	1996/97	2009/10	1996/97	2009/10	1996/97	2009/10	1996/97	2009/10
	----- thousand pounds-----							
All foods	7,229,237	9,609,776	6,464,380	8,341,472	122,337	526,384	647,567	741,919
Bakery products	457,788	770,354	449,243	750,452	8,547	16,007	5,041	3,895
Biscuits, muffins, pancakes & waffles	85,313	129,481	83,121	123,069	2,192	5,051	0	1,362
Bread & rolls	232,871	415,055	229,495	406,629	3,376	6,099	0	2,326
Cakes & other bakery desserts	65,994	104,284	63,537	101,791	2,457	2,286	5,041	207
Crackers	55,804	40,690	55,567	40,644	238	46	0	0
Pretzels & snack chips	17,806	80,844	17,523	78,319	284	2,525	0	0
Condiments	172,938	201,544	165,711	181,046	942	10,946	6,285	9,551
Catsup & other sauces	114,494	147,459	107,267	126,966	942	10,942	6,285	9,551
Flavorings	13,869	9,991	13,869	9,986	0	4	0	0
Pickles/olives	44,575	44,094	44,575	44,094	0	0	0	0
Eggs	27,095	41,432	17,425	25,683	790	9,356	8,880	6,393
Eggs	22,936	19,992	13,906	13,379	150	220	8,880	6,393
Mixtures with eggs	4,159	21,440	3,519	12,304	640	9,136	0	0
Fats/oils	141,535	123,722	100,236	108,461	9,278	6,806	32,021	8,455
Butter	4,610	1,916	4,120	1,916	0	0	490	0
Margarine	33,041	21,140	31,598	20,506	478	634	965	0
Salad dressings & mayonnaise	49,258	72,151	40,458	66,001	8,800	6,150	0	0
Vegetable oils & shortenings	54,624	28,515	24,058	20,038	0	22	30,566	8,455
Fish	30,078	28,140	27,766	24,105	428	132	1,884	3,903
Fish	29,097	23,691	26,785	19,655	428	132	1,884	3,903
Shellfish	981	4,450	981	4,450	0	0	0	0
Fruits/juices	976,465	1,549,355	845,030	1,270,238	2,300	10,666	129,135	268,450
Fruits	621,103	921,887	492,220	654,332	1,984	7,031	126,899	260,525
Juices	355,362	627,467	352,810	615,906	316	3,635	2,236	7,926

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

Food groups/subgroups	All foods		Purchased foods		Processed foods containing donated USDA Foods		USDA/DoD donated foods	
	1996/97	2009/10	1996/97	2009/10	1996/97	2009/10	1996/97	2009/10
Grain products	212,216	206,906	138,041	163,786	233	16,026	73,942	27,094
Breakfast cereals	25,931	34,614	56,598	33,168	0	34	749	1,412
Flour & other milled grains	114,276	45,373	25,182	30,411	0	0	57,678	14,963
Flour mix	15,146	13,707	14,567	13,673	0	0	5,779	34
Mixtures with grain	20,563	59,900	20,330	43,918	233	15,982	0	0
Pasta & noodles	23,027	30,702	14,079	24,501	0	0	8,948	6,201
Rice, barley & other grains	13,273	22,610	7,285	18,115	0	10	5,988	4,485
Legumes/nuts/seeds	69,317	76,641	41,270	53,775	107	389	27,940	22,477
Dry beans/peas	551,403	62,074	35,066	46,808	107	0	16,230	15,265
Other nuts	196	1,137	196	89	0	0	0	1,048
Peanuts/peanut butter	13,995	9,456	2,285	3,123	0	386	11,710	5,947
Seeds	390	1,863	390	1,644	0	3	0	217
Soybeans & soy products	3,333	2,111	3,333	2,111	0	0	0	0
Milk & other dairy products	2,751,646	3,714,818	2,687,318	3,602,056	4,850	21,116	59,479	91,647
Cheese	126,875	182,244	65,841	77,893	4,665	21,100	56,369	83,251
Cream	3,354	7,458	3,354	7,458	0	0	0	0
Ice cream & ice milk	69,395	45,047	69,210	45,047	185	0	0	0
Milk	2,544,674	3,427,081	2,541,565	3,418,670	0	15	3,110	8,396
Yogurt	7,348	52,988	7,348	52,988	0	0	0	0
Non dairy drinks	410,974	502,912	410,975	502,912	0	0	0	0
Carbonated	91,849	10,705	91,849	10,705	0	0	0	0
Coffee & tea	na	42,477	na	42,477	na	0	na	0
Dry beverage	1,273	818	1,273	818	0	0	0	0
Enriched drinks	na	135,230	na	135,230	na	0	na	0
Fruit drinks	271,336	57,887	271,336	57,887	0	0	0	0
Water	46,516	255,794	46,516	255,794	0	0	0	0

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

Food groups/subgroups	All foods		Purchased foods		Processed foods containing donated USDA Foods		USDA/DoD donated foods	
	1996/97	2009/10	1996/97	2009/10	1996/97	2009/10	1996/97	2009/10
Poultry	287,821	504,632	177,838	269,566	32,331	161,642	77,652	73,425
Chicken	188,275	373,607	130,183	204,569	22,855	137,744	35,237	31,295
Game birds	na	6	0	6	na	0	na	0
Mixed poultry	na	11	na	11	na	0	na	0
Recipe mix	193	732	193	299	0	433	0	0
Turkey	99,353	130,277	47,462	64,681	9,476	23,465	42,415	42,131
Prepared foods	330,769	461,174	307,370	330,022	23,400	131,152	0	0
Burritos/tacos	41,953	43,448	40,679	36,745	1,274	6,703	0	0
Meat or cheese filled pastry	10,533	57,764	10,071	39,609	462	18,155	0	0
Mixtures with fish	na	78	na	78	na	0	na	0
Pizza	227,310	290,526	215,036	210,674	12,274	79,853	0	0
Prepared meals	34,956	18,626	28,758	16,228	6,198	2,398	0	0
Prepared sandwiches	16,017	50,731	12,826	26,688	3,192	24,043	0	0
Red meats	313,852	337,417	159,597	185,442	36,518	87,105	117,737	64,871
Beef & veal	206,053	221,681	82,378	99,421	30,714	73,924	92,961	48,336
Lamb	na	6	na	6	na	0	na	0
Mixed meats	36,844	28,203	36,198	27,797	645	407	0	0
Pork	69,262	85,430	39,460	56,203	5,026	12,692	24,776	16,535
Recipe mix	1,693	2,097	1,561	2,015	133	82	0	0
Soups & gravies	21,158	35,879	21,055	34,050	103	1,828	0	0
Gravies	2,941	6,088	2,914	6,088	27	0	0	0
Soups	18,217	29,790	18,140	27,962	76	1,828	0	0

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

Food groups/subgroups	All foods		Purchased foods		Processed foods containing donated USDA Foods		USDA/DoD donated foods	
	1996/97	2009/10	1996/97	2009/10	1996/97	2009/10	1996/97	2009/10
Sugar/desserts	135,501	113,335	134,885	112,428	587	906	29	0
Candies/toppings	12,096	7,438	12,096	7,438	0	0	0	0
Gelatins	6,501	4,867	6,501	4,180	0	687	0	0
Jellies, jams & preserves	7,849	8,170	7,849	8,170	0	0	0	0
Puddings/pie filling	15,705	19,412	15,306	19,412	399	0	0	0
Sherbet/ices	16,442	17,087	16,254	16,868	188	219	0	0
Sugars	61,759	31,445	61,759	31,445	0	0	0	0
Syrups	15,149	24,915	15,120	24,915	0	0	29	0
Vegetables	890,084	941,515	780,620	727,451	1,923	52,307	107,542	161,757
Green vegetables	201,959	211,626	194,061	175,331	0	243	7,899	36,052
Mixed vegetables	48,917	86,602	47,703	73,022	0	0	1,214	13,581
Mixtures with vegetables	7,260	4,905	7,260	4,853	0	50	0	2
Other vegetables	16,461	15,065	16,359	14,475	0	0	102	591
Potato & potato products	394,517	366,045	345,616	277,011	0	41,512	48,901	47,522
Tomatoes & tomato products	99,425	116,085	76,394	85,387	1,656	9,474	21,375	21,224
Yellow vegetables	121,545	141,186	93,227	97,372	267	1,028	28,051	42,787

Source: School Food Purchase Study, 2011

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

**Table 5-10: Volume change of food acquisitions by public unified NSLP school districts
between SYs 1996/97 and 2009/10**

Food groups/subgroups	SY 1996/97	SY 2009/10	Percentage change
	----- thousand pounds-----		
All foods	7,229,237	9,609,776	32.9%
Bakery products	457,788	770,354	68.3%
Biscuits, muffins, pancakes & waffles	85,313	129,481	51.8%
Bread & rolls	232,871	415,055	78.2%
Cakes & other bakery desserts	65,994	104,284	58.0%
Crackers	55,804	40,690	-27.1%
Pretzels & snack chips	17,806	80,844	354.0%
Condiments	172,938	201,544	16.5%
Catsup & other sauces	114,494	147,459	28.8%
Flavorings	13,869	9,991	-28.0%
Pickles/olives	44,575	44,094	-1.1%
Eggs	27,095	41,432	52.9%
Eggs	22,936	19,992	-12.8%
Mixtures with eggs	4,159	21,440	415.5%
Fats/oils	141,535	123,722	-12.6%
Butter	4,610	1,916	-58.4%
Margarine	33,041	21,140	-36.0%
Salad dressings & mayonnaise	49,258	72,151	46.5%
Vegetable oils & shortenings	54,624	28,515	-47.8%
Fish	30,078	28,140	-6.4%
Fish	29,097	23,691	-18.6%
Shellfish	981	4,450	353.6%
Fruits/juices	976,465	1,549,355	58.7%
Fruits	621,103	921,887	48.4%
Juices	355,362	627,467	76.6%
Grain products	212,216	206,906	-2.5%
Breakfast cereals	25,931	34,614	33.5%
Flour & other milled grains	114,276	45,373	-60.3%
Flour mix	15,146	13,707	-9.5%
Mixtures with grain	20,563	59,900	191.3%
Pasta & noodles	23,027	30,702	33.3%
Rice, barley & other grains	13,273	22,610	70.3%
Legumes/nuts/seeds	69,317	76,641	10.6%
Dry beans/peas	551,403	62,074	-88.7%
Other nuts	196	1,137	480.2%
Peanuts/peanut butter	13,995	9,456	-32.4%
Seeds	390	1,863	377.8%
Soybeans & soy products	3,333	2,111	-36.7%
Milk & other dairy products	2,751,646	3,714,818	35.0%
Cheese	126,875	182,244	43.6%
Cream	3,354	7,458	122.4%
Ice cream & ice milk	69,395	45,047	-35.1%
Milk	2,544,674	3,427,081	34.7%
Yogurt	7,348	52,988	621.1%

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

Food groups/subgroups	SY 1996/97	SY 2009/10	Percentage change
Non dairy drinks	410,974	502,912	22.4%
Carbonated	91,849	10,705	-88.3%
Coffee & tea	na	42,477	
Dry beverage	1,273	818	-35.7%
Enriched drinks	na	135,230	
Fruit drinks	271,336	57,887	-78.7%
Water	46,516	255,794	449.9%
Poultry	287,821	504,632	75.3%
Chicken	188,275	373,607	98.4%
Game birds	na	6	
Mixed poultry	na	11	
Recipe mix	193	732	279.1%
Turkey	99,353	130,277	31.1%
Prepared foods	330,769	461,174	39.4%
Burritos/tacos	41,953	43,448	3.6%
Meat or cheese filled pastry	10,533	57,764	448.4%
Mixtures with fish	na	78	
Pizza	227,310	290,526	27.8%
Prepared meals	34,956	18,626	-46.7%
Prepared sandwiches	16,017	50,731	216.7%
Red meats	313,852	337,417	7.5%
Beef & veal	206,053	221,681	7.6%
Lamb	na	6	
Mixed meats	36,844	28,203	-23.5%
Pork	69,262	85,430	23.3%
Recipe mix	1,693	2,097	23.8%
Soups & gravies	21,158	35,879	69.6%
Gravies	2,941	6,088	107.0%
Soups	18,217	29,790	63.5%
Sugar/desserts	135,501	113,335	-16.4%
Candies/toppings	12,096	7,438	-38.5%
Gelatins	6,501	4,867	-25.1%
Jellies, jams & preserves	7,849	8,170	4.1%
Puddings/pie filling	15,705	19,412	23.6%
Sherbet/ices	16,442	17,087	3.9%
Sugars	61,759	31,445	-49.1%
Syrups	15,149	24,915	64.5%
Vegetables	890,084	941,515	5.8%
Green vegetables	201,959	211,626	4.8%
Mixed vegetables	48,917	86,602	77.0%
Mixtures with vegetables	7,260	4,905	-32.4%
Other vegetables	16,461	15,065	-8.5%
Potato & potato products	394,517	366,045	-7.2%
Tomatoes & tomato products	99,425	116,085	16.8%
Yellow vegetables	121,545	141,186	16.2%

Source: School Food Purchase Study, 2011

5.4.2 Price effect on acquisitions

Section 4.1.1 discussed the volatility of some food prices and Table 4.1 showed the change in real prices between 1996/97 and 2009/10. Finished food prices have increased by roughly 30% since the last school food purchase study. US farm prices were just over 15% higher on average.

As noted in the 1996/97 report, pork prices were very high that year; indeed, price data show that they are at the same level in 2009/10, even when expressed in real 2009/10 prices. However, beef prices in 2009/10 were 44% higher than in 1996/97 (again, in real 2009/10 terms), a much larger increase than for any other meat. This difference in relative prices could partially explain the increase in purchases of pork (up 23%) compared with beef (up 8%). However, price is only one factor. For example, chicken purchases increased by almost 100%, even though the price increase between the two studies was roughly the same as for "all meats."

5.4.3 Changes in beverage use

Table 5-11 shows the changes in beverage acquisitions since SY 1996/97. Bottled water purchases have grown the most. From the lowest volume beverage in SY 1996/97, water has become the third largest one after milk and fruit juices. SFAs have largely replaced fruit drinks with fruit juices. Fruit drink acquisition has dropped by close to 80 percent to 58 million pounds, while fruit juices have increased by almost 80 percent to reach over 630 million pounds. Milk purchases grew by almost 35 percent, resulting in increased availability per student. Carbonated beverages exhibited the largest drop in acquisitions, 88 percent, from over 90 million pounds to just over 10 million. The reduction in carbonated drinks and fruit drinks in school meals reflects a response to rising concern about obesity, and the associated efforts to reduce the placing of vending machines in schools and the sales of these beverages.

Two of these changes are the opposite of the consumption trends among the general population. USDA's Economic Research Service data for 2010 indicate that per capita milk consumption has dropped by 13 percent from 1996 to 2008 and consumption of selected fruit juices has dropped 20 percent.

Two new beverage subgroups have appeared since the earlier study, enriched drinks (e.g. Gatorade), and coffee and tea. Enriched drinks have become the fourth largest beverage category.

Table 5-11: Comparison of the volume of acquisitions for major beverage subgroups in public unified NSLP school districts, SYs 1996/97 and 2009/10

Beverages	SY 1996/97	SY 2009/10	Percentage change
	----- 1,000 pounds -----		
Milk	2,544,674	3,426,304	34.6%
Juices	355,362	631,101	77.6%
Water	46,516	255,783	449.9%
Enriched drinks	n/a	135,374	n/a
Fruit drinks	271,336	58,306	-78.5%
Coffee & tea	n/a	42,665	n/a
Carbonated	91,849	10,789	-88.3%
Dry beverage	1,273	805	-36.7%

Source: School Food Purchase Study, 1998 and 2011

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

The 2010 National Youth Physical Activity and Nutrition Study conducted among high school students by the Centers for Diseases Control and Prevention found that on a daily basis:

- 72.4 percent of high school students nationwide drank a serving of water;
- 42.0 percent drank one or more glasses of milk;
- 30.2 percent drank 100 percent fruit juices;
- 24.3 percent drank a serving of regular soda;
- 16.1 percent drank a serving of sports drinks; and
- 16.9 percent drank a serving of another sugar-sweetened beverage.

5.4.4 Changes in fresh fruit and vegetable acquisitions

In SY 2009/10, the relative importance of fresh produce in terms of volume has increased by 10 percent compared to SY 1996/97, from 7.2 percent of total pounds of food to 7.9 percent. Table 5-12 shows the relative importance of individual fresh fruit and vegetable products as a percentage of total food and beverage acquisition weight. For many products, the share acquired as USDA donations (including purchases through DoD) has increased significantly.

Table 5-12: Comparison of fresh fruit and vegetable acquisitions in SY 1996/97, and SY 2009/10

Food item	Acquisition weight as a percent of total acquisition weight		Percent of item weight acquired as donated USDA Food	
	1996/97	2009/10	1996/97	2009/10
	-----percent-----			
Apples, Fresh & Fresh, Individual	1.2	1.8	15.0	21.0
Oranges, Fresh & Peeled/Sectioned	0.9	0.9	9.9	15.9
Bananas, Fresh	0.6	0.8	1.3	3.0
Lettuce, Salad Mix	0.4	0.6	0.0	23.3
Lettuce, Shredded/Chopped	0.2	0.4	0.0	11.1
Pears, Fresh	0.2	0.3	33.2	27.0
Potatoes, Fresh	0.6	0.3	8.6	8.7
Tomatoes, Fresh	0.4	0.3	1.1	4.5
Grapes, Fresh	0.2	0.2	2.6	8.2
Lettuce, Heads	0.0	0.2	0.4	2.2
Carrots Sticks/Baby Carrots/Shrd, Bulk	0.2	0.2	6.5	6.9
Melons, Watermelons	0.2	0.2	4.4	9.1
Cucumbers, Fresh	0.1	0.2	1.0	3.0
Carrots, Fresh & Individual, Fresh	0.1	0.2	1.9	7.4
Strawberries, Fresh & Fresh, Individual	0.0	0.1	4.0	65.2
Melons, Cantaloupes	0.9	0.1	7.0	11.1
Celery Sticks/Diced Celery	0.1	0.1	4.4	4.9
Broccoli, Fresh & Florettes	0.7	0.1	0.9	6.6
Tomatoes, Cherry or Grape, Fresh	0.0	0.1	6.6	10.2
Kiwi	0.0	0.1	4.4	15.7
Tangerines, Fresh	NA	0.1	NA	27.1
Melons, Honeydew	0.0	0.1	3.4	3.4
Onions, Fresh	0.1	0.1	0.4	5.2

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

Food item	Acquisition weight as a percent of total acquisition weight		Percent of item weight acquired as donated USDA Food	
	1996/97	2009/10	1996/97	2009/10
	-----percent-----			
Peppers, Fresh	0.1	0.1	0.9	4.9
Pineapple, Fresh	0.0	0.0	8.8	1.2
Mixed Vegetables, Fresh & Oriental, Fresh	0.0	0.0	0.8	6.2
Plums, Fresh	0.0	0.0	0.8	1.9
Peaches, Fresh	0.0	0.0	8.1	2.4
Celery, Fresh	0.1	0.0	0.7	1.9
Cabbage, Head	0.1	0.0	0.9	3.4
Cabbage, Shredded w/Other Veg.	0.0	0.0	0.2	3.7
Nectarines, Fresh	0.0	0.0	0.8	0.2
Grapefruit, Fresh	0.0	0.0	38.6	28.1
Cauliflower, Florettes	0.1	0.0	7.8	8.7
Spinach, Fresh	0.0	0.0	2.0	4.0
Sweet Potatoes, Fresh	(I)	0.0	0.0	29.4
Cabbage, Shredded	0.0	0.0	1.7	3.0
Squash, Fresh	0.0	0.0	0.1	1.6
Cauliflower, Heads	0.0	0.0	0.1	3.9
Jicama	(I)	0.0	0.0	0.2
Oranges, Mandarin, Fresh	(I)	0.0	0.0	25.5
Tangeloes, Fresh	(I)	0.0	0.0	15.7
Peas, Snow/Pods	0.0	0.0	0.0	10.1
Lemons, Fresh	0.1	0.0	0.6	4.6
Corn on the Cob, Fresh	(I)	0.0	16.7	0.2
Radishes, Fresh	0.0	0.0	3.0	9.6
Green Beans, Fresh	(I)	0.0	0.5	3.9
Tropical Fruit, Fresh	NA	0.0	NA	45.9
Mushrooms, Fresh	(I)	0.0	1.3	7.2
Avocado, Fresh	(I)	0.0	0.0	49.0
Onions, Green, Fresh	(I)	0.0	0.0	5.5
Starfruit	NA	0.0	NA	13.8
Cilantro	(I)	0.0	0.8	0.3
Pomegranates, Fresh	NA	0.0	NA	20.4
Vegetable Salad, Specialty	NA	0.0	NA	2.4
Parsley, Fresh	(I)	0.0	0.5	3.7
Alfalfa Sprouts	(I)	0.0	3.8	2.7
Total	7.2	7.9	6.7	14.2
Number of items	51	57	47	57

(I) less than .005 percent.

Source: School Food Purchase Study, 2011

5.4.5 The role of donated USDA Foods

Section 4.2.2 of this report discussed the commodity donation program. The value of entitlement donations has gradually increased since the 1990s in real 2009/10 prices. Bonus donations have remained about the same but vary considerably from year to year. The number of participants in the school lunch and school breakfast programs has been increasing and consequently in real prices, the allocation of dollars per participant in lunch and breakfast has declined slightly in real terms. FNS data suggests that the annual

average expenditure per participant on donations for the four financial years 1996 to 1999 was \$27.90 and the average for the four years 2007 to 2010 was \$26.80, in constant 2009/10 prices.

The contribution of donated food to the total volume of food acquisitions is evident in our data. For example, the results of the 1984/85 school food purchase study indicated that the donated USDA Foods accounted for 11.8 percent of the total volume of all foods acquired (by weight) and 29.6 percent of the total dollar value of food acquisition. The comparable shares in 1996/97 were 8.9 percent and 12.7 percent respectively, and in this study the equivalent values suggested a continuing decline as the values were 7.7 percent and 11.0 percent.

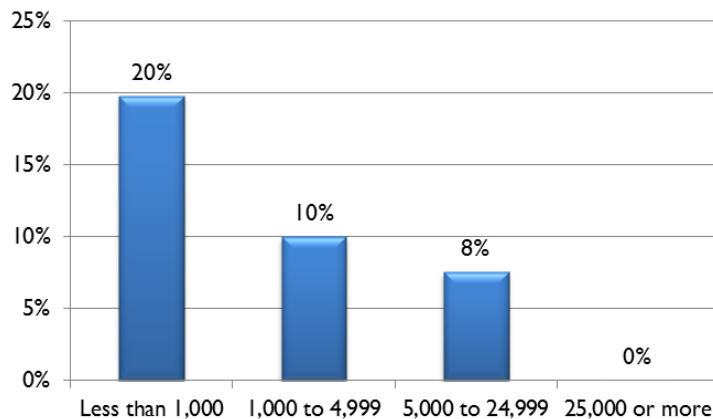
The study confirms the acquisition of a much greater proportion of donated foods in the form of processed foods than in earlier years. In 1984/85, this percentage was 12.1 percent of the value of donated USDA Foods, in 1996/97 it was 34.4 percent, and in 2009/10, it was 42 percent. However, we should once again enter the qualification that there is no indication of the proportion of the donated USDA Foods in the processed foods that contain them, although in some cases, the modification as a result of further processing is relatively minor (e.g. french fries). This result confirms the greater use of donated USDA Foods in the manufacture of processed food products.

5.5 Comparison of number of food items acquired in SY 1996/97 and SY 2009/10

5.5.1 Comparison of the mean number of food items

Larger school districts purchased a greater variety of food items in both 1996/97 and 2009/10, as shown in Table 5-13, and as might be expected. However, while the mean number of food items purchased by the largest school districts has not changed, it has increased by 20 percent in the smallest school districts with less than 1,000 students. As the size of districts increases, the percentage change in number of food items purchased decreases, reflecting the purchase of a greater variety of foods by districts of all sizes (Figure 5-5).

Figure 5-5: Percentage change in the mean number of food items purchased by school district in SYs 1996/97 and 2009/10 by size of district



Source: School Food Purchase Study, 2011

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

For the smallest size school districts, the average number of donated foods received has declined from 19 in SY 1996/97 to 14 in SY 2009/10. For all other size districts it has remained essentially the same and has declined very little since the earlier study. This is not surprising since the same list of USDA Foods is made available to all school districts

The number of processed foods containing donated USDA Foods as an ingredient is essentially not dependent on the size of the district. However, it has at least doubled for each size of school district since SY 1996/97.

Table 5-13: Comparison of the mean number of individual food items acquired by public unified NSLP school districts, SYs 1996/97 and 2009/10, by school district enrollment

School district enrollment	Purchased foods		Processed foods containing donated USDA Foods		Donated USDA Foods	
	1996/97	2009/10	1996/97	2009/10	1996/97	2009/10
	<i>number of food items</i>					
Less than 1,000	101	121	6	12	19	14
1,000 to 4,999	150	165	5	11	20	18
5,000 to 24,999	186	200	5	13	20	19
25,000 or more	208	208	6	12	21	19

Source: School Food Purchase Study, 2011

5.6 À la carte foods purchases and availability to students

5.6.1 Methodological considerations

Only 128 school districts participating in the food purchase survey provided usable data regarding à la carte foods. For the analysis in this section just this set of districts has been used. Table 5-14 provides information about the characteristics of these 128 districts. In summary, the data cover 30 percent of all districts in the sample, and slightly under-represents the very small districts.

Table 5-14: Characteristics of school districts that provided à la carte food purchase data

	Less than 1,000	1,000 - 4,999	5,000 - 24,999	More than 25,000	All districts
Number of districts	7	43	51	27	128
Percent share of all districts	21.9%	27.6%	34.2%	34.2%	30.8%
Student enrollment	4,783	105,135	604,613	2,771,837	3,486,368
Percent share of total enrollment	25.8%	25.2%	34.9%	39.6%	38.0%
Number of schools (all)	14	225	986	4,083	5,308
Percent share of total number of schools	17.5%	26.0%	34.2%	39.6%	37.5%
Number of elementary schools	4	118	592	2,183	2,897
Percent share of all elem. schools	14.3%	24.5%	34.3%	36.5%	35.3%
Number of mid/secondary schools	7	88	317	1,318	1,730
Percent share of all mid/sec. schools	17.9%	27.5%	32.4%	42.3%	38.9%
Number of other schools	3	19	77	582	681
Percent share of all other schools	23.1%	30.2%	43.3%	47.6%	46.1%

Source: School Food Purchase Study 2011

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

5.6.2 Comparison of food acquisitions for à la carte and reimbursable offerings

Reporting school districts acquired 804 food items in total. Of these, 589 food items were offered on an à la carte basis by at least some districts.

Respondents provided information on whether purchased food items were offered in reimbursable meals only, in à la carte offerings only, or both. Food items that were identified as à la carte only by some school districts were identified as reimbursable only or as both à la carte and reimbursable by others. Food items reported to be used in reimbursable meals dominated the list and accounted for 81 percent of the total value of reported food items. Food items reported to be offered only on an à la carte basis accounted for 8 percent of the total. And food items offered on both a reimbursable and à la carte basis accounted for 11 percent of the total value.

Table 5-15 shows the average cost per pound for the main food groups and subgroups by type of offering: à la carte, reimbursable, and both à la carte and reimbursable. This comparison shows that the aggregate mean cost per pound for foods that are offered on an à la carte only basis is higher in most cases. However, the food groups and subgroups are aggregations of a large number of individual food items and cannot reflect differences in the individual food items that are offered primarily à la carte versus those included primarily in reimbursable meals. Also, the small share of the overall value of food items offered on an à la carte basis further diminishes the importance of these differences.

Table 5-15: Summary of mean cost per pound of food acquisitions by public unified NSLP school districts for à la carte and reimbursable offerings, SY 2009/10

Food group/subgroup	Food items identified by responding school districts as:			Total
	À la carte only	Reimbursable only	Both à la carte & reimbursable	
	<i>dollars/pound</i>			
Bakery products	\$2.40	\$1.49	\$1.64	\$1.60
Biscuits, muffins, pancakes & waffles	\$2.16	\$1.73	\$1.83	\$1.75
Bread & rolls	\$1.23	\$1.20	\$1.02	\$1.18
Cakes & other bakery desserts	\$1.94	\$1.98	\$1.86	\$1.94
Crackers	\$2.60	\$2.25	\$2.27	\$2.27
Pretzels & snack chips	\$3.12	\$2.38	\$3.04	\$2.80
Condiments	\$0.73	\$0.86	\$0.75	\$0.85
Catsup & other sauces	\$2.28	\$0.93	\$0.78	\$0.91
Flavorings	\$1.89	\$0.90	\$1.02	\$0.91
Pickles/olives	\$0.40	\$0.58	\$0.58	\$0.57
Eggs	\$1.15	\$1.40	\$1.40	\$1.40
Eggs	\$0.89	\$1.07	\$1.07	\$1.07
Mixtures with eggs	\$3.12	\$1.57	\$1.66	\$1.57
Fats/oils	\$1.99	\$1.17	\$1.11	\$1.16
Butter	\$2.44	\$1.98	\$2.14	\$2.00
Margarine		\$0.80	\$1.10	\$0.82
Salad dressings & mayonnaise	\$1.47	\$1.22	\$1.18	\$1.22
Vegetable oils & shortenings	\$0.77	\$1.16	\$0.89	\$1.13
Fish	\$2.80	\$2.30	\$2.03	\$2.29
Fish	\$4.18	\$2.25	\$2.11	\$2.25
Shellfish	\$2.32	\$2.49	\$1.88	\$2.46

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

Food group/subgroup	Food items identified by responding school districts as:			Total
	À la carte only	Reimbursable only	Both à la carte & reimbursable	
	<i>dollars/pound</i>			
Fruits/juices	\$0.80	\$0.70	\$0.65	\$0.70
Fruits	\$0.77	\$0.76	\$0.75	\$0.76
Juices	\$0.89	\$0.60	\$0.56	\$0.61
Grain products	\$3.43	\$1.60	\$1.21	\$1.59
Breakfast cereals	\$3.05	\$3.70	\$3.49	\$3.69
Flour & other milled grains	\$0.24	\$0.32	\$0.25	\$0.31
Flour mix	\$1.76	\$1.35	\$1.37	\$1.44
Mixtures with grain	\$2.86	\$1.48	\$1.73	\$1.50
Pasta & noodles	\$1.27	\$0.98	\$1.03	\$0.98
Rice, barley & other grains	\$6.17	\$0.67	\$0.88	\$0.96
Legumes/nuts/seeds	\$2.02	\$0.86	\$0.73	\$0.85
Dry beans/peas	\$0.68	\$0.62	\$0.60	\$0.61
Other nuts	\$6.40	\$6.17	\$3.66	\$6.16
Peanuts/peanut butter	\$1.82	\$1.13	\$1.21	\$1.14
Seeds	\$2.67	\$2.46	\$2.72	\$2.49
Soybeans & soy products	\$1.39	\$2.15	\$1.88	\$2.11
Milk & other dairy products	\$1.55	\$0.46	\$0.45	\$0.47
Cheese	\$1.93	\$1.89	\$2.01	\$1.90
Cream	\$1.39	\$1.31	\$0.84	\$1.27
Ice cream & ice milk	\$1.61	\$1.50	\$1.07	\$1.49
Milk	\$0.66	\$0.39	\$0.38	\$0.39
Yogurt	\$1.45	\$1.12	\$1.16	\$1.13
Non-dairy drinks	\$0.44	\$0.51	\$0.41	\$0.45
Carbonated	\$0.63	\$0.61	\$0.30	\$0.54
Coffee & tea	\$0.63	\$1.01	\$0.75	\$0.87
Dry beverage	\$2.41	\$2.83	\$2.40	\$2.79
Enriched drinks	\$0.62	\$0.68	\$0.81	\$0.63
Fruit drinks	\$0.51	\$0.64	\$0.59	\$0.59
Water	\$0.30	\$0.26	\$0.33	\$0.29
Poultry	\$2.64	\$1.79	\$1.84	\$1.81
Chicken	\$2.64	\$1.71	\$1.88	\$1.76
Game birds				
Mixed poultry		\$4.80		\$4.80
Recipe mix	\$4.49	\$2.03	\$5.45	\$2.40
Turkey	\$1.40	\$2.01	\$1.67	\$1.97

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

Food group/subgroup	Food items identified by responding school districts as:			Total
	À la carte only	Reimbursable only	Both à la carte & reimbursable	
	<i>dollars/pound</i>			
Prepared foods	\$1.74	\$1.69	\$1.96	\$1.72
Burritos/tacos	\$1.56	\$1.41	\$1.61	\$1.43
Meat or cheese filled pastry	\$2.02	\$1.70	\$1.95	\$1.75
Mixtures with fish	\$8.81	\$8.06		\$8.18
Pizza	\$1.61	\$1.59	\$1.93	\$1.63
Prepared meals	\$2.16	\$1.94	\$3.10	\$1.95
Prepared sandwiches	\$2.04	\$2.24	\$2.58	\$2.25
Red meats	\$0.77	\$1.71	\$1.79	\$1.63
Beef & veal	\$0.75	\$1.59	\$1.75	\$1.50
Lamb				
Mixed meats	\$1.65	\$1.75	\$1.63	\$1.74
Pork	\$4.03	\$2.16	\$2.13	\$2.16
Recipe mix	\$2.56	\$1.75	\$1.61	\$1.86
Soups & gravies	\$1.99	\$1.51	\$1.63	\$1.53
Gravies	\$3.83	\$1.83	\$2.64	\$1.88
Soups	\$1.96	\$1.44	\$1.48	\$1.46
Sugar/desserts	\$1.23	\$0.86	\$0.82	\$0.88
Candies/toppings	\$3.31	\$1.93	\$1.32	\$1.98
Gelatins	\$1.38	\$1.13	\$1.02	\$1.12
Jellies, jams & preserves	\$1.41	\$0.82	\$1.49	\$0.82
Puddings/pie filling	\$1.03	\$0.65	\$0.88	\$0.70
Sherbet/ices	\$1.05	\$0.91	\$0.84	\$0.93
Sugars	\$0.84	\$0.59	\$0.53	\$0.59
Syrups	\$0.84	\$0.94	\$0.91	\$0.94
Vegetables	\$0.80	\$0.82	\$0.69	\$0.81
Green vegetables	\$0.89	\$0.82	\$0.80	\$0.82
Mixed vegetables	\$0.70	\$0.91	\$0.88	\$0.91
Mixtures with vegetables	\$1.56	\$1.57	\$1.50	\$1.57
Other vegetables	\$0.68	\$1.18	\$1.56	\$1.20
Potato & potato products	\$0.80	\$0.76	\$0.64	\$0.74
Tomatoes & tomato products	\$0.88	\$0.78	\$0.84	\$0.79
Yellow vegetables	\$1.09	\$0.86	\$0.68	\$0.84

Source: School Food Purchase Study, 2011

In order to compare the food items at a level closer to individual foods, lists of the top 50 individual foods based on the highest expenditure per 1,000 students for the à la carte offering only and for all foods were developed. These are provided in Appendix 7.

A comparison of the types of foods most purchased for à la carte offerings vs. all food items is provided in Table 5-16. The first observation is that there is a significant difference between the top items offered on an à la carte basis and the list for all purchased food items. Most of the top 50 à la carte food items were different snacks, ice creams, cookies and cakes, fresh fruits and vegetables, and sodas and fruit drinks. There were no milk/yogurt items in the à la carte top 50 list vs. 6 such items in the all foods list.

SCHOOL FOOD PURCHASE STUDY-III
SECTION 5: FOOD ACQUISITIONS BY UNIFIED SCHOOL DISTRICTS

Table 5-16: Comparison of the top 50 food items offered on à la carte basis vs. all food offerings

Food type	À la carte	All offerings
	----- Number of items -----	
Snacks	13	3
Ice cream and frozen deserts	6	2
Cookies and cakes	6	2
Fresh fruits and vegetables	5	5
Sodas/fruit drinks/tea	5	-
Hamburger/sandwiches/burrito/ready to eat	3	5
Water and energy drinks	3	2
Chicken	2	5
Pizza	2	2
Cheese	2	-
Bread/cereals/bagels	1	4
Potato products	1	4
Juice	1	3
Other	-	10
Milk and yogurt	-	6

Source: School Food Purchase Study, 2011

Only 13 food items appeared in both lists. The comparisons for volume per 1,000 students and expenditure per 1,000 students for these items are provided in Table 5-17. As the table indicates, in all cases the expenditure for the à la carte food offering is much lower, mostly because of the overall small share that à la carte food offerings represent.

Table 5-17: Comparison of volume per 1,000 students and expenditure per 1,000 students for some top food items offered on à la carte basis only and in all food offerings

Rank all foods	Rank à la carte only	Food item	À la carte only		All food offerings	
			lb/1,000 students	\$/1,000 students	lb/1,000 students	\$/1,000 students
18	1	Sport drink, e.g. Gatorade	442	\$278	497	\$313
12	2	Cookie dough	152	\$240	270	\$427
14	3	Chips, misc. snack (Cheetos, Sun Chips)	59	\$217	98	\$357
28	4	Water	509	\$135	835	\$222
41	5	Ice cream novelties	74	\$119	95	\$152
15	6	Potatoes, french fries	140	\$93	498	\$331
34	11	Cookies, individual	19	\$57	65	\$191
26	17	Cheese filled pastry(includes hot pocket)	17	\$30	138	\$244
27	19	Pizza, pepperoni w/real cheese	14	\$28	117	\$236
13	30	Pizza, w/real cheese	9	\$15	235	\$391
21	40	Crackers, graham, individual	4	\$10	119	\$265
33	44	Fruit juice, bars, frozen	7	\$7	194	\$192
10	50	Muffins	3	\$6	227	\$463

Source: School Food Purchase Study, 2011

SECTION 6: SCHOOL FOOD PROCUREMENT PRACTICES

6.1 Food service decision making

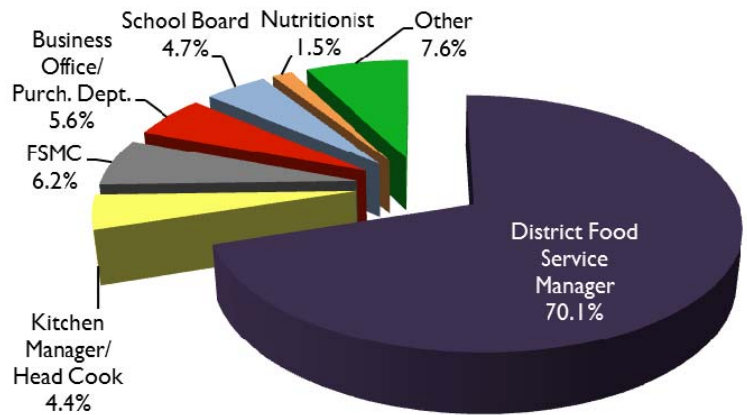
Two key steps in food procurement are identification of the source of supply and the choice of foods to be purchased. Decision making can be the responsibility of one or more individuals or administrative units. Participants in the study were asked to identify who has primary responsibility for these decisions and the basis on which decisions are being made.

6.1.1 Vendor selection

a) Responsibility for decision

Vendor selection is a decision that has important consequences for the school district. The vendor could affect food quality and cost, the variety of foods available, and the quality of service, among other factors. Survey results indicated that food service directors or managers were by far the primary decision makers with respect to food vendor selection. As shown in Table 6-1 and Figure 6-1 the food service director/manager was identified as being responsible for vendor selection in 70 percent of all the school districts. This share is probably even higher, because when respondents have identified an FSMC as the decision maker, it typically means that the decision maker is the food service director employed by the FSMC that holds the contract for managing the district's food service operation.²⁷ Indeed 6.2 percent of the respondents identified the FSMC as the decision maker, making it the second largest category after the food service director.

Figure 6-1: Food vendor selection responsibility distribution in public unified NSLP school districts, SY 2009/10



Source: School Food Purchase Study, 2011

An estimated 13.5 percent of all districts were serviced by an FSMC and we anticipate that they could be responsible for vendor selection in these districts. The respondents who indicated that the school district operation was under FSMC management were also asked whether the FSMC was responsible for determining where foods were purchased (i.e. vendor selection). Out of the 13.5 percent that are FSMC serviced school districts, 94 percent reported that the FSMC was responsible for vendor selection. This is equivalent to 12.7 percent of all school districts.

²⁷ The survey questions regarding the responsibility for vendor selection and for food selection were closed-end questions that did not include the 'FSMC' as an optional response. However, many respondents who answered these questions with 'other' specified that the FSMC makes decisions regarding vendor selection. These (6.2% of all districts) were included in the analysis as a unique category.

SCHOOL FOOD PURCHASE STUDY-III
SECTION 6: SCHOOL FOOD PROCUREMENT PRACTICES

The business office/purchasing department was responsible for vendor selection in 5.6 percent of the school districts, the School Board in 4.7 percent, and the nutritionist in 1.5 percent of the districts.

Over 7 percent of the districts identified 'Other' as the decision maker for vendor selection. For one third of these districts this was the Co-op, and for another third, it was the foodservice director/manager together with another party (e.g. purchasing department, business office or the cafeteria manager).

Some small variations in this pattern could be observed by size of school districts, particularly when examining decision makers other than the food service directors. In the smallest districts (enrollment < 1,000) the kitchen manager or the school board were more involved in vendor selection than in any of the other size classes of districts. The business office or purchasing department was the primary decision maker (other than the food service director) in a larger share of the biggest districts than in other size classes. The distribution of vendor selection responsibilities by size of school district is shown in Figure 6-2.

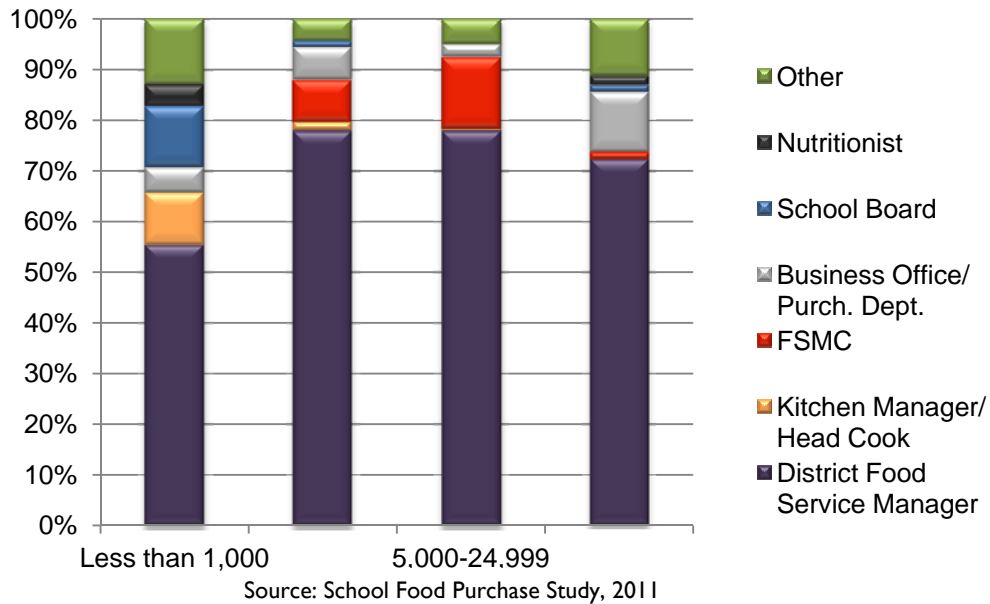
Table 6-1: Number of public unified NSLP school districts by decision-maker with primary responsibility for vendor selection, by size of school district, SY 2009/10

School district enrollment	District Food Service Manager	Kitchen Manager/ Head Cook	FSMC	Business Office/ Purch. Dept.	School Board	Nutritionist	Other	Total
	-----number of school districts-----							
Less than 1,000	2,022	379	-	182	441	154	474	3,652
row percent	55.4%	10.4%	0.0%	5.0%	12.1%	4.2%	13.0%	100.0%
column percent	26.6%	79.1%	0.0%	30.3%	87.5%	96.5%	57.6%	33.7%
1,000-4,999	4,043	93	430	340	59	-	230	5,195
row percent	77.8%	1.8%	8.3%	6.5%	1.1%	0.0%	4.4%	100.0%
column percent	53.3%	19.4%	64.1%	56.4%	11.7%	0.0%	28.0%	48.0%
5,000-24,999	1,304	7	236	44	-	-	84	1,675
row percent	77.9%	0.4%	14.1%	2.6%	0.0%	0.0%	5.0%	100.0%
column percent	17.2%	1.5%	35.2%	7.2%	0.0%	0.0%	10.2%	15.5%
25,000 or more	220	-	4	36	4	6	34	304
row percent	72.3%	0.0%	1.4%	11.9%	1.3%	1.8%	11.3%	100.0%
column percent	2.9%	0.0%	0.6%	6.0%	0.8%	3.5%	4.2%	2.8%
All districts	7,589	479	671	602	504	160	822	10,826
row percent	70.1%	4.4%	6.2%	5.6%	4.7%	1.5%	7.6%	100.0%
column percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note: Percentages might not add to 100 due to rounding.

Source: School Food Purchase Study, 2011.

Figure 6-2: Responsibility for vendor selection by size of school district, SY 2009/10



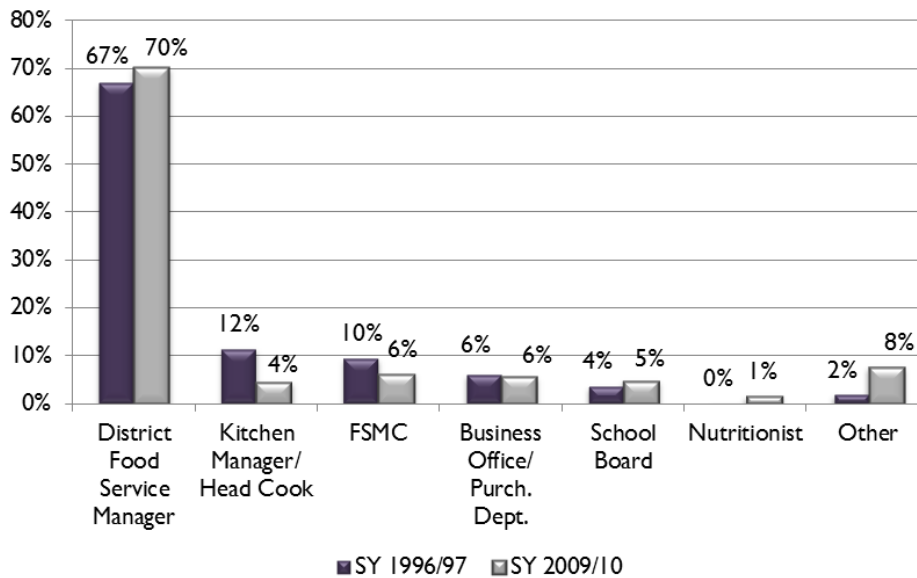
The main difference observed when comparing these findings with the earlier study of 13 years ago (Figure 6-3) is the smaller share of districts where the kitchen manager/head cook was responsible for vendor selection, 4.4 percent in SY 2009/10 vs. 11.5 percent in SY 1996/97. Virtually no nutritionists (0.2 percent) were involved in decision making at the time of the earlier study, but by SY 2009/10, they were responsible for vendor selection in 1.5 percent of the districts. The difference in the FSMC category is probably due to the way respondents identified responsibility as already discussed in the beginning of this section.

b) Selection criteria

While school districts typically consider a combination of factors when selecting food vendors, *price* topped the list (Table 6-2). *Vendor location*, *delivery schedules* and *service after sale* were important criteria as well. Only 37.4 percent of the respondents identified *food quality* as an influencing factor, down from 93 percent in SFPS-II. Indeed, *food quality* and *ability to meet specifications* were the two criteria given the least consideration in vendor selection.

This ranking was relatively consistent among school districts of different size, although some differences could be observed. For example, as seen in Figure 6-4, the vendor’s *ability to also handle donated USDA Foods* was more important to small school districts than to the larger ones, and *service after sale* was at least as important as *price* to the large districts. The importance of *brands*, *dependability*, and *service after sale* consistently increased with the increasing size of school districts, while the importance of *meeting specifications* decreased.

Figure 6-3: Comparison of public unified NSLP school district decision-maker responsibility for vendor selection, SYs 1996/97 and 2009/10



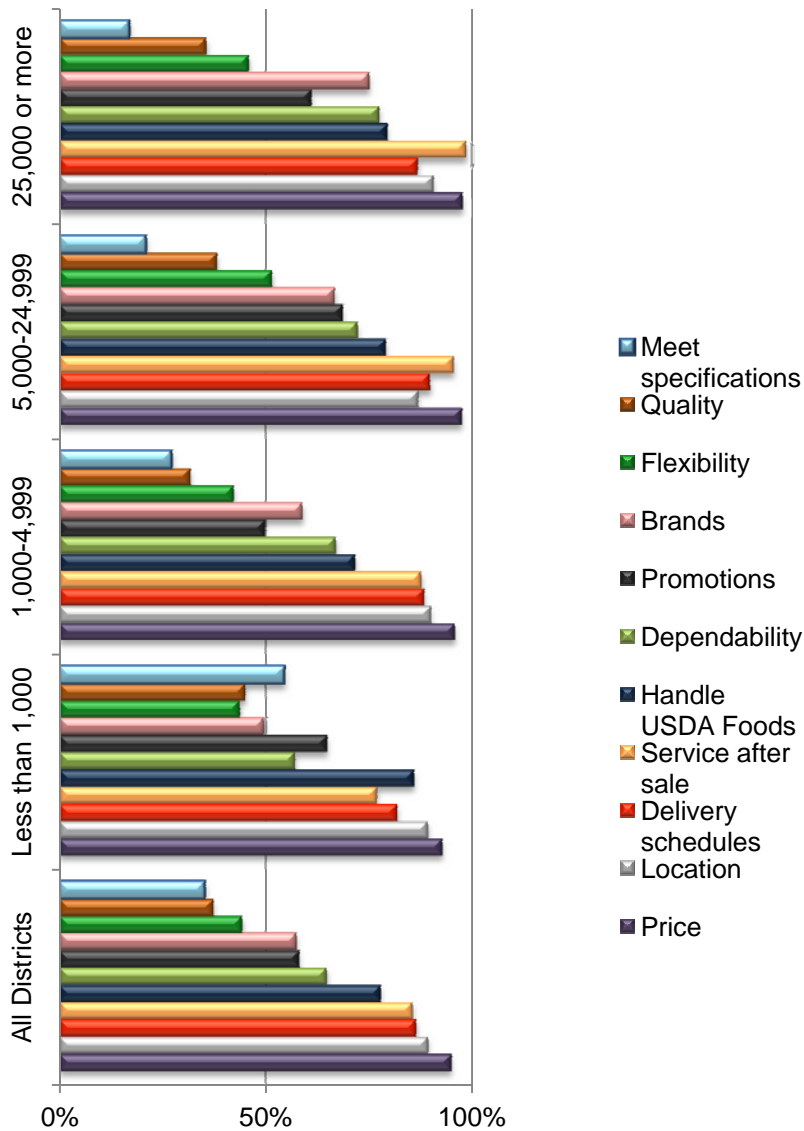
Source: School Food Purchase Studies, 1998 and 2011

Table 6-2: Criteria considered by public unified NSLP school districts in selecting vendors, by size of school district, SY 2009/10,

Selection Criteria	All Districts	Percent of school districts-----			
		Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more
Price	95.2%	92.9%	95.9%	97.7%	97.8%
Location	89.5%	89.4%	90.2%	87.1%	90.8%
Delivery schedules	86.6%	82.1%	88.7%	90.0%	87.0%
Service after sale	85.7%	77.1%	87.8%	95.8%	98.7%
Handles donated USDA Foods	77.9%	86.0%	71.7%	79.3%	79.7%
Dependability	64.9%	57.2%	67.1%	72.4%	77.7%
Promotion programs	58.2%	65.1%	49.9%	68.8%	61.2%
Brands	57.5%	49.6%	58.9%	66.9%	75.2%
Flexibility	44.3%	43.8%	42.3%	51.6%	45.9%
Food quality	37.4%	45.1%	31.8%	38.3%	35.6%
Ability to meet specifications	35.0%	54.5%	27.0%	20.9%	16.9%

Source: School Food Purchase Study, 2011.

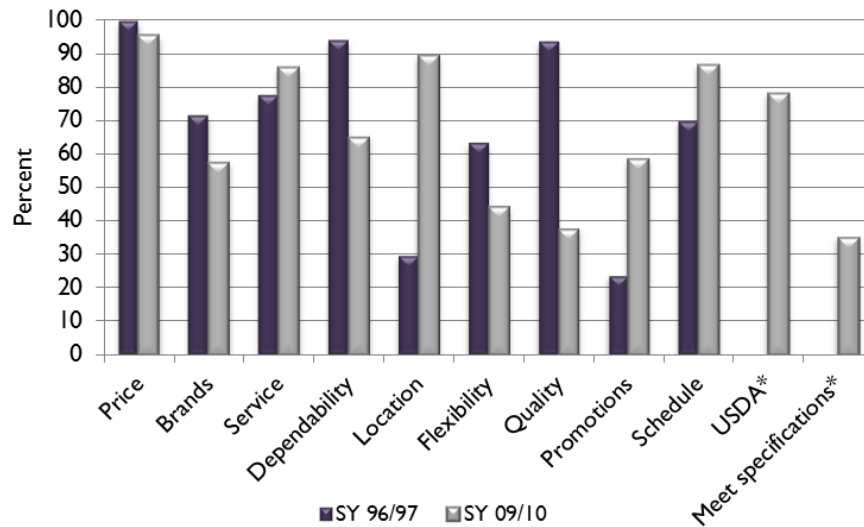
Figure 6-4: Ranking of criteria considered by school district decision makers in vendor selection, by size of district, SY 09/10



Source: School Food Purchase Study, 2011

When comparing vendor selection criteria with the results from the earlier study, some important changes are immediately obvious. While *price* remains the factor considered by most school districts of all sizes, the relative importance of *food quality* has dropped from the second most common factor to the second to last. The importance of such criteria as *dependability*, *flexibility*, and *brands* has declined as well. On the other hand, the importance of *location*, *promotion programs*, *delivery schedules*, and *service after sale* have increased since the previous study. Two new criteria were introduced in SY09/10, the vendor’s *ability to meet specifications*, and handling of *USDA Foods*. The changes that have occurred since the earlier study are shown in Figure 6-5.

Figure 6-5: Criteria considered by school districts in vendor selection, SYs 1996/97 and 2009/10



Source: School Food Purchase Studies, 1998 and 2011

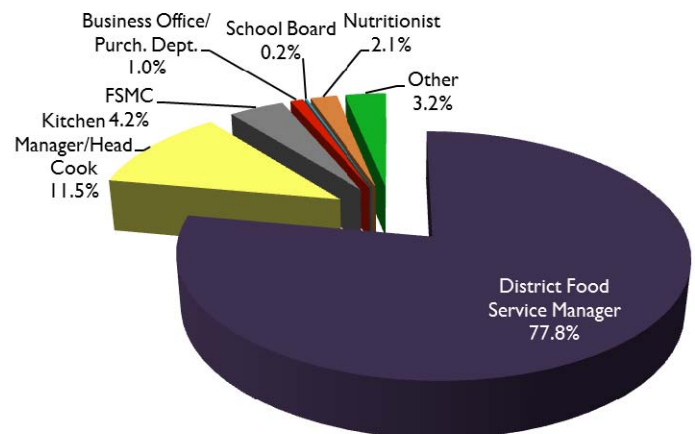
6.1.2 Food selection

a) Responsibility for decision

As with vendor selection, food service directors were the primary decision makers regarding food selection (Table 6-3 and Figure 6-6). Kitchen managers and head cooks came second, entirely due to the large group of small districts with less than 1,000 students that were dependent on them to perform this duty.

It should be noted that 4.2 percent of all school districts indicated that the FSMC that operates their food service was responsible for food selection. However, as with vendor selection responsibility, in some cases where the food service director has been indicated as the decision maker, he/she is an employee of the FSMC. And when school districts indicated that the FSMC is responsible, it is usually the food service director employed by the FSMC who makes the decision. When the respondents who indicated that the school district's operation is under FSMC management were asked whether the FSMC is responsible for food selection, out of the 13.5 percent of FSMC-serviced school districts, 92 percent responded with 'yes.'

Figure 6-6: Food selection responsibility distribution in public unified NSLP school districts, SY 2009/10



Source: School Food Purchase Study, 2011

SCHOOL FOOD PURCHASE STUDY-III
SECTION 6: SCHOOL FOOD PROCUREMENT PRACTICES

A small number of school districts, just over 3 percent of the total, indicated “other” as the responsible party for food selection. In 7 out of 10 of these responses, it was the food service director, jointly with another party (e.g. nutritionist, cafeteria manager) who was responsible for food selection.

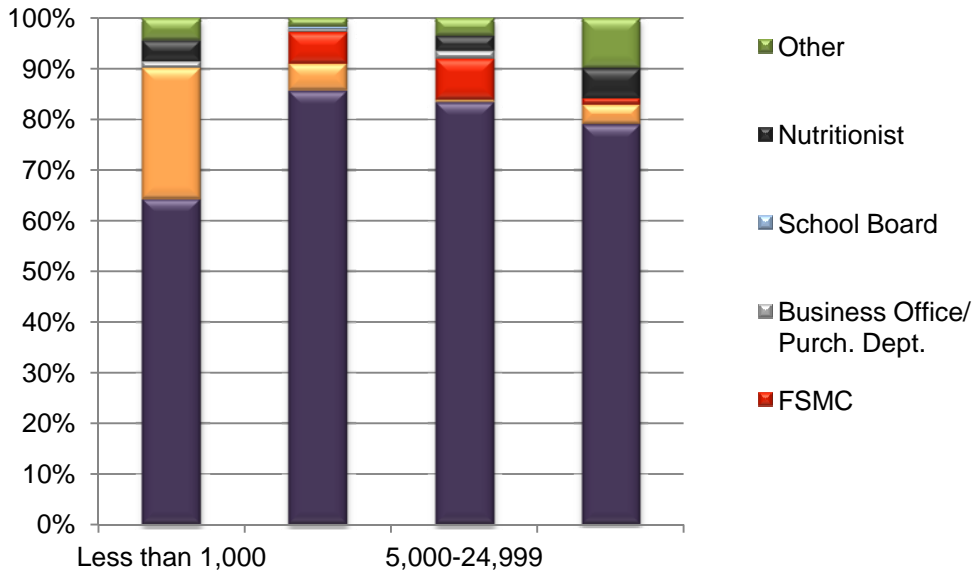
Table 6-3: Number of public unified NSLP school districts by decision-maker with primary responsibility for food selection, by size of school district, SY 2009/10

School district student enrollment	District Food Service Manager	Kitchen Manager/ Head Cook	FSMC	Business Office/ Purch. Dept.	School Board	Nutritionist	Other	Total
----- number of school districts -----								
Less than 1,000	2,347	943	-	47	-	154	161	3,652
row percent	64.3%	25.8%	0.0%	1.3%	0.0%	4.2%	4.4%	100.0%
column percent	27.8%	75.9%	0.0%	44.3%	0.0%	69.4%	46.5%	33.7%
1,000-4,999	4,445	279	321	33	21	-	96	5,195
row percent	85.6%	5.4%	6.2%	0.6%	0.4%	0.0%	1.8%	100.0%
column percent	52.7%	22.4%	69.8%	31.1%	100.0%	0.0%	27.7%	48.0%
5,000-24,999	1,396	9	135	26	-	50	59	1,675
row percent	83.3%	0.5%	8.1%	1.6%	0.0%	3.0%	3.5%	100.0%
column percent	16.6%	0.7%	29.3%	24.5%	0.0%	22.5%	17.1%	15.5%
25,000 or more	240	12	4	-	-	18	30	304
row percent	78.9%	3.9%	1.3%	0.0%	0.0%	5.9%	9.9%	100.0%
column percent	2.8%	1.0%	0.9%	0.0%	0.0%	8.1%	8.7%	2.8%
All districts	8,428	1,243	460	106	21	222	346	10,826
row percent	77.8%	11.5%	4.2%	1.0%	0.2%	2.1%	3.2%	100.0%
column percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note: Percentages might not add to 100 due to rounding.
Source: School Food Purchase Study, 2011.

The distribution of food selection responsibilities by size of school district is shown in Figure 6-7. As indicated, in all sizes of school districts it was mostly the food service director who was responsible for food selection. More nutritionists had this responsibility in the largest districts (6 percent), but also in 4 percent of the smallest ones. In 26 percent of the school districts with less than 1,000 students the kitchen manager or head cook decided which foods were to be purchased.

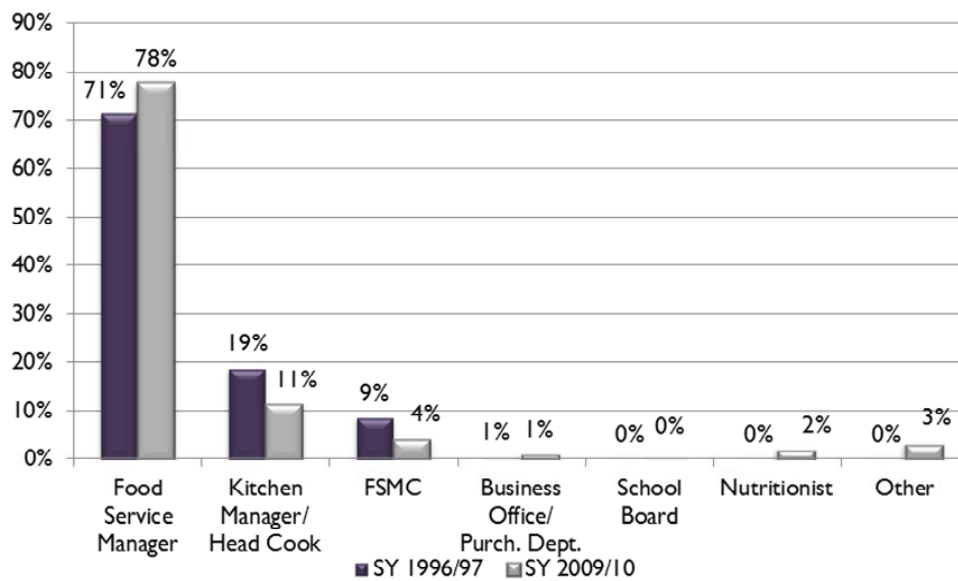
Figure 6-7: Responsibility for food selection by size of school district, SY 2009/10



Source: School Food Purchase Study, 2011

A comparison of the results with those from the SY 1996/97 study reveals a decline in the influence of kitchen managers on food selection and an increase in the influence of food service directors (Figure 6-8).

Figure 6-8: Comparison of public unified NSLP school districts decision maker responsibility for food selection, SYs 1996/97 and 2009/10



Source: School Food Purchase Studies, 1998 and 2011

b) Use of product specifications

An estimated 85 percent of all school districts used product specifications when purchasing food in SY 2009/10. As seen in Table 6-4, *style/variety of product*, *packaging unit*, and *use of Child Nutrition (CN) labels* were the most frequently used specifications. Specifications related to *whole grain content* and *fat content/type of fat* were used slightly less frequently, although still by the majority of districts. *Origin* and *official standards of identity* were the least likely specifications to be used.

Table 6-4: Product specifications used by public unified NSLP school districts in the procurement of food, SY 2009/10

Product specifications	Number of school districts	Percent of all school districts
Style/variety of product	8,352	77.1%
Packaging unit	8,269	76.4%
Use of Child Nutrition labels	7,978	73.7%
Whole grain content	7,207	66.6%
Fat content and/or type of fat	7,006	64.7%
Official quality/grade standards	6,900	63.7%
Container weight	5,650	52.2%
Condition	5,641	52.1%
Sodium content	4,985	46.0%
Calorie content	4,933	45.6%
Brand name	4,870	45.0%
Official standards of identity	4,264	39.4%
Origin	3,284	30.3%
Not using product specifications	1,624	15.0%

Source: School Food Purchase Study, 2011.

c) Use of food safety criteria

As seen in Table 6-5, more than eight out of ten school districts were estimated to use food safety criteria (as defined by the school district itself) in their product specifications. Of these, small school districts with less than 1,000 students were most likely to use food safety criteria (nine out of ten). When specifically asked if they use USDA Agricultural Marketing Service (AMS) specifications to develop food safety criteria, close to 70 percent of the districts said yes. Again, the smallest size school districts were most likely to use AMS specifications.

Table 6-5: Use of food safety criteria in product specifications by public unified NSLP school districts in the procurement of food, SY 2009/10

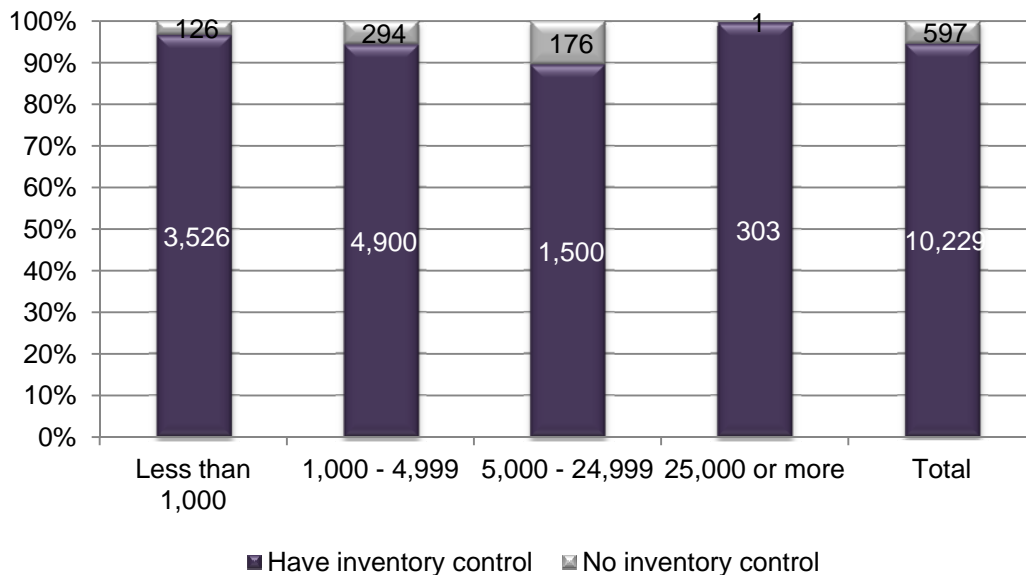
Student enrollment	Use food safety criteria in product specifications		Use USDA Agricultural Marketing Service specifications	
	Number	Percent of all districts	Number	Percent of districts using food safety criteria
Less than 1,000	3,273	89.6%	2,523	77.1%
1,000 - 4,999	4,227	81.4%	2,857	67.6%
5,000 - 24,999	1,393	83.1%	697	50.0%
25,000 or more	261	85.9%	135	51.8%
Total	9,154	84.6%	6,211	67.9%

Source: School Food Purchase Study, 2011

6.1.3 Food traceability

Food traceability has increasingly become a focus of attention since the last School Food Purchase Study was conducted in SY 1996/97. One of the most important reasons to trace back foods is the ability to efficiently respond to product recalls. Respondents were asked whether they have inventory control processes in place that allow them to trace back food products if necessary. The vast majority of school districts, an estimated 94 percent, had some type of inventory control (Figure 6-9). Only 3 percent of the smallest (with enrollment of less than 1,000 students) and 6 percent of next size class (1,000 to 4,999 students) had no inventory control. Surprisingly, school districts with 5,000 to 24,999 students had the largest estimated share of districts with no inventory control processes, 10 percent.

Figure 6-9: Number and share of public unified NSLP school districts with inventory control processes in place, by size of district, SY 2009/10



Source: School Food Purchase Study, 2011

We asked districts how far they could trace back food through the supply chain. Respondents reported a high capability for some level of traceability, primarily through vendors or at the receiving stage (Table 6-6). Ninety percent could trace back through vendors. Traceability further back through the supply chain to warehouses or other storage sites was more limited, particularly at the smaller school districts. Clearly, most feel confident that trace back to vendors will reveal the origin of their suppliers. About 57 percent of SFAs said that they could trace back a food item used in a recipe or as a menu item. The largest school districts reported the greatest ability to trace foods back to specific points in the supply chain.

Table 6-6: : Number and percent of public unified NSLP school districts by ability to trace foods back to specific points in the supply chain, and by size of district, SY 2009/10

Level of traceability	Less than 1,000		1,000 - 4,999		5,000 - 24,999		25,000 or more		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Vendors	3,315	90.8%	4,696	90.4%	1,416	84.5%	302	99.1%	9,729	89.9%
Receiving	2,214	60.6%	3,901	75.1%	1,214	72.5%	278	91.5%	7,608	70.3%
Warehouse	1,788	49.0%	2,369	45.6%	871	52.0%	242	79.6%	5,270	48.7%
Distribution to another site	594	16.3%	2,306	44.4%	965	57.6%	232	76.1%	4,098	37.9%
Storage at another site	435	11.9%	2,228	42.9%	843	50.3%	202	66.3%	3,709	34.3%
Used in a recipe or as a menu item	1,940	53.1%	3,145	60.5%	889	53.1%	211	69.2%	6,186	57.1%

Source: School Food Purchase Study, 2011

6.1.4 Buying locally: farm to school programs

Farm to school programs have been in operation since the mid-1990s. They aim to connect schools with local farms, to improve student nutrition and provide nutrition and health education opportunities, as well as support local farmers. ‘Bearing Fruit: Farm to school program evaluation resources and recommendations’, a 2009 report by the Center for Food and Justice, Urban and Environmental Policy Institute, Occidental College estimates that farm to school programs have increased from fewer than 10 in 1997 to about 2,000 in 2009. Currently 25 out of the 48 contiguous states plus the District of Columbia have established Farm to School Programs²⁸. Most of these state programs, however, cover just a part of the school population, not all students and schools in the state.

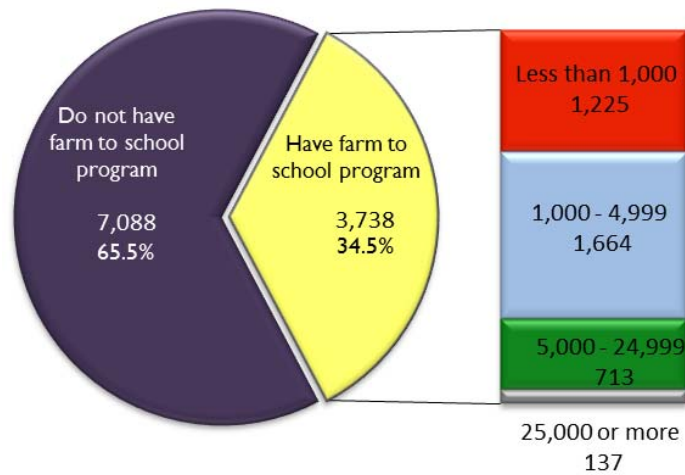
This study set an objective of estimating the extent to which *farm to school* programs have been adopted by SFAs nationwide and the levels of purchasing of locally grown produce.

²⁸ The following states have Farm to School Programs based on the ‘F as in Fat: How obesity threatens America’s Future’ 2011 report of the Robert Wood Johnson Foundation: CA, CO, CT, D.C., FL, IL, IA, KY, LA, ME, MD, MA, MI, MT, NJ, NM, NY, OK, OR, PA, TN, TX, VT, VA, WA, and WI.

a) State farm to school programs

Based on the survey responses, only an estimated 34.5 percent of the school districts in the 48 contiguous states and the District of Columbia were located in states which had *state farm to school programs* (Figure 6-10). Over 75 percent of these were districts in the two smaller size classes, which is not surprising given the much larger overall number of small districts. However, as seen in Table 6-7, larger school districts were more likely to report that their state had a State Farm to School Program.

Figure 6-10: Availability of State Farm to School Program



Source: School Food Purchase Study, 2011

Table 6-7: Number of public unified NSLP districts located in a state that has a State Farm to School Program, SY 2009/10

Student enrollment	Have farm to school program	Do not have farm to school program	Total
Less than 1,000	1,225	2,427	3,652
Row percent	33.5%	66.5%	100.0%
Column percent	32.8%	34.2%	33.7%
1,000 - 4,999	1,664	3,531	5,195
Row percent	32.0%	68.0%	100.0%
Column percent	44.5%	49.8%	48.0%
5,000 - 24,999	713	962	1,675
Row percent	42.6%	57.4%	100.0%
Column percent	19.1%	13.6%	15.5%
25,000 or more	137	168	304
Row percent	44.9%	55.1%	100.0%
Column percent	3.7%	2.4%	2.8%
Total	3,738	7,088	10,826
Row percent	34.5%	65.5%	100.0%
Column percent	100.0%	100.0%	100.0%

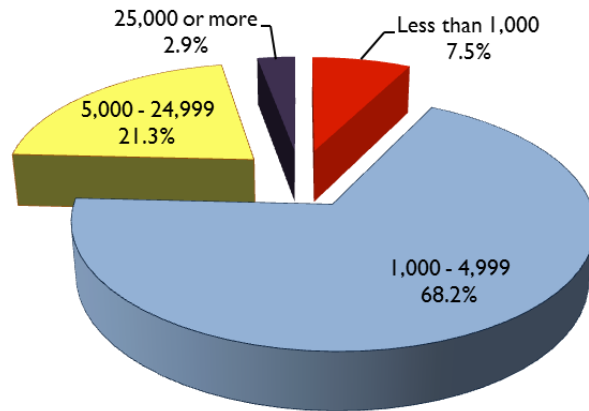
Source: School Food Purchase Study, 2011

Of the estimated 3,738 school districts with access to a State Farm-to-School Program, one quarter were actually purchasing through the program.

b) Buying locally grown produce

A relatively small number of SFAs, 2 out of every 10, were estimated to buy locally grown produce. Of those who were buying locally, the majority, 68 percent, were school districts with 1,000 to 4,999 students. Only 5 percent of the smallest districts were buying locally-grown produce compared to 29-30 percent of districts with 1,000 to 24,999 students. These estimates are shown in Table 6-8 and Figure 6-11.

Figure 6-11: Distribution of school districts with programs for buying locally grown produce, by size of district, SY 2009/10



Source: School Food Purchase Study, 2011

Table 6-8: Number of public unified NSLP districts with a buying program for locally grown produce, SY 2009/10

School districts	Have locally grown produce program	No locally grown produce program	Total
Less than 1,000	171	3,480	3,652
Row percent	4.7%	95.3%	100%
Column percent	7.5%	40.7%	33.7%
1,000 - 4,999	1,552	3,643	5,195
Row percent	29.9%	70.1%	100%
Column percent	68.2%	42.6%	48.0%
5,000 - 24,999	485	1,190	1,675
Row percent	29.0%	71.0%	100%
Column percent	21.3%	13.9%	15.5%
25,000 or more	66	238	304
Row percent	21.6%	77.9%	99%
Column percent	2.9%	2.8%	2.8%
Total	2,274	8,551	10,826
Row percent	21.0%	79.0%	100%
Column percent	100.0%	100.0%	100%

Source: School Food Purchase Study, 2011

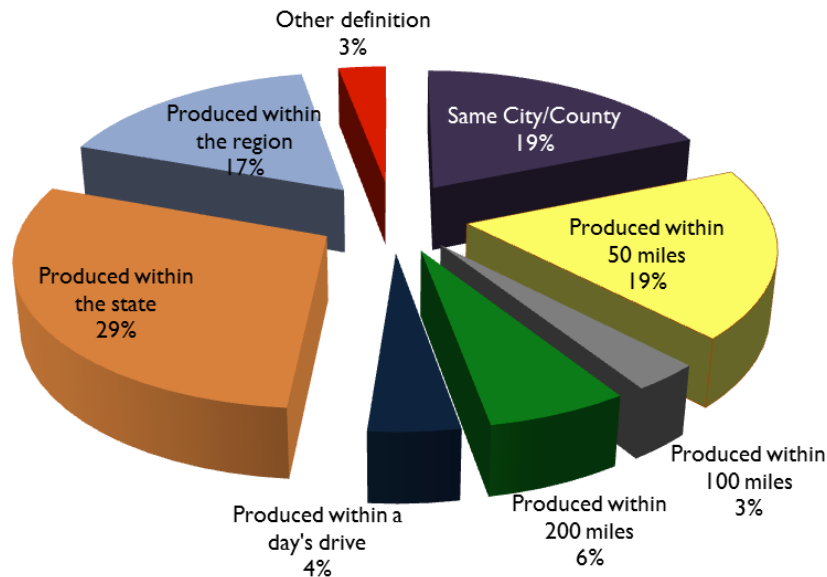
An additional 1,350 districts (12.5 percent of the total) indicated that they are in the process of developing a program for buying locally grown produce. If they all complete the process, this would represent an increase of almost 60 percent in the number of districts with such a program.

Respondents from the districts that were buying locally grown produce indicated that these purchases accounted for 5 to 12 percent of their total food costs. By size of school district, these were as follows:

- Less than 1,000 students: 5.4%
- 1,000 - 4,999 students: 10.8%
- 5,000 - 24,999 students: 7.8 %
- More than 25,000 students: 12.4%

In the absence of an official definition for 'local', districts had different interpretations of what should be considered *locally grown*. As seen in Figure 6-12, when asked to define *locally grown*, for the largest group of respondents, 29 percent, this meant *produced within the state*. For 19 percent, produce was locally grown if *produced within the same city or county*, for another 19 percent, *if produced within 50 miles*, and for 17 percent, this meant *produced within the region*. For a few respondents produce was locally grown if *produced within a day's drive, within 100 miles, or within 200 miles*.

Figure 6-12: School district definitions of 'locally grown', SY 2009/10



Source: School Food Purchase Study, 2011

Respondents were also asked to list the top 5 locally grown items (by value) that they purchased during SY 2009/10. Apples were among the top items for by far the largest number of districts, 1,741 or 76.6 percent of all districts that purchased locally. Next were tomatoes (987 districts, 43.4 percent) and lettuce (719 districts, 31.6 percent).

SCHOOL FOOD PURCHASE STUDY-III
SECTION 6: SCHOOL FOOD PROCUREMENT PRACTICES

The ten fruits or vegetables listed by the largest number of districts as their top 5 locally grown items were:

- Apples;
- Tomatoes;
- Lettuce;
- Potatoes;
- Oranges;
- Cucumbers;
- Peppers;
- Pears;
- Watermelon; and
- Peaches.

In addition to produce, a small number of respondents listed other food products among the top 5 items purchased locally. Such products included (in descending order of frequency of mentions): bagels, pizzas/calzones, pickles, cider, dairy products, eggs, fries, rice, pork, and poultry.

6.2 Use of USDA Food donation program

6.2.1 Utilization of USDA food entitlement funds

School districts can utilize their USDA entitlement funds in different ways. Of particular interest are purchases of processed food products incorporating USDA Foods as an ingredient, and purchases of fresh produce from the DoD Fresh Fruit and Vegetable Program.

The estimated mean USDA donated food entitlement for SY 2009/10 received by school districts is shown in Table 6-9. This table also indicates the percentage spent on processed end products that incorporate USDA donated foods, and the number of school districts using USDA entitlement and cash reimbursements for DoDFresh program purchases.

Table 6-9: USDA entitlement and utilization of entitlement funds by public unified NSLP school districts by size of district, SY 2009/10

USDA entitlement & utilization of entitlement funds	Student enrollment				Total
	< 1,000	1,000 - 4,999	5,000 - 24,999	> 25,000	
Mean USDA donated food entitlement (\$)	\$14,263	\$407,886	\$385,612	\$1,139,739	\$298,622
Mean share of USDA entitlement spent on processed USDA Foods (%)	33.1%	38.1%	43.9%	50.4%	37.7%
Apply USDA entitlement toward purchases through the DoDFresh program (# of districts)	859	1,551	719	170	3,299
Apply USDA entitlement toward purchases through the DoDFresh program (%)	23.5%	29.9%	42.9%	55.9%	30.5%
Use cash reimbursements for additional purchases from DoD (# of districts)	-	503	232	49	783
Use cash reimbursements for additional purchases from DoD (%)	-	9.7%	13.9%	16.1%	7.2%

Note: only the 84.4% of districts that were able to supply their entitlement value are reported in this table.

Source: School Food Purchase Study, 2011

The estimated average USDA donated food entitlement for SY 2009/10 was just under \$300,000 per district. It ranged from less than \$15,000 for the smallest size districts to over \$1.1 million for the largest ones. Districts spent at least one third of that on processed food products incorporating USDA Foods as an ingredient. As seen in Table 6-9, this share increased with the size of district to reach 50 percent for school districts with 25,000 or more students.

A similar trend could be observed with the utilization of USDA entitlement funds for purchases through DoDFresh. Approximately 30 percent of all school districts were purchasing fresh produce through the DoD. This program was utilized more by larger districts than by the small ones. While over half of the largest school districts (55.9 percent) were using the program, less than one quarter of the smallest ones (23.5 percent) were using it. In addition to USDA entitlement funds, some districts were using part of their cash reimbursements for additional purchases through DoD. Again, this behavior was more typical for the larger districts.

6.2.2 Perceptions about the Department of Defense Fresh Fruit and Vegetable program

As shown in Table 6-10, the vast majority of respondents, 85 percent, considered fresh produce purchased through DoDFresh to be comparable in quality to commercial products. Indeed, 11 percent of respondents considered them to be of higher quality and only less than 4 percent felt they were of lower quality than commercial products. Again, a majority, 56 percent, although this time less overwhelming, were of the opinion that DoD produce was offered at prices comparable to commercial products. Respondents who viewed DoD prices as being higher or lower than commercial product were split in almost equal size groups, 20.6 and 23.5 percent respectively.

Table 6-10: Comparison of the quality and prices of fresh produce from the Department of Defense and commercial products

	DoD quality		DoD prices	
	<i>Number of districts</i>	<i>Percent</i>	<i>Number of districts</i>	<i>Percent</i>
Lower than commercial products	126	3.8%	774	23.5%
Comparable to commercial products	2,804	85.0%	1,846	56.0%
Higher than commercial products	369	11.2%	679	20.6%
Total	3,299	100.0%	3,299	100.00%

Source: School Food Purchase Study, 2011.

6.2.3 Perceptions about the USDA donated food program

Respondents were asked to list the three main features of the USDA donated food program that they most like and most dislike. Among the features most liked, the clear leaders were cost (reduces overall food cost), quality, and variety of foods offered listed by 54, 33, and 25 percent of all school districts respectively. The most disliked features were product availability, 22 percent, variety (limited product choice), 19 percent, and delivery schedules, 13 percent. Just over one third of the districts could not identify any major dislikes about the program and almost one fifth no major likes.

SCHOOL FOOD PURCHASE STUDY-III
SECTION 6: SCHOOL FOOD PROCUREMENT PRACTICES

As seen in Table 6-11, opinions varied widely, and in several cases one feature could be both liked by some and disliked by others. The most striking example is the variety of foods offered through USDA. One third of the school districts considered the wide variety of foods offered to be one of the best features of the program. But close to 20 percent of the school districts viewed the variety of foods offered as insufficient and listed it as one of the three features of the program that they most disliked. Similarly the quality of USDA foods was the second most liked and the fourth most disliked feature.

Table 6-11: Features of the USDA donated food program that are most commonly liked or disliked by public unified NSLP school districts, SY 2009/10

Feature	Number of districts offering an opinion	Percent of total identifying 'likes' or 'dislikes'
Likes		
Reduces overall food cost/good value/savings	5,877	54.3%
Quality	3,595	33.2%
Variety of food/choice/availability	2,714	25.1%
Ability to process products	1,024	9.5%
Convenience	992	9.2%
Flexibility/timing/ease of ordering	939	8.7%
Delivery/distribution/'pass through'	843	7.8%
Other	593	5.5%
Online ordering system (ECOS)	492	4.5%
More fresh produce available	484	4.5%
Product consistency	328	3.0%
Food that students like	321	3.0%
Net off Invoice (NOI) option	283	2.6%
Good/improved nutritional value	251	2.3%
Fresh fruit and vegetables program (DoD)	245	2.3%
Vendor relationship/storage flexibility	197	1.8%
Bulk ordering	165	1.5%
Customer service	159	1.5%
Availability of nutrition information	86	0.8%
Helps farmers and economy	71	0.7%
Does not participate in USDA Foods program	67	0.6%
Flexibility of program	32	0.3%
Food safety	21	0.2%
No major likes	2,008	18.5%
Dislikes		
Availability/cancellations/changes of actual product delivery	2,426	22.4%
Variety / Limited product choice	2,032	18.8%
Delivery schedules/lack of flexibility/reliability	1,429	13.2%
Low product quality	1,093	10.1%
Other	787	7.3%
Advanced ordering - forecasting	677	6.3%
Bulk delivery/too large volumes	670	6.2%
Limited availability of fresh produce	603	5.6%
State control/management of program/customer service	421	3.9%

SCHOOL FOOD PURCHASE STUDY-III
SECTION 6: SCHOOL FOOD PROCUREMENT PRACTICES

Feature	Number of districts offering an opinion	Percent of total identifying 'likes' or 'dislikes'
Dislikes		
Cost of storage	407	3.8%
High charges, cost of products and shipping	382	3.5%
USDA regulations/rules/procedures	316	2.9%
Lack of 'healthy' alternatives	312	2.9%
No product information included	197	1.8%
Products not to students' liking	196	1.8%
Administrative time and costs	190	1.8%
Damaged or out-of-date products	187	1.7%
Fresh fruit and vegetables program (DoD)	171	1.6%
Net off Invoice (NOI) option	153	1.4%
Products difficult to prepare	151	1.4%
Restrictions on use of funds	118	1.1%
Too many processed foods	92	0.9%
Would prefer CLOC	73	0.7%
No adjustments of order allowed	48	0.4%
Products don't meet state nutrition guidelines	41	0.4%
No sampling of products	38	0.3%
Online ordering system (ECOS)	17	0.2%
Product not identified as USDA	14	0.1%
No major dislikes	3,877	35.8%

Source: School Food Purchase Study, 2011

Respondents were also asked in an open-ended question to list how, in their view, the USDA donated food distribution program can be improved. An estimated 14 percent of the school districts had some suggestions, 9 percent specified that they had no suggestions for improvement and the remaining 77 percent did not respond. One can assume that these respondents had no major concerns. There is variation in the way USDA Foods programs are operated from State to State and some of the suggestions, such as add Net Off Invoice (NOI) option, can be attributed to those individual differences. Respondents had the following suggestions for improvement:

Suggestion	Number of school districts
• Have no suggestions	993
• Improve delivery schedule	376
• Add CLOC/Eliminate USDA and go to CLOC	238
• Offer healthier foods	221
• Improve quality	201
• Add NOI/Allow more NOI	175
• Improve communication	122
• Reduce package sizes	95

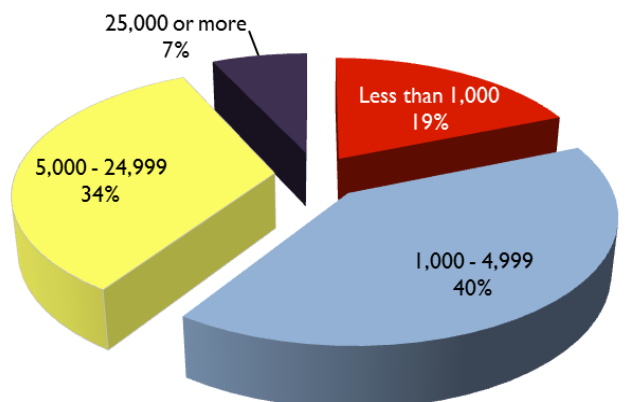
• Improve variety	36
• Ability to choose processor	13
• Eliminate commodity program	13
• Do not cancel orders	13
• Model after Alabama Program	12
• Increase entitlement	9
• Divert money to DoDFresh	8
• Eliminate DoD program/More Fruits & Vegetables not DoD	8
• Reduce paperwork	6
• National and interstate bidding	5
• Improve recall	4
• Expand brown box donations	3
• Improve ingredient tracking	1
Total	2,552

Some of the suggestions respondents had are directly linked to the features they disliked. For example the most frequent dislike was related to delivery schedules and this is the most frequently requested improvement. The second most frequently suggested improvement related to expanding CLOC, followed by offering more healthy food choices. Of these, low sodium products topped the list (160 school districts specified this particular feature), but others also suggested more whole grain products, more fruits and vegetables or did not specify a particular health related feature. Also similar to the ‘likes’ and ‘dislikes’, some suggestions were mutually exclusive (expand and eliminate the DoDFresh).

6.3 Use of branded fast food products

Slightly fewer than 12 percent of all public unified NSLP school districts in the 48 contiguous states and the District of Columbia offered some branded foods from national quick-serve restaurant chains in their food service operation in SY 2009/10 (see Table 6-12). As shown in Figure 6-13, of the school districts that offered branded food products, the largest size districts represented the smallest share, 7 percent and the two middle size classes of school districts represented 40 and 34 percent. However, a larger share of the largest districts (29.4%) offered branded products.

Figure 6-13: Distribution of public unified NSLP school districts that offer branded fast food products by size of district



Source: School Food Purchase Study, 2011

SCHOOL FOOD PURCHASE STUDY-III
SECTION 6: SCHOOL FOOD PROCUREMENT PRACTICES

Table 6-12: Number and share of public unified NSLP school districts offering branded food products by size of district, SY 2009/10

School districts student enrollment	Offer branded products	Do not offer branded products	Total
Less than 1,000	240	3,411	3,652
Row percent	6.6%	93.4%	100%
Column percent	18.7%	35.8%	33.7%
1,000 - 4,999	516	4,679	5,195
Row percent	9.9%	90.1%	100%
Column percent	40.1%	49.0%	48.0%
5,000 - 24,999	441	1,234	1,675
Row percent	26.3%	73.7%	100%
Column percent	34.3%	12.9%	15.5%
25,000 or more	90	215	304
Row percent	29.4%	70.6%	100%
Column percent	7.0%	2.3%	2.8%
All districts	1,287	9,539	10,826
Row percent	11.9%	88.1%	100%
Column percent	100.0%	100.0%	100%

Only 9 percent of all schools in public unified NSLP school districts in the 48 contiguous states were estimated to offer branded foods from national quick-serve restaurant chains (Table 6-13). More than half of these (59 percent) were middle/secondary schools, 37 percent were elementary and 4 percent were other schools.

Table 6-13: Share of public unified NSLP schools that feature branded products, by size of district and grade category, SY 2009/10

School district enrollment	Elementary schools		Mid/secondary schools		Other schools		Total	
	Number	Percent of all schools	Number	Percent of all schools	Number	Percent of all schools	Number	Percent of all schools
Less than 1,000	111	4.3%	111	3.0%	129	8.0%	352	4.5%
1,000-4,999	504	3.7%	852	8.5%	112	6.0%	1,468	5.7%
5,000-24,999	1,639	9.6%	2,222	22.8%	37	1.8%	3,898	13.5%
25,000 or more	714	4.7%	1,452	18.3%	29	1.2%	2,195	8.6%
Total	2,967	6.1%	4,638	14.8%	308	3.9%	7,913	9.0%

Source: School Food Purchase Study, 2011

Branded food products can arrive at the school districts in different states of preparation. This could be as an ingredient, as a cold product to be reheated or as a finished food item ready to serve. Over 90 percent of the school districts that offered branded products received them in the form of a finished item. Only a small number of districts, primarily in the middle size classes, received branded products as an ingredient or cold item. These estimates are provided in Table 6-14.

SCHOOL FOOD PURCHASE STUDY-III
SECTION 6: SCHOOL FOOD PROCUREMENT PRACTICES

Table 6-14: Share of districts using branded products by form in which they receive them and size of district, SY 2009/10

School district enrollment	Ingredient		Cold		Finished item		Other form	
	Number of school districts	Percent	Number of school districts	Percent	Number of school districts	Percent	Number of school districts	Percent
Less than 1,000	0	0.0%	0	0.0%	240	100.0%	0	0.0%
1,000-4,999	67	13.0%	84	16.3%	432	83.7%	24	4.6%
5,000-24,999	16	3.7%	10	2.3%	406	92.0%	42	9.6%
25,000 or more	0	0.0%	3	3.6%	90	99.4%	0	0.0%
All districts	83	6.5%	97	7.6%	1,167	90.7%	66	5.1%

Note: Only school districts that offer branded foods included in calculations.

Source: School Food Purchase Study, 2011

Pizza brands were the most common ones offered by school districts. Close to 25 percent of the school districts offering branded foods served Domino's pizza and 11 percent served Pizza Hut. Little Caesar's and Taco Bell were served in 18 and 10.7 percent of the school districts respectively. Domino's and Pizza Hut were served in a larger share of the two large size classes of school districts. Little Caesar's and Taco Bell were served primarily in the smallest size districts. These estimates are provided in Table 6-15.

About half of the respondents listed a variety of 'other' brands that they served. These were almost entirely various pizza brands, 93 percent, ranging from national ones like Papa John's (the most frequently listed 'other' brand) to a variety of smaller regional ones.

Table 6-15: Share of public unified NSLP school districts that feature individual branded foods, by size of district, SY 2009/10

Brand	All Districts		Less than 1,000		1,000-4,999		5,000-24,999		25,000 or more	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Arby's	44	3.4%	0	0.0%	21	4.1%	23	5.2%	0	0.0%
Boardwalk Fries & Burgers	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Burger King	13	1.0%	0	0.0%	0	0.0%	13	2.9%	0	0.0%
Chick-fil-A	74	5.7%	0	0.0%	50	9.7%	20	4.5%	4	4.4%
Domino's	317	24.6%	0	0.0%	132	25.6%	144	32.7%	40	44.4%
Kentucky Fried Chicken	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Little Caesar's	230	17.9%	111	46.3%	55	10.7%	63	14.3%	0	0.0%
McDonald's	17	1.3%	0	0.0%	0	0.0%	7	1.6%	10	11.1%
Pizza Hut	144	11.2%	0	0.0%	22	4.3%	83	18.8%	39	43.3%
Subway	115	8.9%	0	0.0%	40	7.8%	65	14.7%	10	11.1%
Taco Bell	136	10.6%	129	53.8%	0	0.0%	7	1.6%	0	0.0%
Other brands (list)	634	49.3%	111	46.3%	267	51.7%	228	51.7%	28	31.1%
Districts offering branded foods	1287	100%	240	100%	516	100%	441	100%	90	100%

Source: School Food Purchase Study, 2011

Seven out of every ten school districts offering branded foods were serving them both as reimbursable and à la carte meals. The largest size districts were most likely to offer branded foods as à la carte meals only

(41 percent), and all of the smallest districts were serving branded foods as both à la carte and reimbursable meals. These estimates are provided in Table 6-16.

Table 6-16: Branded food products sales by public unified NSLP school districts by size of district, SY 2009/10

	All districts		Less than 1,000		1,000-4,999		5,000-24,999		25,000 or more	
	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent
Reimbursable meals only	183	14.2%	0	0.0%	109	21.1%	64	14.5%	10	11.1%
A la carte only	212	16.5%	0	0.0%	97	18.8%	78	17.7%	37	41.1%
Reimbursable AND a la carte	892	69.3%	240	100.0%	310	60.1%	299	67.8%	43	47.8%
Districts offering branded foods	1287	100%	240	100%	516	100%	441	100%	90	100%

Source: School Food Purchase Study, 2011

6.4 School food vendors

6.4.1 Number of vendors used

Various factors could impact the number of vendors used by school districts. Vendor availability and diversification are just two of these. It is also reasonable to expect that districts would source perishable foods that require more frequent deliveries from a single local vendor, while non-perishable foods that have long shelf life and can be delivered less frequently are more likely to be supplied by multiple vendors. The specific foods included in the food groups discussed in this section are provided in Appendix 8.

As seen in Table 6-17, districts tend to use one to two vendors for any type of food product. Larger districts tend to use a larger number of vendors, particularly for non-perishable foods like canned or frozen products. The estimates in the table also indicate that smaller school districts tend to use vendors supplying more than one class of foods while there is greater specialization and less overlap among vendors supplying different types of foods to larger school districts. The total average number of vendors used by small districts is only 4.9 as some vendors supplied several food product groups. The data for the large school districts suggests that this overlap is a less prominent feature among their suppliers. The larger school districts have orders that are large enough to be supplied by vendors that are more specialized, and/or by multiple vendors of the same product.

Table 6-17: Mean number of vendors used by public unified NSLP school districts, in SY 2009/10, by food group and by size of school district

Food group	All districts	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more
	-----number of vendors-----				
Dairy products	1.2	1.2	1.1	1.2	1.1
Bread products	1.2	1.2	1.1	1.3	1.3
Fresh Produce products	1.6	1.5	1.6	1.7	1.6
Canned/ Staples products	1.8	1.7	1.8	1.9	2.8
Frozen Foods products	1.9	1.8	1.9	2.2	3.6
Fresh Meats products	1.3	1.6	1.2	1.2	1.0
Snack Items products	1.8	1.6	1.8	2.5	2.0
Ice Cream products	1.0	0.9	1.1	1.0	0.9
Non-dairy Beverages products	1.8	1.6	1.8	2.1	1.8
Total number of vendors used	6.7	4.9	6.6	9.7	12.3

Source: School Food Purchase Study, 2011

When comparing these findings with the earlier study for SY 1996/97, the most obvious observation is that despite the larger number of school districts, schools and students, the total number of vendors used by school districts has declined. The mean number of vendors has increased for dairy and bread products but has decreased for all other food groups (Table 6-18). The difference is most pronounced for fresh meats followed by snack items, canned foods, frozen foods, and ice cream.

6.4.2 Receiving USDA donated USDA Foods

The largest number of districts reported receiving USDA-donated foods either from commercial food distributors that also supplied other commercially purchased food products or from the state. State delivery was more frequently reported by the smallest size school districts, but for school districts of all other sizes, donated foods were most often delivered together with other commercially purchased foods. These estimates are provided in Table 6-19 and Figure 6-14.

SCHOOL FOOD PURCHASE STUDY-III
SECTION 6: SCHOOL FOOD PROCUREMENT PRACTICES

Table 6-18: Comparison of the mean and total number of vendors used by public unified NSLP school districts, SYs 1996/97 and 2009/10, by food group

Food Group	SY 1996/97		SY 2009/2010		Percentage change	
	Mean number of vendors	Total number of vendors	Mean number of vendors	Total number of vendors	Mean number of vendors	Total number of vendors
Dairy	1.1	10,619	1.2	12,530	9%	18%
Bakery	1.1	11,143	1.2	12,926	9%	16%
Fresh produce	1.7	19,364	1.6	17,204	-6%	-11%
Canned/ staples	2.5	25,540	1.8	19,764	-28%	-23%
Frozen foods	2.6	25,940	1.9	21,082	-27%	-19%
Fresh meats	2.2	18,026	1.3	13,075	-41%	-27%
Snack items	2.9	23,550	1.8	19,653	-38%	-17%
Ice cream	1.3	11,128	1.0	10,826	-23%	-3%
Non-dairy beverages ^{1/}	n/a	n/a	1.8	19,457	n/a	n/a
Total number of vendors used	8.0	80,590	6.7	72,308	-16%	-10%

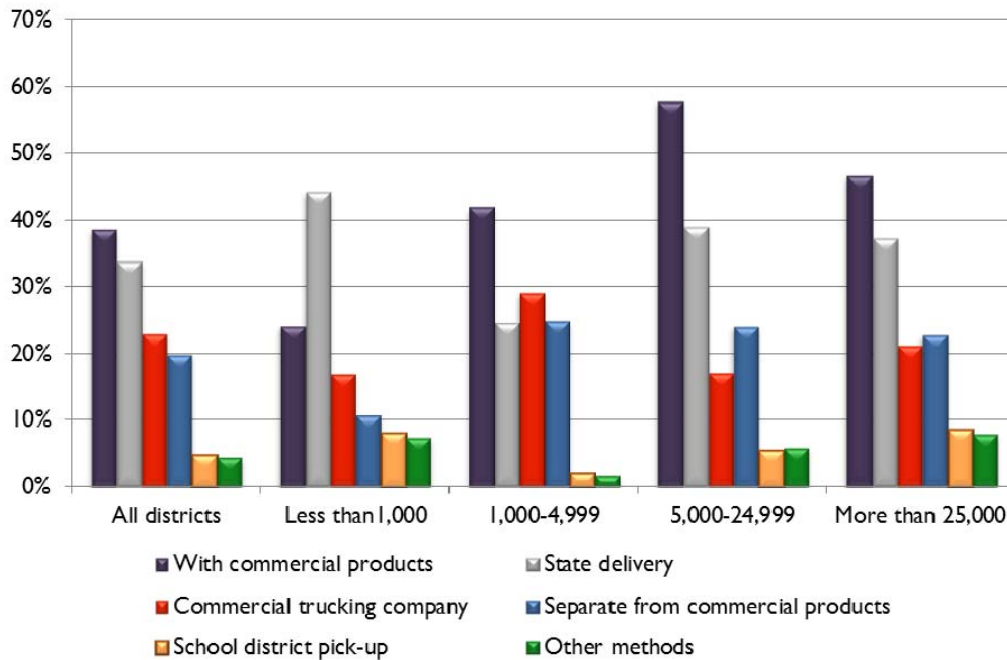
^{1/} Non-dairy beverages is a new group added in 2009/2010.
Source: School Food Purchase Study, 2011.

Table 6-19: Methods of delivery of USDA donated USDA Foods used by public unified NSLP school districts, SY 2009/10

Method of delivery	All districts		Less than 1,000		1,000 - 4,999		5,000 - 24,999		25,000 or more	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Commercial foodservice distributor, WITH commercial products	4,184	38.6%	885	24.2%	2,186	42.1%	970	57.9%	142	46.7%
State delivery	3,668	33.9%	1,617	44.3%	1,283	24.7%	654	39.1%	114	37.4%
Commercial trucking company	2,492	23.0%	622	17.0%	1,517	29.2%	288	17.2%	65	21.3%
Commercial foodservice distributor, SEPARATE from commercial products	2,159	19.9%	398	10.9%	1,288	24.8%	403	24.1%	70	22.9%
School district pick-up	530	4.9%	296	8.1%	114	2.2%	93	5.6%	26	8.7%
Other methods	487	4.5%	271	7.4%	93	1.8%	99	5.9%	24	8.0%

Source: School Food Purchase Study, 2011.

Figure 6-14: Methods of delivery of USDA donated foods used by school districts, SY 2009/10



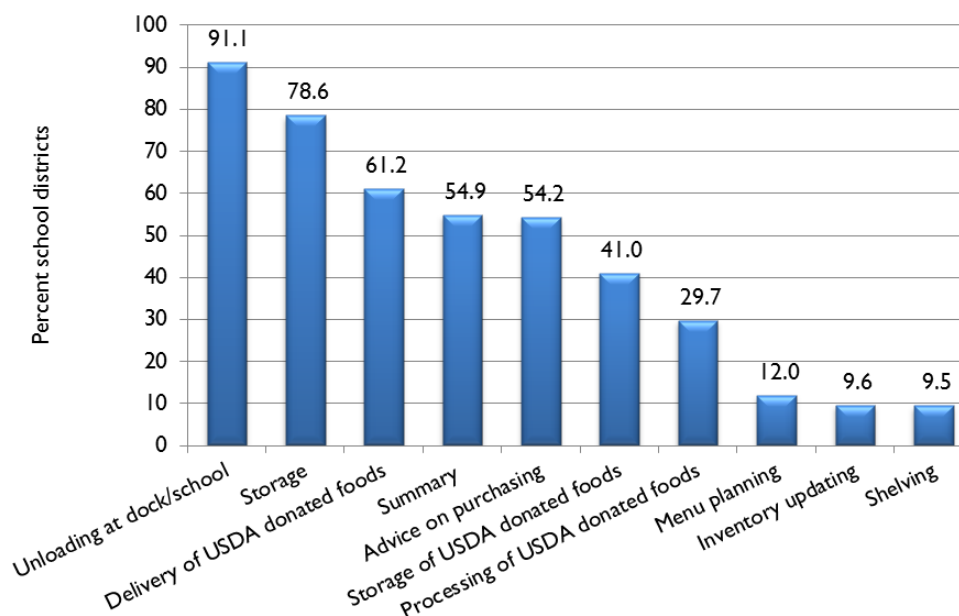
Source: School Food Purchase Study, 2011

6.4.3 Services provided by vendors

Over 85 percent of SFAs consider the services offered by vendors are an important selection criterion (see Section 6.1.1b), Table 6.2). When asked to list these services, vendors mentioned a variety of ways that vendors serve customers. Figure 6-15 shows the share of districts reporting various services offered by vendors.

Unloading deliveries was the most common vendor service, reported by over 90 percent, followed by placing deliveries in storage facilities, 79 percent. The biggest increases in use of vendor services were all in connection with donated foods. Services related to USDA donated foods were commonly reported. Over 60 percent of the districts receive USDA donated foods through their vendors. Vendors keep USDA donated foods in storage for 41 percent of the school districts, and almost 30 percent of districts look to their vendors for processing USDA donations. Over half of all school districts were receiving advice on purchasing from their vendors and/or monthly or quarterly summaries of purchases.

Figure 6-15: Vendor services used by public unified NSL school districts, SY 2009/10



Source: School Food Purchase Study, 2011

A comparison of these findings with those of the SY 1996/97 study reveals a marked increase in received services related to USDA donated foods, such as delivery, storage and processing. Changes in the number of districts reporting other services were small. These comparisons are provided in Table 6-20.

Table 6-20: Services provided by vendors to public unified NSLP school districts, SYs 1996/97 and 2009/10

Vendor services	SY 1997/98	SY 2009/10	Change
Unloading at dock/school	89.7%	91.1%	1.6%
Placing packages in coolers/storage area	80.2%	78.6%	-2.0%
Delivery of USDA donated foods	36.2%	61.2%	69.1%
Summary of purchases on monthly/quarterly basis	47.0%	54.9%	16.8%
Advice on purchasing	55.3%	54.2%	-2.0%
Storage of USDA donated foods	17.7%	41.0%	131.6%
Processing of USDA donated foods	16.6%	29.7%	78.9%
Menu planning	13.3%	12.0%	-9.8%
Inventory updating	9.9%	9.6%	-3.0%
Shelving delivered foods	10.4%	9.5%	-8.7%

Source School Food Purchase Studies, 1998 and 2011

6.5 Procurement pricing methods

6.5.1 Procurement methods

School districts must follow their own state's rules or the federal rules and regulations when procuring food, whichever are the strictest. In general, food procurement methods should provide free and open competition and ensure that federal funds, when used to purchase products or services, result in the best and most responsive product at the lowest possible price.

Food procurement methods that districts can use fall into two broad categories, formal and informal methods. Under the formal methods of purchasing, school districts solicit competitive sealed bids. The award goes to the lowest bidder who meets the terms and conditions. Bids can be awarded on the basis of individual pricing of items (*formal line items bid*), or on the basis of lowest combined price for all items in a category (*formal lump sum bid*). Formal procurement methods are used for large purchases over a predetermined cost threshold. The informal procurement methods are used for smaller purchases when prices are usually quoted over the phone or by a sales person. The purchaser is required to maintain open competition when using informal methods and always obtain quotes from more than two vendors. The procurement method used may also be determined by the specific product line. Some product lines (e.g. fresh produce) may change prices frequently, making it difficult to use formal methods which typically include contract terms that lock prices in for a longer period of time.

As indicated in Table 6-21 and Figure 6-16, although procurement methods varied by food group, formal methods were prevalent. As could be expected, fresh produce was the product line for which the largest share of school districts, 50 percent, used informal procurement methods.

Dairy and bread products were two product lines for which school districts most heavily relied on formal procurement methods. This is not surprising since both bread and dairy items require frequent deliveries, typically to individual schools, thus requiring a longer term contractual relationship.

Of the formal methods, line item bids were more widely used than formal lump sum bids. Of the informal methods, school districts primarily relied on sales representative visits. The one exception was fresh produce, where market conditions can change quite rapidly and more frequent personal contact is required; thus school districts relied more on phone contact than sales representative visits.

Of the other methods used, the most common response was that the district participates in a Coop that does the purchasing. Other relatively common responses were either that the FSMC managing the school district's food service operations or the State Office of Child Nutrition was responsible for food procurement and the methods used.

It should be noted that some product lines were not purchased at all by some school districts. These included ice cream, 16.7 percent, fresh meats, 14.6 percent, snack foods, 5.2 percent, and non-dairy beverages, 4.6 percent.

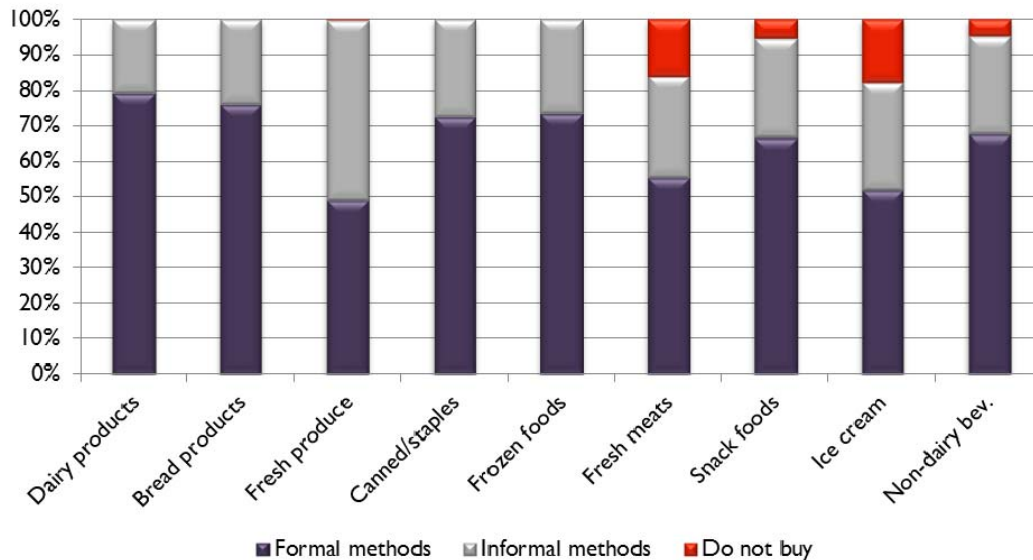
SCHOOL FOOD PURCHASE STUDY-III
SECTION 6: SCHOOL FOOD PROCUREMENT PRACTICES

Table 6-21: Food procurement methods used by public unified NSLP school districts, by food group, SY 2009/10

Food Groups	Formal line bid	Formal lump sum bid	Phone bid/quote	Sales rep visits	Other methods	Do not buy
	----- percent of school districts -----					
Dairy products	60.5%	18.5%	2.7%	7.8%	10.5%	0.0%
Bread products	58.0%	17.5%	5.4%	8.5%	10.2%	0.0%
Fresh produce	34.4%	14.0%	13.5%	14.6%	22.1%	0.2%
Canned/staples	52.2%	19.9%	0.6%	14.6%	12.2%	0.0%
Frozen foods	52.7%	20.2%	0.2%	14.2%	12.2%	0.0%
Fresh meats	33.4%	17.5%	0.8%	14.5%	11.5%	14.6%
Snack foods	47.1%	17.7%	0.4%	16.5%	10.3%	5.2%
Ice cream	37.1%	11.6%	5.2%	12.8%	10.9%	16.7%
Non-dairy bev.	49.2%	16.8%	1.7%	15.0%	10.6%	4.6%

Source: School Food Purchase Study, 2011

Figure 6-16: Food procurement methods used by public unified NSLP school districts, by food group, SY 2009/10



Source: School Food Purchase Study, 2011

A comparison of these results with those from SY 1996/97 reveals some differences. Figure 6-17 shows that formal procurement methods were also prevalent then but that some shifts have occurred. School districts were slightly more heavily relying on formal bids 13 years ago than today for dairy and bread products, and ice cream. However, in 2009/10 formal procurement methods were more widely used for all other product lines. There was a slight increase in the use of line item bids versus lump sum bids in 2009/10. Within the informal procurement methods, phone bids were even less used in 2009/10 than in 1996/97.

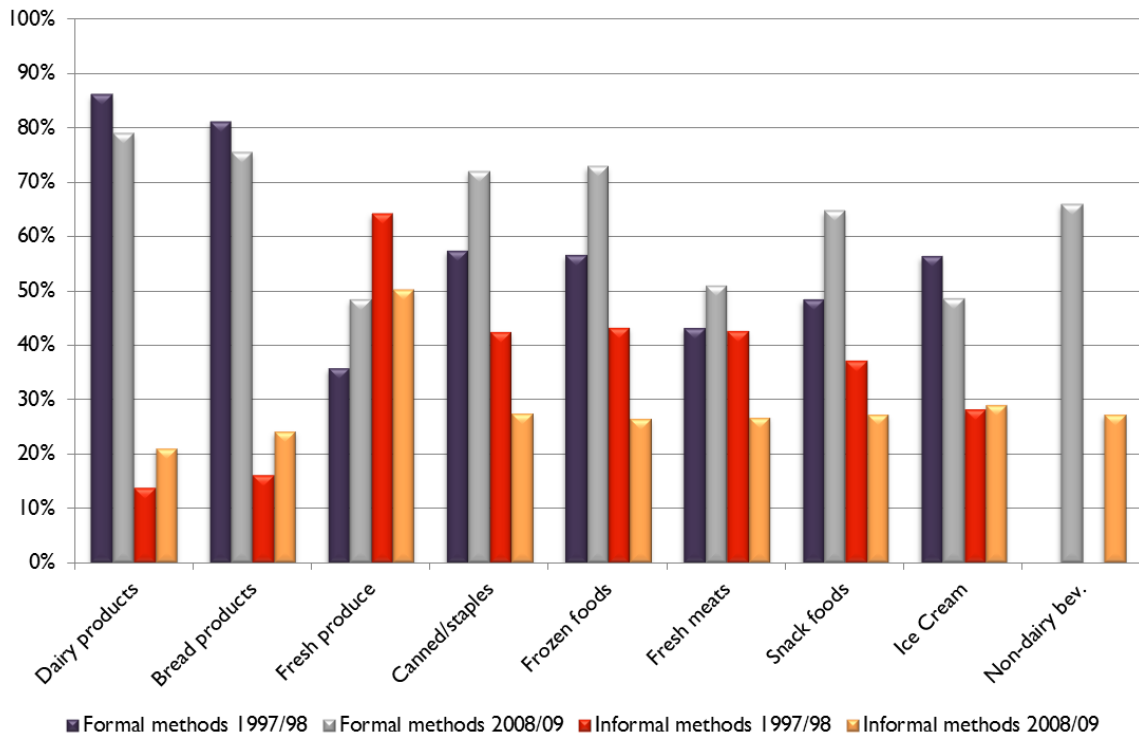
SCHOOL FOOD PURCHASE STUDY-III
SECTION 6: SCHOOL FOOD PROCUREMENT PRACTICES

Table 6-22: Comparison of percent of public unified NSLP school districts using alternative food procurement methods, by food group, SYs 1996/97 and 2009/10

Food Group	Formal line bid		Formal lump sum bid		Phone bid/quote		Sales rep visits		Other methods		Do not buy*	
	96/97	09/10	96/97	09/10	96/97	09/10	96/97	09/10	96/97	09/10	96/97*	09/10
	----- percent of school districts -----											
Dairy products	60.6	60.5	25.5	18.5	4.5	2.7	4.8	7.8	4.6	10.5	.0	.0
Bread products	56.1	58.0	25.0	17.5	5.9	5.4	5.1	8.5	5.1	10.2	2.8	.0
Fresh produce	22.5	34.4	13.3	14.0	23.1	13.5	33.3	14.6	7.9	22.1	.0	.2
Canned/staples	42.4	52.2	15.1	19.9	3.9	.6	32.5	14.6	6.1	12.2	.0	.0
Frozen foods	41.6	52.7	15.1	20.2	4.1	.2	33.1	14.2	6.1	12.2	.0	.0
Fresh meats	31.2	33.4	12.1	17.5	6.3	.8	31.4	14.5	4.9	11.5	14.1	14.6
Snack foods	34.9	47.1	13.6	17.7	4.2	.4	28.1	16.5	4.8	10.3	14.4	5.2
Ice cream	38.8	37.1	17.6	11.6	6.5	5.2	17.2	12.8	4.5	10.9	15.4	16.7
Non-dairy beverages	NA	49.2	NA	16.8	NA	1.7	NA	15.0	NA	10.6	NA	4.6

*/ 'Do not buy' data for SY 1996/97 was not collected. However, a figure was derived as the difference between the sum of percentages of all groups/subgroups and 100.
Source: School Food Purchase Studies 1998 and 2011

Figure 6-17: Food procurement methods used by public unified NSLP school districts in SYs 1996/07 and 2009/10, by food group



Source: School Food Purchase Studies 1998 and 2011

6.5.2 Pricing methods

As with procurement methods, SFAs and their vendors can establish prices through a variety of means that could generally be described as formal and informal methods. The formal methods in common use are fixed price, fixed price with an escalator, formula price, and cost based price. The most common informal pricing methods are bid or quote, retail price, and mutually accepted discount.

Formal pricing methods generally prevailed across all product lines. Fixed price, fixed price with an escalator, and bid or quote were the three most commonly used pricing methods across all product lines. All other formal and informal pricing methods were used only by very few SFAs. These estimates are provided in Table 6-23.

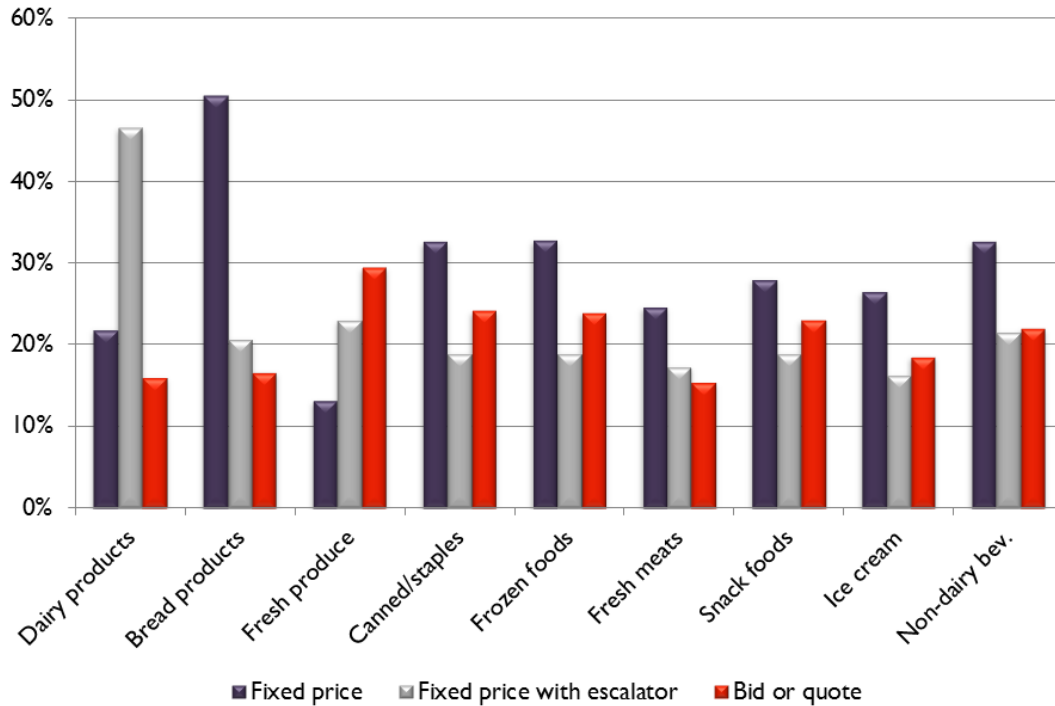
Table 6-23: Pricing methods used by public unified NSLP school districts in food procurement, by food group, SY 2009/10

Food group	Formal Method				Informal Method				Do not buy	All
	Fixed price	Fixed price with escalator	Formula price	Cost based price	Bid or quote	Retail Price	Mutually accepted discount	Other		
	----- percent of school districts -----									
Dairy products	21.9	46.7	2.5	4.2	16.0	2.9	0.8	5.1	0.0	100
Bread products	50.6	20.7	1.2	1.2	16.7	2.8	1.5	5.3	0.0	100
Fresh produce	13.2	22.6	5.9	7.0	29.5	8.4	6.6	4.9	0.2	100
Canned/staples	32.7	19.0	6.3	3.1	24.2	6.0	3.9	4.5	0.0	100
Frozen foods	32.9	19.0	6.4	3.1	24.0	6.0	3.8	4.5	0.0	100
Fresh meats	24.1	16.0	4.3	3.8	15.0	4.2	5.0	4.9	14.6	100
Snack foods	28.1	17.1	6.0	2.9	23.1	6.9	4.7	4.0	5.2	100
Ice cream	26.6	14.3	3.1	2.3	18.4	3.9	3.0	4.8	16.7	100
Non-dairy beverages	32.5	19.7	2.6	2.8	22.0	5.0	4.3	5.2	4.6	100

Source: School Food Purchase study, 2011

As seen in Figure 6-18, fixed price was the most common method for all product lines except dairy products and fresh produce. For dairy, fixed price with an escalator was the preferred method, and for fresh produce it was bid or quote followed by fixed price with an escalator. Bid or quote was the second most widely used method for canned foods and staples, frozen foods, snack foods, ice cream, and nondairy beverages; and fixed price with an escalator was the second most common method for bread products, the already discussed fresh produce, and fresh meats. The most common response regarding the 'other' pricing methods used was that the district participates in a Coop or that the FSMC managing the food service operations of the district or the state Office of Child Nutrition was responsible for deciding on the methods used.

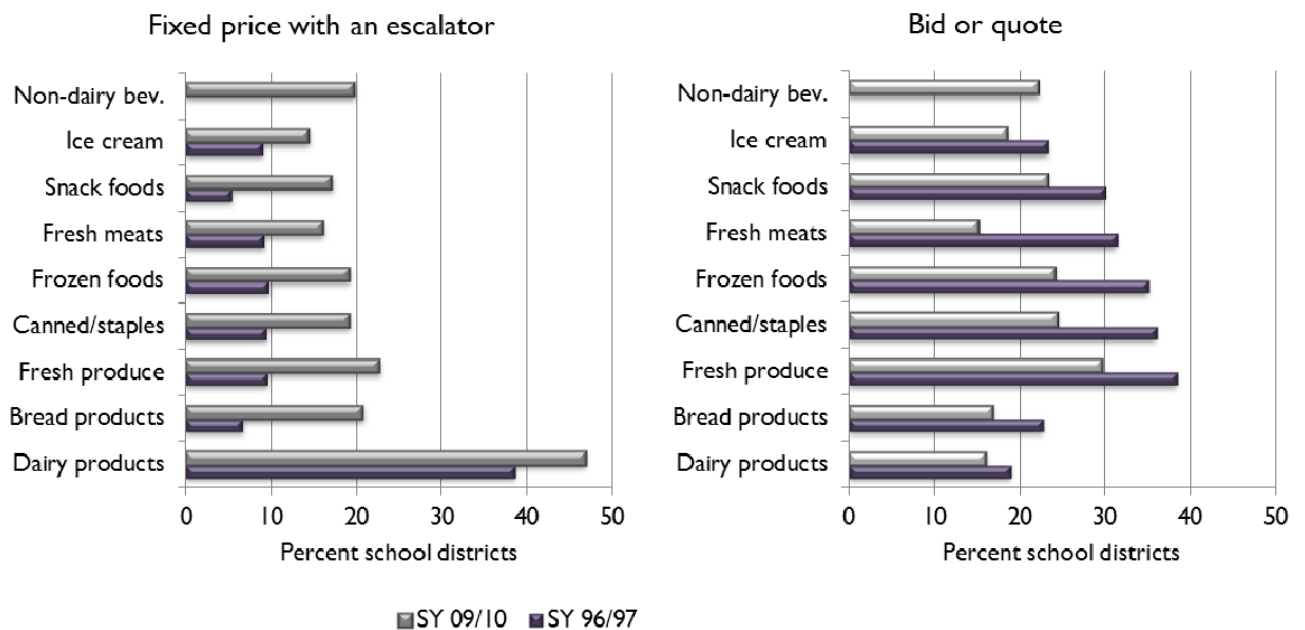
Figure 6-18: The three most widely used pricing methods by food group, SY 2009/10



Source: School Food Purchase study, 2011

Overall, in SY 2009/10, formal pricing methods were slightly more prevalent than in SY 1996/97. This is due to a large shift from bid or quote toward fixed pricing with an escalator. All other changes are relatively small. These changes are shown in Figure 6-19 and Table 6-24.

Figure 6-19: Major changes in pricing methods between SY 1996/97 and 2009/10



Source: School Food Purchase Studies 1998 and 2011

SCHOOL FOOD PURCHASE STUDY-III
SECTION 6: SCHOOL FOOD PROCUREMENT PRACTICES

Table 6-24: Comparison of percent of public unified NSLP school districts using alternative methods of product pricing, by food group, SYs 1996/97 and 2009/10

Food group	Formal method								Informal method								Do not buy*	
	Fixed price contract		Fixed price with adjustment clause		Formula price		Cost based price		Bid or quote		Retail price		Mutually accepted discount		Other			
	SY 96/97	SY 09/10	SY 96/97	SY 09/10	SY 96/97	SY 09/10	SY 96/97	SY 09/10	SY 96/97	SY 09/10	SY 96/97	SY 09/10	SY 96/97	SY 09/10	SY 96/97	SY 09/10	SY 96/97	SY 09/10
	----- percent of school districts -----																	
Dairy products	36.3	21.9	38.5	46.7	1.0	2.5	1.9	4.2	18.9	16.0	2.2	3.0	0.5	0.8	0.7	5.1	1.9	0.0
Bread products	58.1	50.6	6.7	20.7	0.7	1.2	2.5	1.3	22.7	16.7	2.9	2.8	2.8	1.5	0.7	5.3	5.4	0.0
Fresh produce	11.7	13.2	9.6	22.6	5.5	5.9	12.4	7.0	38.4	29.5	10.7	8.4	10.5	6.7	1.0	4.9	12.6	0.2
Canned/staples	31.8	32.7	9.5	19.0	5.4	6.3	6.1	3.1	35.9	24.2	4.0	6.0	6.5	3.9	0.7	4.5	6.2	0.0
Frozen foods	30.8	32.9	9.8	19.0	5.5	6.4	7.0	3.1	35.0	24.0	4.0	6.0	7.2	3.8	0.7	4.5	7.0	0.0
Fresh meats	22.3	24.1	9.2	16.0	5.7	4.3	4.4	3.8	31.3	15.0	6.3	4.2	5.6	5.0	0.7	4.9	18.9	14.6
Snack foods	26.2	28.1	5.4	17.1	6.0	6.0	6.9	3.0	29.9	23.1	4.3	6.9	6.2	4.7	0.7	4.0	21.3	5.2
Ice cream	33.0	26.6	9.0	14.3	3.4	3.1	4.5	2.3	23.3	18.4	4.8	3.9	5.3	3.0	0.7	4.8	20.5	16.7
Non-dairy beverages	NA	32.5	NA	19.7	NA	2.6	NA	2.8	NA	22.0	NA	5.0	NA	4.3	NA	5.2	NA	4.6

*/ 'Do not buy' data was not collected in SY 1996/97. Data in the table is backward derived and may not be correct.

Source: School Food Purchase Studies 1998 and 2011

6.6 Cooperative buying

School districts can realize economies of scale by cooperating with other districts to jointly procure food products on a larger scale. It was estimated that almost half of all school districts in the 48 contiguous states and the District of Columbia participated in some form of cooperative buying with other districts. As shown in Table 6-25, a larger share of districts of the two middle size classes, with 1,000 to 4,999 and 5,000 to 24,999 students, were participating in cooperative buying, and the smallest size school districts with less than 1,000 students were the least likely to participate in cooperative buying.

Overall, approximately 7 out of 10 participating districts were paying a fee to the co-op. This practice was much more common among the smallest size districts, 85 percent of which were paying a fee for participation. This share was between 62 and 69 percent for all other size classes of school districts.

Table 6-25: Participation in cooperative buying by public unified NSLP school districts by size of district, SY 2009/10

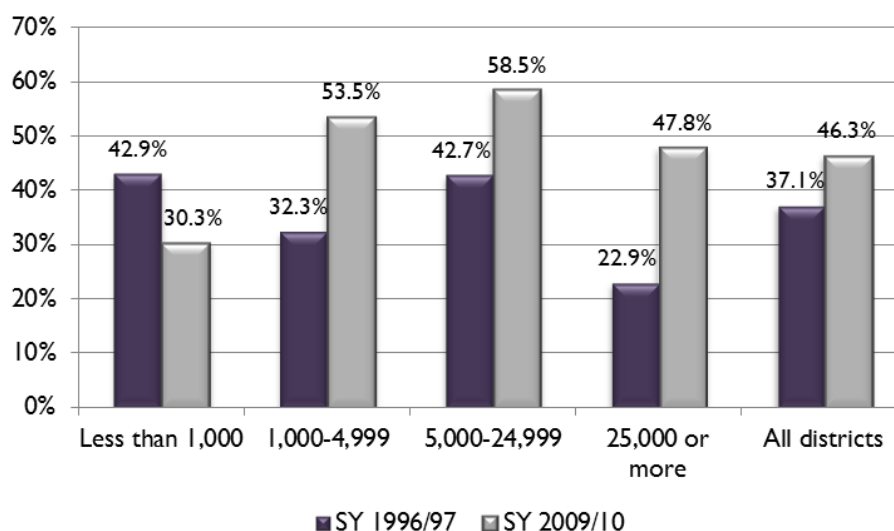
School district enrollment	Districts participating in cooperative buying		Average share of foods purchased cooperatively	Share of participating districts paying a fee to co-op
	Number	Percent of total	Percent	Percent
Less than 1,000	1,107	30.3%	75.9%	85.4%
1,000-4,999	2,780	53.5%	76.9%	62.7%
5,000-24,999	980	58.5%	68.1%	68.9%
25,000 or more	145	47.8%	49.9%	68.3%
All districts	5,012	46.3%	74.2%	69.1%

Source: School Food Purchase Study, 2011

The estimated average share of foods purchased by school districts through cooperative buying is impressive at over 74 percent. As indicated in Table 6-25, it is relatively higher among the smaller size districts. Cooperative buying programs (as a group) were providing the full range of foods acquired by SFAs. Canned/staple foods and frozen foods were the two product lines purchased cooperatively by most districts. But an important share of districts, at least 25 percent, were buying cooperatively all other lines as well (Table 6-26).

As Figure 6-20 shows, over the last 13 years participation in cooperative buying has increased across all sizes of school districts except the smallest ones where it has dropped by more than 12 percent. It has increased the most among the largest school districts of 25,000 or more students, from 23 to 46 percent.

Figure 6-20: Comparison of share of school district participation in cooperative buying between SYs 1996/97 and 2009/10



Source: School Food Purchase Studies 1998 and 2011

Cooperative purchasing has also increased across all product lines varying from a 9 percentage point increase for dairy products to 17 points for snack foods (Table 6-26). As in 2009/10, canned/staple foods and frozen foods were the product lines most widely purchased cooperatively 13 years ago.

Table 6-26: Comparison of public unified NSLP school district participation in purchasing cooperatives, SYs 1996/97 and 2009/10

Food Group	1996/97		2009/10	
	Number of school districts	Percent of total districts	Number of school districts	Percent of total districts
Canned/staples	3,304	32.8%	4,629	42.8%
Frozen foods	2,903	28.8%	4,487	41.4%
Snack foods	1,933	19.2%	3,886	35.9%
Fresh meats	2,205	21.9%	3,456	31.9%
Non-dairy beverages	n/a	n/a	3,302	30.5%
Fresh produce	1,647	16.3%	2,981	27.5%
Bread products	1,349	13.4%	2,951	27.3%
Dairy products	1,762	17.5%	2,867	26.5%
Ice cream	1,612	16.0%	2,788	25.8%

Source: School Food Purchase Studies 1998 and 2011

Respondents were asked to assess the impact of cooperative buying on the cost of foods and on their ability to purchase foods. The results are provided in Table 6-27. An estimated 9.2 out of every 10 participating school districts felt that cooperative buying helps reduce the cost of foods. Although not as overwhelming, but still a majority, 6 out of 10 felt that cooperative buying expanded their ability to purchase foods. One third of all participating districts reported no effect on their ability to purchase foods and a small share, 7 percent, felt that cooperative buying limits their ability to purchase foods.

SCHOOL FOOD PURCHASE STUDY-III
SECTION 6: SCHOOL FOOD PROCUREMENT PRACTICES

While all small school districts with enrollment of less than 1,000 students reported that cooperative buying saves them money, more than half felt that it also either limited their ability to purchase foods or had no effect. This suggests that they participate primarily for the cost savings. The same conclusion is to some extent true for all other sizes of districts as well, where at least 30 to 40 percent of respondents, depending on the size class of the district, felt that cooperative buying has no effect on their ability to purchase foods, while at the same time an overwhelming majority reported cost savings.

Table 6-27: Effect of cooperative buying programs on the ability to purchase foods and food costs of participating public unified NSLP school districts by size of district, SY 2009/10

School district enrollment	Effect on ability to purchase foods			Effect of food costs		
	Limits ability	Expands ability	No effect	Increased costs	Reduced costs	No effect
	----- percent of participating districts-----					
Less than 1,000	18.0%	47.9%	34.1%	0.0%	100.0%	0.0%
1,000-4,999	3.3%	66.7%	30.0%	1.6%	88.2%	10.2%
5,000-24,999	6.8%	53.2%	40.0%	1.8%	93.2%	4.9%
25,000 or more	10.4%	57.8%	31.8%	0.0%	85.8%	14.2%
All districts	7.4%	59.6%	32.9%	1.2%	91.8%	7.0%

Source: School Food Purchase Study, 2011

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS**7.1 Introduction**

In this section we compare the food purchases of SFAs with different characteristics. The following comparisons were made:

- Between districts that have contracted with FSMCs for food service functions against those that have not;
- Between districts located in urban areas and those in towns and rural areas (which are referred to as rural);
- Districts with more than 60 percent of students from households with low incomes against those with 30 to 59 percent and those with less than 30 percent;
- Districts using different menu planning systems;
- Districts located in different regions; and
- Districts of different sizes.

Comparisons involve all food groups and subgroups and the 50 most purchased products. We compare the mean cost per unit, mean volume in pounds per 100,000 meal equivalents (abbreviated as m.e. in the following tables), and total cost per 100,000 meal equivalents, for each food group and subgroup. Foods acquired through entitlement or bonus donations or processed foods containing donated USDA Foods have been excluded from the analysis; in other words, this analysis focuses on the foods purchased from the open market. A meal is defined as one lunch or 1.5 breakfasts. The latter factor is recommended by the National Food Service Management Institute and is consistent with the data reported in the 2008 School Lunch and Breakfast Cost Study. Comparisons between groups based on the volume and cost per 1,000 students with access to meals are included at Appendix 9.

It should also be noted that not all school districts responded to both the food purchase survey and the procurement practices survey. To avoid losing any data provided by respondents, three different sets of weights were used. One was used to estimate food acquisitions and included all respondents who provided food purchase data, another for analyzing procurement practices and school district characteristics included all districts that responded to the PPS, and another for analyzing various relationships where all districts that responded to both surveys were used. For this section and all estimates in Section 8, the third set of weights was used. Thus, some very small differences in the estimates occur between this section and other sections. For example, the volume and value of food acquisitions discussed in Sections 7 and 8 will be slightly different from those in Sections 5-3 to 5-5. The difference is less than 0.1 percent.

Some qualifications about the statistical significance of the comparisons should be made. Clearly the potential for sampling error is high where the number of districts in each category is relatively small. Consequently, care should be taken in interpreting comparisons between SFA characteristics based on a relatively small number of survey cases. In particular the number of cases in most of the regions is low.

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

As this analysis for all food items and by food group and subgroup item based on district characteristics was not published in the last School Food Purchase Study II for 1996/97, it is not possible to draw comparisons²⁹.

7.2 The average purchase costs of all purchased foods by food subgroup

The average price for all purchased products is \$0.83 per pound. The average prices paid for each of the different food groups and subgroups are illustrated in Table 7-1 below, along with the volume and value per 100,000 meal equivalents. The mean volume per 100,000 meal equivalent servings is 133,577 (1.33 pounds per meal equivalent) and the mean value is \$110,229 (\$1.10 per meal equivalent).

Table 7-1: Summary of mean cost per unit and volume and value per 100,000 meal equivalents of food purchases by all public unified NSLP school districts, SY 2009/10

Food groups/subgroups	Dollars/ pound	Pounds/ 100,000 m.e.	Dollars/ 100,000 m.e.
All foods	\$0.83	133,577	\$110,229
Bakery products	\$1.62	12,020	\$19,416
Biscuits, muffins, pancakes & waffles	\$1.79	1,985	\$3,553
Bread & rolls	\$1.15	6,496	\$7,442
Cakes & other bakery desserts	\$2.07	1,630	\$3,379
Crackers	\$2.28	652	\$1,485
Pretzels & snack chips	\$2.83	1,258	\$3,558
Condiments	\$0.82	2,909	\$2,378
Catsup & other sauces	\$0.87	2,039	\$1,777
Flavorings	\$1.21	159	\$192
Pickles/olives	\$0.58	711	\$410
Eggs	\$1.53	413	\$634
Eggs	\$1.09	217	\$236
Mixtures with eggs	\$2.02	197	\$398
Fats/oils	\$1.17	1,735	\$2,028
Butter	\$1.92	31	\$59
Margarine	\$0.78	327	\$254
Salad dressings & mayonnaise	\$1.30	1,056	\$1,367
Vegetable oils & shortenings	\$1.08	321	\$347
Fish	\$2.26	389	\$879
Fish	\$2.26	317	\$715
Shellfish	\$2.29	72	\$164
Fruits/juices	\$0.68	20,408	\$13,876
Fruits	\$0.77	10,495	\$8,063
Juices	\$0.59	9,913	\$5,812

²⁹ A table in the SFPS-II Statistical Appendices report listed the total value per 1,000 students with access to NSLP for each food item. Similar tables for SY 2009/10 are presented in Appendix 9.

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Dollars/ pound	Pounds/ 100,000 m.e.	Dollars/ 100,000 m.e.
Grain products	\$1.59	2,621	\$4,173
Breakfast cereals	\$3.51	532	\$1,869
Flour & other milled grains	\$0.32	487	\$157
Flour mix	\$1.16	217	\$252
Mixtures with grain	\$1.77	702	\$1,245
Pasta & noodles	\$0.93	392	\$365
Rice, barley & other grains	\$0.98	292	\$285
Legumes/nuts/seeds	\$0.78	868	\$680
Dry beans/peas	\$0.62	754	\$465
Other nuts	\$5.01	1	\$7
Peanuts/peanut butter	\$1.49	52	\$77
Seeds	\$2.54	27	\$69
Soybeans & soy products	\$1.86	34	\$63
Milk & other dairy products	\$0.45	57,602	\$26,076
Cheese	\$1.87	1,245	\$2,331
Cream	\$1.37	121	\$166
Ice cream & ice milk	\$1.47	716	\$1,056
Milk	\$0.39	54,670	\$21,504
Yogurt	\$1.20	850	\$1,020
Non dairy drinks	\$0.47	8,057	\$3,762
Carbonated	\$0.58	173	\$100
Coffee & tea	\$0.66	682	\$449
Dry beverage	\$2.48	13	\$32
Enriched drinks	\$0.65	2,165	\$1,412
Fruit drinks	\$0.67	933	\$625
Water	\$0.28	4,091	\$1,143
Poultry	\$1.94	4,318	\$8,356
Chicken	\$1.97	3,281	\$6,468
Game birds	\$6.02	0	\$1
Mixed poultry	\$4.46	0	\$1
Recipe mix	\$2.25	5	\$11
Turkey	\$1.82	1,032	\$1,876
Prepared foods	\$1.87	5,245	\$9,793
Burritos/tacos	\$1.59	593	\$946
Meat or cheese filled pastry	\$1.96	646	\$1,265
Mixtures with fish	\$4.67	1	\$6
Pizza	\$1.79	3,386	\$6,056
Prepared meals	\$2.13	193	\$411
Prepared sandwiches	\$2.61	426	\$1,111
Red meats	\$2.06	2,990	\$6,155
Beef & veal	\$2.04	1,597	\$3,255
Lamb	\$5.40	0	\$0
Mixed meats	\$1.84	446	\$819
Pork	\$2.21	915	\$2,026
Recipe mix	\$1.68	32	\$54

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Dollars/ pound	Pounds/ 100,000 m.e.	Dollars/ 100,000 m.e.
Soups & gravies	\$1.50	549	\$821
Gravies	\$2.35	97	\$229
Soups	\$1.31	451	\$592
Sugar/desserts	\$0.92	1,801	\$1,663
Candies/toppings	\$2.09	120	\$250
Gelatins	\$1.23	67	\$82
Jellies, jams & preserves	\$1.14	131	\$150
Puddings/pie filling	\$0.74	312	\$230
Sherbet/ices	\$1.04	271	\$281
Sugars	\$0.61	501	\$306
Syrups	\$0.91	399	\$363
Vegetables	\$0.82	11,650	\$9,539
Green vegetables	\$0.87	2,803	\$2,433
Mixed vegetables	\$0.89	1,164	\$1,037
Mixtures with vegetables	\$1.45	78	\$113
Other vegetables	\$1.22	233	\$284
Potato & potato products	\$0.72	4,443	\$3,195
Tomatoes & tomato products	\$0.84	1,369	\$1,155
Yellow vegetables	\$0.85	1,560	\$1,323

Source: School Food Purchase Study, 2011

7.3 The average purchase costs of the top 50 purchased foods

The mean cost for all of the top 50 food items was \$0.674 per pound. The mean cost for each of the top 50 items is shown in Table 7-2. The table also shows the volume and value of each item purchased per 100,000 meal equivalents. All districts purchased an average 93,274 pounds per 100,000 meal equivalents at a mean cost of \$62,872 per 100,000 meal equivalents for the top 50 food items.

Table 7-2: Summary of mean cost per unit and volume and value per 100,000 meal equivalents of top 50 food items purchased by all public unified NSLP school districts, SY 2009/10

		Cost per pound	Pounds/100,000 m.e.	Dollars/100,000 m.e.
			<i>'000 pounds</i>	<i>'000 dollars</i>
1	Milk, Flavored, Lo Fat, 1%	\$0.41	21,717	\$8,863
2	Milk, Flavored, Skim/Nonfat	\$0.37	11,843	\$4,346
3	Hamburger, Hot Dog Buns, Steak, Sub & Dinner Rls	\$1.14	3,114	\$3,542
4	Milk, Lo Fat, 1%	\$0.38	8,832	\$3,359
5	Orange Juice, Individual	\$0.54	3,435	\$1,855
6	Cereals, Individual	\$3.70	464	\$1,717
7	Apple Juice, Individual	\$0.51	3,254	\$1,668
8	Milk, Flavored, Lo Fat, .5%	\$0.38	3,782	\$1,431
9	Sport Drink, e.g. Gatorade	\$0.65	2,165	\$1,411
10	Pizza, w/Real Cheese	\$1.89	747	\$1,409

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

		Cost per pound	Pounds/100,000 m.e.	Dollars/100,000 m.e.
			'000 pounds	'000 dollars
11	Chips, Misc. Snack (Cheetos, Sun Chips)	\$3.72	359	\$1,335
12	Potatoes, French Fries	\$0.63	2,050	\$1,300
13	Apples, Fresh	\$0.63	1,999	\$1,256
14	Fruit Juice, Mixed, Individual	\$0.63	1,948	\$1,235
15	Cookie Dough	\$1.60	737	\$1,177
16	Pizza, Pepperoni w/Real Cheese	\$2.06	564	\$1,160
17	Chicken, Nuggets, White/dark Mix, Unknown	\$1.96	567	\$1,109
18	Milk, Flavored, Lo Fat, Fat Solids Unknown	\$0.39	2,776	\$1,095
19	Milk, Lo Fat, 2%	\$0.40	2,670	\$1,080
20	Chips, Tortilla/Corn	\$2.17	491	\$1,065
21	Chicken, Nuggets, White Meat	\$2.04	503	\$1,026
22	Muffins	\$2.27	430	\$977
23	Beef, Patties, Cooked	\$2.05	470	\$963
24	Yogurt	\$1.18	813	\$960
25	Chicken, Patties, Breaded, White Meat	\$1.95	488	\$952
26	Water	\$0.26	3,639	\$946
27	Crackers, Graham, Individual	\$2.27	405	\$919
28	Bread/Biscuit/Pastry Dough	\$1.05	788	\$826
29	Cheese Filled Pastry(Includes Hot Pocket)	\$1.91	423	\$808
30	Ice Cream Novelties	\$1.65	476	\$784
31	Cookies, Individual	\$2.88	261	\$753
32	Pizza, Pepperoni w/Cheese Blend	\$1.57	455	\$717
33	Pizza, Cheese Blend	\$1.56	438	\$683
34	Chips, Potato or Potato Sticks	\$4.28	152	\$649
35	Oranges, Fresh	\$0.57	1,120	\$640
36	Potatoes, Formed, Frozen	\$0.64	1,006	\$640
37	Bananas, Fresh	\$0.51	1,259	\$637
38	Pork, Sausage, Cooked	\$2.06	309	\$636
39	Pizza Shells/Pizza Dough	\$1.20	519	\$621
40	Pizza, Cheese, Type Unknown	\$1.74	352	\$613
41	Beef, Ground	\$1.71	357	\$612
42	Lettuce, Salad Mix	\$0.88	696	\$611
43	Poptarts	\$1.92	316	\$604
44	Milk, Skim/Nonfat	\$0.37	1,643	\$603
45	French Toast/Sticks/French Toast Bagels	\$1.48	402	\$593
46	Lettuce, Shredded/Chopped	\$0.97	570	\$554
47	Catsup, Individual Pack	\$0.83	657	\$543
48	Pizza, Sausage w/Cheese Blend	\$1.65	324	\$534
49	Potatoes, Dry, w/Milk	\$1.87	286	\$534
50	Peanut Butter and Jelly Sandwich	\$2.56	204	\$521
	All fifty items	\$0.67	93,274	\$62,872

Source: School Food Purchase Study, 2011

7.4 Food service management companies

FSMCs managed the food service operations of 1,462 (13.5 percent) out of the total 10,826 unified public NSLP school districts in the 48 contiguous states and the District of Columbia. These represented 7.1 million students (14.7 percent of total student enrollment). If all other factors are the same, one would expect the volume of food acquired by FSMC managed districts to represent roughly the same share as the student enrollment. However, FSMC managed districts accounted for 13 percent of the total volume of foods acquired by NSLP school districts in the 48 contiguous states and the District of Columbia.

Out of 865 food items acquired from all sources, FSMC managed districts purchased a smaller number of food items (705) compared with those not managed by FSMCs (852).

7.4.1 Differences in purchase costs between districts that have and have not contracted with FSMCs

Table 7-3 illustrates that FSMCs pay a slightly higher price per pound for all purchased foods (three cents per pound, 3.1 percent above the average for all purchases). As both categories purchase similar volumes, the cost per meal equivalent paid by FSMC districts is also higher (by four percent). The mean cost of all purchased foods for districts managed by FSMCs per 100,000 meal equivalents served is \$114,119, compared with \$109,626 for those SFAs without a contract with an FSMC. So the overall cost of purchased food per 100,000 meal equivalents served in districts managed by FSMCs is four percent higher than for those without FSMCs.

Table 7-3 shows that FSMC districts purchase smaller volumes per 100,000 meal equivalents served for seven of the 13 product groups.

Table 7-3: Comparisons of summary of mean cost and volume of food purchases by FSMC and non-FSMC operated public unified NSLP school districts, SY 2009/10

Food groups/subgroups	Cost per unit		Volume per 100,000 m.e.		Cost per 100,000 m.e.	
	FSMC	non-FSMC	FSMC	non-FSMC	FSMC	non-FSMC
	<i>dollars/pound</i>		<i>pounds/100,000 m.e.</i>		<i>dollars/100,000 m.e.</i>	
All foods	\$0.85	\$0.82	134,590	133,420	\$114,119	\$109,626
Bakery products	\$1.53	\$1.63	14,940	11,568	\$22,894	\$18,877
Biscuits, muffins, pancakes & waffles	\$1.78	\$1.79	2,072	1,971	\$3,694	\$3,531
Bread & rolls	\$1.14	\$1.15	8,886	6,126	\$10,095	\$7,031
Cakes & other bakery desserts	\$2.01	\$2.09	2,069	1,562	\$4,159	\$3,258
Crackers	\$2.53	\$2.25	459	682	\$1,160	\$1,535
Pretzels & snack chips	\$2.60	\$2.87	1,454	1,228	\$3,784	\$3,523
Condiments	\$0.86	\$0.81	3,096	2,880	\$2,651	\$2,336
Catsup & other sauces	\$0.88	\$0.87	2,203	2,014	\$1,947	\$1,750
Flavorings	\$1.33	\$1.19	132	163	\$175	\$194
Pickles/olives	\$0.69	\$0.56	761	703	\$529	\$391

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Cost per unit		Volume per 100,000 m.e.		Cost per 100,000 m.e.	
	FSMC	non-FSMC	FSMC	non-FSMC	FSMC	non-FSMC
	<i>dollars/pound</i>		<i>pounds/100,000 m.e.</i>		<i>dollars/100,000 m.e.</i>	
Eggs	\$1.51	\$1.54	498	400	\$752	\$615
Eggs	\$1.13	\$1.08	227	215	\$257	\$233
Mixtures with eggs	\$1.83	\$2.07	270	185	\$495	\$383
Fats/oils	\$1.24	\$1.16	1,835	1,720	\$2,275	\$1,989
Butter	\$1.98	\$1.90	58	27	\$114	\$50
Margarine	\$1.01	\$0.74	289	333	\$292	\$248
Salad dressings & mayonnaise	\$1.22	\$1.31	1,188	1,035	\$1,446	\$1,355
Vegetable oils & shortenings	\$1.40	\$1.03	301	324	\$423	\$335
Fish	\$2.25	\$2.26	265	408	\$596	\$923
Fish	\$2.25	\$2.26	255	326	\$574	\$736
Shellfish	\$2.35	\$2.29	10	82	\$23	\$186
Fruits/juice	\$0.71	\$0.68	19,155	20,602	\$13,512	\$13,932
Fruits	\$0.75	\$0.77	10,399	10,510	\$7,764	\$8,110
Juices	\$0.66	\$0.58	8,755	10,093	\$5,748	\$5,822
Grain products	\$1.95	\$1.55	1,906	2,732	\$3,720	\$4,243
Breakfast cereals	\$4.15	\$3.43	461	543	\$1,915	\$1,862
Flour & other milled grains	\$0.40	\$0.32	163	537	\$65	\$171
Flour mix	\$1.40	\$1.13	180	222	\$252	\$252
Mixtures with grain	\$1.67	\$1.78	490	735	\$818	\$1,311
Pasta & noodles	\$1.00	\$0.92	412	388	\$414	\$357
Rice, barley & other grains	\$1.28	\$0.95	200	306	\$256	\$290
Legumes/nuts/seeds	\$0.97	\$0.77	583	913	\$563	\$699
Dry beans/peas	\$0.72	\$0.61	448	802	\$324	\$487
Other nuts	\$3.48	\$5.37	2	1	\$7	\$7
Peanuts/peanut butter	\$1.49	\$1.49	59	51	\$88	\$75
Seeds	\$2.31	\$2.55	12	29	\$28	\$75
Soybeans & soy products	\$1.89	\$1.85	62	30	\$116	\$55
Milk & other dairy products	\$0.47	\$0.45	58,002	57,540	\$27,178	\$25,905
Cheese	\$1.90	\$1.87	2,103	1,111	\$3,993	\$2,074
Cream	\$1.21	\$1.39	136	119	\$164	\$166
Ice cream & ice milk	\$1.48	\$1.47	688	720	\$1,017	\$1,062
Milk	\$0.39	\$0.39	54,296	54,728	\$21,005	\$21,581
Yogurt	\$1.28	\$1.19	779	861	\$999	\$1,023
Non-dairy drinks	\$0.54	\$0.45	8,444	7,997	\$4,562	\$3,637
Carbonated	\$0.57	\$0.58	250	161	\$143	\$94
Coffee & tea	\$0.63	\$0.67	1,138	612	\$720	\$407
Dry beverage	\$4.43	\$2.31	7	14	\$33	\$32
Enriched drinks	\$0.77	\$0.64	1,760	2,228	\$1,360	\$1,420
Fruit drinks	\$0.73	\$0.66	1,130	902	\$821	\$594
Water	\$0.36	\$0.27	4,158	4,081	\$1,484	\$1,091

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Cost per unit		Volume per 100,000 m.e.		Cost per 100,000 m.e.	
	FSMC	non-FSMC	FSMC	non-FSMC	FSMC	non-FSMC
	dollars/pound		pounds/100,000 m.e.		dollars/100,000 m.e.	
Poultry	\$1.94	\$1.93	4,768	4,249	\$9,252	\$8,217
Chicken	\$2.01	\$1.96	3,320	3,275	\$6,679	\$6,435
Game birds	\$6.02	\$-	1	0	\$4	\$-
Mixed poultry	\$4.45	\$4.47	0	0	\$2	\$1
Recipe mix	\$2.64	\$2.24	1	5	\$3	\$12
Turkey	\$1.77	\$1.83	1,446	968	\$2,563	\$1,770
Prepared foods	\$1.84	\$1.87	3,906	5,453	\$7,170	\$10,200
Burritos/tacos	\$1.64	\$1.59	353	630	\$581	\$1,002
Meat or cheese filled pastry	\$2.00	\$1.95	315	697	\$630	\$1,363
Mixtures with fish	\$17.00	\$4.66	0	1	\$-	\$7
Pizza	\$1.77	\$1.79	2,827	3,472	\$4,997	\$6,220
Prepared meals	\$2.13	\$2.13	123	203	\$262	\$434
Prepared sandwiches	\$2.44	\$2.62	288	447	\$701	\$1,174
Red meats	\$2.13	\$2.05	3,050	2,981	\$6,496	\$6,102
Beef & veal	\$2.09	\$2.03	1,710	1,579	\$3,567	\$3,207
Lamb	\$-	\$5.40	0	0	\$-	\$1
Mixed meats	\$2.22	\$1.78	436	447	\$968	\$796
Pork	\$2.21	\$2.22	861	923	\$1,898	\$2,046
Recipe mix	\$1.48	\$1.72	43	31	\$64	\$53
Soups & gravies	\$1.57	\$1.49	535	551	\$842	\$818
Gravies	\$2.22	\$2.37	104	96	\$231	\$229
Soups	\$1.42	\$1.30	431	454	\$611	\$589
Sugar/desserts	\$0.96	\$0.92	1,380	1,866	\$1,322	\$1,716
Candies/toppings	\$2.54	\$2.06	62	129	\$159	\$265
Gelatins	\$1.22	\$1.24	62	68	\$75	\$84
Jellies, jams & preserves	\$1.19	\$1.14	132	131	\$157	\$149
Puddings/pie filling	\$0.64	\$0.76	346	307	\$220	\$231
Sherbet/ices	\$1.24	\$1.02	137	292	\$169	\$299
Sugars	\$0.80	\$0.60	211	546	\$168	\$328
Syrups	\$0.87	\$0.92	430	394	\$373	\$362
Vegetables	\$0.84	\$0.81	12,229	11,560	\$10,333	\$9,416
Green vegetables	\$0.99	\$0.85	2,688	2,821	\$2,658	\$2,398
Mixed vegetables	\$0.91	\$0.89	1,272	1,148	\$1,161	\$1,018
Mixtures with vegetables	\$1.57	\$1.44	37	84	\$58	\$121
Other vegetables	\$1.18	\$1.22	245	232	\$290	\$283
Potato & potato products	\$0.74	\$0.72	4,818	4,385	\$3,550	\$3,140
Tomatoes & tomato products	\$0.77	\$0.86	1,782	1,305	\$1,366	\$1,122
Yellow vegetables	\$0.90	\$0.84	1,387	1,586	\$1,250	\$1,335

Source: School Food Purchase Study, 2011

For comparing costs at a level that is closer to that of individual foods, the top 50 individual food items that were purchased in the largest dollar value by school districts was used. These account for just over 50 percent of the total value of food acquisitions in SY 2009/10.

In addition, the price paid and volume purchased per 100,000 meal equivalents served for the 50 top food items were reviewed. FSMCs paid higher prices for 33 of the 50 items, including six of the top 10. As for

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

'all food items' purchased, districts serviced by FSMCs purchased similar volumes per 100,000 meal equivalents served. Consequently, FSMCs incurred a higher mean cost per 100,000 meal equivalents served for 24 of the top 50 menu items and for five of the top 10 items. When all of these 50 leading food items are combined, the mean cost per 100,000 meal equivalents served was 5.2 percent more than in districts without FSMCs.

Table 7-4: Comparisons of cost and volume of the top 50 food items purchased by public unified NSLP school districts under and not under FSMC operation, SY 2009/10

Food items	Cost per unit		Volume per 100,000 m.e.		Cost per 100,000 m.e.	
	FSMC	non-FSMC	FSMC	non-FSMC	FSMC	non-FSMC
	dollars/pound		pounds/100,000 m.e.		dollars/100,000 m.e.	
1 Milk, Flavored, Lo Fat, 1%	\$0.39	\$0.41	22,678	21,568	\$8,910	\$8,856
2 Milk, Flavored, Skim/Nonfat	\$0.38	\$0.37	9,202	12,253	\$3,487	\$4,480
3 Hamburger, Hot Dog Buns, Steak, Sub & Dinner Rls	\$1.12	\$1.14	3,537	3,049	\$3,971	\$3,475
4 Milk, Lo Fat, 1%	\$0.37	\$0.38	10,475	8,577	\$3,910	\$3,273
5 Orange Juice, Individual	\$0.63	\$0.53	2,893	3,519	\$1,819	\$1,861
6 Cereals, Individual	\$4.43	\$3.62	366	479	\$1,620	\$1,732
7 Apple Juice, Individual	\$0.59	\$0.50	3,841	3,163	\$2,283	\$1,573
8 Milk, Flavored, Lo Fat, .5%	\$0.36	\$0.38	3,887	3,766	\$1,404	\$1,435
9 Sport Drink, e.g. Gatorade	\$0.77	\$0.64	1,760	2,228	\$1,360	\$1,419
10 Pizza, w/Real Cheese	\$1.92	\$1.88	1,123	688	\$2,157	\$1,293
11 Chips, Misc. Snack(Cheetos, Sun Chips)	\$3.76	\$3.71	338	362	\$1,269	\$1,345
12 Potatoes, French Fries	\$0.69	\$0.62	2,529	1,975	\$1,757	\$1,229
13 Apples, Fresh	\$0.64	\$0.62	2,662	1,897	\$1,711	\$1,185
14 Fruit Juice, Mixed, Individual	\$0.78	\$0.62	1,294	2,050	\$1,015	\$1,270
15 Cookie Dough	\$1.59	\$1.60	1,125	677	\$1,785	\$1,083
16 Pizza, Pepperoni w/Real Cheese	\$1.90	\$2.07	180	623	\$343	\$1,287
17 Chicken, Nuggets, White/dark Mix, Unknown	\$1.99	\$1.95	505	577	\$1,003	\$1,125
18 Milk, Flavored, Lo Fat, Fat Solids Unknown	\$0.40	\$0.39	3,027	2,738	\$1,197	\$1,079
19 Milk, Lo Fat, 2%	\$0.43	\$0.40	1,758	2,811	\$753	\$1,131
20 Chips, Tortilla/Corn	\$2.03	\$2.20	590	476	\$1,196	\$1,045
21 Chicken, Nuggets, White Meat	\$2.17	\$2.02	459	509	\$997	\$1,031
22 Muffins	\$2.50	\$2.24	376	438	\$939	\$983
23 Beef, Patties, Cooked	\$2.00	\$2.06	596	450	\$1,193	\$928
24 Yogurt	\$1.26	\$1.17	736	825	\$931	\$964
25 Chicken, Patties, Breaded, White Meat	\$1.82	\$1.97	353	509	\$641	\$1,000
26 Water	\$0.34	\$0.25	3,739	3,624	\$1,268	\$896
27 Crackers, Graham, Individual	\$2.51	\$2.25	290	422	\$727	\$948
28 Bread/Biscuit/Pastry Dough	\$1.19	\$1.03	595	818	\$707	\$845
29 Cheese Filled Pastry(Includes Hot Pocket)	\$1.97	\$1.90	221	454	\$435	\$865
30 Ice Cream Novelties	\$1.62	\$1.65	480	475	\$779	\$785
31 Cookies, Individual	\$2.80	\$2.90	285	257	\$798	\$746
32 Pizza, Pepperoni w/Cheese Blend	\$1.47	\$1.58	270	484	\$398	\$766
33 Pizza, Cheese Blend	\$1.44	\$1.58	520	425	\$747	\$673
34 Chips, Potato or Potato Sticks	\$4.15	\$4.30	173	148	\$717	\$638
35 Oranges, Fresh	\$0.61	\$0.56	1,409	1,075	\$857	\$607
36 Potatoes, Formed, Frozen	\$0.67	\$0.63	981	1,009	\$656	\$637

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food items	Cost per unit		Volume per 100,000 m.e.		Cost per 100,000 m.e.	
	FSMC	non-FSMC	FSMC	non-FSMC	FSMC	non-FSMC
	<i>dollars/pound</i>		<i>pounds/100,000 m.e.</i>		<i>dollars/100,000 m.e.</i>	
37 Bananas, Fresh	\$0.53	\$0.50	1,326	1,249	\$705	\$627
38 Pork, Sausage, Cooked	\$2.22	\$2.04	260	317	\$577	\$645
39 Pizza Shells/Pizza Dough	\$1.09	\$1.33	2,196	259	\$2,398	\$345
40 Pizza, Cheese, Type Unknown	\$1.99	\$1.73	149	383	\$296	\$662
41 Beef, Ground	\$1.87	\$1.70	258	372	\$484	\$631
42 Lettuce, Salad Mix	\$0.90	\$0.87	924	660	\$828	\$577
43 Poptarts	\$2.03	\$1.89	436	297	\$886	\$561
44 Milk, Skim/Nonfat	\$0.37	\$0.37	2,058	1,578	\$755	\$579
45 French Toast/Sticks/French Toast Bagels	\$1.49	\$1.47	489	388	\$731	\$572
46 Lettuce, Shredded/Chopped	\$0.98	\$0.97	686	552	\$672	\$536
47 Catsup, Individual Pack	\$0.94	\$0.81	473	686	\$443	\$558
48 Pizza, Sausage w/Cheese Blend	\$1.63	\$1.65	368	317	\$600	\$524
49 Potatoes, Dry, w/Milk	\$1.83	\$1.87	228	295	\$416	\$552
50 Peanut Butter and Jelly Sandwich	\$2.69	\$2.55	124	216	\$335	\$550
All fifty items	\$0.69	\$0.67	95,228	92,967	\$65,864	\$62,408

Source: School Food Purchase Study, 2011

7.5 Menu planning systems

In the vast majority of cases, all schools in a given school district were using just one menu planning system. Only in a small number of cases, 305 school districts, were there schools that used two different menu planning systems (see Section 3.3.7, Table 3-27). There were no cases where more than two menu planning systems were used in one school district.

To avoid double counting and to simplify the analysis, the school districts that had schools using different menu planning systems were excluded from the following analysis. This results in a list of top 50 food items that is slightly different to those identified for a similar analysis in this section. Also, districts using Nutrient Standard Menu Planning (NuMenu) and Assisted Nutrient Standard Menu Planning (Assisted NuMenu) were combined because (a) the two systems are similar, and (b) only 46 school districts were using Assisted NuMenu.

Out of 865 food items acquired from all sources, districts with Enhanced Food Based (EFB) menu planning systems acquired a smaller number of food items (721) compared with NuMenu/Asst. NuMenu (NM) systems (766) and Traditional Food Based (TFB) systems (817).

7.5.1 Differences in purchase costs among districts with different menu planning systems

Table 7-5 illustrates that districts with different menu planning systems paid broadly similar prices for all purchased foods and they purchased similar volumes per 100,000 meal equivalents served. The EFB system was one cent per pound higher than the NM system and two cents higher than the TFB system.

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

The EFB system had the highest price for purchased foods for eight of the 16 groups. It also had the highest mean cost per 100,000 meal equivalents served for 13 of the 16 groups, compared with two and one respectively for the NM and TFB systems (there were four joint highest mean costs per 100,000 meal equivalents served).

These data were examined for the top 50 individual food items that were purchased in the largest dollar value by school districts (see Table 7-6). The EFB menu planning system had the highest mean cost per 100,000 meal equivalents served for 24 of the 50 food items, compared with 19 for NM and seven for TFB systems. When all of these 50 leading food items are combined, the mean cost per 100,000 meal equivalents served was higher for the EFB menu planning system. NM systems had an overall cost per meal equivalent that was three percent lower than EFB while TFB was 19% lower than EFB. In general, TFB systems meals were served at a lower cost.

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Table 7-5: Comparison of summary of mean cost and volume of food purchases of public unified NSLP school districts by menu planning system, SY 2009/10

Food groups/subgroups	Cost per unit			Volume per 100,000 m.e.			Cost per 100,000 m.e.		
	Nu Menu	Enhanced food based	Traditional	Nu Menu	Enhanced food based	Traditional	Nu Menu	Enhanced food based	Traditional
	<i>dollars/pound</i>			<i>pounds/100,000 m.e.</i>			<i>dollars/100,000 m.e.</i>		
All foods	\$0.83	\$0.84	\$0.82	146,583	152,739	125,495	\$121,737	\$128,582	\$102,806
Bakery products	\$1.64	\$1.59	\$1.58	14,052	14,789	10,707	\$23,101	\$23,585	\$16,958
Biscuits, muffins, pancakes & waffles	\$1.79	\$1.82	\$1.79	2,153	2,086	1,861	\$3,857	\$3,800	\$3,334
Bread & rolls	\$1.14	\$1.17	\$1.12	7,482	8,138	5,861	\$8,516	\$9,499	\$6,570
Cakes & other bakery desserts	\$2.10	\$2.00	\$2.06	2,076	2,374	1,320	\$4,366	\$4,757	\$2,725
Crackers	\$2.35	\$2.31	\$2.28	718	677	574	\$1,688	\$1,564	\$1,310
Pretzels & snack chips	\$2.88	\$2.62	\$2.77	1,622	1,515	1,092	\$4,674	\$3,967	\$3,019
Condiments	\$0.80	\$0.85	\$0.82	3,230	3,549	2,711	\$2,585	\$3,017	\$2,221
Catsup & other sauces	\$0.85	\$0.91	\$0.88	2,219	2,590	1,883	\$1,878	\$2,360	\$1,650
Flavorings	\$1.08	\$1.21	\$1.25	168	176	163	\$180	\$212	\$203
Pickles/olives	\$0.62	\$0.57	\$0.55	844	784	666	\$527	\$444	\$368
Eggs	\$1.47	\$1.55	\$1.56	460	505	386	\$678	\$785	\$602
Eggs	\$1.09	\$1.05	\$1.10	221	238	211	\$241	\$250	\$232
Mixtures with eggs	\$1.83	\$2.00	\$2.11	238	267	175	\$437	\$535	\$370
Fats/oils	\$1.18	\$1.12	\$1.19	1,689	2,257	1,677	\$1,998	\$2,531	\$1,989
Butter	\$1.68	\$1.89	\$1.97	19	57	32	\$31	\$108	\$64
Margarine	\$0.76	\$0.85	\$0.75	309	413	334	\$235	\$350	\$252
Salad dressings & mayonnaise	\$1.30	\$1.17	\$1.35	1,040	1,370	998	\$1,357	\$1,606	\$1,344
Vegetable oils & shortenings	\$1.17	\$1.12	\$1.05	322	417	312	\$375	\$467	\$329
Fish	\$2.21	\$2.30	\$2.24	370	348	395	\$818	\$801	\$887
Fish	\$2.29	\$2.34	\$2.27	296	284	355	\$677	\$664	\$806
Shellfish	\$1.91	\$2.15	\$2.02	75	64	40	\$142	\$137	\$81
Fruits/juices	\$0.67	\$0.70	\$0.67	22,894	20,533	19,458	\$15,362	\$14,470	\$13,085
Fruits	\$0.74	\$0.77	\$0.78	12,938	12,074	9,063	\$9,522	\$9,345	\$7,102
Juices	\$0.59	\$0.61	\$0.58	9,956	8,459	10,395	\$5,839	\$5,125	\$5,983

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Cost per unit			Volume per 100,000 m.e.			Cost per 100,000 m.e.		
	Nu Menu	Enhanced food based	Traditional	Nu Menu	Enhanced food based	Traditional	Nu Menu	Enhanced food based	Traditional
	<i>dollars/pound</i>			<i>pounds/100,000 m.e.</i>			<i>dollars/100,000 m.e.</i>		
Grain products	\$1.70	\$1.72	\$1.54	2,774	2,961	2,527	\$4,720	\$5,107	\$3,893
Breakfast cereals	\$3.49	\$3.88	\$3.44	621	563	514	\$2,168	\$2,184	\$1,767
Flour & other milled grains	\$0.31	\$0.35	\$0.32	363	587	538	\$111	\$205	\$172
Flour mix	\$1.37	\$1.37	\$1.08	302	219	181	\$414	\$299	\$196
Mixtures with grain	\$1.71	\$1.89	\$1.76	814	865	654	\$1,390	\$1,632	\$1,150
Pasta & noodles	\$0.96	\$0.99	\$0.91	370	475	397	\$355	\$471	\$359
Rice, barley & other grains	\$0.93	\$1.25	\$1.03	304	253	243	\$283	\$316	\$249
Legumes/nuts/seeds	\$0.89	\$0.80	\$0.71	954	1,084	855	\$852	\$872	\$611
Dry beans/peas	\$0.70	\$0.59	\$0.59	816	945	753	\$567	\$561	\$441
Other nuts	\$5.16	\$4.37	\$5.26	2	3	1	\$11	\$13	\$4
Peanuts/peanut butter	\$1.85	\$1.67	\$1.32	61	44	56	\$112	\$73	\$74
Seeds	\$2.36	\$2.54	\$2.87	30	57	13	\$70	\$145	\$38
Soybeans & soy products	\$2.04	\$2.21	\$1.67	45	36	32	\$92	\$79	\$54
Milk & other dairy products	\$0.46	\$0.44	\$0.46	63,138	63,713	54,249	\$28,868	\$27,761	\$24,921
Cheese	\$1.86	\$1.74	\$1.90	1,670	1,251	1,108	\$3,114	\$2,175	\$2,109
Cream	\$1.32	\$1.36	\$1.40	130	170	107	\$171	\$231	\$149
Ice cream & ice milk	\$1.48	\$1.34	\$1.51	687	808	749	\$1,018	\$1,086	\$1,129
Milk	\$0.39	\$0.38	\$0.40	59,581	60,449	51,584	\$23,256	\$23,063	\$20,693
Yogurt	\$1.22	\$1.16	\$1.20	1,070	1,036	701	\$1,309	\$1,206	\$840
Non-dairy drinks	\$0.48	\$0.44	\$0.47	8,407	10,949	7,315	\$4,019	\$4,851	\$3,458
Carbonated	\$0.56	\$0.54	\$0.60	195	233	162	\$109	\$126	\$97
Coffee & tea	\$0.80	\$0.67	\$0.61	408	1,105	772	\$326	\$745	\$471
Dry beverage	\$3.50	\$1.61	\$2.99	16	42	7	\$55	\$68	\$21
Enriched drinks	\$0.70	\$0.64	\$0.65	2,168	2,294	1,988	\$1,520	\$1,466	\$1,296
Fruit drinks	\$0.67	\$0.61	\$0.65	1,168	983	926	\$779	\$604	\$603
Water	\$0.28	\$0.29	\$0.28	4,453	6,292	3,460	\$1,230	\$1,844	\$971

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Cost per unit			Volume per 100,000 m.e.			Cost per 100,000 m.e.		
	Nu Menu	Enhanced food based	Traditional	Nu Menu	Enhanced food based	Traditional	Nu Menu	Enhanced food based	Traditional
	<i>dollars/pound</i>			<i>pounds/100,000 m.e.</i>			<i>dollars/100,000 m.e.</i>		
Poultry	\$1.89	\$1.94	\$1.94	4,760	5,542	3,965	\$9,012	\$10,777	\$7,705
Chicken	\$1.98	\$2.00	\$1.97	3,367	4,290	3,043	\$6,680	\$8,568	\$5,994
Game birds	\$6.02			0			\$3		
Mixed poultry	\$4.48	\$6.34	\$4.13	0	0	0	\$2	\$1	\$1
Recipe mix	\$3.13	\$3.06	\$2.05	1	5	6	\$4	\$14	\$13
Turkey	\$1.67	\$1.76	\$1.86	1,391	1,247	915	\$2,323	\$2,194	\$1,698
Prepared foods	\$1.86	\$1.86	\$1.86	5,414	6,882	4,827	\$10,072	\$12,819	\$8,965
Burritos/tacos	\$1.65	\$1.56	\$1.63	737	530	471	\$1,218	\$825	\$770
Meat or cheese filled pastry	\$1.97	\$1.91	\$1.97	479	862	648	\$944	\$1,645	\$1,274
Mixtures with fish	\$9.07		\$10.26	0		0	\$1		\$4
Pizza	\$1.81	\$1.79	\$1.75	3,666	4,505	3,161	\$6,632	\$8,078	\$5,538
Prepared meals	\$1.86	\$2.11	\$2.19	150	486	169	\$279	\$1,026	\$370
Prepared sandwiches	\$2.61	\$2.50	\$2.67	382	499	378	\$998	\$1,245	\$1,010
Red meats	\$2.03	\$2.11	\$2.04	3,105	3,283	3,026	\$6,297	\$6,927	\$6,167
Beef & veal	\$1.96	\$2.14	\$2.02	1,804	1,818	1,575	\$3,534	\$3,892	\$3,189
Lamb			\$5.40	-	0			\$1	\$796
Mixed meats	\$1.98	\$1.88	\$1.75	456	498	454	\$903	\$936	\$796
Pork	\$2.21	\$2.21	\$2.21	827	916	961	\$1,831	\$2,021	\$2,121
Recipe mix	\$1.57	\$1.51	\$1.70	18	52	36	\$29	\$78	\$61
Soups & gravies	\$1.78	\$1.58	\$1.39	495	602	541	\$879	\$951	\$753
Gravies	\$2.30	\$2.31	\$2.30	118	98	94	\$271	\$226	\$215
Soups	\$1.61	\$1.44	\$1.20	377	504	447	\$607	\$725	\$538

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Cost per unit			Volume per 100,000 m.e.			Cost per 100,000 m.e.		
	Nu Menu	Enhanced food based	Traditional	Nu Menu	Enhanced food based	Traditional	Nu Menu	Enhanced food based	Traditional
	<i>dollars/pound</i>			<i>pounds/100,000 m.e.</i>			<i>dollars/100,000 m.e.</i>		
Sugar/desserts	\$0.88	\$0.99	\$0.93	2,353	2,155	1,673	\$2,072	\$2,127	\$1,561
Candies/toppings	\$2.22	\$2.23	\$2.08	113	160	119	\$251	\$358	\$248
Gelatins	\$1.27	\$1.17	\$1.22	130	33	57	\$165	\$39	\$70
Jellies, jams & preserves	\$1.16	\$1.18	\$1.12	123	194	130	\$142	\$229	\$146
Puddings/pie filling	\$0.73	\$0.71	\$0.78	740	304	198	\$537	\$217	\$154
Sherbet/ices	\$1.15	\$1.00	\$1.03	232	459	271	\$267	\$459	\$278
Sugars	\$0.58	\$0.65	\$0.61	580	553	508	\$339	\$360	\$312
Syrups	\$0.85	\$1.03	\$0.91	436	451	389	\$372	\$465	\$354
Vegetables	\$0.83	\$0.82	\$0.81	12,488	13,585	11,182	\$10,404	\$11,202	\$9,031
Green vegetables	\$0.89	\$0.83	\$0.86	3,079	3,441	2,603	\$2,748	\$2,858	\$2,249
Mixed vegetables	\$0.89	\$0.89	\$0.89	1,312	1,218	1,116	\$1,173	\$1,085	\$989
Mixtures with vegetables	\$1.73	\$1.58	\$1.35	53	117	71	\$92	\$184	\$95
Other vegetables	\$1.30	\$1.27	\$1.17	232	268	231	\$301	\$341	\$271
Potato & potato products	\$0.72	\$0.76	\$0.70	4,640	5,203	4,390	\$3,362	\$3,958	\$3,084
Tomatoes & tomato products	\$0.82	\$0.85	\$0.86	1,480	1,456	1,291	\$1,213	\$1,240	\$1,109
Yellow vegetables	\$0.89	\$0.82	\$0.83	1,693	1,881	1,481	\$1,515	\$1,536	\$1,233

Source: School Food Purchase Study, 2011

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Table 7-6: Comparisons of cost and volume of the top 50 food items purchased by public unified NSLP school districts by menu planning system, SY 2009/10

Food items	Cost per units			Pounds/100,000 m.e.			Dollars/100,000 m.e.		
	Enhanced NuMenu	Enhanced food based	Traditional	Enhanced NuMenu	Enhanced food based	Traditional	Enhanced NuMenu	Enhanced food based	Traditional
	<i>dollars/pound</i>			<i>pounds/100,000 m.e.</i>			<i>dollars/100,000 m.e.</i>		
1 Milk, Flavored, Lo Fat, 1%	\$0.40	\$0.40	\$0.41	20,601	21,450	23,221	\$8,185	\$8,528	\$9,622
2 Milk, Flavored, Skim/Nonfat	\$0.38	\$0.36	\$0.37	17,180	13,247	8,406	\$6,491	\$4,710	\$3,140
3 Hamburger, Hot Dog Buns, Steak, Sub & Dinner Rls	\$1.16	\$1.15	\$1.12	3,287	4,055	2,906	\$3,812	\$4,668	\$3,255
4 Milk, Lo Fat, 1%	\$0.38	\$0.36	\$0.39	9,839	11,635	7,536	\$3,703	\$4,243	\$2,930
5 Orange Juice, Individual	\$0.55	\$0.54	\$0.53	2,881	2,240	3,899	\$1,588	\$1,221	\$2,069
6 Cereals, Individual	\$3.75	\$4.07	\$3.62	497	474	463	\$1,866	\$1,929	\$1,674
7 Apple Juice, Individual	\$0.53	\$0.53	\$0.51	3,238	2,799	3,454	\$1,731	\$1,482	\$1,746
8 Milk, Flavored, Lo Fat, .5%	\$0.38	\$0.40	\$0.37	3,058	4,587	4,182	\$1,170	\$1,830	\$1,561
9 Pizza, w/Real Cheese	\$1.97	\$2.03	\$1.79	819	930	723	\$1,614	\$1,886	\$1,294
10 Sport Drink, e.g. Gatorade	\$0.70	\$0.64	\$0.65	2,167	2,294	1,988	\$1,517	\$1,466	\$1,296
11 Potatoes, French Fries	\$0.62	\$0.66	\$0.63	2,027	2,399	2,041	\$1,263	\$1,589	\$1,293
12 Chips, Misc. Snack(Cheetos, Sun Chips)	\$3.87	\$3.42	\$3.73	446	375	303	\$1,724	\$1,283	\$1,130
13 Apples, Fresh	\$0.62	\$0.65	\$0.62	2,625	2,281	1,701	\$1,628	\$1,477	\$1,048
14 Fruit Juice, Mixed, Individual	\$0.57	\$0.61	\$0.65	2,702	1,960	1,686	\$1,547	\$1,190	\$1,098
15 Milk, Lo Fat, 2%	\$0.41	\$0.39	\$0.41	2,081	2,432	3,260	\$856	\$938	\$1,320
16 Cookie Dough	\$1.61	\$1.62	\$1.58	924	1,073	606	\$1,489	\$1,735	\$959
17 Pizza, Pepperoni w/Real Cheese	\$1.97	\$2.13	\$2.06	844	688	429	\$1,660	\$1,465	\$881
18 Chicken, Nuggets, White Meat	\$2.09	\$1.88	\$2.05	643	587	491	\$1,343	\$1,104	\$1,006
19 Chicken, Nuggets, White/dark Mix, Unknown	\$1.79	\$2.16	\$1.98	443	705	553	\$793	\$1,526	\$1,094
20 Chips, Tortilla/Corn	\$2.23	\$2.24	\$2.09	621	614	446	\$1,386	\$1,378	\$932
21 Milk, Flavored, Lo Fat, Fat Solids Unknown	\$0.40	\$0.38	\$0.39	3,244	2,653	2,354	\$1,302	\$1,006	\$917
22 Beef, Patties, Cooked	\$1.97	\$2.25	\$1.99	604	583	417	\$1,192	\$1,311	\$830
23 Water	\$0.27	\$0.27	\$0.26	4,190	5,304	3,031	\$1,121	\$1,435	\$776
24 Yogurt	\$1.21	\$1.13	\$1.18	1,035	970	676	\$1,255	\$1,096	\$795
25 Chicken, Patties, Breaded, White Meat	\$2.00	\$2.04	\$1.90	543	808	371	\$1,087	\$1,652	\$703
26 Muffins	\$2.35	\$2.36	\$2.26	455	435	364	\$1,067	\$1,029	\$821
27 Crackers, Graham, Individual	\$2.34	\$2.40	\$2.30	438	379	359	\$1,026	\$908	\$824
28 Bread/Biscuit/Pastry Dough	\$1.05	\$1.15	\$1.03	953	1,291	674	\$999	\$1,481	\$694

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food items	Cost per units			Pounds/100,000 m.e.			Dollars/100,000 m.e.		
	Enhanced NuMenu	Enhanced food based	Traditional	Enhanced NuMenu	Enhanced food based	Traditional	Enhanced NuMenu	Enhanced food based	Traditional
	<i>dollars/pound</i>			<i>pounds/100,000 m.e.</i>			<i>dollars/100,000 m.e.</i>		
29 Ice Cream Novelties	\$1.69	\$1.67	\$1.65	441	401	529	\$746	\$669	\$873
30 Cheese Filled Pastry(Includes Hot Pocket)	\$1.92	\$1.78	\$1.91	323	527	422	\$619	\$940	\$804
31 Pizza, Pepperoni w/Cheese Blend	\$1.63	\$1.63	\$1.53	453	666	443	\$737	\$1,088	\$677
32 Cookies, Individual	\$2.68	\$2.67	\$3.03	385	353	193	\$1,030	\$942	\$587
33 Pizza, Cheese Blend	\$1.52	\$1.55	\$1.54	423	796	400	\$642	\$1,233	\$615
34 Potatoes, Formed, Frozen	\$0.68	\$0.67	\$0.62	981	1,176	1,013	\$665	\$788	\$624
35 Chips, Potato or Potato Sticks	\$4.30	\$3.98	\$4.29	217	180	129	\$932	\$714	\$553
36 Beef, Ground	\$1.68	\$1.77	\$1.71	377	318	389	\$634	\$563	\$666
37 Pork, Sausage, Cooked	\$2.18	\$2.02	\$2.04	223	355	333	\$485	\$716	\$680
38 Oranges, Fresh	\$0.57	\$0.58	\$0.59	1,457	1,023	965	\$834	\$598	\$571
39 Lettuce, Salad Mix	\$0.88	\$0.88	\$0.88	785	729	668	\$687	\$645	\$591
40 French Toast/Sticks/French Toast Bagels	\$1.56	\$1.57	\$1.44	355	438	429	\$552	\$688	\$619
41 Poptarts	\$2.08	\$1.67	\$1.90	330	477	278	\$685	\$795	\$526
42 Bananas, Fresh	\$0.52	\$0.55	\$0.50	1,502	1,291	1,009	\$783	\$708	\$506
43 Pizza Shells/Pizza Dough	\$1.20	\$0.99	\$1.15	1,100	407	325	\$1,325	\$402	\$375
44 Milk, Skim/Nonfat	\$0.36	\$0.34	\$0.39	2,236	2,322	1,153	\$803	\$783	\$451
45 Pizza, Cheese, Type Unknown	\$1.72	\$1.61	\$1.73	265	257	362	\$458	\$414	\$627
46 Pizza, Sausage w/Cheese Blend	\$1.61	\$1.67	\$1.67	404	497	279	\$651	\$830	\$467
47 Catsup, Individual Pack	\$0.82	\$0.94	\$0.80	631	775	656	\$518	\$725	\$527
48 Lettuce, Shredded/Chopped	\$1.01	\$0.94	\$0.98	601	739	501	\$609	\$696	\$492
49 Chicken, Patties, White/dark Meat, Unkn	\$1.75	\$1.64	\$1.76	308	509	272	\$539	\$836	\$478
50 Grape Juice, Individual	\$0.63	\$0.62	\$0.60	712	892	933	\$447	\$555	\$560
All fifty items	\$0.68	\$0.69	\$0.66	102,894	104,379	88,218	\$69,794	\$71,895	\$58,579

Source: School Food Purchase Study, 2011

7.6 School district location

The following tables compare food purchases and costs by location of school districts. Districts located in cities and suburbs have been defined as urban, and those located in towns and rural areas are referred to as rural.

In total, urban school districts acquired more food items (835) than rural school districts (785). Overall, 865 food items had been identified in the study.

7.6.1 Differences in purchase costs between urban and rural districts

Table 7-7 shows that urban districts paid slightly less for purchased foods per unit than rural districts (just 0.9% less than the average for all foods). This difference was 1.7 cents per pound. They also purchased less food per 100,000 meal equivalents served. The mean cost per 100,000 meal equivalents served was \$7,370 per 100,000 meal equivalents lower than for rural school districts.

Urban school districts paid lower mean prices for only six of the 16 food groups – eggs, fish, fruit/juices, grain products (a difference of eight cents per pound), milk and dairy products, and poultry. However, the mean cost per 100,000 meal equivalents served was lower for urban districts for all subgroups. Of particular note is the mean cost per 100,000 meal equivalents served for red meat, bakery products and fruits/juices. There was a \$2,974 per 100,000 meal equivalents served difference as urban districts purchased much lower volumes of red meats per 100,000 meal equivalents served.

Table 7-7: Comparisons of summary of mean cost and volume of food purchases by public unified NSLP school districts by district location, SY 2009/10

Food groups/subgroups	Cost per unit		Pounds/100,000 m.e.		Dollars/100,000 m.e.	
	Urban	Rural	Urban	Rural	Urban	Rural
	<i>dollars/pound</i>		<i>pounds/100,000 m.e.</i>		<i>dollars/100,000 m.e.</i>	
All foods	\$0.82	\$0.84	131,286	137,418	\$107,476	\$114,846
Bakery products	\$1.65	\$1.56	11,921	12,187	\$19,636	\$19,047
Biscuits, muffins, pancakes & waffles	\$1.80	\$1.78	2,036	1,899	\$3,655	\$3,381
Bread & rolls	\$1.17	\$1.11	6,191	7,009	\$7,259	\$7,750
Cakes & other bakery desserts	\$2.04	\$2.13	1,674	1,555	\$3,417	\$3,315
Crackers	\$2.24	\$2.37	749	489	\$1,678	\$1,161
Pretzels & snack chips	\$2.85	\$2.78	1,271	1,236	\$3,628	\$3,440
Condiments	\$0.83	\$0.80	2,675	3,302	\$2,221	\$2,640
Catsup & other sauces	\$0.89	\$0.85	1,882	2,304	\$1,671	\$1,954
Flavorings	\$1.13	\$1.31	150	174	\$170	\$228
Pickles/olives	\$0.59	\$0.56	644	824	\$380	\$458
Eggs	\$1.48	\$1.60	376	477	\$556	\$763
Eggs	\$1.10	\$1.06	204	239	\$225	\$254
Mixtures with eggs	\$1.93	\$2.14	172	238	\$331	\$509

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Cost per unit		Pounds/100,000 m.e.		Dollars/100,000 m.e.	
	Urban	Rural	Urban	Rural	Urban	Rural
	<i>dollars/pound</i>		<i>pounds/100,000 m.e.</i>		<i>dollars/100,000 m.e.</i>	
Fats/oils	\$1.18	\$1.15	1,604	1,955	\$1,901	\$2,240
Butter	\$1.98	\$1.82	31	30	\$61	\$55
Margarine	\$0.78	\$0.77	269	425	\$209	\$329
Salad dressings & mayonnaise	\$1.30	\$1.29	1,023	1,110	\$1,327	\$1,436
Vegetable oils & shortenings	\$1.08	\$1.08	280	390	\$304	\$420
Fish	\$2.25	\$2.27	351	452	\$790	\$1,028
Fish	\$2.22	\$2.30	268	399	\$593	\$918
Shellfish	\$2.37	\$2.08	83	53	\$196	\$111
Fruits/juices	\$0.67	\$0.70	21,245	19,005	\$14,270	\$13,215
Fruits	\$0.76	\$0.78	10,619	10,287	\$8,103	\$7,998
Juices	\$0.58	\$0.60	10,626	8,718	\$6,168	\$5,217
Grain products	\$1.56	\$1.64	2,562	2,720	\$3,994	\$4,473
Breakfast cereals	\$3.54	\$3.48	502	582	\$1,777	\$2,023
Flour & other milled grains	\$0.31	\$0.33	494	476	\$155	\$159
Flour mix	\$1.07	\$1.33	222	208	\$238	\$276
Mixtures with grain	\$1.79	\$1.75	636	813	\$1,138	\$1,424
Pasta & noodles	\$0.93	\$0.93	370	428	\$345	\$397
Rice, barley & other grains	\$1.00	\$0.91	339	213	\$340	\$194
Legumes/nuts/seeds	\$0.84	\$0.73	713	1,129	\$596	\$821
Dry beans/peas	\$0.64	\$0.59	601	1,011	\$384	\$600
Other nuts	\$5.28	\$4.60	1	2	\$7	\$7
Peanuts/peanut butter	\$1.42	\$1.57	45	63	\$64	\$100
Seeds	\$2.46	\$2.74	31	20	\$76	\$56
Soybeans & soy products	\$1.88	\$1.82	35	32	\$65	\$59
Milk & other dairy products	\$0.44	\$0.47	56,626	59,240	\$25,109	\$27,699
Cheese	\$1.95	\$1.76	1,184	1,346	\$2,313	\$2,362
Cream	\$1.29	\$1.48	121	122	\$157	\$181
Ice cream & ice milk	\$1.46	\$1.49	635	851	\$927	\$1,272
Milk	\$0.38	\$0.41	53,771	56,179	\$20,629	\$22,971
Yogurt	\$1.19	\$1.23	914	743	\$1,084	\$912
Non-dairy drinks	\$0.47	\$0.46	8,479	7,349	\$3,976	\$3,402
Carbonated	\$0.58	\$0.64	254	36	\$147	\$23
Coffee & tea	\$0.65	\$0.67	693	665	\$449	\$449
Dry beverage	\$2.03	\$3.33	13	12	\$27	\$40
Enriched drinks	\$0.64	\$0.67	2,253	2,018	\$1,453	\$1,344
Fruit drinks	\$0.68	\$0.66	1,026	776	\$694	\$509
Water	\$0.28	\$0.27	4,240	3,843	\$1,206	\$1,038
Poultry	\$1.92	\$1.95	4,198	4,520	\$8,073	\$8,831
Chicken	\$1.94	\$2.02	3,172	3,464	\$6,161	\$6,983
Game birds	\$6.02		0	-	\$1	\$-
Mixed poultry	\$4.26	\$4.72	0	0	\$1	\$1
Recipe mix	\$2.08	\$2.42	4	6	\$8	\$15
Turkey	\$1.86	\$1.75	1,022	1,049	\$1,903	\$1,831

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Cost per unit		Pounds/100,000 m.e.		Dollars/100,000 m.e.	
	Urban	Rural	Urban	Rural	Urban	Rural
	<i>dollars/pound</i>		<i>pounds/100,000 m.e.</i>		<i>dollars/100,000 m.e.</i>	
Prepared foods	\$1.90	\$1.82	5,393	4,996	\$10,225	\$9,070
Burritos/tacos	\$1.53	\$1.73	633	527	\$966	\$911
Meat or cheese filled pastry	\$1.92	\$2.02	655	631	\$1,259	\$1,274
Mixtures with fish	\$4.66	\$17.00	2	-	\$9	\$0
Pizza	\$1.83	\$1.72	3,319	3,498	\$6,089	\$6,000
Prepared meals	\$2.06	\$2.45	250	97	\$514	\$237
Prepared sandwiches	\$2.60	\$2.65	534	245	\$1,387	\$647
Red meats	\$2.06	\$2.05	2,444	3,906	\$5,043	\$8,018
Beef & veal	\$2.04	\$2.04	1,323	2,056	\$2,700	\$4,185
Lamb		\$5.40		0	\$-	\$1
Mixed meats	\$1.87	\$1.80	357	595	\$668	\$1,072
Pork	\$2.22	\$2.21	726	1,232	\$1,611	\$2,723
Recipe mix	\$1.68	\$1.65	38	22	\$65	\$37
Soups & gravies	\$1.54	\$1.45	447	719	\$689	\$1,042
Gravies	\$2.34	\$2.36	71	141	\$167	\$332
Soups	\$1.39	\$1.23	375	578	\$522	\$710
Sugar/desserts	\$0.94	\$0.90	1,572	2,183	\$1,483	\$1,965
Candies/toppings	\$2.18	\$1.95	114	130	\$248	\$254
Gelatins	\$1.21	\$1.27	58	82	\$69	\$104
Jellies, jams & preserves	\$1.13	\$1.16	111	164	\$126	\$190
Puddings/pie filling	\$0.73	\$0.75	245	423	\$178	\$317
Sherbet/ices	\$1.03	\$1.04	248	310	\$256	\$323
Sugars	\$0.62	\$0.60	426	628	\$263	\$380
Syrups	\$0.92	\$0.89	371	445	\$343	\$397
Vegetables	\$0.83	\$0.80	10,680	13,276	\$8,912	\$10,591
Green vegetables	\$0.91	\$0.82	2,576	3,183	\$2,333	\$2,600
Mixed vegetables	\$0.90	\$0.88	1,073	1,318	\$965	\$1,157
Mixtures with vegetables	\$1.47	\$1.41	75	83	\$110	\$117
Other vegetables	\$1.22	\$1.21	220	256	\$268	\$311
Potato & potato products	\$0.73	\$0.71	3,894	5,363	\$2,829	\$3,809
Tomatoes & tomato products	\$0.83	\$0.87	1,355	1,393	\$1,118	\$1,215
Yellow vegetables	\$0.87	\$0.82	1,489	1,679	\$1,289	\$1,381

Source: School Food Purchase Study, 2011

Analysis revealed interesting differences between the price paid and the volume purchased per 100,000 meal equivalents served for the top 50 food items in urban and rural districts (see Table 7-8). The mean price paid for purchased foods was four percent less in urban districts. The price paid for purchased foods in rural areas was lower for only 17 of these 50 food items and only two of the top 10 items. Urban districts consumed roughly the same volume per 100,000 meal equivalents as rural districts although they purchased more pounds of 12 of the top 16 food items. Overall, the mean cost per 100,000 meal equivalents for urban districts was 5 percent less than that of rural districts.

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Table 7-8: Comparisons of cost and volume of the top 50 food items purchased by public unified NSLP school districts by district location, SY 2009/10

Food items	Cost per unit		Pounds/100,000 m.e.		Dollars/100,000 m.e.	
	Urban	Rural	Urban	Rural	Urban	Rural
	<i>dollars/pound</i>		<i>pounds/100,000 m.e.</i>		<i>dollars/100,000 m.e.</i>	
1 Milk, Flavored, Lo Fat, 1%	\$0.41	\$0.41	20,189	24,280	\$8,186	\$9,998
2 Milk, Flavored, Skim/Nonfat	\$0.35	\$0.40	12,199	11,247	\$4,269	\$4,476
3 Hamburger, Hot Dog Buns, Steak, Sub & Dinner Rls	\$1.15	\$1.12	3,003	3,300	\$3,451	\$3,694
4 Milk, Lo Fat, 1%	\$0.37	\$0.40	9,622	7,507	\$3,585	\$2,979
5 Orange Juice, Individual	\$0.53	\$0.56	3,701	2,989	\$1,968	\$1,667
6 Cereals, Individual	\$3.69	\$3.72	450	487	\$1,660	\$1,812
7 Apple Juice, Individual	\$0.50	\$0.53	3,434	2,954	\$1,722	\$1,578
8 Milk, Flavored, Lo Fat, .5%	\$0.38	\$0.38	4,529	2,531	\$1,705	\$972
9 Sport Drink, e.g. Gatorade	\$0.64	\$0.67	2,253	2,018	\$1,453	\$1,342
10 Pizza, w/Real Cheese	\$1.89	\$1.89	886	512	\$1,672	\$969
11 Chips, Misc. Snack (Cheetos, Sun Chips)	\$3.69	\$3.77	374	333	\$1,381	\$1,257
12 Potatoes, French Fries	\$0.64	\$0.62	1,824	2,428	\$1,173	\$1,512
13 Apples, Fresh	\$0.62	\$0.65	2,151	1,744	\$1,324	\$1,141
14 Fruit Juice, Mixed, Individual	\$0.63	\$0.64	2,378	1,227	\$1,502	\$788
15 Cookie Dough	\$1.57	\$1.64	795	641	\$1,252	\$1,052
16 Pizza, Pepperoni w/Real Cheese	\$2.10	\$1.96	633	447	\$1,329	\$878
17 Chicken, Nuggets, White/dark Mix, Unknown	\$1.87	\$2.07	526	635	\$986	\$1,315
18 Milk, Flavored, Lo Fat, Fat Solids Unknown	\$0.38	\$0.42	2,560	3,140	\$958	\$1,325
19 Milk, Lo Fat, 2%	\$0.38	\$0.42	1,689	4,315	\$643	\$1,812
20 Chips, Tortilla/Corn	\$2.27	\$2.02	467	532	\$1,061	\$1,073
21 Chicken, Nuggets, White Meat	\$2.06	\$2.03	418	645	\$859	\$1,308
22 Muffins	\$2.23	\$2.38	473	358	\$1,052	\$851
23 Beef, Patties, Cooked	\$2.03	\$2.09	436	526	\$883	\$1,097
24 Yogurt	\$1.17	\$1.21	872	715	\$1,017	\$864
25 Chicken, Patties, Breaded, White Meat	\$1.94	\$1.97	438	572	\$848	\$1,125
26 Water	\$0.27	\$0.24	3,826	3,327	\$1,028	\$808
27 Crackers, Graham, Individual	\$2.21	\$2.49	504	237	\$1,114	\$590
28 Bread/Biscuit/Pastry Dough	\$1.05	\$1.04	567	1,159	\$597	\$1,211
29 Cheese Filled Pastry(Includes Hot Pocket)	\$1.88	\$1.96	427	417	\$803	\$816
30 Ice Cream Novelties	\$1.61	\$1.69	425	561	\$686	\$949
31 Cookies, Individual	\$2.85	\$2.94	262	259	\$748	\$760
32 Pizza, Pepperoni w/Cheese Blend	\$1.65	\$1.54	234	826	\$388	\$1,269
33 Pizza, Cheese Blend	\$1.57	\$1.53	465	392	\$731	\$602
34 Chips, Potato or Potato Sticks	\$4.19	\$4.41	141	169	\$591	\$747
35 Oranges, Fresh	\$0.55	\$0.61	1,199	987	\$662	\$605
36 Potatoes, Formed, Frozen	\$0.63	\$0.65	945	1,107	\$593	\$718
37 Bananas, Fresh	\$0.49	\$0.54	1,364	1,084	\$672	\$580
38 Pork, Sausage, Cooked	\$2.01	\$2.10	224	452	\$450	\$947
39 Pizza Shells/Pizza Dough	\$1.26	\$1.05	561	448	\$709	\$472
40 Pizza, Cheese, Type Unknown	\$1.74	\$1.76	417	242	\$725	\$426
41 Beef, Ground	\$1.74	\$1.69	228	573	\$397	\$971
42 Lettuce, Salad Mix	\$0.88	\$0.88	645	781	\$565	\$688
43 Poptarts	\$2.00	\$1.78	313	320	\$625	\$570
44 Milk, Skim/Nonfat	\$0.36	\$0.38	1,846	1,303	\$667	\$494

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food items	Cost per unit		Pounds/100,000 m.e.		Dollars/100,000 m.e.	
	Urban	Rural	Urban	Rural	Urban	Rural
	<i>dollars/pound</i>		<i>pounds/100,000 m.e.</i>		<i>dollars/100,000 m.e.</i>	
45 French Toast/Sticks/French Toast Bagels	\$1.52	\$1.42	398	408	\$603	\$577
46 Lettuce, Shredded/Chopped	\$1.01	\$0.91	548	606	\$556	\$552
47 Catsup, Individual Pack	\$0.83	\$0.82	615	728	\$512	\$595
48 Pizza, Sausage w/Cheese Blend	\$1.66	\$1.64	219	500	\$365	\$819
49 Potatoes, Dry, w/Milk	\$1.88	\$1.85	229	382	\$431	\$707
50 Peanut Butter and Jelly Sandwich	\$2.52	\$2.65	231	158	\$582	\$419
All fifty items	\$0.66	\$0.69	93,134	93,508	\$61,738	\$64,774

Source: School Food Purchase Study, 2011

7.7 Poverty levels

Approval for free or reduced lunch is used as a proxy for poverty level (students living in poor households). The following categories were analyzed. Districts where:

- Less than 30 percent of the enrolled students are approved for free or reduced lunch
- 30 – 59 percent of the enrolled students are approved for free or reduced lunch
- 60 percent or more of enrolled students are approved for free or reduced lunch

The total number of food items acquired by all school districts was 865. The food items acquired by the categories with different levels of students approved for free or reduced lunch was as follows:

- Less than 30 percent: 772 food items
- 30 - 59 percent: 810 food items
- 60 percent or more: 749 food items

7.7.1 Differences in purchase costs among districts with students from households with different levels of poverty

Table 7-9 shows that the cost per unit of purchased foods was highest for SFAs with less than 30 percent of students approved for free or reduced lunch (\$0.85 per pound, 2.95% higher than the average price paid for all purchased foods, compared with \$0.82 and \$0.81 for the 30 - 59 percent and 60 percent or more categories respectively). The price paid for purchased food in districts with lower poverty levels was the highest in 10 of the 16 food subgroups compared with one and seven in the 30 – 59 percent, and 60 percent or more groups respectively. The volumes purchased by the districts with fewer students approved for free or reduced meals were much higher resulting in substantially higher mean cost per 100,000 meal equivalents served. In fact, the districts with fewer than 30 percent approved had the highest cost per 100,000 meal equivalents for **all** food sub-groups. The mean cost for this group was 22% higher than for districts with 60% approved for free or reduced meals and 12% higher than those with between 30 and 59% approved.

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Analysis of the top 50 items in Table 7-10 shows that the school districts with the lowest percentage of students approved for free or reduced lunch had the highest mean cost per 100,000 meal equivalents. Overall those districts with the lowest population of students approved for free or reduced lunches spent 23% more for the top 50 food items per 100,000 meal equivalents served than the districts with the largest proportion.

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Table 7-9: Comparisons of summary of mean cost and volume of food purchases of public unified NSLP school districts by poverty level, SY 2009/10

Food groups/subgroups	Cost per unit			Pounds/100,000 m.e.			Dollars/100,000 m.e.		
	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more
	<i>dollars/pound</i>			<i>pounds/100,000 m.e.</i>			<i>dollars/100,000 m.e.</i>		
All foods	\$0.85	\$0.82	\$0.81	147,413	134,427	120,597	\$125,309	\$110,288	\$97,428
Bakery products	\$1.68	\$1.58	\$1.60	15,012	11,798	9,845	\$34,318	\$10,158	\$15,761
Biscuits, muffins, pancakes & waffles	\$1.86	\$1.77	\$1.75	2,111	1,855	2,080	\$6,052	\$2,350	\$3,647
Bread & rolls	\$1.17	\$1.12	\$1.16	7,903	6,569	5,197	\$13,567	\$3,881	\$6,022
Cakes & other bakery desserts	\$2.14	\$1.99	\$2.12	2,579	1,519	1,002	\$5,571	\$1,370	\$2,125
Crackers	\$2.51	\$2.26	\$2.16	549	644	750	\$2,675	\$1,046	\$1,623
Pretzels & snack chips	\$2.72	\$2.89	\$2.88	1,870	1,211	815	\$6,453	\$1,511	\$2,344
Condiments	\$0.79	\$0.82	\$0.85	3,240	3,118	2,307	\$4,683	\$1,269	\$1,970
Catsup & other sauces	\$0.82	\$0.88	\$0.90	2,298	2,159	1,635	\$3,518	\$953	\$1,479
Flavorings	\$1.20	\$1.17	\$1.30	158	183	123	\$394	\$103	\$159
Pickles/olives	\$0.62	\$0.54	\$0.60	784	776	549	\$771	\$214	\$331
Eggs	\$1.51	\$1.52	\$1.57	364	465	374	\$1,304	\$378	\$587
Eggs	\$1.10	\$1.09	\$1.07	211	243	182	\$486	\$126	\$195
Mixtures with eggs	\$2.08	\$2.00	\$2.04	154	223	192	\$818	\$252	\$392
Fats/oils	\$1.24	\$1.12	\$1.18	1,870	1,859	1,429	\$3,838	\$1,091	\$1,693
Butter	\$2.01	\$1.85	\$1.88	44	18	39	\$61	\$48	\$74
Margarine	\$1.00	\$0.72	\$0.72	260	388	291	\$514	\$135	\$209
Salad dressings & mayonnaise	\$1.25	\$1.32	\$1.30	1,290	1,013	924	\$2,465	\$773	\$1,200
Vegetable oils & shortenings	\$1.28	\$0.98	\$1.20	275	441	175	\$797	\$135	\$210
Fish	\$2.22	\$2.20	\$2.38	353	370	447	\$1,495	\$685	\$1,063
Fish	\$2.28	\$2.21	\$2.31	267	329	339	\$1,340	\$505	\$783
Shellfish	\$2.03	\$2.06	\$2.59	86	41	108	\$155	\$180	\$280
Fruits/juices	\$0.73	\$0.67	\$0.66	18,647	20,479	21,783	\$25,075	\$9,296	\$14,424
Fruits	\$0.80	\$0.75	\$0.78	10,228	10,693	10,412	\$14,699	\$5,201	\$8,070
Juices	\$0.65	\$0.58	\$0.56	8,419	9,786	11,371	\$10,376	\$4,095	\$6,354

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Cost per unit			Pounds/100,000 m.e.			Dollars/100,000 m.e.		
	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more
	<i>dollars/pound</i>			<i>pounds/100,000 m.e.</i>			<i>dollars/100,000 m.e.</i>		
Grain products	\$1.63	\$1.51	\$1.70	2,499	2,676	2,638	\$7,420	\$2,884	\$4,475
Breakfast cereals	\$3.66	\$3.38	\$3.64	341	560	649	\$3,479	\$1,522	\$2,361
Flour & other milled grains	\$0.31	\$0.32	\$0.33	284	660	390	\$387	\$84	\$130
Flour mix	\$1.32	\$1.14	\$1.02	256	216	183	\$454	\$121	\$187
Mixtures with grain	\$1.78	\$1.79	\$1.75	827	633	704	\$2,083	\$795	\$1,234
Pasta & noodles	\$0.99	\$0.89	\$0.93	548	367	298	\$599	\$178	\$277
Rice, barley & other grains	\$1.62	\$0.95	\$0.69	243	240	413	\$418	\$184	\$285
Legumes/nuts/seeds	\$1.07	\$0.70	\$0.79	553	1,048	855	\$1,349	\$434	\$674
Dry beans/peas	\$0.73	\$0.59	\$0.61	411	951	738	\$1,035	\$292	\$454
Other nuts	\$4.65	\$5.93	\$4.40	3	1	1	\$11	\$3	\$5
Peanuts/peanut butter	\$1.60	\$1.42	\$1.50	49	53	52	\$138	\$51	\$79
Seeds	\$2.64	\$2.71	\$2.34	39	15	36	\$74	\$55	\$85
Soybeans & soy products	\$1.94	\$1.72	\$1.95	52	29	26	\$91	\$33	\$51
Milk & other dairy products	\$0.46	\$0.46	\$0.43	60,436	58,008	54,584	\$49,348	\$15,088	\$23,411
Cheese	\$1.87	\$1.88	\$1.88	1,801	1,198	847	\$4,139	\$1,026	\$1,592
Cream	\$1.30	\$1.44	\$1.31	176	115	85	\$306	\$72	\$112
Ice cream & ice milk	\$1.60	\$1.43	\$1.18	1,239	701	298	\$1,849	\$227	\$352
Milk	\$0.37	\$0.41	\$0.39	56,177	55,193	52,589	\$41,328	\$13,162	\$20,422
Yogurt	\$1.22	\$1.17	\$1.22	1,044	800	765	\$1,727	\$601	\$933
Non-dairy drinks	\$0.48	\$0.45	\$0.48	15,642	6,748	3,696	\$5,542	\$1,142	\$1,771
Carbonated	\$0.62	\$0.48	\$0.61	427	87	90	\$76	\$36	\$55
Coffee & tea	\$0.56	\$0.77	\$1.22	1,811	418	141	\$596	\$111	\$172
Dry beverage	\$6.62	\$2.31	\$1.73	5	14	18	\$61	\$20	\$30
Enriched drinks	\$0.66	\$0.64	\$0.65	4,622	1,607	960	\$1,880	\$401	\$622
Fruit drinks	\$0.64	\$0.74	\$0.57	1,452	833	649	\$1,141	\$238	\$369
Water	\$0.30	\$0.26	\$0.28	7,323	3,788	1,838	\$1,787	\$337	\$523

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Cost per unit			Pounds/100,000 m.e.			Dollars/100,000 m.e.		
	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more
	<i>dollars/pound</i>			<i>pounds/100,000 m.e.</i>			<i>dollars/100,000 m.e.</i>		
Poultry	\$2.02	\$1.90	\$1.91	4,652	4,474	3,795	\$15,645	\$4,667	\$7,241
Chicken	\$2.07	\$1.93	\$1.94	3,504	3,407	2,898	\$12,125	\$3,631	\$5,634
Game birds	\$6.02			0	-	-	\$-	\$-	\$-
Mixed poultry		\$3.75	\$4.70	-	0	0	\$1	\$1	\$2
Recipe mix	\$2.41	\$2.17	\$3.37	6	7	0	\$29	\$0	\$0
Turkey	\$1.89	\$1.79	\$1.79	1,142	1,060	896	\$3,491	\$1,034	\$1,605
Prepared foods	\$1.93	\$1.86	\$1.83	5,401	5,292	5,042	\$18,086	\$5,937	\$9,212
Burritos/tacos	\$1.62	\$1.72	\$1.50	366	456	997	\$1,443	\$964	\$1,496
Meat or cheese filled pastry	\$1.92	\$1.96	\$2.00	813	605	569	\$2,186	\$733	\$1,138
Mixtures with fish	\$10.34	\$3.21	\$6.20	1	2	0	\$13	\$0	\$0
Pizza	\$1.85	\$1.78	\$1.75	3,658	3,786	2,535	\$12,386	\$2,852	\$4,426
Prepared meals	\$1.93	\$2.33	\$2.10	111	104	398	\$447	\$539	\$836
Prepared sandwiches	\$2.89	\$2.60	\$2.42	450	337	544	\$1,612	\$848	\$1,317
Red meats	\$2.17	\$2.02	\$2.04	2,812	3,296	2,668	\$12,236	\$3,507	\$5,441
Beef & veal	\$2.18	\$2.01	\$1.99	1,420	1,752	1,506	\$6,467	\$1,928	\$2,991
Lamb	\$8.00	\$3.96		0	0	-	\$1	\$-	\$-
Mixed meats	\$1.93	\$1.79	\$1.80	536	488	305	\$1,608	\$355	\$550
Pork	\$2.34	\$2.15	\$2.25	817	1,043	799	\$4,121	\$1,156	\$1,794
Recipe mix	\$1.48	\$1.57	\$1.82	38	13	58	\$38	\$68	\$105
Soups & gravies	\$1.49	\$1.46	\$1.60	690	569	398	\$1,523	\$410	\$636
Gravies	\$2.43	\$2.29	\$2.42	93	114	75	\$481	\$117	\$182
Soups	\$1.35	\$1.25	\$1.41	597	455	323	\$1,042	\$292	\$454
Sugar/desserts	\$1.03	\$0.86	\$0.94	1,999	1,987	1,345	\$3,148	\$814	\$1,263
Candies/toppings	\$2.24	\$1.85	\$2.30	207	109	64	\$371	\$94	\$146
Gelatins	\$1.27	\$1.23	\$1.20	72	83	37	\$188	\$29	\$44
Jellies, jams & preserves	\$1.15	\$1.19	\$1.07	105	137	145	\$298	\$100	\$155
Puddings/pie filling	\$0.76	\$0.67	\$0.90	464	330	156	\$408	\$90	\$140
Sherbet/ices	\$1.10	\$1.02	\$0.96	386	271	175	\$508	\$109	\$169
Sugars	\$0.66	\$0.60	\$0.61	356	663	373	\$728	\$147	\$229
Syrups	\$0.89	\$0.89	\$0.96	409	395	396	\$647	\$245	\$380

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Cost per unit			Pounds/100,000 m.e.			Dollars/100,000 m.e.		
	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more
	<i>dollars/pound</i>			<i>pounds/100,000 m.e.</i>			<i>dollars/100,000 m.e.</i>		
Vegetables	\$0.84	\$0.80	\$0.83	13,244	12,240	9,392	\$18,015	\$5,031	\$7,806
Green vegetables	\$0.90	\$0.84	\$0.88	2,970	2,940	2,448	\$4,563	\$1,393	\$2,162
Mixed vegetables	\$0.91	\$0.87	\$0.92	1,252	1,223	1,000	\$1,951	\$592	\$918
Mixtures with vegetables	\$1.78	\$1.23	\$1.58	85	92	49	\$209	\$50	\$78
Other vegetables	\$1.23	\$1.16	\$1.29	270	211	237	\$451	\$197	\$306
Potato & potato products	\$0.76	\$0.71	\$0.69	5,592	4,694	3,085	\$6,120	\$1,371	\$2,128
Tomatoes & tomato products	\$0.84	\$0.82	\$0.88	1,588	1,385	1,160	\$2,104	\$661	\$1,026
Yellow vegetables	\$0.88	\$0.84	\$0.84	1,486	1,694	1,413	\$2,619	\$766	\$1,189

Source: School Food Purchase Study, 2011

Table 7-10: Comparisons of cost and volume of the top 50 food items purchased by public unified NSLP school districts by poverty level SY 2009/10

Food items	Cost per unit			Pounds/100,000 m.e.			Dollars/100,000 m.e.		
	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more
	<i>dollars/pound</i>			<i>pounds/100,000 m.e.</i>			<i>dollars/100,000 m.e.</i>		
1 Milk, Flavored, Lo Fat, 1%	\$0.39	\$0.41	\$0.42	23,319	23,610	15,976	\$9,172	\$9,706	\$6,683
2 Milk, Flavored, Skim/Nonfat	\$0.35	\$0.39	\$0.36	14,118	8,482	14,894	\$4,911	\$3,321	\$5,390
3 Hamburger, Hot Dog Buns, Steak, Sub & Dinner Rls	\$1.14	\$1.12	\$1.17	3,831	2,981	2,617	\$4,351	\$3,337	\$3,068
4 Milk, Lo Fat, 1%	\$0.36	\$0.39	\$0.38	7,383	8,044	10,975	\$2,675	\$3,164	\$4,114
5 Orange Juice, Individual	\$0.59	\$0.54	\$0.51	2,894	3,112	4,144	\$1,706	\$1,669	\$2,123
6 Cereals, Individual	\$3.89	\$3.59	\$3.78	253	482	597	\$983	\$1,730	\$2,255
7 Apple Juice, Individual	\$0.55	\$0.50	\$0.50	2,673	3,333	3,441	\$1,474	\$1,663	\$1,733
8 Milk, Flavored, Lo Fat, .5%	\$0.34	\$0.39	\$0.37	2,027	5,601	2,440	\$692	\$2,173	\$904
9 Sport Drink, e.g. Gatorade	\$0.66	\$0.64	\$0.65	4,550	1,570	959	\$3,018	\$999	\$621
10 Pizza, w/Real Cheese	\$1.96	\$1.97	\$1.66	1,111	604	628	\$2,180	\$1,193	\$1,038
11 Chips, Misc. Snack(Cheetos, Sun Chips)	\$3.74	\$3.67	\$3.79	449	361	261	\$1,678	\$1,323	\$988
12 Potatoes, French Fries	\$0.65	\$0.62	\$0.62	2,912	2,109	1,186	\$1,900	\$1,316	\$741
13 Apples, Fresh	\$0.61	\$0.65	\$0.60	1,829	2,098	1,915	\$1,118	\$1,370	\$1,156

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food items	Cost per unit			Pounds/100,000 m.e.			Dollars/100,000 m.e.			
	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more	
	<i>dollars/pound</i>			<i>pounds/100,000 m.e.</i>			<i>dollars/100,000 m.e.</i>			
14	Fruit Juice, Mixed, Individual	\$0.74	\$0.63	\$0.58	1,499	1,751	2,620	\$1,114	\$1,107	\$1,527
15	Cookie Dough	\$1.66	\$1.54	\$1.56	1,249	680	364	\$2,077	\$1,048	\$566
16	Pizza, Pepperoni w/Real Cheese	\$2.04	\$2.08	\$2.03	677	660	317	\$1,379	\$1,373	\$642
17	Chicken, Nuggets, White/dark Mix, Unknown	\$2.06	\$1.93	\$1.88	608	691	316	\$1,251	\$1,329	\$594
18	Milk, Flavored, Lo Fat, Fat Solids Unknown	\$0.39	\$0.42	\$0.35	2,613	3,019	2,536	\$1,017	\$1,275	\$882
19	Milk, Lo Fat, 2%	\$0.38	\$0.42	\$0.40	2,689	2,584	2,763	\$1,015	\$1,088	\$1,112
20	Chips, Tortilla/Corn	\$2.25	\$2.18	\$2.05	582	504	382	\$1,305	\$1,098	\$784
21	Chicken, Nuggets, White Meat	\$2.13	\$2.00	\$1.98	734	458	374	\$1,564	\$914	\$741
22	Muffins	\$2.40	\$2.23	\$2.22	468	390	447	\$1,121	\$873	\$992
23	Beef, Patties, Cooked	\$2.15	\$2.07	\$1.95	405	517	441	\$874	\$1,071	\$859
24	Yogurt	\$1.17	\$1.17	\$1.20	937	779	739	\$1,099	\$912	\$889
25	Chicken, Patties, Breaded, White Meat	\$1.91	\$1.92	\$2.18	597	600	215	\$1,143	\$1,152	\$468
26	Water	\$0.28	\$0.23	\$0.27	6,432	3,291	1,754	\$1,803	\$764	\$480
27	Crackers, Graham, Individual	\$2.52	\$2.27	\$2.16	272	381	538	\$685	\$869	\$1,162
28	Bread/Biscuit/Pastry Dough	\$1.16	\$1.01	\$1.07	586	1,043	541	\$680	\$1,053	\$577
29	Cheese Filled Pastry(Includes Hot Pocket)	\$1.92	\$1.92	\$1.88	671	369	262	\$1,286	\$707	\$493
30	Ice Cream Novelties	\$1.83	\$1.55	\$1.38	786	492	176	\$1,439	\$763	\$244
31	Cookies, Individual	\$2.97	\$2.92	\$2.63	446	217	167	\$1,320	\$635	\$441
32	Pizza, Pepperoni w/Cheese Blend	\$1.70	\$1.56	\$1.51	293	649	290	\$499	\$1,013	\$440
33	Pizza, Cheese Blend	\$1.61	\$1.56	\$1.48	480	571	192	\$773	\$888	\$283
34	Chips, Potato or Potato Sticks	\$4.34	\$4.23	\$4.29	235	149	82	\$1,019	\$629	\$354
35	Oranges, Fresh	\$0.59	\$0.57	\$0.56	892	1,144	1,235	\$527	\$656	\$690
36	Potatoes, Formed, Frozen	\$0.67	\$0.64	\$0.59	1,260	937	862	\$850	\$597	\$508
37	Bananas, Fresh	\$0.50	\$0.52	\$0.49	1,040	1,220	1,454	\$523	\$638	\$712
38	Pork, Sausage, Cooked	\$2.08	\$2.06	\$2.03	283	338	251	\$588	\$698	\$510
39	Pizza Shells/Pizza Dough	\$1.18	\$1.27	\$1.05	858	480	283	\$1,010	\$612	\$295
40	Pizza, Cheese, Type Unknown	\$1.71	\$1.74	\$1.77	354	353	335	\$606	\$618	\$594
41	Beef, Ground	\$1.68	\$1.72	\$1.71	148	455	362	\$249	\$784	\$621
42	Lettuce, Salad Mix	\$0.89	\$0.87	\$0.87	859	700	522	\$762	\$613	\$457
43	Poptarts	\$2.04	\$1.77	\$2.06	417	329	201	\$854	\$583	\$415
44	Milk, Skim/Nonfat	\$0.33	\$0.39	\$0.38	2,319	1,244	1,580	\$778	\$479	\$606

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

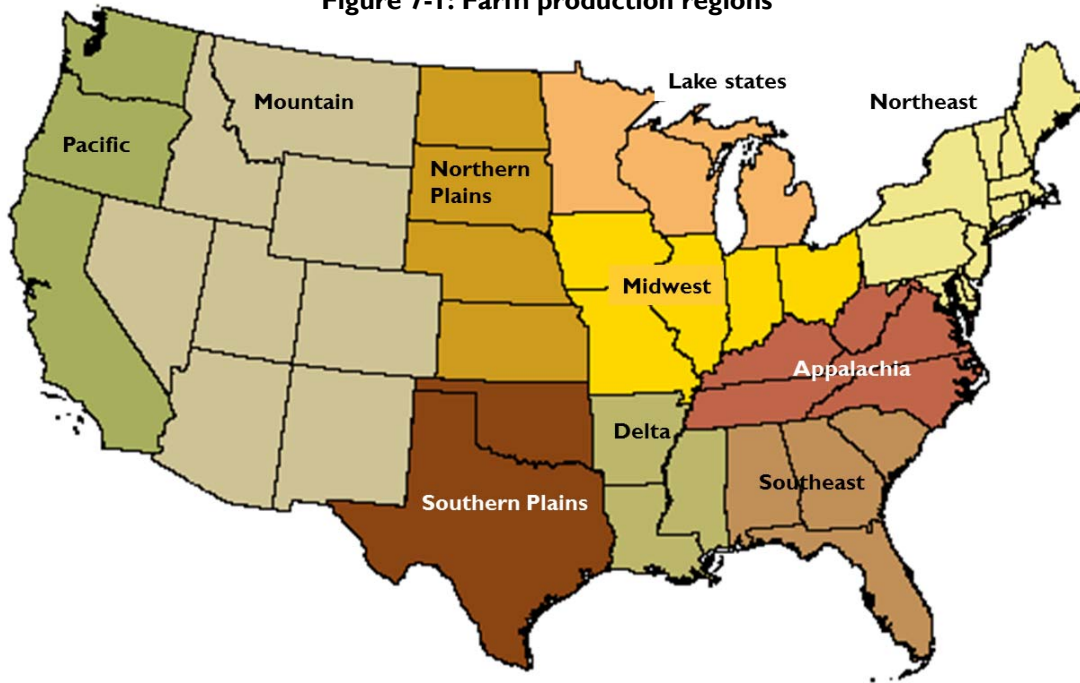
Food items	Cost per unit			Pounds/100,000 m.e.			Dollars/100,000 m.e.		
	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more
	<i>dollars/pound</i>			<i>pounds/100,000 m.e.</i>			<i>dollars/100,000 m.e.</i>		
45 French Toast/Sticks/French Toast Bagels	\$1.47	\$1.42	\$1.55	437	338	439	\$644	\$487	\$675
46 Lettuce, Shredded/Chopped	\$0.97	\$1.00	\$0.93	766	520	463	\$743	\$520	\$428
47 Catsup, Individual Pack	\$0.81	\$0.81	\$0.87	457	774	625	\$369	\$629	\$541
48 Pizza, Sausage w/Cheese Blend	\$1.64	\$1.63	\$1.70	195	402	306	\$321	\$655	\$520
49 Potatoes, Dry, w/Milk	\$1.88	\$1.88	\$1.82	302	316	212	\$563	\$595	\$385
50 Peanut Butter and Jelly Sandwich	\$2.63	\$2.70	\$2.38	221	154	263	\$581	\$418	\$625
All fifty items	\$0.69	\$0.69	\$0.63	101,416	91,886	84,942	\$70,289	\$63,107	\$53,926

Source: School Food Purchase Study, 2011

7.8 Regions

To review the food mix and cost of foods acquired by school districts in different regions, the 10 USDA farm production regions were used

Figure 7-1: Farm production regions



Region	State	Region	State	Region	State
Northeast	Connecticut	Midwest	Iowa	Delta	Arkansas
	District of Columbia		Illinois		Louisiana
	Delaware		Indiana		Mississippi
	Massachusetts		Missouri	Southern Plains	Oklahoma
	Maryland		Ohio		Texas
	Maine	Northern Plains	Kansas	Mountain	Arizona
	New Hampshire		North Dakota		Colorado
	New Jersey		Nebraska		Idaho
	New York		South Dakota		Montana
	Pennsylvania	Appalachia	Kentucky		New Mexico
	Rhode Island		North Carolina		Nevada
Vermont	Tennessee		Utah		
Lake States	Michigan	Virginia	Pacific	California	
	Minnesota	West Virginia		Oregon	
	Wisconsin	Southeast		Alabama	Washington
				Florida	
	Georgia				
	South Carolina				

The number of food items purchased by region is shown below. The total number of food items purchased was 865:

- Northeast - 674
- Lake States - 593
- Midwest - 688
- Northern Plains - 585
- Appalachia - 676
- Southeast - 683
- Delta - 477
- Southern Plains - 646
- Mountain - 605
- Pacific - 655

Of note here is the very small number of food items purchased in the Delta region.

7.8.1 Differences in purchase costs between regions

Table 7-11, Table 7-12, and Table 7-13 show the mean cost per unit, the mean volume per 100,000 meal equivalents served, and the cost per 100,000 meal equivalents served in each of the regions. Overall, the highest mean price per pound for all food items is paid in the Northern Plains region (\$0.93 per pound), some \$0.13 per pound higher than the lowest mean price in the Pacific region (\$0.80 per pound) and 7.8% above the average for all purchased food products³⁰. The Northern Plains region had the highest price in five of the 16 food groups. The Delta region did not have the lowest overall mean cost per unit; however, it purchased at the lowest mean price per unit in 10 of the 16 subgroups. The only subgroups in which it did not have the lowest price were condiments, fish, fruits/juices, grain products, red meats, and milk and other dairy products.

The Northern Plains region also had the highest mean cost per 100,000 meal equivalents served (\$153,216). All other districts had mean costs between \$99,000 and \$119,000. Overall, the region with the lowest mean cost per 100,000 meal equivalents served was the Pacific region, although the Mountain region had a very similar value. The Mountain region purchased the lowest volume per 100,000 meal equivalents served of all the regions.

Table 7-14, Table 7-15, and Table 7-16 show the mean cost per unit, the mean volume per 100,000 meal equivalents served, and the cost per 100,000 meal equivalents served for the top 50 purchased food items. Analysis shows that the Delta region has some of the most interesting characteristics. It has the highest cost per unit for nine of the top 50 food items and the lowest for 14 food items. This is more highest-cost and lowest-cost items than any other region. Pacific and Mountain regions also have the lowest mean cost per 100,000 meal equivalents for the top 50 purchased items. This was 28% and 27% lower respectively than the mean cost for the highest region (Northern Plains).

³⁰ As some of the regions are represented by only a small number of districts, there is a high level of sampling error associated with the estimates. There were only 13 districts in the Northern Plains region.

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Table 7-11: Comparisons of summary of mean cost of food purchases by public unified NSLP school districts by region, SY 2009/10

Food groups/subgroups	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	----- dollars/pound -----									
All foods	\$0.84	\$0.82	\$0.82	\$0.93	\$0.81	\$0.82	\$0.84	\$0.82	\$0.83	\$0.80
Bakery products	\$1.69	\$1.68	\$1.68	\$1.63	\$1.52	\$1.41	\$1.21	\$1.57	\$1.72	\$1.78
Biscuits, muffins, pancakes & waffles	\$1.83	\$1.74	\$1.93	\$1.82	\$1.77	\$1.65	\$1.51	\$1.73	\$1.87	\$1.84
Bread & rolls	\$1.27	\$1.18	\$1.09	\$1.19	\$1.06	\$1.09	\$0.88	\$1.01	\$1.18	\$1.33
Cakes & other bakery desserts	\$2.21	\$2.13	\$2.14	\$2.16	\$1.96	\$1.72	\$1.40	\$2.19	\$2.25	\$2.23
Crackers	\$2.53	\$2.52	\$2.59	\$2.38	\$2.37	\$1.99	\$2.14	\$2.12	\$2.71	\$2.14
Pretzels & snack chips	\$2.76	\$2.83	\$2.68	\$2.67	\$2.92	\$2.61	\$2.44	\$3.24	\$2.80	\$2.88
Condiments	\$0.85	\$0.71	\$0.86	\$0.79	\$0.84	\$0.93	\$0.76	\$0.67	\$0.77	\$0.89
Catsup & other sauces	\$0.89	\$0.70	\$0.91	\$0.81	\$0.88	\$1.01	\$0.81	\$0.79	\$0.78	\$0.90
Flavorings	\$1.14	\$1.63	\$1.15	\$1.50	\$1.18	\$1.27	\$1.15	\$0.78	\$1.24	\$1.66
Pickles/olives	\$0.66	\$0.62	\$0.60	\$0.59	\$0.53	\$0.53	\$0.46	\$0.49	\$0.65	\$0.70
Eggs	\$1.60	\$1.58	\$1.53	\$1.64	\$1.61	\$1.30	\$1.14	\$1.66	\$1.62	\$1.70
Eggs	\$1.18	\$0.96	\$1.12	\$0.98	\$1.16	\$0.96	\$0.82	\$1.20	\$1.15	\$1.22
Mixtures with eggs	\$2.02	\$2.20	\$1.91	\$2.22	\$1.90	\$1.84	\$1.96	\$2.12	\$2.11	\$2.25
Fats/oils	\$1.37	\$1.17	\$1.25	\$1.10	\$1.11	\$1.09	\$0.87	\$1.16	\$1.08	\$1.22
Butter	\$2.07	\$1.61	\$1.90	\$1.83	\$2.03	\$1.82	\$1.66	\$1.96	\$1.82	\$1.88
Margarine	\$1.10	\$1.02	\$0.74	\$0.69	\$0.79	\$0.70	\$0.56	\$0.74	\$0.69	\$0.95
Salad dressings & mayonnaise	\$1.36	\$1.17	\$1.37	\$1.21	\$1.32	\$1.36	\$1.32	\$1.29	\$1.10	\$1.20
Vegetable oils & shortenings	\$1.51	\$1.20	\$1.31	\$0.81	\$0.99	\$0.90	\$0.75	\$1.39	\$1.06	\$1.64
Fish	\$2.27	\$2.25	\$2.23	\$2.58	\$2.41	\$2.06	\$2.28	\$2.18	\$2.02	\$2.50
Fish	\$2.26	\$2.42	\$2.29	\$2.75	\$2.44	\$2.04	\$2.36	\$2.22	\$2.04	\$2.19
Shellfish	\$2.69	\$1.93	\$1.98	\$2.07	\$2.12	\$2.30	\$1.81	\$1.92	\$1.96	\$2.75
Fruits/juices	\$0.71	\$0.69	\$0.72	\$0.80	\$0.68	\$0.63	\$0.65	\$0.63	\$0.71	\$0.69
Fruits	\$0.83	\$0.72	\$0.80	\$0.90	\$0.79	\$0.72	\$0.73	\$0.68	\$0.76	\$0.80
Juices	\$0.61	\$0.64	\$0.62	\$0.63	\$0.57	\$0.56	\$0.59	\$0.58	\$0.61	\$0.55
Grain products	\$1.93	\$1.67	\$1.82	\$2.08	\$1.56	\$1.33	\$1.41	\$1.35	\$1.69	\$1.65
Breakfast cereals	\$3.82	\$3.24	\$3.73	\$4.11	\$3.72	\$3.39	\$3.15	\$3.12	\$3.20	\$3.82
Flour & other milled grains	\$0.35	\$0.26	\$0.36	\$0.32	\$0.32	\$0.36	\$0.34	\$0.30	\$0.26	\$0.28
Flour mix	\$1.43	\$1.49	\$1.51	\$1.93	\$1.24	\$1.02	\$0.89	\$0.93	\$1.29	\$0.89
Mixtures with grain	\$1.93	\$1.72	\$1.51	\$1.84	\$1.60	\$1.77	\$2.18	\$1.78	\$2.14	\$1.87
Pasta & noodles	\$0.92	\$0.98	\$1.04	\$1.00	\$0.93	\$0.83	\$0.80	\$0.80	\$1.09	\$1.14
Rice, barley & other grains	\$1.74	\$1.48	\$1.71	\$0.99	\$1.56	\$0.80	\$0.43	\$0.66	\$0.78	\$0.70

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	-----dollars/pound-----									
Legumes/nuts/seeds	\$0.96	\$1.03	\$0.84	\$0.99	\$0.67	\$0.62	\$0.60	\$0.75	\$0.85	\$1.06
Dry beans/peas	\$0.65	\$0.66	\$0.61	\$0.64	\$0.55	\$0.55	\$0.57	\$0.63	\$0.77	\$0.69
Other nuts	\$4.29	\$4.03	\$3.99	\$6.31	\$6.51	\$5.05	\$5.49	\$5.15	\$5.62	\$5.32
Peanuts/peanut butter	\$1.24	\$1.39	\$2.38	\$2.11	\$1.59	\$1.38	\$1.17	\$1.23	\$1.70	\$2.20
Seeds	\$3.04	\$2.59	\$3.24	\$2.49	\$2.87	\$3.31	\$2.34	\$2.67	\$2.42	\$2.33
Soybeans & soy products	\$1.95	\$1.92	\$1.46	\$2.26	\$1.70	\$2.40	\$2.90	\$1.74	\$1.17	\$1.97
Milk & other dairy products	\$0.48	\$0.41	\$0.44	\$0.48	\$0.44	\$0.46	\$0.53	\$0.49	\$0.47	\$0.39
Cheese	\$1.94	\$1.68	\$1.84	\$1.90	\$1.82	\$2.01	\$1.66	\$1.80	\$1.99	\$1.91
Cream	\$1.28	\$1.27	\$1.54	\$1.14	\$1.37	\$1.61	\$1.61	\$1.53	\$1.02	\$1.14
Ice cream & ice milk	\$1.72	\$1.82	\$1.70	\$1.25	\$1.39	\$1.36	\$1.14	\$1.21	\$1.69	\$1.58
Milk	\$0.39	\$0.35	\$0.38	\$0.40	\$0.39	\$0.41	\$0.50	\$0.43	\$0.42	\$0.34
Yogurt	\$1.20	\$1.22	\$1.23	\$1.20	\$1.16	\$1.11	\$1.42	\$1.25	\$1.24	\$1.19
Non-dairy drinks	\$0.44	\$0.55	\$0.51	\$0.48	\$0.46	\$0.42	\$0.24	\$0.56	\$0.43	\$0.45
Carbonated	\$0.55	\$1.76	\$0.56	\$0.81	\$0.30	\$0.52		\$0.54	\$0.72	\$0.59
Coffee & tea	\$0.51	\$1.00	\$0.69	\$1.51	\$0.92	\$0.76	\$2.78	\$1.03	\$0.67	\$1.49
Dry beverage	\$9.29	\$3.02	\$2.86	\$11.30	\$2.69	\$1.38	\$11.58	\$6.21	\$4.31	\$1.02
Enriched drinks	\$0.69	\$0.70	\$0.66	\$0.62	\$0.65	\$0.61	\$0.63	\$0.65	\$0.68	\$0.62
Fruit drinks	\$0.50	\$0.75	\$0.61	\$0.85	\$0.70	\$0.49	\$1.17	\$1.17	\$0.59	\$1.00
Water	\$0.30	\$0.32	\$0.34	\$0.29	\$0.29	\$0.25	\$0.16	\$0.26	\$0.25	\$0.26
Poultry	\$2.03	\$2.07	\$2.07	\$2.00	\$1.83	\$1.90	\$1.78	\$1.90	\$1.92	\$1.92
Chicken	\$1.90	\$2.11	\$2.16	\$2.06	\$1.90	\$1.95	\$1.79	\$1.97	\$2.15	\$1.99
Game birds			\$6.02							
Mixed poultry	\$5.98		\$6.34	\$5.29	\$5.59	\$2.34		\$4.45		\$4.50
Recipe mix	\$2.54	\$1.61	\$3.54	\$4.49	\$2.46	\$3.12		\$2.62		\$1.34
Turkey	\$2.42	\$1.97	\$1.82	\$1.78	\$1.56	\$1.71	\$1.72	\$1.77	\$1.57	\$1.67
Prepared foods	\$1.97	\$1.88	\$1.88	\$1.97	\$1.83	\$1.80	\$1.70	\$1.85	\$2.04	\$1.82
Burritos/tacos	\$1.92	\$1.74	\$1.62	\$1.67	\$1.48	\$1.56	\$1.69	\$1.74	\$1.70	\$1.47
Meat or cheese filled pastry	\$2.05	\$1.88	\$1.82	\$2.08	\$1.99	\$1.83	\$1.67	\$1.95	\$2.11	\$2.07
Mixtures with fish	\$10.65	\$7.83			\$8.24			\$17.00		\$3.20
Pizza	\$1.89	\$1.70	\$1.80	\$1.86	\$1.75	\$1.70	\$1.65	\$1.76	\$1.94	\$1.78
Prepared meals	\$3.11	\$2.61	\$2.10	\$2.37	\$2.04	\$2.02	\$2.11	\$2.35	\$2.44	\$2.02
Prepared sandwiches	\$3.01	\$2.59	\$2.58	\$2.59	\$2.63	\$2.58	\$2.25	\$2.78	\$3.10	\$2.35

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	-----dollars/pound-----									
Red meats	\$2.27	\$2.12	\$2.10	\$2.06	\$2.04	\$2.04	\$1.99	\$1.88	\$2.14	\$2.13
Beef & veal	\$2.25	\$2.06	\$2.19	\$2.01	\$2.12	\$2.07	\$2.01	\$1.77	\$2.07	\$2.10
Lamb	\$8.00									\$3.96
Mixed meats	\$2.07	\$1.88	\$1.68	\$2.06	\$1.61	\$1.70	\$1.84	\$1.70	\$2.04	\$2.61
Pork	\$2.42	\$2.46	\$2.27	\$2.22	\$2.12	\$2.12	\$2.05	\$2.14	\$2.34	\$2.14
Recipe mix	\$1.94	\$1.47	\$1.40	\$1.66	\$2.43	\$1.02		\$1.74	\$3.62	\$1.82
Soups & gravies	\$1.27	\$1.70	\$1.43	\$1.39	\$1.54	\$1.54	\$0.97	\$1.50	\$2.27	\$1.87
Gravies	\$2.15	\$2.27	\$2.36	\$2.61	\$2.29	\$2.67	\$2.28	\$1.92	\$2.84	\$3.07
Soups	\$1.13	\$1.57	\$1.23	\$1.18	\$1.25	\$1.28	\$0.82	\$1.38	\$2.10	\$1.68
Sugar/desserts	\$1.02	\$1.07	\$0.98	\$1.14	\$0.90	\$0.82	\$0.80	\$0.85	\$0.85	\$1.09
Candies/toppings	\$2.23	\$2.55	\$1.99	\$2.28	\$1.88	\$1.53	\$1.38	\$3.08	\$2.19	\$2.34
Gelatins	\$1.33	\$1.25	\$1.39	\$1.16	\$1.17	\$1.11	\$1.17	\$1.16	\$1.18	\$1.55
Jellies, jams & preserves	\$0.86	\$1.09	\$1.28	\$1.15	\$1.20	\$1.23	\$1.13	\$1.31	\$0.99	\$1.23
Puddings/pie filling	\$0.70	\$0.76	\$0.62	\$1.57	\$0.69	\$0.67	\$0.71	\$0.70	\$0.80	\$1.20
Sherbet/ices	\$1.14	\$1.12	\$1.06	\$1.03	\$1.02	\$0.83	\$1.00	\$1.07	\$1.24	\$1.21
Sugars	\$0.78	\$0.67	\$0.64	\$0.63	\$0.62	\$0.58	\$0.59	\$0.59	\$0.55	\$0.66
Syrups	\$0.90	\$0.90	\$0.96	\$1.05	\$0.89	\$1.01	\$0.87	\$0.84	\$0.68	\$1.00
Vegetables	\$0.88	\$0.87	\$0.82	\$0.93	\$0.77	\$0.78	\$0.73	\$0.76	\$0.83	\$0.90
Green vegetables	\$1.02	\$0.94	\$0.84	\$0.92	\$0.76	\$0.82	\$0.70	\$0.73	\$0.92	\$1.04
Mixed vegetables	\$0.95	\$0.90	\$0.86	\$0.80	\$0.87	\$0.88	\$0.84	\$0.87	\$0.85	\$0.96
Mixtures with vegetables	\$1.59	\$1.90	\$1.48	\$2.84	\$1.24	\$1.09	\$1.34	\$1.81	\$1.45	\$1.82
Other vegetables	\$1.09	\$1.17	\$1.40	\$1.70	\$1.26	\$1.03	\$0.99	\$1.04	\$1.49	\$1.50
Potato & potato products	\$0.74	\$0.81	\$0.75	\$0.89	\$0.70	\$0.69	\$0.65	\$0.70	\$0.73	\$0.68
Tomatoes & tomato products	\$0.86	\$0.78	\$0.88	\$1.02	\$0.89	\$0.79	\$0.87	\$0.78	\$0.73	\$0.93
Yellow vegetables	\$0.95	\$0.92	\$0.85	\$0.84	\$0.81	\$0.81	\$0.74	\$0.77	\$0.88	\$0.92

Source: School Food Purchase Study, 2011

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Table 7-12: Comparison of summary of volume per 100,000 meal equivalents of foods purchased by public unified NSLP school districts by region, SY 2009/10

Food groups/subgroups	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	----- pounds/100,000 meal equivalents -----									
All foods	126,994	145,965	141,769	163,984	142,908	140,473	131,369	128,867	122,134	123,824
Bakery products	13,004	14,635	12,437	14,425	11,991	12,382	9,618	11,175	9,944	11,344
Biscuits, muffins, pancakes & waffles	2,116	2,138	2,005	1,542	1,832	1,755	1,208	2,109	1,972	2,228
Bread & rolls	7,298	7,482	6,031	8,375	6,818	7,480	5,903	6,134	4,995	5,423
Cakes & other bakery desserts	1,609	2,739	2,330	2,221	1,831	1,581	1,304	1,006	1,391	1,296
Crackers	508	717	469	735	461	630	436	671	387	1,236
Pretzels & snack chips	1,473	1,559	1,602	1,552	1,050	936	767	1,255	1,199	1,160
Condiments	2,734	3,161	3,026	3,383	3,286	3,140	3,764	3,213	2,526	2,045
Catsup & other sauces	2,112	2,253	2,343	2,619	2,568	2,324	2,578	1,716	1,607	1,312
Flavorings	107	122	128	114	183	216	304	180	193	122
Pickles/olives	516	786	555	651	535	600	882	1,317	726	612
Eggs	372	375	336	595	450	581	577	420	432	280
Eggs	186	187	162	277	176	357	414	211	218	151
Mixtures with eggs	186	187	174	318	273	224	163	209	214	129
Fats/oils	1,656	1,880	1,838	2,086	2,053	2,416	2,826	1,244	1,400	1,151
Butter	73	58	26	111	6	4	2	3	61	24
Margarine	214	223	366	232	498	534	927	343	141	90
Salad dressings & mayonnaise	1,188	1,358	1,208	1,298	1,058	1,209	903	674	906	973
Vegetable oils & shortenings	181	240	238	444	490	670	995	225	292	64
Fish	269	332	229	741	424	425	917	512	321	336
Fish	259	217	187	555	383	399	783	450	237	152
Shellfish	10	115	42	186	41	25	134	62	84	184
Fruits/juices	17,855	19,571	19,325	24,647	19,330	21,248	20,161	21,649	19,130	23,373
Fruits	8,705	12,566	10,427	15,578	10,242	9,507	8,143	9,783	12,709	12,492
Juices	9,149	7,005	8,898	9,069	9,089	11,741	12,018	11,866	6,421	10,881

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	----- pounds/100,000 meal equivalents -----									
Grain products	1,714	2,873	2,192	3,592	2,736	3,360	3,405	2,927	2,499	2,595
Breakfast cereals	396	444	454	726	583	582	776	612	603	502
Flour & other milled grains	115	206	176	207	759	995	945	844	460	231
Flour mix	153	150	115	474	235	211	173	186	303	358
Mixtures with grain	372	1,217	1,068	1,606	588	679	571	648	614	687
Pasta & noodles	445	543	281	457	441	483	652	350	232	279
Rice, barley & other grains	234	314	99	122	130	410	288	286	288	539
Legumes/nuts/seeds	373	621	567	1,174	1,126	1,388	1,497	1,147	934	634
Dry beans/peas	232	422	483	917	1,034	1,331	1,466	1,015	874	485
Other nuts	1	2	2	1	1	0	0	3	3	2
Peanuts/peanut butter	107	97	35	174	16	27	22	69	17	19
Seeds	7	37	14	40	18	3	4	22	28	93
Soybeans & soy products	26	65	34	42	56	27	4	38	12	35
Milk & other dairy products	54,379	66,400	65,271	68,128	60,437	56,294	50,631	54,965	55,441	55,122
Cheese	1,575	1,818	1,699	1,935	838	946	584	1,221	987	1,029
Cream	144	265	140	94	98	125	114	66	85	114
Ice cream & ice milk	960	552	673	1,171	977	536	999	1,103	339	171
Milk	50,856	62,705	61,994	63,493	57,522	54,062	48,837	51,769	53,260	52,648
Yogurt	844	1,059	766	1,435	1,002	624	97	805	770	1,159
Non-dairy drinks	11,824	9,478	9,280	7,112	7,414	7,350	3,712	5,768	6,815	7,343
Carbonated	190	17	291	132	77	77	-	211	367	191
Coffee & tea	2,173	357	823	91	274	512	11	260	560	116
Dry beverage	2	5	12	1	20	29	0	10	5	23
Enriched drinks	2,100	4,023	2,994	2,615	1,805	1,963	102	1,927	1,063	2,526
Fruit drinks	1,637	1,040	930	578	923	1,081	245	726	1,046	343
Water	5,722	4,036	4,229	3,694	4,315	3,688	3,354	2,634	3,774	4,145
Poultry	3,596	3,999	3,265	6,292	5,567	6,148	6,172	4,027	3,572	3,526
Chicken	2,761	2,917	2,342	4,935	4,453	4,988	5,487	2,663	2,159	2,774
Game birds	-	-	1	-	-	-	-	-	-	-
Mixed poultry	0	-	0	1	0	0	-	0	-	0
Recipe mix	1	20	5	0	19	1	-	1	-	5
Turkey	835	1,063	917	1,356	1,095	1,158	685	1,362	1,413	747

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	----- pounds/100,000 meal equivalents -----									
Prepared foods	3,735	4,248	6,518	6,804	5,477	5,272	4,577	5,007	5,507	6,258
Burritos/tacos	20	248	397	848	85	373	272	1,054	645	1,657
Meat or cheese filled pastry	473	898	832	800	684	382	449	725	607	784
Mixtures with fish	1	1	-	-	0	-	-	0	-	7
Pizza	3,066	2,471	4,237	4,094	4,237	3,786	3,371	2,872	3,696	2,778
Prepared meals	14	175	545	170	152	200	398	67	66	268
Prepared sandwiches	162	455	508	891	318	531	87	289	493	765
Red meats	2,281	3,018	2,758	6,579	3,447	3,840	5,732	3,983	2,080	1,110
Beef & veal	925	1,494	1,338	4,128	1,810	2,391	2,966	2,273	1,226	551
Lamb	0	-	-	-	-	-	-	-	-	0
Mixed meats	492	619	559	690	530	429	1,038	433	272	84
Pork	850	825	818	1,682	1,105	1,011	1,727	1,265	582	369
Recipe mix	14	79	44	80	2	9	-	12	1	104
Soups & gravies	652	596	607	1,051	540	446	753	601	330	379
Gravies	90	111	103	152	150	86	74	127	75	53
Soups	562	485	504	899	390	360	679	474	255	326
Sugar/desserts	1,463	1,971	1,951	2,376	2,253	2,417	2,647	1,909	1,867	711
Candies/toppings	123	210	241	133	150	82	178	38	137	51
Gelatins	39	38	71	120	47	61	128	121	99	33
Jellies, jams & preserves	159	89	65	219	131	244	291	145	44	36
Puddings/pie filling	244	520	470	487	213	376	412	331	460	50
Sherbet/ices	277	378	279	561	540	407	59	205	129	70
Sugars	186	271	392	511	757	855	1,149	682	599	162
Syrups	434	465	433	345	415	393	430	387	399	310
Vegetables	11,087	12,806	12,167	15,000	16,378	13,768	14,380	10,319	9,337	7,618
Green vegetables	2,801	2,808	3,206	3,388	3,526	3,217	3,929	2,403	1,999	1,996
Mixed vegetables	1,188	1,558	1,375	1,904	1,327	1,346	1,117	813	965	890
Mixtures with vegetables	66	29	58	136	92	210	71	91	16	10
Other vegetables	231	318	190	301	225	248	438	187	209	220
Potato & potato products	4,225	4,719	4,316	5,523	7,846	4,990	5,568	4,150	3,387	2,307
Tomatoes & tomato products	1,617	1,769	1,338	1,641	1,453	1,492	1,479	1,288	1,114	916
Yellow vegetables	959	1,605	1,682	2,107	1,908	2,265	1,778	1,388	1,647	1,279

Source: School Food Purchase Study, 2011

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Table 7-13: Comparison of summary of mean cost per 100,000 meal equivalents of foods purchased public unified NSLP school districts by region, SY 2009/10

Food groups/subgroups	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	-----dollars/100,000 meal equivalents-----									
All foods	\$107,222	\$118,965	\$116,445	\$153,216	\$116,213	\$114,543	\$109,806	\$106,280	\$101,954	\$99,283
Bakery products	\$22,030	\$24,587	\$20,944	\$23,455	\$18,206	\$17,444	\$11,623	\$17,517	\$17,132	\$20,207
Biscuits, muffins, pancakes & waffles	\$3,870	\$3,726	\$3,861	\$2,804	\$3,236	\$2,892	\$1,828	\$3,646	\$3,691	\$4,098
Bread & rolls	\$9,259	\$8,817	\$6,594	\$9,956	\$7,228	\$8,142	\$5,173	\$6,175	\$5,905	\$7,228
Cakes & other bakery desserts	\$3,555	\$5,822	\$4,976	\$4,807	\$3,588	\$2,713	\$1,821	\$2,200	\$3,130	\$2,893
Crackers	\$1,284	\$1,808	\$1,213	\$1,748	\$1,092	\$1,254	\$931	\$1,424	\$1,050	\$2,649
Pretzels & snack chips	\$4,061	\$4,414	\$4,300	\$4,140	\$3,062	\$2,443	\$1,870	\$4,071	\$3,356	\$3,339
Condiments	\$2,329	\$2,253	\$2,603	\$2,676	\$2,747	\$2,930	\$2,860	\$2,144	\$1,956	\$1,815
Catsup & other sauces	\$1,869	\$1,567	\$2,121	\$2,119	\$2,248	\$2,337	\$2,099	\$1,356	\$1,246	\$1,181
Flavorings	\$122	\$199	\$148	\$171	\$216	\$275	\$351	\$140	\$239	\$202
Pickles/olives	\$338	\$487	\$334	\$386	\$282	\$318	\$410	\$647	\$472	\$431
Eggs	\$596	\$592	\$515	\$977	\$725	\$755	\$659	\$696	\$701	\$475
Eggs	\$220	\$180	\$181	\$270	\$205	\$344	\$340	\$254	\$249	\$185
Mixtures with eggs	\$376	\$412	\$333	\$706	\$520	\$411	\$319	\$442	\$452	\$290
Fats/oils	\$2,277	\$2,199	\$2,291	\$2,300	\$2,285	\$2,626	\$2,467	\$1,442	\$1,516	\$1,404
Butter	\$151	\$94	\$49	\$203	\$13	\$7	\$3	\$5	\$110	\$45
Margarine	\$236	\$228	\$272	\$160	\$392	\$375	\$523	\$252	\$97	\$85
Salad dressings & mayonnaise	\$1,618	\$1,587	\$1,658	\$1,575	\$1,396	\$1,639	\$1,191	\$872	\$999	\$1,167
Vegetable oils & shortenings	\$272	\$289	\$312	\$361	\$483	\$604	\$750	\$312	\$310	\$106
Fish	\$611	\$747	\$511	\$1,912	\$1,022	\$873	\$2,088	\$1,116	\$647	\$838
Fish	\$585	\$525	\$428	\$1,528	\$935	\$815	\$1,846	\$998	\$483	\$333
Shellfish	\$26	\$222	\$83	\$384	\$86	\$58	\$241	\$118	\$164	\$505
Fruits/juices	\$12,741	\$13,557	\$13,881	\$19,745	\$13,186	\$13,370	\$13,104	\$13,570	\$13,607	\$16,011
Fruits	\$7,193	\$9,101	\$8,339	\$14,020	\$8,043	\$6,808	\$5,965	\$6,633	\$9,675	\$9,976
Juices	\$5,547	\$4,456	\$5,541	\$5,725	\$5,143	\$6,562	\$7,139	\$6,937	\$3,932	\$6,035
Grain products	\$3,304	\$4,807	\$3,996	\$7,490	\$4,262	\$4,477	\$4,806	\$3,962	\$4,227	\$4,284
Breakfast cereals	\$1,511	\$1,437	\$1,692	\$2,984	\$2,168	\$1,975	\$2,442	\$1,912	\$1,927	\$1,920
Flour & other milled grains	\$40	\$54	\$63	\$66	\$246	\$357	\$321	\$250	\$120	\$65
Flour mix	\$218	\$223	\$174	\$914	\$291	\$216	\$153	\$174	\$390	\$320
Mixtures with grain	\$718	\$2,096	\$1,607	\$2,948	\$944	\$1,201	\$1,243	\$1,156	\$1,314	\$1,286
Pasta & noodles	\$410	\$532	\$291	\$456	\$411	\$402	\$522	\$281	\$252	\$319
Rice, barley & other grains	\$407	\$465	\$169	\$121	\$202	\$327	\$125	\$190	\$224	\$374

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	-----dollars/100,000 meal equivalents-----									
Legumes/nuts/seeds	\$358	\$641	\$478	\$1,160	\$753	\$854	\$893	\$865	\$797	\$673
Dry beans/peas	\$151	\$280	\$294	\$591	\$573	\$738	\$842	\$641	\$671	\$336
Other nuts	\$4	\$7	\$7	\$6	\$6	\$2	\$2	\$13	\$16	\$9
Peanuts/peanut butter	\$133	\$134	\$83	\$369	\$26	\$37	\$26	\$85	\$29	\$41
Seeds	\$20	\$95	\$44	\$99	\$53	\$11	\$10	\$59	\$68	\$218
Soybeans & soy products	\$51	\$124	\$50	\$96	\$96	\$65	\$13	\$67	\$14	\$69
Milk & other dairy products	\$25,903	\$27,406	\$28,923	\$32,432	\$26,892	\$25,648	\$26,865	\$27,001	\$25,797	\$21,418
Cheese	\$3,050	\$3,063	\$3,120	\$3,668	\$1,524	\$1,905	\$971	\$2,195	\$1,967	\$1,970
Cream	\$183	\$337	\$216	\$106	\$134	\$202	\$183	\$101	\$87	\$130
Ice cream & ice milk	\$1,653	\$1,003	\$1,147	\$1,465	\$1,361	\$728	\$1,143	\$1,333	\$572	\$271
Milk	\$20,008	\$21,713	\$23,498	\$25,466	\$22,706	\$22,122	\$24,430	\$22,365	\$22,220	\$17,667
Yogurt	\$1,009	\$1,291	\$941	\$1,727	\$1,166	\$690	\$138	\$1,008	\$951	\$1,379
Non-dairy drinks	\$5,192	\$5,255	\$4,731	\$3,441	\$3,420	\$3,118	\$903	\$3,220	\$2,937	\$3,290
Carbonated	\$105	\$30	\$163	\$107	\$23	\$40	\$-	\$115	\$266	\$113
Coffee & tea	\$1,106	\$355	\$571	\$138	\$253	\$391	\$29	\$269	\$376	\$173
Dry beverage	\$16	\$15	\$35	\$13	\$54	\$40	\$2	\$59	\$21	\$24
Enriched drinks	\$1,444	\$2,796	\$1,961	\$1,613	\$1,176	\$1,201	\$64	\$1,247	\$721	\$1,570
Fruit drinks	\$822	\$782	\$570	\$492	\$647	\$534	\$287	\$850	\$616	\$344
Water	\$1,700	\$1,276	\$1,432	\$1,079	\$1,267	\$911	\$521	\$681	\$938	\$1,067
Poultry	\$7,283	\$8,278	\$6,750	\$12,587	\$10,206	\$11,704	\$10,990	\$7,661	\$6,865	\$6,784
Chicken	\$5,257	\$6,156	\$5,060	\$10,168	\$8,452	\$9,716	\$9,810	\$5,241	\$4,649	\$5,527
Game birds	\$-	\$-	\$5	\$-	\$-	\$-	\$-	\$-	\$-	\$-
Mixed poultry	\$0	\$-	\$1	\$5	\$0	\$1	\$-	\$2	\$-	\$1
Recipe mix	\$2	\$32	\$17	\$0	\$47	\$4	\$-	\$4	\$-	\$7
Turkey	\$2,023	\$2,090	\$1,669	\$2,414	\$1,707	\$1,983	\$1,180	\$2,414	\$2,216	\$1,249
Prepared foods	\$7,343	\$7,967	\$12,223	\$13,386	\$10,045	\$9,496	\$7,799	\$9,276	\$11,246	\$11,370
Burritos/tacos	\$39	\$431	\$643	\$1,413	\$127	\$581	\$459	\$1,832	\$1,096	\$2,436
Meat or cheese filled pastry	\$968	\$1,690	\$1,514	\$1,663	\$1,360	\$699	\$750	\$1,415	\$1,281	\$1,620
Mixtures with fish	\$13	\$5	\$-	\$-	\$1	\$-	\$-	\$0	\$-	\$21
Pizza	\$5,793	\$4,207	\$7,615	\$7,598	\$7,412	\$6,443	\$5,554	\$5,069	\$7,180	\$4,957
Prepared meals	\$42	\$457	\$1,142	\$403	\$310	\$404	\$841	\$157	\$160	\$540
Prepared sandwiches	\$487	\$1,176	\$1,309	\$2,309	\$836	\$1,369	\$195	\$804	\$1,529	\$1,796

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	-----dollars/100,000 meal equivalents-----									
Red meats	\$5,186	\$6,395	\$5,784	\$13,569	\$7,042	\$7,833	\$11,434	\$7,488	\$4,457	\$2,361
Beef & veal	\$2,085	\$3,078	\$2,931	\$8,295	\$3,840	\$4,954	\$5,975	\$4,022	\$2,539	\$1,158
Lamb	\$2	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$2
Mixed meats	\$1,019	\$1,168	\$938	\$1,418	\$853	\$727	\$1,914	\$735	\$556	\$220
Pork	\$2,052	\$2,033	\$1,853	\$3,725	\$2,345	\$2,144	\$3,544	\$2,709	\$1,359	\$792
Recipe mix	\$28	\$117	\$61	\$132	\$4	\$9	\$-	\$21	\$3	\$189
Soups & gravies	\$825	\$1,013	\$865	\$1,457	\$832	\$689	\$729	\$900	\$747	\$709
Gravies	\$193	\$252	\$243	\$395	\$344	\$229	\$170	\$245	\$212	\$162
Soups	\$632	\$761	\$622	\$1,062	\$488	\$460	\$559	\$656	\$535	\$547
Sugar/desserts	\$1,485	\$2,101	\$1,917	\$2,715	\$2,030	\$1,974	\$2,125	\$1,625	\$1,593	\$775
Candies/toppings	\$275	\$534	\$479	\$303	\$282	\$125	\$245	\$117	\$302	\$118
Gelatins	\$51	\$48	\$99	\$140	\$55	\$67	\$150	\$140	\$117	\$50
Jellies, jams & preserves	\$137	\$97	\$83	\$252	\$158	\$300	\$327	\$190	\$44	\$44
Puddings/pie filling	\$171	\$396	\$292	\$762	\$147	\$252	\$293	\$233	\$368	\$60
Sherbet/ices	\$316	\$424	\$297	\$575	\$554	\$337	\$59	\$221	\$160	\$84
Sugars	\$145	\$182	\$251	\$319	\$466	\$497	\$675	\$400	\$330	\$107
Syrups	\$391	\$419	\$416	\$364	\$369	\$395	\$375	\$324	\$272	\$312
Vegetables	\$9,760	\$11,168	\$10,033	\$13,915	\$12,561	\$10,751	\$10,464	\$7,797	\$7,727	\$6,872
Green vegetables	\$2,846	\$2,631	\$2,681	\$3,107	\$2,697	\$2,622	\$2,754	\$1,765	\$1,840	\$2,070
Mixed vegetables	\$1,124	\$1,409	\$1,178	\$1,529	\$1,161	\$1,179	\$936	\$705	\$824	\$850
Mixtures with vegetables	\$104	\$55	\$86	\$384	\$114	\$229	\$95	\$165	\$23	\$18
Other vegetables	\$252	\$372	\$266	\$511	\$283	\$255	\$434	\$195	\$310	\$329
Potato & potato products	\$3,132	\$3,841	\$3,217	\$4,938	\$5,455	\$3,456	\$3,645	\$2,891	\$2,468	\$1,566
Tomatoes & tomato products	\$1,394	\$1,386	\$1,175	\$1,674	\$1,298	\$1,176	\$1,283	\$1,001	\$813	\$855
Yellow vegetables	\$909	\$1,474	\$1,430	\$1,771	\$1,554	\$1,834	\$1,317	\$1,075	\$1,448	\$1,183

Source: School Food Purchase Study, 2011

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Table 7-14: Comparison of mean cost per pound of top 50 food items purchased by public unified NSLP school districts by region SY 2009/10

Food items	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southwest	Delta	Southern Plains	Mountain	Pacific
	----- dollars/pound-----									
1 Milk, Flavored, Lo Fat, 1%	\$0.41	\$0.38	\$0.38	\$0.45	\$0.39	\$0.43	\$0.51	\$0.42	\$0.42	\$0.36
2 Milk, Flavored, Skim/Nonfat	\$0.38	\$0.31	\$0.38	\$0.38	\$0.39	\$0.39	\$0.48	\$0.44	\$0.38	\$0.33
3 Hamburger, Hot Dog Buns, Steak, Sub & Dinner Rls	\$1.30	\$1.05	\$1.05	\$1.23	\$1.07	\$1.03	\$0.91	\$1.07	\$1.23	\$1.27
4 Milk, Lo Fat, 1%	\$0.38	\$0.33	\$0.37	\$0.41	\$0.40	\$0.41	\$0.49	\$0.43	\$0.39	\$0.34
5 Orange Juice, Individual	\$0.56	\$0.56	\$0.55	\$0.57	\$0.49	\$0.51	\$0.56	\$0.59	\$0.56	\$0.49
6 Cereals, Individual	\$4.00	\$3.58	\$3.84	\$4.53	\$3.91	\$3.61	\$3.37	\$3.28	\$3.54	\$3.89
7 Apple Juice, Individual	\$0.48	\$0.60	\$0.61	\$0.58	\$0.50	\$0.45	\$0.51	\$0.55	\$0.52	\$0.46
8 Milk, Flavored, Lo Fat, .5%	\$0.35	\$-	\$0.40	\$-	\$0.34	\$0.39	\$-	\$0.54	\$-	\$-
9 Sport Drink, e.g. Gatorade	\$0.69	\$0.70	\$0.66	\$0.61	\$0.65	\$0.61	\$0.63	\$0.65	\$0.68	\$0.62
10 Pizza, w/Real Cheese	\$2.06	\$1.74	\$1.97	\$1.95	\$1.95	\$1.94	\$1.66	\$1.87	\$2.04	\$1.45
11 Chips, Misc. Snack(Cheetos, Sun Chips)	\$3.44	\$3.63	\$3.61	\$3.89	\$3.43	\$3.12	\$3.11	\$4.27	\$4.26	\$3.84
12 Potatoes, French Fries	\$0.66	\$0.69	\$0.65	\$0.64	\$0.61	\$0.60	\$0.62	\$0.63	\$0.62	\$0.66
13 Apples, Fresh	\$0.63	\$0.60	\$0.70	\$0.71	\$0.66	\$0.66	\$0.62	\$0.59	\$0.62	\$0.59
14 Fruit Juice, Mixed, Individual	\$0.67	\$0.73	\$0.74	\$0.67	\$0.66	\$0.61	\$0.58	\$0.51	\$0.50	\$0.73
15 Cookie Dough	\$1.55	\$1.77	\$1.73	\$1.65	\$1.56	\$1.43	\$1.21	\$1.65	\$1.52	\$1.75
16 Pizza, Pepperoni w/Real Cheese	\$2.37	\$1.86	\$2.01	\$2.12	\$2.07	\$2.05	\$2.18	\$1.79	\$2.07	\$2.09
17 Chicken, Nuggets, White/dark Mix, Unknown	\$1.82	\$2.17	\$2.36	\$1.80	\$2.10	\$1.88	\$2.30	\$1.85	\$1.84	\$1.75
18 Milk, Flavored, Lo Fat, Fat Solids Unknown	\$0.40	\$0.32	\$0.43	\$0.85	\$0.42	\$0.37	\$0.45	\$0.50	\$0.63	\$0.32
19 Milk, Lo Fat, 2%	\$0.39	\$0.39	\$0.34	\$0.45	\$0.37	\$0.41	\$0.50	\$0.46	\$0.44	\$0.34
20 Chips, Tortilla/Corn	\$2.43	\$2.25	\$2.13	\$2.28	\$2.47	\$2.05	\$1.55	\$2.04	\$2.03	\$2.13
21 Chicken, Nuggets, White Meat	\$2.08	\$2.64	\$2.42	\$1.91	\$1.88	\$1.81	\$2.07	\$1.96	\$2.46	\$2.09
22 Muffins	\$2.23	\$2.24	\$2.43	\$2.07	\$2.19	\$2.23	\$2.06	\$2.20	\$2.44	\$2.32
23 Beef, Patties, Cooked	\$2.18	\$1.93	\$2.30	\$1.97	\$2.18	\$2.23	\$2.12	\$1.60	\$2.44	\$1.61
24 Yogurt	\$1.18	\$1.16	\$1.22	\$1.19	\$1.13	\$1.08	\$1.42	\$1.25	\$1.23	\$1.16
25 Chicken, Patties, Breaded, White Meat	\$1.74	\$2.03	\$1.93	\$1.96	\$1.73	\$2.07	\$1.81	\$2.23	\$2.09	\$2.46
26 Water	\$0.27	\$0.27	\$0.33	\$0.18	\$0.28	\$0.21	\$0.16	\$0.26	\$0.23	\$0.26
27 Crackers, Graham, Individual	\$2.56	\$2.49	\$2.66	\$2.38	\$2.58	\$2.12	\$2.04	\$2.11	\$2.74	\$2.05
28 Bread/Biscuit/Pastry Dough	\$1.36	\$1.26	\$1.27	\$1.20	\$1.01	\$1.04	\$0.82	\$1.02	\$1.01	\$1.15
29 Cheese Filled Pastry(Includes Hot Pocket)	\$1.98	\$1.90	\$1.80	\$2.02	\$1.93	\$1.70	\$1.69	\$1.91	\$2.13	\$2.02
30 Ice Cream Novelties	\$1.85	\$2.39	\$2.07	\$1.76	\$1.64	\$1.42	\$1.41	\$1.28	\$2.17	\$1.67
31 Cookies, Individual	\$3.40	\$2.50	\$2.84	\$2.87	\$3.45	\$3.10	\$2.01	\$2.92	\$2.81	\$2.48

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food items	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southwest	Delta	Southern Plains	Mountain	Pacific
	----- dollars/pound-----									
32 Pizza, Pepperoni w/Cheese Blend	\$1.42	\$1.54	\$1.50	\$1.90	\$1.55	\$1.53	\$1.44	\$1.67	\$1.96	\$1.58
33 Pizza, Cheese Blend	\$1.60	\$1.58	\$1.46	\$1.60	\$1.64	\$1.45	\$1.53	\$1.60	\$1.65	\$1.73
34 Chips, Potato or Potato Sticks	\$4.15	\$4.59	\$4.13	\$3.60	\$4.33	\$3.91	\$5.57	\$4.50	\$4.21	\$4.84
35 Oranges, Fresh	\$0.63	\$0.59	\$0.64	\$0.59	\$0.61	\$0.55	\$0.61	\$0.52	\$0.57	\$0.50
36 Potatoes, Formed, Frozen	\$0.71	\$0.67	\$0.63	\$0.65	\$0.68	\$0.62	\$0.68	\$0.61	\$0.60	\$0.57
37 Bananas, Fresh	\$0.53	\$0.49	\$0.55	\$0.52	\$0.53	\$0.52	\$0.51	\$0.43	\$0.53	\$0.50
38 Pork, Sausage, Cooked	\$2.16	\$2.28	\$2.02	\$1.96	\$1.83	\$2.01	\$2.09	\$2.05	\$2.18	\$2.26
39 Pizza Shells/Pizza Dough	\$1.16	\$1.27	\$1.08	\$0.86	\$1.01	\$1.41	\$1.00	\$0.94	\$1.07	\$1.28
40 Pizza, Cheese, Type Unknown	\$1.79	\$1.71	\$1.66	\$1.92	\$1.72	\$1.55	\$1.89	\$1.68	\$1.85	\$1.84
41 Beef, Ground	\$1.82	\$1.74	\$1.54	\$1.66	\$1.78	\$1.81	\$1.75	\$1.63	\$1.63	\$1.71
42 Lettuce, Salad Mix	\$0.95	\$0.83	\$0.81	\$0.82	\$0.89	\$0.95	\$0.91	\$0.84	\$0.84	\$0.85
43 Poptarts	\$2.17	\$1.78	\$1.94	\$2.18	\$1.96	\$1.43	\$1.19	\$2.21	\$2.17	\$2.31
44 Milk, Skim/Nonfat	\$0.37	\$0.32	\$0.35	\$0.33	\$0.39	\$0.42	\$0.49	\$0.39	\$0.43	\$0.35
45 French Toast/Sticks/French Toast Bagels	\$1.46	\$1.56	\$1.48	\$1.62	\$1.37	\$1.53	\$1.45	\$1.42	\$1.42	\$1.51
46 Lettuce, Shredded/Chopped	\$1.10	\$0.88	\$0.86	\$0.95	\$0.94	\$1.13	\$0.87	\$0.89	\$0.92	\$0.96
47 Catsup, Individual Pack	\$0.85	\$0.90	\$0.87	\$0.84	\$0.77	\$0.89	\$0.73	\$0.77	\$0.89	\$0.86
48 Pizza, Sausage w/Cheese Blend	\$1.78	\$1.69	\$1.57	\$1.70	\$1.64	\$1.68	\$1.58	\$1.66	\$1.67	\$1.67
49 Potatoes Dry, w/Milk	\$1.91	\$2.06	\$1.81	\$1.87	\$1.91	\$1.81	\$1.59	\$1.88	\$1.92	\$1.93
50 Peanut Butter and Jelly Sandwich	\$3.19	\$2.70	\$2.62	\$2.32	\$2.66	\$2.47	\$2.25	\$2.54	\$2.50	\$2.42
All fifty food items	\$0.69	\$0.64	\$0.67	\$0.73	\$0.70	\$0.69	\$0.74	\$0.68	\$0.68	\$0.61

Source: School Food Purchase Study, 2011

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Table 7-15: Comparison of mean pounds per 100,000 meal equivalents of top 50 food items purchased by public unified NSLP school districts by region SY 2009/10

Food items	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	----- pounds/100,000 meal equivalents -----									
1 Milk, Flavored, Lo Fat, 1%	20,030	23,843	34,017	8,195	30,187	13,811	21,255	28,837	33,639	4,127
2 Milk, Flavored, Skim/Nonfat	2,700	20,563	9,236	36,894	7,398	6,878	11,280	10,113	6,732	29,106
3 Hamburger, Hot Dog Buns, Steak, Sub & Dinner Rls	3,198	3,516	3,277	4,293	3,596	3,295	2,652	2,718	2,327	2,970
4 Milk, Lo Fat, 1%	7,687	7,754	8,746	14,033	8,471	8,414	4,981	6,079	9,460	13,987
5 Orange Juice, Individual	2,233	2,612	3,147	3,299	3,256	3,229	3,160	5,573	1,940	4,384
6 Cereals, Individual	348	290	421	463	526	535	682	545	471	451
7 Apple Juice, Individual	3,083	2,459	3,356	2,633	2,688	3,161	3,693	3,778	2,079	4,117
8 Milk, Flavored, Lo Fat, .5%	8,263	-	313	-	702	17,153	-	3	-	-
9 Sport Drink, e.g. Gatorade	2,100	4,023	2,994	2,612	1,805	1,963	102	1,927	1,063	2,525
10 Pizza, w/Real Cheese	915	745	1,170	560	680	537	84	507	1,018	760
11 Chips, Misc. Snack(Cheetos, Sun Chips)	284	523	363	406	297	309	266	533	249	365
12 Potatoes, French Fries	2,458	2,138	2,092	1,768	3,403	2,666	3,091	1,405	1,706	616
13 Apples, Fresh	2,463	2,297	1,498	1,305	2,063	1,729	990	1,655	2,002	2,669
14 Fruit Juice, Mixed, Individual	2,717	826	997	1,436	1,604	3,195	2,573	1,815	1,395	1,654
15 Cookie Dough	765	1,068	873	1,172	1,065	922	550	435	441	515
16 Pizza, Pepperoni w/Real Cheese	322	197	591	357	571	509	250	491	1,210	901
17 Chicken, Nuggets, White/dark Mix, Unknown	737	660	373	1,039	541	800	761	736	306	135
18 Milk, Flavored, Lo Fat, Fat Solids Unkwn	6,184	1,545	1,948	154	4,679	2,764	1,554	343	531	2,854
19 Milk, Lo Fat, 2%	3,391	1,940	3,641	2,005	3,260	2,272	6,543	2,713	1,183	933
20 Chips, Tortilla/Corn	449	475	682	637	451	442	394	560	406	442
21 Chicken, Nuggets, White Meat	358	206	300	1,404	1,111	511	1,072	299	498	459
22 Muffins	580	504	386	436	270	393	193	330	481	536
23 Beef, Patties, Cooked	184	372	443	911	561	876	985	586	297	199
24 Yogurt	795	925	733	1,381	945	606	97	785	761	1,129
25 Chicken, Patties, Breaded, White Meat	327	135	203	620	1,475	963	620	201	374	257
26 Water	5,042	3,200	3,743	2,597	3,370	2,990	3,354	2,623	3,492	4,127
27 Crackers, Graham, Individual	315	415	262	399	212	296	204	434	258	936
28 Bread/Biscuit/Pastry Dough	75	578	424	1,260	1,325	1,720	1,977	895	690	357
29 Cheese Filled Pastry(Includes Hot Pocket)	328	775	610	540	582	251	373	325	399	401
30 Ice Cream Novelties	735	282	343	684	584	397	530	834	149	113
31 Cookies, Individual	298	658	371	256	155	150	191	157	280	254

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food items	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	----- pounds/100,000 meal equivalents -----									
32 Pizza, Pepperoni w/Cheese Blend	84	165	612	549	1,262	661	919	361	415	134
33 Pizza, Cheese Blend	700	475	428	618	683	674	304	218	247	74
34 Chips, Potato or Potato Sticks	219	116	225	163	158	103	55	116	219	97
35 Oranges, Fresh	1,104	837	935	1,141	1,136	942	970	1,319	1,231	1,341
36 Potatoes, Formed, Frozen	802	1,296	1,047	1,591	1,417	861	529	956	713	1,193
37 Bananas, Fresh	989	1,216	1,083	1,690	1,059	1,278	1,153	1,167	1,363	1,857
38 Pork, Sausage, Cooked	256	253	258	501	281	445	800	493	124	70
39 Pizza Shells/Pizza Dough	922	840	375	219	197	784	91	287	369	474
40 Pizza, Cheese, Type Unknown	739	310	358	178	113	311	125	230	101	425
41 Beef, Ground	179	188	171	1,052	459	437	1,120	675	247	69
42 Lettuce, Salad Mix	814	982	939	1,153	704	669	463	335	622	655
43 Poptarts	302	438	658	186	387	293	469	176	208	141
44 Milk, Skim/Nonfat	1,506	5,437	1,488	1,542	1,454	900	436	2,346	978	1,226
45 French Toast/Sticks/French Toast Bagels	501	670	316	284	310	329	354	351	274	514
46 Lettuce, Shredded/Chopped	603	894	712	575	425	524	539	327	306	792
47 Catsup, Individual Pack	492	174	529	642	1,359	997	975	788	216	371
48 Pizza, Sausage w/Cheese Blend	104	152	292	550	496	499	1,032	365	330	130
49 Potatoes, Dry, w/Milk	158	284	323	712	484	331	410	319	266	120
50 Peanut Butter and Jelly Sandwich	75	263	281	630	235	185	87	86	167	367
All fifty food items	89,912	100,514	98,586	107,723	100,451	94,960	85,288	89,149	84,231	92,330

Source: School Food Purchase Study, 2011

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Table 7-16: Comparison of mean cost per 100.000 meal equivalents of top 50 food items purchased by public unified NSLP school districts by region SY 2009/10

Food items	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	----- dollars/100,000 meal equivalents -----									
1 Milk, Flavored, Lo Fat, 1%	\$8,229	\$9,080	\$12,890	\$3,711	\$11,735	\$5,960	\$10,904	\$12,207	\$14,086	\$1,490
2 Milk, Flavored, Skim/Nonfat	\$1,037	\$6,443	\$3,515	\$13,906	\$2,862	\$2,656	\$5,381	\$4,472	\$2,561	\$9,554
3 Hamburger, Hot Dog Buns, Steak, Sub & Dinner Rls	\$4,143	\$3,702	\$3,454	\$5,281	\$3,860	\$3,398	\$2,406	\$2,899	\$2,873	\$3,779
4 Milk, Lo Fat, 1%	\$2,884	\$2,551	\$3,248	\$5,774	\$3,363	\$3,436	\$2,429	\$2,624	\$3,645	\$4,741
5 Orange Juice, Individual	\$1,245	\$1,459	\$1,743	\$1,892	\$1,591	\$1,649	\$1,758	\$3,289	\$1,090	\$2,140
6 Cereals, Individual	\$1,393	\$1,040	\$1,616	\$2,094	\$2,059	\$1,932	\$2,300	\$1,787	\$1,667	\$1,758
7 Apple Juice, Individual	\$1,495	\$1,477	\$2,037	\$1,518	\$1,335	\$1,431	\$1,888	\$2,095	\$1,091	\$1,878
8 Milk, Flavored, Lo Fat, .5%	\$2,920	-	\$126	-	\$241	\$6,772	-	\$1	-	-
9 Sport Drink, e.g. Gatorade	\$1,444	\$2,796	\$1,961	\$1,584	\$1,176	\$1,201	\$64	\$1,247	\$721	\$1,569
10 Pizza, w/Real Cheese	\$1,881	\$1,299	\$2,304	\$1,091	\$1,329	\$1,043	\$140	\$949	\$2,074	\$1,103
11 Chips, Misc. Snack (Cheetos, Sun Chips)	\$977	\$1,899	\$1,312	\$1,580	\$1,017	\$966	\$826	\$2,278	\$1,059	\$1,403
12 Potatoes, French Fries	\$1,626	\$1,470	\$1,369	\$1,127	\$2,077	\$1,596	\$1,902	\$881	\$1,060	\$404
13 Apples, Fresh	\$1,542	\$1,376	\$1,051	\$922	\$1,362	\$1,139	\$612	\$981	\$1,235	\$1,584
14 Fruit Juice, Mixed, Individual	\$1,831	\$604	\$734	\$959	\$1,063	\$1,935	\$1,498	\$920	\$694	\$1,203
15 Cookie Dough	\$1,184	\$1,886	\$1,511	\$1,937	\$1,664	\$1,318	\$665	\$720	\$669	\$902
16 Pizza, Pepperoni w/Real Cheese	\$764	\$366	\$1,190	\$755	\$1,184	\$1,045	\$547	\$880	\$2,500	\$1,881
17 Chicken, Nuggets, White/dark Mix, Unknown	\$1,345	\$1,432	\$881	\$1,873	\$1,136	\$1,507	\$1,752	\$1,364	\$562	\$236
18 Milk, Flavored, Lo Fat, Fat Solids Unknown	\$2,475	\$489	\$840	\$131	\$1,959	\$1,035	\$704	\$172	\$334	\$920
19 Milk, Lo Fat, 2%	\$1,324	\$762	\$1,256	\$908	\$1,201	\$930	\$3,267	\$1,254	\$523	\$321
20 Chips, Tortilla/Corn	\$1,093	\$1,067	\$1,452	\$1,453	\$1,114	\$907	\$612	\$1,141	\$824	\$939
21 Chicken, Nuggets, White Meat	\$744	\$544	\$727	\$2,683	\$2,084	\$923	\$2,216	\$584	\$1,222	\$959
22 Muffins	\$1,296	\$1,129	\$937	\$902	\$591	\$877	\$398	\$726	\$1,174	\$1,245
23 Beef, Patties, Cooked	\$400	\$716	\$1,018	\$1,790	\$1,222	\$1,954	\$2,086	\$940	\$725	\$320
24 Yogurt	\$941	\$1,070	\$896	\$1,639	\$1,071	\$657	\$138	\$984	\$935	\$1,310
25 Chicken, Patties, Breaded, White Meat	\$570	\$275	\$392	\$1,216	\$2,552	\$1,995	\$1,122	\$448	\$783	\$633
26 Water	\$1,368	\$852	\$1,229	\$468	\$944	\$631	\$521	\$675	\$808	\$1,056
27 Crackers, Graham, Individual	\$807	\$1,032	\$697	\$947	\$547	\$628	\$417	\$917	\$707	\$1,918
28 Bread/Biscuit/Pastry Dough	\$103	\$731	\$541	\$1,512	\$1,333	\$1,789	\$1,613	\$914	\$697	\$410
29 Cheese Filled Pastry(Includes Hot Pocket)	\$647	\$1,474	\$1,098	\$1,090	\$1,120	\$428	\$631	\$619	\$851	\$812
30 Ice Cream Novelties	\$1,360	\$674	\$711	\$1,203	\$958	\$565	\$747	\$1,064	\$324	\$189
31 Cookies, Individual	\$1,015	\$1,645	\$1,055	\$736	\$536	\$465	\$385	\$460	\$787	\$630

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food items	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	----- dollars/100,000 meal equivalents -----									
32 Pizza, Pepperoni w/Cheese Blend	\$119	\$254	\$919	\$1,041	\$1,962	\$1,013	\$1,319	\$601	\$813	\$212
33 Pizza, Cheese Blend	\$1,119	\$749	\$625	\$985	\$1,117	\$974	\$467	\$349	\$408	\$128
34 Chips, Potato or Potato Sticks	\$908	\$533	\$928	\$587	\$683	\$404	\$305	\$520	\$919	\$469
35 Oranges, Fresh	\$701	\$496	\$599	\$668	\$693	\$523	\$591	\$683	\$701	\$671
36 Potatoes, Formed, Frozen	\$568	\$865	\$661	\$1,034	\$964	\$537	\$357	\$579	\$431	\$680
37 Bananas, Fresh	\$520	\$601	\$591	\$884	\$557	\$670	\$586	\$501	\$719	\$923
38 Pork, Sausage, Cooked	\$554	\$576	\$522	\$979	\$514	\$896	\$1,668	\$1,009	\$270	\$159
39 Pizza Shells/Pizza Dough	\$1,068	\$1,065	\$405	\$189	\$198	\$1,104	\$91	\$270	\$393	\$605
40 Pizza, Cheese, Type Unknown	\$1,325	\$529	\$595	\$341	\$194	\$481	\$236	\$386	\$186	\$782
41 Beef, Ground	\$325	\$328	\$265	\$1,743	\$817	\$793	\$1,961	\$1,103	\$401	\$117
42 Lettuce, Salad Mix	\$772	\$818	\$757	\$944	\$630	\$638	\$419	\$280	\$523	\$558
43 Poptarts	\$655	\$778	\$1,274	\$405	\$757	\$418	\$558	\$388	\$452	\$325
44 Milk, Skim/Nonfat	\$557	\$1,716	\$525	\$508	\$562	\$374	\$213	\$905	\$418	\$433
45 French Toast/Sticks/French Toast Bagels	\$732	\$1,046	\$468	\$460	\$424	\$502	\$514	\$499	\$390	\$775
46 Lettuce, Shredded/Chopped	\$666	\$790	\$612	\$549	\$401	\$591	\$471	\$292	\$281	\$758
47 Catsup, Individual Pack	\$419	\$156	\$463	\$540	\$1,051	\$886	\$708	\$609	\$192	\$319
48 Pizza, Sausage w/Cheese Blend	\$184	\$257	\$457	\$934	\$815	\$836	\$1,634	\$606	\$550	\$218
49 Potatoes, Dry, w/Milk	\$301	\$587	\$583	\$1,336	\$928	\$600	\$652	\$601	\$509	\$231
50 Peanut Butter and Jelly Sandwich	\$241	\$712	\$734	\$1,461	\$627	\$458	\$195	\$218	\$416	\$888
All fifty food items	\$61,818	\$64,197	\$65,770	\$78,272	\$70,177	\$65,464	\$62,871	\$60,891	\$57,252	\$56,540

Source: School Food Purchase Study, 2011

7.9 Size of school districts

The school districts were classified in four size categories based on student enrollment. These are listed below with the number of food items purchased:

- less than 1,000 student enrollment – 532 food items;
- between 1,000 and 4,999 student enrollment – 754 food items;
- between 5,000 and 24,999 student enrollment – 786 food items;
- more than 5,000 student enrollment – 764 food items.

The smallest size districts purchased many fewer items.

7.9.1 Differences in purchase costs between school districts of different sizes

Table 7-17 illustrates that the smallest school district size group has a highest cost per unit for all purchased foods and that the largest size group has the lowest cost per unit (respectively 6.6% above and 3.9% below the average price for all purchased foods). The smallest school districts also purchase more pounds per 100,000 meal equivalents served and consequently have a much higher cost per 100,000 meal equivalents served than any other size group. The largest school district size group pays less, buys less, and has the lowest cost per 100,000 meal equivalents served.

The smallest school district size group has the highest cost per unit for 10 of the 16 food groups. The exceptions are the following food subgroups: condiments; fruits/juices; grain products; legumes/nuts/seeds; red meat; and soups and gravies. When expressed per 100,000 meal equivalents served, the smallest district size group had the highest mean cost for 10 food groups with the exceptions being condiments, fish, fruits/juices, nondairy drinks, poultry and prepared foods. The largest school district size group had the lowest cost for 12 of the 16 food subgroups.

When the top 50 food items are viewed, the smallest school district size group has the highest price for 27 of the 50 items and the largest size group has the lowest price for 29 items (see Table 7-18). Interestingly, the larger districts had the highest cost per 100,000 meal equivalents served for six of the top 10 items as they tend to buy higher volumes of these products per 100,000 meal equivalents served (low fat milk, individual orange juice, individual cereals, individual apple juice, flavored low fat milk, and pizza with real cheese).

When all of these 50 leading food items are combined, the mean cost per 100,000 meal equivalents served was highest for districts in the 5,000 to 24,999 enrollment size category (\$65,374) and lowest for schools in the largest size group (\$59,259). The smallest districts had an average cost of \$62,422.

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICTS CHARACTERISTICS

Table 7-17: Comparisons of summary of mean cost and volume of food purchases of public unified NSLP school districts by size of district, SY 2009/10

Food groups/subgroups	Cost per unit				Volume per 100,000 meal equivalents				Cost per 100,000 meal equivalents			
	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more
	<i>dollars/pound</i>				<i>pounds/100,000 m.e.</i>				<i>dollars/100,000 m.e.</i>			
All foods	\$0.88	\$0.84	\$0.84	\$0.79	146,627	137,321	136,654	126,016	\$129,049	\$115,423	\$114,126	\$100,037
Bakery products	\$1.67	\$1.61	\$1.64	\$1.58	13,529	12,321	12,939	10,665	\$22,641	\$19,820	\$21,278	\$16,803
Biscuits, muffins, pancakes & waffles	\$1.85	\$1.84	\$1.81	\$1.72	1,924	1,891	2,023	2,023	\$3,557	\$3,489	\$3,670	\$3,478
Bread & rolls	\$1.26	\$1.13	\$1.15	\$1.14	7,933	6,920	6,958	5,528	\$10,024	\$7,814	\$8,001	\$6,275
Cakes & other bakery desserts	\$2.21	\$2.12	\$2.15	\$1.90	1,947	1,720	1,771	1,378	\$4,300	\$3,650	\$3,816	\$2,613
Crackers	\$2.54	\$2.45	\$2.30	\$2.16	388	454	700	782	\$983	\$1,115	\$1,612	\$1,692
Pretzels & snack chips	\$2.82	\$2.81	\$2.81	\$2.88	1,338	1,336	1,487	954	\$3,776	\$3,751	\$4,180	\$2,745
Condiments	\$0.80	\$0.79	\$0.85	\$0.81	3,462	3,338	3,073	2,353	\$2,761	\$2,650	\$2,601	\$1,898
Catsup & other sauces	\$0.85	\$0.83	\$0.91	\$0.86	2,206	2,359	2,115	1,703	\$1,868	\$1,960	\$1,934	\$1,465
Flavorings	\$1.25	\$1.38	\$1.23	\$1.01	185	162	175	136	\$233	\$225	\$215	\$138
Pickles/olives	\$0.62	\$0.57	\$0.58	\$0.57	1,070	817	783	514	\$660	\$465	\$451	\$295
Eggs	\$1.67	\$1.55	\$1.57	\$1.43	726	491	406	325	\$1,214	\$760	\$635	\$466
Eggs	\$0.98	\$1.05	\$1.12	\$1.11	380	258	192	192	\$373	\$272	\$216	\$213
Mixtures with eggs	\$2.43	\$2.09	\$1.96	\$1.90	346	233	214	133	\$841	\$489	\$419	\$254
Fats/oils	\$1.22	\$1.18	\$1.18	\$1.13	2,393	1,999	1,734	1,459	\$2,913	\$2,366	\$2,045	\$1,648
Butter	\$1.78	\$1.92	\$2.03	\$1.89	79	52	17	22	\$141	\$100	\$35	\$43
Margarine	\$0.74	\$0.78	\$0.83	\$0.71	477	445	292	259	\$354	\$347	\$243	\$184
Salad dressings & mayonnaise	\$1.27	\$1.31	\$1.30	\$1.28	1,617	1,150	1,055	918	\$2,050	\$1,512	\$1,372	\$1,171
Vegetable oils & shortenings	\$1.67	\$1.16	\$1.07	\$0.96	220	352	370	260	\$368	\$407	\$395	\$251
Fish	\$2.66	\$2.31	\$2.21	\$2.23	345	418	322	441	\$918	\$966	\$709	\$984
Fish	\$2.67	\$2.32	\$2.25	\$2.15	342	382	262	321	\$912	\$888	\$589	\$690
Shellfish	\$2.33	\$2.16	\$2.02	\$2.45	3	36	60	120	\$6	\$78	\$120	\$294
Fruits/juice	\$0.70	\$0.72	\$0.70	\$0.64	18,154	18,308	20,246	22,423	\$12,668	\$13,091	\$14,146	\$14,332
Fruits	\$0.76	\$0.79	\$0.78	\$0.74	11,443	10,073	11,072	10,100	\$8,736	\$7,984	\$8,631	\$7,456
Juices	\$0.59	\$0.62	\$0.60	\$0.56	6,711	8,234	9,173	12,323	\$3,933	\$5,107	\$5,514	\$6,877

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICTS CHARACTERISTICS

Food groups/subgroups	Cost per unit				Volume per 100,000 meal equivalents				Cost per 100,000 meal equivalents			
	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more
	<i>dollars/pound</i>				<i>pounds/100,000 m.e.</i>				<i>dollars/100,000 m.e.</i>			
Grain products	\$1.56	\$1.65	\$1.65	\$1.49	3,510	2,640	2,578	2,542	\$5,493	\$4,358	\$4,245	\$3,800
Breakfast cereals	\$3.53	\$3.54	\$3.57	\$3.45	549	551	505	543	\$1,939	\$1,948	\$1,802	\$1,871
Flour & other milled grains	\$0.30	\$0.32	\$0.34	\$0.31	658	475	474	489	\$198	\$154	\$159	\$151
Flour mix	\$1.30	\$1.41	\$1.26	\$0.93	293	199	184	254	\$380	\$280	\$233	\$235
Mixtures with grain	\$1.80	\$1.70	\$1.88	\$1.70	1,230	757	728	570	\$2,219	\$1,291	\$1,365	\$969
Pasta & noodles	\$0.93	\$0.95	\$0.94	\$0.89	584	465	405	299	\$543	\$441	\$383	\$267
Rice, barley & other grains	\$1.09	\$1.26	\$1.08	\$0.79	196	193	283	387	\$214	\$243	\$304	\$306
Legumes/nuts/seeds	\$0.82	\$0.75	\$0.84	\$0.75	1,443	970	860	731	\$1,179	\$724	\$721	\$546
Dry beans/peas	\$0.63	\$0.59	\$0.65	\$0.59	1,310	854	739	628	\$822	\$506	\$482	\$373
Other nuts	\$4.00	\$4.93	\$5.12	\$5.77	6	2	1	1	\$25	\$8	\$6	\$5
Peanuts/peanut butter	\$2.26	\$1.67	\$1.53	\$1.18	77	54	44	55	\$175	\$91	\$68	\$64
Seeds	\$3.40	\$2.79	\$2.52	\$2.34	20	19	35	25	\$68	\$54	\$89	\$59
Soybeans & soy products	\$2.97	\$1.61	\$1.91	\$1.93	30	41	40	23	\$89	\$66	\$76	\$44
Milk & other dairy products	\$0.49	\$0.48	\$0.45	\$0.43	63,841	58,026	58,281	55,828	\$31,096	\$27,571	\$26,375	\$24,039
Cheese	\$1.86	\$1.80	\$1.86	\$2.00	2,202	1,442	1,437	782	\$4,097	\$2,602	\$2,675	\$1,560
Cream	\$1.52	\$1.37	\$1.38	\$1.29	263	160	113	85	\$400	\$218	\$155	\$109
Ice cream & ice milk	\$1.69	\$1.44	\$1.55	\$1.37	1,156	1,032	645	499	\$1,957	\$1,485	\$999	\$684
Milk	\$0.40	\$0.41	\$0.39	\$0.39	59,677	54,543	55,147	53,666	\$23,944	\$22,225	\$21,410	\$20,765
Yogurt	\$1.28	\$1.23	\$1.21	\$1.16	544	850	939	797	\$698	\$1,042	\$1,137	\$921
Non-dairy drinks	\$0.50	\$0.46	\$0.47	\$0.47	6,681	9,704	9,456	5,548	\$3,369	\$4,423	\$4,457	\$2,597
Carbonated		\$0.62	\$0.56	\$0.57		174	141	225		\$108	\$79	\$129
Coffee & tea	\$0.73	\$0.56	\$0.70	\$0.84	1,097	1,217	637	279	\$801	\$684	\$446	\$234
Dry beverage	\$12.74	\$2.46	\$2.54	\$1.75	6	14	14	12	\$78	\$34	\$37	\$20
Enriched drinks	\$0.60	\$0.66	\$0.68	\$0.60	2,348	2,147	2,551	1,759	\$1,410	\$1,420	\$1,746	\$1,062
Fruit drinks	\$0.67	\$0.56	\$0.72	\$0.75	720	1,231	1,131	530	\$483	\$685	\$817	\$398
Water	\$0.24	\$0.30	\$0.27	\$0.27	2,510	4,920	4,982	2,744	\$596	\$1,491	\$1,333	\$754

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICTS CHARACTERISTICS

Food groups/subgroups	Cost per unit				Volume per 100,000 meal equivalents				Cost per 100,000 meal equivalents			
	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more
	<i>dollars/pound</i>				<i>pounds/100,000 m.e.</i>				<i>dollars/100,000 m.e.</i>			
Poultry	\$2.11	\$1.98	\$1.94	\$1.88	3,147	4,207	4,317	4,545	\$6,635	\$8,345	\$8,383	\$8,546
Chicken	\$2.22	\$2.03	\$1.95	\$1.93	2,492	3,273	3,200	3,467	\$5,522	\$6,639	\$6,228	\$6,701
Game birds							0				\$2	
Mixed poultry		\$5.85	\$4.44	\$4.23		0	0	0		\$0	\$1	\$1
Recipe mix		\$1.75	\$2.36	\$2.78		4	10	1		\$7	\$24	\$2
Turkey	\$1.70	\$1.83	\$1.92	\$1.71	655	931	1,106	1,077	\$1,114	\$1,699	\$2,128	\$1,842
Prepared foods	\$1.90	\$1.82	\$1.88	\$1.88	5,411	4,693	5,361	5,518	\$10,302	\$8,522	\$10,099	\$10,369
Burritos/tacos	\$2.05	\$1.71	\$1.66	\$1.48	493	452	464	844	\$1,009	\$771	\$770	\$1,250
Meat or cheese filled pastry	\$2.26	\$1.93	\$1.92	\$1.97	754	670	597	666	\$1,704	\$1,295	\$1,148	\$1,309
Mixtures with fish		\$10.68	\$7.83	\$3.28		1	0	3		\$9	\$1	\$10
Pizza	\$1.73	\$1.72	\$1.81	\$1.83	3,680	3,218	3,811	3,038	\$6,360	\$5,523	\$6,900	\$5,547
Prepared meals	\$2.31	\$2.41	\$2.12	\$2.05	323	92	172	273	\$745	\$223	\$363	\$560
Prepared sandwiches	\$3.00	\$2.69	\$2.89	\$2.44	161	261	318	694	\$484	\$702	\$917	\$1,693
Red meats	\$2.08	\$2.10	\$2.08	\$1.97	5,017	3,679	2,991	2,228	\$10,444	\$7,735	\$6,224	\$4,380
Beef & veal	\$2.09	\$2.09	\$2.03	\$1.98	2,638	1,904	1,551	1,287	\$5,522	\$3,987	\$3,146	\$2,543
Lamb		\$5.40				0				\$2		
Mixed meats	\$1.88	\$1.84	\$1.86	\$1.78	1,047	591	430	281	\$1,966	\$1,089	\$799	\$498
Pork	\$2.32	\$2.26	\$2.26	\$2.05	1,179	1,157	1,000	614	\$2,737	\$2,616	\$2,260	\$1,256
Recipe mix	\$1.43	\$1.57	\$1.89	\$1.77	153	26	10	46	\$219	\$41	\$19	\$82
Soups & gravies	\$1.36	\$1.43	\$1.51	\$1.64	1,225	771	472	379	\$1,662	\$1,103	\$711	\$621
Gravies	\$2.10	\$2.48	\$2.24	\$2.45	231	128	97	59	\$486	\$317	\$217	\$144
Soups	\$1.18	\$1.22	\$1.32	\$1.49	994	644	375	320	\$1,176	\$787	\$494	\$477

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICTS CHARACTERISTICS

Food groups/subgroups	Cost per unit				Volume per 100,000 meal equivalents				Cost per 100,000 meal equivalents			
	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more
	<i>dollars/pound</i>				<i>pounds/100,000 m.e.</i>				<i>dollars/100,000 m.e.</i>			
Sugar/desserts	\$0.96	\$0.93	\$0.95	\$0.87	2,805	2,145	1,861	1,358	\$2,688	\$1,996	\$1,774	\$1,176
Candies/toppings	\$2.39	\$1.99	\$2.23	\$1.88	155	156	142	66	\$370	\$311	\$315	\$124
Gelatins	\$1.31	\$1.32	\$1.28	\$1.09	58	70	75	57	\$76	\$92	\$96	\$62
Jellies, jams & preserves	\$1.06	\$1.15	\$1.17	\$1.12	226	143	130	111	\$239	\$165	\$153	\$124
Puddings/pie filling	\$0.87	\$0.76	\$0.69	\$0.74	635	392	353	170	\$552	\$296	\$245	\$126
Sherbet/ices	\$1.22	\$1.00	\$1.04	\$1.03	437	354	272	187	\$535	\$355	\$284	\$192
Sugars	\$0.63	\$0.62	\$0.62	\$0.58	881	606	462	418	\$557	\$377	\$288	\$242
Syrups	\$0.87	\$0.94	\$0.92	\$0.88	413	424	427	349	\$358	\$400	\$393	\$306
Vegetables	\$0.87	\$0.81	\$0.83	\$0.81	14,936	13,609	11,758	9,672	\$13,065	\$10,994	\$9,723	\$7,833
Green vegetables	\$0.81	\$0.85	\$0.90	\$0.85	4,367	3,346	2,809	2,200	\$3,530	\$2,859	\$2,533	\$1,876
Mixed vegetables	\$0.89	\$0.88	\$0.90	\$0.89	1,696	1,308	1,193	963	\$1,502	\$1,153	\$1,077	\$852
Mixtures with vegetables	\$2.77	\$1.40	\$1.30	\$1.63	66	68	117	46	\$183	\$96	\$153	\$75
Other vegetables	\$1.03	\$1.26	\$1.30	\$1.12	395	274	234	183	\$405	\$344	\$303	\$206
Potato & potato products	\$0.93	\$0.71	\$0.70	\$0.72	4,639	5,466	4,303	3,796	\$4,311	\$3,857	\$3,033	\$2,731
Tomatoes & tomato products	\$0.88	\$0.88	\$0.82	\$0.83	1,631	1,512	1,517	1,078	\$1,435	\$1,327	\$1,251	\$893
Yellow vegetables	\$0.79	\$0.83	\$0.87	\$0.85	2,143	1,635	1,585	1,406	\$1,700	\$1,359	\$1,374	\$1,199

Source: School Food Purchase Study, 2011

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICTS CHARACTERISTICS

Table 7-18: Comparisons of cost and volume of the top 50 food items purchased by public unified NSLP school districts by size of district, SY 2009/10

Food Item	Cost per unit				Volume per 100,000 meal equivalents				Cost per 100,000 meal equivalents			
	Less than 1,000	1,000- 4,999	5,000- 24,999	25,000 or more	Less than 1,000	1,000- 4,999	5,000- 24,999	25,000 or more	Less than 1,000	1,000- 4,999	5,000- 24,999	25,000 or more
	<i>dollars/pound</i>				<i>pounds/100,000 m.e.</i>				<i>dollars/100,000 m.e.</i>			
1 Milk, Flavored, Lo Fat, 1%	\$0.39	\$0.42	\$0.40	\$0.41	20,408	27,653	20,015	19,184	\$7,998	\$11,482	\$7,972	\$7,925
2 Milk, Flavored, Skim/Nonfat	\$0.42	\$0.40	\$0.36	\$0.35	13,734	9,032	12,162	13,392	\$5,714	\$3,571	\$4,430	\$4,675
3 Hamburger, Hot Dog Buns, Steak, Sub & Dinner Rls	\$1.35	\$1.13	\$1.13	\$1.13	3,213	3,390	3,201	2,807	\$4,351	\$3,813	\$3,610	\$3,170
4 Milk, Lo Fat, 1%	\$0.37	\$0.39	\$0.37	\$0.38	2,389	7,684	9,568	9,715	\$879	\$3,006	\$3,559	\$3,717
5 Orange Juice, Individual	\$0.55	\$0.54	\$0.56	\$0.52	2,359	2,500	3,182	4,527	\$1,289	\$1,356	\$1,792	\$2,363
6 Cereals, Individual	\$3.77	\$3.79	\$3.76	\$3.59	390	460	437	503	\$1,470	\$1,740	\$1,645	\$1,803
7 Apple Juice, Individual	\$0.54	\$0.53	\$0.52	\$0.49	2,359	2,758	3,027	3,969	\$1,272	\$1,454	\$1,584	\$1,963
8 Milk, Flavored, Lo Fat, .5%	\$0.41	\$0.36	\$0.37	\$0.40	1,253	2,842	3,612	4,969	\$508	\$1,010	\$1,326	\$1,967
9 Sport Drink, e.g. Gatorade	\$0.60	\$0.66	\$0.68	\$0.60	2,348	2,147	2,551	1,759	\$1,410	\$1,418	\$1,746	\$1,062
10 Pizza, w/Real Cheese	\$1.76	\$1.93	\$1.97	\$1.81	491	624	731	886	\$862	\$1,206	\$1,437	\$1,599
11 Chips, Misc. Snack(Cheetos, Sun Chips)	\$3.86	\$3.67	\$3.76	\$3.69	336	340	409	325	\$1,299	\$1,247	\$1,536	\$1,197
12 Potatoes, French Fries	\$0.73	\$0.63	\$0.63	\$0.63	1,394	2,715	1,992	1,690	\$1,012	\$1,719	\$1,249	\$1,072
13 Apples, Fresh	\$0.66	\$0.65	\$0.63	\$0.61	1,554	1,854	2,306	1,846	\$1,032	\$1,211	\$1,448	\$1,118
14 Fruit Juice, Mixed, Individual	\$0.60	\$0.69	\$0.67	\$0.59	745	1,467	1,714	2,697	\$449	\$1,012	\$1,156	\$1,581
15 Cookie Dough	\$1.75	\$1.63	\$1.64	\$1.51	735	731	705	776	\$1,288	\$1,195	\$1,158	\$1,170
16 Pizza, Pepperoni w/Real Cheese	\$1.75	\$2.01	\$2.09	\$2.08	542	325	691	614	\$948	\$652	\$1,441	\$1,278
17 Chicken, Nuggets, White/dark Mix, Unknown	\$2.12	\$2.11	\$1.90	\$1.88	554	555	690	451	\$1,175	\$1,171	\$1,307	\$849
18 Milk, Flavored, Lo Fat, Fat Solids Unknown	\$0.39	\$0.42	\$0.43	\$0.34	3,367	1,038	4,102	2,640	\$1,299	\$431	\$1,748	\$894
19 Milk, Lo Fat, 2%	\$0.41	\$0.42	\$0.39	\$0.40	7,131	3,915	2,908	951	\$2,914	\$1,629	\$1,140	\$384
20 Chips, Tortilla/Corn	\$2.04	\$2.11	\$2.18	\$2.23	631	496	562	398	\$1,286	\$1,044	\$1,227	\$888
21 Chicken, Nuggets, White Meat	\$2.27	\$2.07	\$2.05	\$1.98	576	620	423	488	\$1,307	\$1,281	\$865	\$968
22 Muffins	\$2.41	\$2.44	\$2.26	\$2.16	262	411	445	448	\$632	\$1,004	\$1,006	\$968
23 Beef, Patties, Cooked	\$2.33	\$2.20	\$2.00	\$1.97	351	470	467	487	\$819	\$1,035	\$933	\$958
24 Yogurt	\$1.28	\$1.21	\$1.18	\$1.15	544	789	902	773	\$698	\$952	\$1,068	\$885
25 Chicken, Patties, Breaded, White Meat	\$2.28	\$1.81	\$2.09	\$1.93	413	517	368	598	\$941	\$938	\$768	\$1,153
26 Water	\$0.20	\$0.28	\$0.25	\$0.26	2,269	4,213	4,581	2,405	\$446	\$1,168	\$1,157	\$622
27 Crackers, Graham, Individual	\$2.55	\$2.57	\$2.32	\$2.13	142	209	445	541	\$362	\$539	\$1,035	\$1,151
28 Bread/Biscuit/Pastry Dough	\$1.21	\$1.03	\$1.10	\$0.96	1,026	797	891	646	\$1,245	\$820	\$982	\$619
29 Cheese Filled Pastry(Includes Hot Pocket)	\$2.23	\$1.87	\$1.87	\$1.95	473	446	447	375	\$1,056	\$832	\$835	\$731
30 Ice Cream Novelties	\$1.83	\$1.68	\$1.73	\$1.45	879	635	426	359	\$1,608	\$1,067	\$739	\$519

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICTS CHARACTERISTICS

Food Item	Cost per unit				Volume per 100,000 meal equivalents				Cost per 100,000 meal equivalents			
	Less than 1,000	1,000- 4,999	5,000- 24,999	25,000 or more	Less than 1,000	1,000- 4,999	5,000- 24,999	25,000 or more	Less than 1,000	1,000- 4,999	5,000- 24,999	25,000 or more
	<i>dollars/pound</i>				<i>pounds/100,000 m.e.</i>				<i>dollars/100,000 m.e.</i>			
31 Cookies, Individual	\$2.91	\$3.07	\$2.93	\$2.61	330	233	351	181	\$958	\$714	\$1,028	\$473
32 Pizza, Pepperoni w/Cheese Blend	\$1.55	\$1.51	\$1.61	\$1.63	797	625	542	197	\$1,238	\$945	\$874	\$321
33 Pizza, Cheese Blend	\$1.64	\$1.54	\$1.57	\$1.56	105	491	599	273	\$171	\$758	\$939	\$425
34 Chips, Potato or Potato Sticks	\$3.89	\$4.35	\$4.34	\$4.15	212	216	156	92	\$823	\$940	\$677	\$380
35 Oranges, Fresh	\$0.65	\$0.63	\$0.59	\$0.51	1,163	979	1,161	1,179	\$754	\$616	\$680	\$603
36 Potatoes, Formed, Frozen	\$0.75	\$0.66	\$0.64	\$0.60	1,076	1,084	1,021	922	\$806	\$716	\$650	\$552
37 Bananas, Fresh	\$0.58	\$0.54	\$0.52	\$0.47	1,145	935	1,317	1,457	\$661	\$509	\$686	\$681
38 Pork, Sausage, Cooked	\$2.36	\$2.10	\$2.07	\$1.93	500	365	301	252	\$1,182	\$766	\$623	\$485
39 Pizza Shells/Pizza Dough	\$1.07	\$1.15	\$1.12	\$1.39	267	552	642	398	\$285	\$634	\$717	\$552
40 Pizza, Cheese, Type Unknown	\$1.97	\$1.65	\$1.72	\$1.78	509	231	458	314	\$1,004	\$381	\$789	\$558
41 Beef, Ground	\$1.63	\$1.69	\$1.74	\$1.74	856	493	303	251	\$1,394	\$835	\$528	\$436
42 Lettuce, Salad Mix	\$0.87	\$0.90	\$0.88	\$0.85	1,171	756	734	554	\$1,022	\$683	\$648	\$469
43 Poptarts	\$1.85	\$1.79	\$1.88	\$2.17	485	353	387	193	\$897	\$631	\$729	\$420
44 Milk, Skim/Nonfat	\$0.38	\$0.38	\$0.35	\$0.37	1,125	1,478	1,529	1,946	\$433	\$558	\$542	\$718
45 French Toast/Sticks/French Toast Bagels	\$1.73	\$1.45	\$1.47	\$1.48	238	419	429	380	\$413	\$609	\$632	\$563
46 Lettuce, Shredded/Chopped	\$0.87	\$0.96	\$1.01	\$0.97	896	667	576	451	\$779	\$637	\$579	\$439
47 Catsup, Individual Pack	\$0.95	\$0.84	\$0.84	\$0.79	318	603	668	727	\$303	\$508	\$563	\$577
48 Pizza, Sausage w/Cheese Blend	\$1.79	\$1.61	\$1.69	\$1.61	317	487	354	172	\$567	\$784	\$598	\$278
49 Potatoes, Dry, w/Milk	\$1.83	\$1.90	\$1.90	\$1.82	501	327	260	256	\$915	\$620	\$494	\$464
50 Peanut Butter and Jelly Sandwich	\$2.84	\$2.67	\$2.83	\$2.31	87	175	176	267	\$248	\$469	\$499	\$616
All fifty food items	\$0.73	\$0.69	\$0.68	\$0.65	84,966	93,102	95,924	91,681	\$62,422	\$64,316	\$65,374	\$59,259

Source: School Food Purchase Study, 2011

7.10 Summary of differences between categories

7.10.1 Difference between categories for all food purchases

The mean cost per pound of all products purchased was \$0.826. Table 7-19 describes the extent to which the mean price paid by the different categories analyzed in this section varies from that mean price. Several categories paid more than 2.5 percent above the mean price paid (red font in first data column). These include districts serviced by FSMCs, districts with less than 30 percent of students certified as eligible for free or reduced meals, the Northern Plains region, and very small districts with less than 1,000 students. Those paying more than 2.5 percent less than the mean price included the Pacific region, and the largest school districts (green font in first data column).

Table 7-19 also shows the difference in the mean of pounds purchased and cost per 100,000 meal equivalents served compared with the average for all foods purchased. The categories that were more than 10% above the means are shown in red font in data columns two and three and the categories that were more than 10% below the mean are shown in green font. The categories higher than 10% above the average for volume purchased per 100,000 meal equivalents served include the districts with Enhanced Food Based menu systems, districts with less than 30 percent of students certified as eligible for free or reduced meals, and the Northern Plains region. There are no categories more than 10% below the average.

The categories more than 10% above the mean cost per 100,000 meal equivalents include districts with both Enhanced Food Based and NuMenu/Assisted NuMenu systems, districts with less than 30 percent of students certified as eligible for free or reduced meals, and districts in the Northern Plains and Appalachian regions. Those categories more than 10% below the average included districts with more than 60 percent of students certified as eligible for free or reduced meals, and the Pacific region.

Table 7-19: Comparison of the mean cost per unit, volume and value per 100,000 meal equivalents of categories with the mean for all food purchases by unified public NSLP school districts, SY 2009/10

	Difference c.f. all food purchased average		
	Dollars/ pound (mean =\$0.83)	Pounds/ 100,000 meal equiv. (mean = 133,577)	Cost/ 100,000 meal equiv. (mean = \$110,229)
FSMC/non-FSMC			
FSMCs	2.7%	0.8%	4.8%
Non FSMCs	-0.5%	-0.1%	-0.7%
Menu planning			
NuMenu/Assisted NuMenu	0.6%	9.7%	11.0%
Enhanced Food Based	2.0%	14.3%	14.4%
Traditional Food Based	-0.8%	-6.1%	-6.8%
Location			
Urban	-0.9%	-1.7%	-1.8%

Rural	1.2%	2.9%	3.0%
Free or reduced meals			
Less than 30%	2.9%	10.4%	11.8%
30-59%	-0.6%	0.6%	0.4%
60% or more	-2.2%	-9.7%	-14.2%
Region			
Northeast	2.3%	-3.6%	-1.7%
Lake States	-1.3%	7.8%	2.1%
Midwest	-0.5%	5.7%	4.6%
Northern Plains	13.2%	15.5%	24.5%
Appalachia	-1.5%	7.7%	11.6%
Southwest	-1.2%	1.8%	4.1%
Delta	1.2%	-8.6%	0.0%
Southern Plains	-0.1%	-4.4%	-3.2%
Mountain	1.1%	-9.7%	-8.9%
Pacific	-2.9%	-1.0%	-10.1%
Size of district by student enrollment			
Less than 1,000	6.6%	-8.9%	-0.7%
1,000-4,999	1.8%	-0.2%	2.3%
5,000-24,999	1.1%	2.8%	4.0%
25,000 or more	-3.9%	-1.7%	-5.7%

Source: School Food Purchase Study, 2011

7.10.2 Difference between categories for all the fifty most purchased foods

For each of the categories analyzed in this chapter, Table 7-20 illustrates the deviation of the cost per pound for the top 50 purchased food items from the average for all districts. The categories that pay more than 2.5 percent above the \$0.674 average cost per pound for that selection of items are districts with FSMCs, rural districts, districts with less than 30% of students approved for free or reduced meals, the Northern Plains, Appalachian, and Delta regions, and school districts with less than 5,000 student enrollment. The categories with more than 2.5 percent below the average are those districts with more than 60% of students approved for either free or reduced meals, the Pacific and Lake States regions, and schools with 25,000 or more student enrollment.

Table 7-20 also shows the difference in the mean of pounds purchased and cost per 100,000 meal equivalents served compared with the average for the top 50 foods purchased. The categories that were more than 10% above the means are shown in red font in data columns two and three and the categories that were less than 10% are shown in green font. The categories higher than 10% above the average for volume purchased per 100,000 meal equivalents served include the districts with NuMenu/Assisted NuMenu and Enhanced Food Based menu systems, and the Northern Plains region. There are no categories more than 10% below the average.

The results for mean cost per 100,000 meal equivalents served are similar for the top 50 foods and all foods purchased. The categories with more than 10% above the mean cost per 100,000 meal equivalents include both NuMenu/Assisted NuMenu and Enhanced Food Based menu systems, districts with less than 30 percent of

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICTS CHARACTERISTICS

students certified as eligible for free or reduced meals, and the Northern Plains and Appalachian regions. Those categories more than 10% below the average included districts with more than 60 percent of students certified as approved for free or reduced meals, and the Pacific region.

Table 7-20: Comparison of the mean cost per unit, volume and value per 100,000 meal equivalents of categories with the mean of the top 50 food items purchased unified public NSLP school districts, SY 2009/10

	Difference c.f. all food purchased average		
	Dollars/ pound (mean =\$0.67)	Pounds/ 100,000 meal equiv. (mean = 93,274)	Cost/ 100,000 meal equiv. (mean = \$62,872)
FSMC/non-FSMC			
FSMCs	2.6%	2.1%	4.8%
Non FSMCs	-0.4%	-0.3%	-0.7%
Menu planning			
NuMenu/Assisted NuMenu	0.6%	10.3%	11.0%
Enhanced Food Based	2.2%	11.9%	14.4%
Traditional Food Based	-1.5%	-5.4%	-6.8%
Location			
Urban	-1.7%	-0.1%	-1.8%
Rural	2.8%	0.3%	3.0%
Free or reduced meals			
Less than 30%	2.8%	8.7%	11.8%
30-59%	1.9%	-1.5%	0.4%
60% or more	-5.8%	-8.9%	-14.2%
Region			
Northeast	2.0%	-3.6%	-1.7%
Lake States	-5.2%	7.8%	2.1%
Midwest	-1.0%	5.7%	4.6%
Northern Plains	7.8%	15.5%	24.5%
Appalachia	3.6%	7.7%	11.6%
Southeast	2.3%	1.8%	4.1%
Delta	9.4%	-8.6%	0.0%
Southern Plains	1.3%	-4.4%	-3.2%
Mountain	0.8%	-9.7%	-8.9%
Pacific	-9.2%	-1.0%	-10.1%

SCHOOL FOOD PURCHASE STUDY-III

SECTION 7: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICTS CHARACTERISTICS

	Difference c.f. all food purchased average		
	Dollars/ pound (mean =\$0.67)	Pounds/ 100,000 meal equiv. (mean = 93,274)	Cost/ 100,000 meal equiv. (mean = \$62,872)
Size of district by student enrollment			
Less than 1,000	9.0%	9.8%	-0.7%
1,000-4,999	2.5%	2.8%	2.3%
5,000-24,999	1.1%	2.3%	4.0%
25,000 or more	-4.1%	-5.7%	-5.7%

Source: School Food Purchase Study, 2011

7.11 Multivariate analysis of food purchase behavior

We conducted a multivariate analysis of the value of food purchases by region, enrollment, poverty level, FSMC management, urbanicity, and menu planning systems. None of the differences were statistically significant at the 5% level of confidence.

SECTION 8: COMPARISONS OF FOOD ACQUISITIONS AND COSTS BY PROCUREMENT PRACTICES

8.1 Introduction

In this section we examine the relationship between selected procurement practices used by public unified school districts participating in the NSLP. In particular, we review how food costs are affected by centralized versus decentralized purchasing, who chooses vendors, who chooses foods to be served, procurement method, product pricing method, and cooperative buying.

8.2 Degree of procurement centralization

School districts were asked whether food purchase decisions for various classes of food are made at the level of the school district (centralized), at the level of the individual school (decentralized), or some combination of the two. The categories do not all correspond directly to the food groups or subgroups in the coding system used for the food purchase data. For example, fresh produce includes both fresh fruit and fresh vegetables, neither of which is broken out as a subgroup in the food file. However, the categories are the same as those used in the PPS for SFPS-II. Another difference is that the PPS for SFPS-II asked this particular question only for procurement of all items, not separately for the nine classes.

As shown in Table 8-1, the majority of districts of any size mostly use a centralized approach for all food groups. For the most part, 55-75 percent of districts report using a centralized approach. There are differences among the size classes. For districts with fewer than 1,000 students, a significant number do not buy any products in some of these categories, i.e. fresh meat, snacks, ice cream and non-dairy beverages. For the other categories about 65 percent of purchasing is centralized, 22 percent is decentralized, and 13 percent is a combination.

At the other extreme, districts with more than 25,000 students very seldom make food purchasing decisions in a decentralized manner. It is about 75 percent centralized and 20 percent a combination.

The two middle size classes are more alike than different, but the larger of the two uses the combination method more and the decentralized method less. Taking the two groups together, centralized purchasing is 55-65 percent, decentralized 10-15 percent, and the combination 20-30 percent.

Table 8-2 looks at the top 50 purchased food items, assigns them to one of the categories used for this question, and then for each calculates the average unit price for all districts reporting use of centralized procurement, all districts reporting decentralized, and all districts reporting a combination. Pizza and some other prepared foods were classified as frozen foods. The lowest price for each item is highlighted in yellow and the count for each method is shown in the last line of the table. The centralized approach has the lowest unit price on five of the top 10 items and 22 in the top 50. The decentralized approach generated the lowest number of items, 12, with the lowest unit price.

SCHOOL FOOD PURCHASE STUDY-III

SECTION 8: COMPARISONS OF FOOD ACQUISITIONS AND COSTS BY PROCUREMENT PRACTICES

Table 8-1: Degree of procurement centralization of public unified NSLP school districts by food category and size of school district, SY 2009/10

Food vendor category		Less than 1,000				1,000 - 4,999				5,000 - 24,999				25,000 or more			
		Do not buy	Centralized	De-centralized	Combination	Do not buy	Centralized	De-centralized	Combination	Do not buy	Centralized	De-centralized	Combination	Do not buy	Centralized	De-centralized	Combination
Dairy	(#)	-	2,391	770	491	-	3,052	859	1,283	-	975	234	467	-	225	11	69
	(%)	-	65.5%	21.1%	13.5%	-	58.8%	16.5%	24.7%	-	58.2%	14.0%	27.8%	-	74.0%	3.5%	22.5%
Bread	(#)	-	2,540	621	491	-	3,276	677	1,242	-	1,046	167	462	-	229	7	69
	(%)	-	69.5%	17.0%	13.5%	-	63.1%	13.0%	23.9%	-	62.5%	10.0%	27.6%	-	75.2%	2.3%	22.5%
Fresh produce	(#)	-	2,398	822	431	-	2,966	662	1,567	-	1,028	137	510	-	227	4	74
	(%)	-	65.7%	22.5%	11.8%	-	57.1%	12.7%	30.2%	-	61.4%	8.2%	30.4%	-	74.4%	1.2%	24.4%
Canned goods/staples	(#)	-	2,375	822	455	42	3,494	442	1,216	-	1,132	110	433	-	243	4	57
	(%)	-	65.0%	22.5%	12.5%	0.8%	67.3%	8.5%	23.4%	-	67.6%	6.6%	25.9%	-	80.0%	1.2%	18.8%
Frozen food	(#)	-	2,516	621	515	34	3,321	475	1,365	-	1,106	110	459	-	242	4	59
	(%)	-	68.9%	17.0%	14.1%	0.6%	63.9%	9.1%	26.3%	-	66.0%	6.6%	27.4%	-	79.4%	1.2%	19.5%
Fresh meat	(#)	788	1,788	621	455	378	3,192	591	1,033	127	1,071	110	368	22	212	17	54
	(%)	21.6%	49.0%	17.0%	12.5%	7.3%	61.5%	11.4%	19.9%	7.6%	63.9%	6.6%	22.0%	7.3%	69.5%	5.5%	17.6%
Snacks	(#)	328	2,116	822	386	173	2,998	725	1,299	34	1,004	90	548	2	222	7	73
	(%)	9.0%	57.9%	22.5%	10.6%	3.3%	57.7%	13.9%	25.0%	2.0%	59.9%	5.4%	32.7%	0.6%	72.9%	2.4%	24.1%
Ice cream	(#)	1,036	1,354	876	386	369	2,710	981	1,135	180	906	163	426	26	212	16	50
	(%)	28.4%	37.1%	24.0%	10.6%	7.1%	52.2%	18.9%	21.8%	10.7%	54.1%	9.7%	25.5%	8.6%	69.5%	5.3%	16.6%
Non-dairy bev.	(#)	328	2,257	681	386	124	3,096	578	1,396	34	952	124	566	-	226	9	69
	(%)	9.0%	61.8%	18.6%	10.6%	2.4%	59.6%	11.1%	26.9%	2.0%	56.8%	7.4%	33.8%	-	74.3%	3.1%	22.6%

Source: School Food Purchase Study, 2011

SCHOOL FOOD PURCHASE STUDY-III

SECTION 8: COMPARISONS OF FOOD ACQUISITIONS AND COSTS BY PROCUREMENT PRACTICES

Table 8-2: Mean cost per pound for the top fifty foods purchased by public unified NSLP school districts, SY 2009/10 by extent to which procurement is centralized

Food item	Centralized	Decentralized	Combination
	-----dollars per pound-----		
Milk, Flavored, Lo Fat, 1%	\$0.41	\$0.44	\$0.40
Milk, Flavored, Skim/Nonfat	\$0.36	\$0.40	\$0.38
Hamburger, Hot Dog Buns, Steak, Sub & Dinner Rls	\$1.14	\$1.12	\$1.13
Milk, Lo Fat, 1%	\$0.38	\$0.40	\$0.38
Orange Juice, Individual	\$0.54	\$0.54	\$0.55
Cereals, Individual	\$3.63	\$4.00	\$3.84
Apple Juice, Individual	\$0.51	\$0.53	\$0.52
Milk, Flavored, Lo Fat, .5%	\$0.38	\$0.40	\$0.36
Sport Drink, e.g. Gatorade	\$0.64	\$0.62	\$0.71
Pizza, w/Real Cheese	\$1.86	\$1.96	\$1.97
Chips, Misc. Snack (Cheetos, Sun Chips)	\$3.81	\$3.52	\$3.60
Potatoes, French Fries	\$0.63	\$0.63	\$0.64
Apples, Fresh	\$0.63	\$0.65	\$0.62
Fruit Juice, Mixed, Individual	\$0.64	\$0.62	\$0.64
Cookie Dough	\$1.64	\$1.81	\$1.46
Pizza, Pepperoni w/Real Cheese	\$2.06	\$2.02	\$2.07
Chicken, Nuggets, White/dark Mix, Unknown	\$1.92	\$2.06	\$1.99
Milk, Flavored, Lo Fat, Fat Solids Unknown	\$0.38	\$0.40	\$0.40
Milk, Lo Fat, 2%	\$0.41	\$0.43	\$0.39
Chips, Tortilla/Corn	\$2.21	\$2.30	\$2.13
Chicken, Nuggets, White Meat	\$2.03	\$2.04	\$2.08
Muffins	\$2.28	\$2.28	\$2.25
Beef, Patties, Cooked	\$1.92	\$2.11	\$2.37
Yogurt	\$1.17	\$1.18	\$1.21
Chicken, Patties, Breaded, White Meat	\$2.08	\$1.79	\$1.70
Water	\$0.27	\$0.24	\$0.25
Crackers, Graham, Individual	\$2.27	\$2.34	\$2.26
Bread/Biscuit/Pastry Dough	\$1.04	\$1.07	\$1.06
Cheese Filled Pastry(Includes Hot Pocket)	\$1.94	\$2.00	\$1.82
Ice Cream Novelties	\$1.63	\$1.77	\$1.62
Cookies, Individual	\$2.82	\$2.94	\$3.05
Pizza, Pepperoni w/Cheese Blend	\$1.62	\$1.51	\$1.49
Pizza, Cheese Blend	\$1.58	\$1.45	\$1.55
Chips, Potato or Potato Sticks	\$4.37	\$4.13	\$4.12
Oranges, Fresh	\$0.56	\$0.63	\$0.59
Potatoes, Formed, Frozen	\$0.62	\$0.68	\$0.66
Bananas, Fresh	\$0.49	\$0.54	\$0.53
Pork, Sausage, Cooked	\$2.04	\$2.17	\$2.06
Pizza Shells/Pizza Dough	\$1.21	\$0.97	\$1.19
Pizza, Cheese, Type Unknown	\$1.80	\$1.79	\$1.66
Beef, Ground	\$1.70	\$1.73	\$1.71
Lettuce, Salad Mix	\$0.86	\$0.91	\$0.91
Poptarts	\$2.02	\$1.67	\$1.75
Milk, Skim/Nonfat	\$0.36	\$0.42	\$0.38
French Toast/Sticks/French Toast Bagels	\$1.50	\$1.45	\$1.43

SCHOOL FOOD PURCHASE STUDY-III

SECTION 8: COMPARISONS OF FOOD ACQUISITIONS AND COSTS BY PROCUREMENT PRACTICES

Food item	Centralized	Decentralized	Combination
	-----dollars per pound-----		
Lettuce, Shredded/Chopped	\$0.94	\$0.95	\$1.06
Catsup, Individual Pack	\$0.82	\$0.95	\$0.82
Pizza, Sausage w/Cheese Blend	\$1.66	\$1.60	\$1.65
Potatoes, Dry, w/Milk	\$1.86	\$1.98	\$1.83
Peanut Butter and Jelly Sandwich	\$2.47	\$2.84	\$2.71
Number of lowest mean price items	22	12	16

Note: Yellow shading indicates lowest mean price. Ties were broken by the next decimal place.
 Source: School Food Purchase Study, 2011.

8.3 Relationship between food cost and responsibility for vendor selection

Choice of vendor is a key decision in any purchasing environment and is often the result of competitive bidding. Respondents were asked to identify who in the school district has primary responsibility for determining where foods are purchased. The choices were district food service director or manager, business office or purchasing department, nutritionist, kitchen manager or head cook, school board, or other. “Other” typically was the district food service director jointly with another party such as the nutritionist, cafeteria manager, business office or school board.

Unit costs for the top 50 food items were recalculated based on who was identified as having primary responsibility. The lowest unit costs are highlighted in yellow and the highest unit costs are highlighted in red. The count for each appears at the bottom of the table. One indicator of the success of those choosing vendors is the ratio of winners to losers. Table 8-3 ranks the decision makers by the ratio between the number of lowest prices achieved in Table 8-4 and the number of highest prices.

“Other” had the best record, followed by the business office. Food service directors on their own had a neutral ratio but only one lowest price item. Nutritionist, school board, and kitchen manager had ratios of less than one. Other factors are undoubtedly at work here. As discussed earlier in the report, smaller and more rural districts generally have higher food costs for a number of reasons, and that is where the school board or kitchen manager is of necessity the decision maker.

SCHOOL FOOD PURCHASE STUDY-III

SECTION 8: COMPARISONS OF FOOD ACQUISITIONS AND COSTS BY PROCUREMENT PRACTICES

Table 8-3: Comparison of ratio of high/low mean prices by decision-maker responsible for vendor selection, ranked in order of most effective at achieving lowest mean price, SY 2009/10

Decision maker	Number of lowest prices	Number of highest prices	Ratio lowest/highest
Other	18	1	18.0
Business Office/Purchasing Dept.	9	8	1.1
District Food Service Manager	1	1	1.0
School Board	7	8	0.9
FSMC	4	6	0.7
Nutritionist	5	8	0.6
Kitchen Manager/Head Cook	6	18	0.3

Source: School Food Purchase Study, 2011

Table 8-4: Mean cost per pound for the top fifty foods purchased by public unified NSLP school districts, SY 2009/10, by decision-maker responsible for vendor selection

Food Item	District Food Service Manager	Business Office/Purchasing Dept.	Nutritionist	Kitchen Manager/Head Cook	School Board	FSMC	Other
	-----dollars per pound-----						
Milk, Flavored, Lo Fat, 1%	\$0.40	\$0.40	\$0.38	\$0.48	\$0.38	\$0.39	\$0.46
Milk, Flavored, Skim/Nonfat	\$0.37	\$0.34	\$0.40		\$0.49	\$0.34	\$0.33
Hamburger, Hot Dog Buns, Steak, Sub & Dinner Rls	\$1.12	\$1.25	\$1.08	\$1.05	\$1.24	\$1.06	\$1.20
Milk, Lo Fat, 1%	\$0.38	\$0.38	\$0.38	\$0.44	\$0.37	\$0.36	\$0.38
Orange Juice, Individual	\$0.55	\$0.58	\$0.44	\$0.43	\$0.55	\$0.65	\$0.47
Cereals, Individual	\$3.67	\$3.69	\$3.48	\$5.16	\$3.70	\$4.84	\$3.54
Apple Juice, Individual	\$0.52	\$0.51	\$0.47	\$0.54	\$0.59	\$0.58	\$0.46
Milk, Flavored, Lo Fat, .5%	\$0.37	\$0.38	\$0.39	\$0.43		\$0.36	\$0.42
Sport Drink, e.g. Gatorade	\$0.66	\$0.57	\$0.58	\$0.59	\$0.59	\$0.79	\$0.56
Pizza, w/Real Cheese	\$1.97	\$1.89	\$2.13		\$1.83	\$1.98	\$1.56
Chips, Misc. Snack(Cheetos, Sun Chips)	\$3.77	\$3.60	\$3.63	\$4.08	\$4.08	\$3.68	\$3.46
Potatoes, French Fries	\$0.63	\$0.66	\$0.88	\$0.71	\$0.66	\$0.70	\$0.62
Apples, Fresh	\$0.64	\$0.64	\$0.71	\$0.72	\$0.68	\$0.65	\$0.52
Fruit Juice, Mixed, Individual	\$0.65	\$0.61	\$0.58	\$0.59	\$0.57	\$0.80	\$0.52
Cookie Dough	\$1.62	\$1.40	\$1.78	\$1.79	\$1.52	\$1.66	\$1.51
Pizza, Pepperoni w/Real Cheese	\$2.06	\$2.06	\$2.12		\$1.88	\$1.96	\$2.07
Chicken, Nuggets, White/dark Mix, Unknown	\$1.97	\$1.91	\$2.19	\$1.56	\$2.38	\$1.77	\$2.06
Milk, Flavored, Lo Fat, Fat Solids Unknown	\$0.42	\$0.37	\$0.28	\$0.33		\$0.42	\$0.34
Milk, Lo Fat, 2%	\$0.40	\$0.39	\$0.40	\$0.44	\$0.47	\$0.44	\$0.46
Chips, Tortilla/Corn	\$2.17	\$2.45	\$3.28	\$2.16	\$1.74	\$1.95	\$2.08
Chicken, Nuggets, White Meat	\$2.04	\$2.24	\$2.06	\$1.96	\$2.05	\$2.10	\$1.98
Muffins	\$2.29	\$2.15	\$2.78	\$2.85	\$2.85	\$2.35	\$2.25
Beef, Patties, Cooked	\$2.11	\$1.97	\$1.81	\$2.37	\$1.85	\$2.23	\$1.79
Yogurt	\$1.17	\$1.16	\$1.32	\$1.35	\$1.29	\$1.34	\$1.17

SCHOOL FOOD PURCHASE STUDY-III

SECTION 8: COMPARISONS OF FOOD ACQUISITIONS AND COSTS BY PROCUREMENT PRACTICES

Food Item	District Food Service Manager	Business Office/ Purchasing Dept.	Nutri- tionist	Kitchen Manager/ Head Cook	School Board	FSMC	Other
	-----dollars per pound-----						
Chicken, Patties, Breaded, White Meat	\$1.88	\$2.56	\$1.58	\$1.80	\$1.60	\$1.96	\$2.14
Water	\$0.26	\$0.26	\$0.24	\$0.30	\$0.39	\$0.36	\$0.20
Crackers, Graham, Individual	\$2.36	\$2.05	\$2.40	\$2.53	\$2.46	\$2.76	\$2.01
Bread/Biscuit/Pastry Dough	\$1.04	\$1.05	\$1.57	\$1.39	\$1.05	\$1.27	\$1.01
Cheese Filled Pastry(Includes Hot Pocket)	\$1.90	\$2.12	\$1.80	\$1.76	\$2.06	\$2.06	\$1.79
Ice Cream Novelties	\$1.62	\$1.91	\$1.47	\$1.85	\$1.42	\$1.73	\$1.60
Cookies, Individual	\$2.88	\$3.45	\$4.18	\$4.04	\$2.76	\$3.06	\$2.34
Pizza, Pepperoni w/Cheese Blend	\$1.59	\$1.35	\$1.70	\$1.76	\$1.57	\$1.49	\$1.55
Pizza, Cheese Blend	\$1.56	\$1.57	\$1.73	\$1.76	\$1.58	\$1.33	\$1.64
Chips, Potato or Potato Sticks	\$4.32	\$4.50	\$4.22	\$3.50	\$4.03	\$4.07	\$4.22
Oranges, Fresh	\$0.60	\$0.47	\$0.59	\$0.66	\$0.65	\$0.61	\$0.50
Potatoes, Formed, Frozen	\$0.65	\$0.61	\$0.56	\$0.72	\$0.74	\$0.70	\$0.56
Bananas, Fresh	\$0.52	\$0.45	\$0.51	\$0.63	\$0.53	\$0.56	\$0.50
Pork, Sausage, Cooked	\$2.00	\$1.96	\$2.53	\$2.59	\$1.95	\$2.29	\$2.20
Pizza Shells/Pizza Dough	\$1.27	\$1.18		\$1.40	\$1.19	\$1.15	\$0.92
Pizza, Cheese, Type Unknown	\$1.78	\$1.59	\$1.90	\$1.88	\$1.83	\$1.85	\$1.56
Beef, Ground	\$1.71	\$1.67	\$1.72	\$1.68	\$1.53	\$1.96	\$1.71
Lettuce, Salad Mix	\$0.88	\$0.81	\$0.87	\$0.96	\$0.94	\$0.91	\$0.89
Poptarts	\$2.02	\$2.35	\$1.70	\$2.05	\$2.04	\$1.97	\$1.32
Milk, Skim/Nonfat	\$0.36	\$0.36	\$0.28	\$0.31	\$0.37	\$0.35	\$0.42
French Toast/Sticks/French Toast Bagels	\$1.49	\$1.38	\$1.67	\$1.82	\$1.90	\$1.41	\$1.46
Lettuce, Shredded/Chopped	\$0.95	\$0.95	\$1.15	\$1.02	\$0.98	\$1.06	\$1.06
Catsup, Individual Pack	\$0.81	\$0.83	\$0.82	\$1.01	\$0.78	\$1.01	\$0.85
Pizza, Sausage w/Cheese Blend	\$1.64	\$1.92	\$1.90	\$1.73	\$1.62	\$1.56	\$1.69
Potatoes, Dry, w/Milk	\$1.88	\$1.94	\$2.14	\$2.37	\$1.90	\$1.91	\$1.59
Peanut Butter and Jelly Sandwich	\$2.64	\$2.30		\$2.77	\$2.66	\$2.85	\$2.16
Number of lowest mean cost items	1	9	5	6	7	4	18
Number of highest mean cost items	1	8	8	18	8	6	1

Note: Yellow shading indicates lowest mean price, red shading indicates highest mean price. Ties were broken by the next decimal place.

Source: School Food Purchase Study, 2011.

8.4 Relationship of cost per pound and decision maker responsible for food selection

A similar question was asked with respect to who has primary responsibility for determining which foods are purchased, and the same choices were offered. Table 8-6 shows the calculated unit costs by decision maker for the top 50 items and again highlights the highest and lowest values.

SCHOOL FOOD PURCHASE STUDY-III

SECTION 8: COMPARISONS OF FOOD ACQUISITIONS AND COSTS BY PROCUREMENT PRACTICES

Table 8-5 ranks the decision makers by the ratio between their lowest prices and highest prices. Nutritionist and other had the highest ratios in this instance. However, one can legitimately ask how the choice of the food item could affect the eventual unit cost of the item.

Table 8-5: Comparison of ratio of high/low mean prices by decision-maker responsible for food selection, ranked in order of most effective at achieving lowest mean price, SY 2009/10

Decision Maker	Number of lowest prices	Number of highest prices	Ratio lowest/highest
Nutritionist	9	4	2.3
Other	9	4	2.3
Business Office/Purchasing Dept.	13	11	1.2
School Board	8	8	1.0
Kitchen Manager/Head Cook	8	10	0.8
FSMC	3	12	0.3
District Food Service Manager	0	1	0.0

Source: School Food Purchase Study, 2011

Table 8-6: Cost per pound for foods frequently purchased by public unified NSLP school districts, SY 2009/10, by decision-maker responsible for food selection

Food Item	District Food Service Manager	Business Office/Purchasing Dept.	Nutritionist	Kitchen Manager/Head Cook	School Board	FSMC	Other
	-----dollars per pound-----						
Milk, Flavored, Lo Fat, 1%	\$0.40	\$0.43	\$0.40	\$0.44	\$0.37	\$0.39	\$0.44
Milk, Flavored, Skim/Nonfat	\$0.37	\$0.42	\$0.39	\$0.48		\$0.36	\$0.34
Hamburger, Hot Dog Buns, Steak, Sub & Dinner Rls	\$1.13	\$1.42	\$1.14	\$1.00	\$0.82	\$1.10	\$1.17
Milk, Lo Fat, 1%	\$0.38	\$0.35	\$0.38	\$0.44	\$0.40	\$0.37	\$0.41
Orange Juice, Individual	\$0.54	\$0.47	\$0.47	\$0.48	\$0.51	\$0.68	\$0.58
Cereals, Individual	\$3.65	\$3.57	\$3.56	\$4.08	\$4.18	\$4.46	\$3.90
Apple Juice, Individual	\$0.51	\$0.42	\$0.46	\$0.45	\$0.52	\$0.62	\$0.52
Milk, Flavored, Lo Fat, .5%	\$0.38	\$0.36	\$0.39			\$0.37	\$0.47
Sport Drink, e.g. Gatorade	\$0.65	\$0.53	\$0.65	\$0.60		\$0.79	\$0.58
Pizza, w/Real Cheese	\$1.88	\$1.64	\$1.99	\$1.52	\$1.56	\$2.04	\$1.96
Chips, Misc. Snack(Cheetos, Sun Chips)	\$3.72	\$3.49	\$3.87	\$3.49	\$3.69	\$3.61	\$3.74
Potatoes, French Fries	\$0.63	\$0.64	\$0.73	\$0.65	\$0.53	\$0.76	\$0.60
Apples, Fresh	\$0.62	\$0.72	\$0.61	\$0.65	\$0.56	\$0.60	\$0.65
Fruit Juice, Mixed, Individual	\$0.66	\$0.73	\$0.52	\$0.55	\$0.48	\$0.71	\$0.48
Cookie Dough	\$1.60	\$1.51	\$1.46	\$1.35	\$1.48	\$1.77	\$1.60
Pizza, Pepperoni w/Real Cheese	\$2.06	\$2.17	\$2.03	\$1.64		\$1.95	\$2.12
Chicken, Nuggets, White/dark Mix, Unknown	\$1.99	\$1.59	\$1.73	\$1.61	\$2.02	\$1.91	\$1.96
Milk, Flavored, Lo Fat, Fat Solids Unknown	\$0.39		\$0.29	\$0.40		\$0.46	\$0.41

SCHOOL FOOD PURCHASE STUDY-III

SECTION 8: COMPARISONS OF FOOD ACQUISITIONS AND COSTS BY PROCUREMENT PRACTICES

Food Item	District Food Service Manager	Business Office/ Purchasing Dept.	Nutritionist	Kitchen Manager/ Head Cook	School Board	FSMC	Other
	-----dollars per pound-----						
Milk, Lo Fat, 2%	\$0.40	\$0.39	\$0.41	\$0.42	\$0.28	\$0.45	\$0.42
Chips, Tortilla/Corn	\$2.14	\$3.31	\$2.51	\$2.22	\$1.14	\$2.13	\$2.17
Chicken, Nuggets, White Meat	\$2.02	\$2.42	\$2.01	\$1.99	\$2.49	\$2.16	\$2.16
Muffins	\$2.28	\$2.06	\$1.89	\$2.44	\$2.27	\$2.27	\$2.28
Beef, Patties, Cooked	\$2.04	\$1.80	\$2.24	\$2.31	\$2.25	\$2.28	\$1.86
Yogurt	\$1.18	\$1.17	\$1.18	\$1.27	\$1.18	\$1.22	\$1.19
Chicken, Patties, Breaded, White Meat	\$1.91	\$1.47	\$1.71	\$1.69	\$1.69	\$2.15	\$2.41
Water	\$0.26	\$0.35	\$0.23	\$0.20	\$0.22	\$0.31	\$0.27
Crackers, Graham, Individual	\$2.32	\$2.32	\$2.18	\$2.27	\$2.45	\$2.43	\$1.98
Bread/Biscuit/Pastry Dough	\$1.05	\$1.45	\$0.98	\$1.01	\$1.06	\$1.29	\$0.99
Cheese Filled Pastry(Includes Hot Pocket)	\$1.89		\$1.81	\$2.14		\$2.10	\$2.02
Ice Cream Novelties	\$1.65	\$3.22	\$1.38	\$1.39	\$1.38	\$1.64	\$1.88
Cookies, Individual	\$2.93	\$4.09	\$2.41	\$3.08	\$4.81	\$3.25	\$2.17
Pizza, Pepperoni w/Cheese Blend	\$1.59	\$1.31	\$1.84	\$1.52	\$1.57	\$1.51	\$1.61
Pizza, Cheese Blend	\$1.56	\$1.58	\$1.30	\$1.47	\$1.40	\$1.30	\$2.03
Chips, Potato or Potato Sticks	\$4.32	\$4.18	\$4.06	\$3.96	\$5.10	\$3.81	\$4.40
Oranges, Fresh	\$0.59	\$0.62	\$0.54	\$0.63	\$0.62	\$0.54	\$0.46
Potatoes, Formed, Frozen	\$0.63	\$0.65	\$0.69	\$0.68	\$0.63	\$0.68	\$0.62
Bananas, Fresh	\$0.51	\$0.50	\$0.47	\$0.56	\$0.47	\$0.54	\$0.47
Pork, Sausage, Cooked	\$2.01	\$2.74	\$2.10	\$2.16	\$1.93	\$2.30	\$2.36
Pizza Shells/Pizza Dough	\$1.26	\$0.77	\$1.21	\$1.13		\$1.17	\$0.93
Pizza, Cheese, Type Unknown	\$1.76		\$1.58	\$1.91	\$1.69	\$1.85	\$1.62
Beef, Ground	\$1.72	\$1.76	\$1.75	\$1.66	\$1.65	\$1.88	\$1.65
Lettuce, Salad Mix	\$0.88	\$0.96	\$0.87	\$0.96	\$2.96	\$0.92	\$0.78
Poptarts	\$1.91	\$2.57	\$2.02	\$1.55	\$1.75	\$1.95	\$1.85
Milk, Skim/Nonfat	\$0.36	\$0.37	\$0.36	\$0.44	\$0.35	\$0.35	\$0.38
French Toast/Sticks/French Toast Bagels	\$1.47	\$1.11	\$1.81	\$1.64	\$1.28	\$1.36	\$1.40
Lettuce, Shredded/Chopped	\$0.96	\$1.17	\$1.10	\$0.92	\$2.89	\$1.12	\$0.90
Catsup, Individual Pack	\$0.82	\$0.73	\$0.83	\$0.86	\$0.74	\$1.02	\$0.84
Pizza, Sausage w/Cheese Blend	\$1.65	\$2.19	\$1.66	\$1.67	\$1.57	\$1.52	\$1.65
Potatoes, Dry, w/Milk	\$1.87	\$2.06	\$2.19	\$1.71	\$2.25	\$1.92	\$1.73
Peanut Butter and Jelly Sandwich	\$2.54		\$2.54	\$2.52	\$2.68	\$2.99	\$2.58
Number of lowest mean cost items	0	13	9	8	8	3	9
Number of highest mean cost items	1	11	4	10	8	12	4

Note: Yellow shading indicates lowest mean price, red shading indicates highest mean price. Ties were broken by the next decimal place.

Source: School Food Purchase Study, 2011.

8.5 Relationship between cost per pound and procurement method

The method of procurement, i.e. the way in which the purchase price is established, can be of paramount importance. Respondents were asked to indicate the principal method used to purchase each of the same nine types of food specified for the other procurement questions. As for those questions, the mean unit prices of the top 50 food items were re-estimated in accordance with the method of procurement for the product group into which each falls. The results are presented in Table 8-8. The lowest prices are shaded in yellow and the highest in red.

Table 8-7 shows the number of lowest and highest prices for each method, and the ratio between the two. Formal lump sum or line item bids were by far the most effective at achieving favorable pricing. The informal methods more often resulted in the highest prices. The difference between formal and informal methods is similar to but even more dramatic than the results found in SFPS-II.

Table 8-7: Comparison of ratio of high/low mean prices by procurement method, ranked in order of most effective at achieving lowest mean price, SY 2009/10

Decision maker	Number of lowest prices	Number of highest prices	Ratio lowest/highest
Formal lump sum bid	10	1	10.0
Formal line bid	14	2	7.0
Other procurement method	10	8	1.3
Phone bid/quote	10	12	0.8
Sales rep visits	6	27	0.2

Source: School Food Purchase Study, 2011

Table 8-8: Mean cost per pound for the top fifty foods purchased by public unified NSLP school districts, SY 2009/10, by procurement method used

Food Item	Procurement methods				
	Formal line bid	Formal lump sum bid	Phone bid/quote	Sales rep visits	Other procurement method
	-----dollars per pound-----				
Milk, Flavored, Lo Fat, 1%	\$0.40	\$0.41	\$0.54	\$0.41	\$0.41
Milk, Flavored, Skim/Nonfat	\$0.37	\$0.36	\$0.32	\$0.40	\$0.39
Hamburger, Hot Dog Buns, Steak, Sub & Dinner Rls	\$1.16	\$1.04	\$1.26	\$1.40	\$1.15
Milk, Lo Fat, 1%	\$0.38	\$0.37	\$0.42	\$0.41	\$0.38
Orange Juice, Individual	\$0.53	\$0.54	\$0.60	\$0.51	\$0.61
Cereals, Individual	\$3.60	\$3.66	\$3.77	\$3.87	\$4.34
Apple Juice, Individual	\$0.50	\$0.50	\$0.51	\$0.48	\$0.58
Milk, Flavored, Lo Fat, .5%	\$0.37	\$0.38			\$0.37
Sport Drink, e.g. Gatorade	\$0.64	\$0.64	\$0.79	\$0.71	\$0.69
Pizza, w/Real Cheese	\$1.85	\$2.00		\$2.11	\$1.84
Chips, Misc. Snack (Cheetos Sun Chips)	\$3.76	\$3.67	\$3.53	\$4.00	\$3.65
Potatoes, French Fries	\$0.62	\$0.63	\$0.68	\$0.68	\$0.66
Apples, Fresh	\$0.62	\$0.69	\$0.54	\$0.69	\$0.63
Fruit Juice, Mixed, Individual	\$0.62	\$0.59	\$0.66	\$0.87	\$0.75
Cookie Dough	\$1.63	\$1.57	\$1.63	\$1.77	\$1.55

SCHOOL FOOD PURCHASE STUDY-III

SECTION 8: COMPARISONS OF FOOD ACQUISITIONS AND COSTS BY PROCUREMENT PRACTICES

Food Item	Procurement methods				
	Formal line bid	Formal lump sum bid	Phone bid/quote	Sales rep visits	Other procurement method
	-----dollars per pound-----				
Pizza, Pepperoni w/Real Cheese	\$2.05	\$2.09		\$2.26	\$2.04
Chicken, Nuggets, White/dark Mix, Unknown	\$1.92	\$1.95	\$2.14	\$1.94	\$2.14
Milk, Flavored, Lo Fat, Fat Solids Unknown	\$0.40	\$0.38		\$0.41	\$0.41
Milk, Lo Fat, 2%	\$0.41	\$0.38	\$0.41	\$0.42	\$0.43
Chips, Tortilla/Corn	\$2.21	\$2.18	\$3.20	\$2.14	\$2.07
Chicken, Nuggets, White Meat	\$1.99	\$2.04	\$1.64	\$2.11	\$2.20
Muffins	\$2.26	\$2.21	\$2.27	\$2.63	\$2.50
Beef, Patties, Cooked	\$1.96	\$2.20	\$2.20	\$2.23	\$2.13
Yogurt	\$1.17	\$1.17	\$1.18	\$1.26	\$1.22
Chicken, Patties, Breaded, White Meat	\$2.10	\$1.79	\$1.60	\$1.78	\$1.76
Water	\$0.24	\$0.27	\$0.35	\$0.29	\$0.31
Crackers, Graham, Individual	\$2.22	\$2.30	\$2.25	\$2.72	\$2.39
Bread/Biscuit/Pastry Dough	\$1.05	\$1.03	\$1.15	\$1.26	\$1.01
Cheese Filled Pastry(Includes Hot Pocket)	\$1.92	\$1.86		\$2.26	\$1.87
Ice Cream Novelties	\$1.61	\$1.63	\$1.93	\$2.37	\$1.53
Cookies, Individual	\$3.02	\$2.93	\$1.87	\$3.25	\$2.71
Pizza, Pepperoni w/Cheese Blend	\$1.62	\$1.54	\$1.43	\$1.47	\$1.46
Pizza, Cheese Blend	\$1.54	\$1.60		\$1.73	\$1.50
Chips, Potato or Potato Sticks	\$4.39	\$4.10	\$5.19	\$4.26	\$4.16
Oranges, Fresh	\$0.53	\$0.60	\$0.57	\$0.64	\$0.62
Potatoes, Formed, Frozen	\$0.63	\$0.64		\$0.69	\$0.65
Bananas, Fresh	\$0.49	\$0.52	\$0.47	\$0.61	\$0.54
Pork, Sausage, Cooked	\$2.02	\$2.03		\$2.58	\$2.12
Pizza Shells/Pizza Dough	\$1.15	\$1.32	\$1.73	\$1.04	\$1.08
Pizza, Cheese, Type Unknown	\$1.76	\$1.55	\$1.74	\$1.97	\$1.89
Beef, Ground	\$1.74	\$1.72	\$2.05	\$1.55	\$1.69
Lettuce, Salad Mix	\$0.84	\$0.88	\$0.89	\$0.94	\$0.92
Poptarts	\$1.88	\$2.07	\$2.93	\$2.11	\$1.88
Milk, Skim/Nonfat	\$0.36	\$0.36	\$0.46	\$0.38	\$0.38
French Toast/Sticks/French Toast Bagels	\$1.45	\$1.48	\$1.33	\$1.87	\$1.52
Lettuce, Shredded/Chopped	\$0.95	\$0.98	\$0.99	\$0.95	\$0.98
Catsup, Individual Pack	\$0.80	\$0.81	\$0.97	\$1.06	\$0.92
Pizza, Sausage w/Cheese Blend	\$1.64	\$1.63	\$1.27	\$1.69	\$1.70
Potatoes, Dry, w/Milk	\$1.91	\$1.94	\$2.86	\$1.61	\$1.58
Peanut Butter and Jelly Sandwich	\$2.46	\$2.65		\$2.46	\$2.74
Number of lowest mean cost items	14	10	10	6	10
Number of highest mean cost items	2	1	12	27	8

Note: Yellow shading indicates lowest mean price, red shading indicates highest mean price. Ties were broken by the next decimal place.

Source: School Food Purchase Study, 2011.

8.6 Relationship between cost per pound and pricing method

The way in which price is specified in contracts or other purchasing arrangements is also of critical importance. For the nine food categories, respondents were asked to indicate whether they had a formal agreement (contract) or an informal agreement with their major vendor for each category. The choices offered for formal agreements were fixed price contract, fixed price with adjustment clause, formula price (list plus fixed amount or percentage) and cost-based price. The choices for informal agreements were bid or quote price, retail price, mutually accepted discount rate, and other.

Table 8-10 presents the re-estimated mean prices for the top 50 food items, with the lows and highs shaded, and Table 8-9 ranks the methods by the ratio of lowest to highest price achieved. Cost based pricing also yielded the highest number of lowest costs and highest ratio. Also, buyers who used either a formal formula price or informal bid or quote price fared very well. The two notably poor pricing methods were retail price and mutually accepted discount. Bid or quote had a poor ratio, but a much smaller number of highest costs than retail price or mutually accepted discount.

Table 8-9: Comparison of ratio of high/low mean prices by pricing method, ranked in order of most effective at achieving lowest mean price, SY 2009/10

Pricing method	Number of lowest prices	Number of highest prices	Ratio lowest/highest
Fixed price contract	3	0	
Cost based price	9	1	9.0
Fixed price with adjustment clause	4	1	4.0
Formula price	12	3	4.0
Other	10	6	1.7
Bid or quote	1	2	0.5
Retail Price	6	18	0.3
Mutually accepted discount	5	19	0.3

Source: School Food Purchase Study, 2011

Table 8-10: Mean cost per pound for the top fifty foods purchased by public unified NSLP school districts, by product pricing method, SY 2009/10

Food Items	Formal pricing method				Informal pricing method			Other
	Fixed price contract	Fixed price with adjustment clause	Formula price	Cost based price	Bid or quote	Retail price	Mutually accepted discount	
	-----dollars per pound-----							
Milk, Flavored, Lo Fat, 1%	\$0.41	\$0.41	\$0.39	\$0.41	\$0.42	\$0.42	\$0.50	\$0.41
Milk, Flavored, Skim/Nonfat	\$0.42	\$0.36	\$0.34	\$0.29	\$0.38	\$0.32	\$0.53	\$0.40
Hamburger, Hot Dog Buns, Steak, Sub & Dinner Rls	\$1.11	\$1.18	\$1.12	\$1.48	\$1.25	\$1.01	\$1.57	\$1.20
Milk, Lo Fat, 1%	\$0.39	\$0.38	\$0.36	\$0.37	\$0.38	\$0.35	\$0.48	\$0.38

SCHOOL FOOD PURCHASE STUDY-III

SECTION 8: COMPARISONS OF FOOD ACQUISITIONS AND COSTS BY PROCUREMENT PRACTICES

Food Items	Formal pricing method				Informal pricing method			Other
	Fixed price contract	Fixed price with adjustment clause	Formula price	Cost based price	Bid or quote	Retail price	Mutually accepted discount	
	-----dollars per pound-----							
Orange Juice, Individual	\$0.53	\$0.54	\$0.62	\$0.53	\$0.58	\$0.50	\$0.65	\$0.64
Cereals, Individual	\$3.48	\$3.99	\$3.71	\$3.41	\$4.05	\$4.70	\$3.81	\$4.77
Apple Juice, Individual	\$0.50	\$0.52	\$0.60	\$0.46	\$0.52	\$0.52	\$0.51	\$0.64
Milk, Flavored, Lo Fat, .5%	\$0.37	\$0.38	\$0.39	\$0.37	\$0.38	\$0.32		\$0.38
Sport Drink, e.g. Gatorade	\$0.63	\$0.65	\$0.62	\$0.83	\$0.71	\$0.71	\$0.87	\$0.79
Pizza, w/Real Cheese	\$1.80	\$2.16	\$1.74	\$1.88	\$2.13	\$1.84	\$2.45	\$1.80
Chips, Misc. Snack (Cheetos, Sun Chips)	\$3.71	\$3.82	\$3.79	\$3.74	\$3.67	\$3.96	\$3.64	\$3.56
Potatoes, French Fries	\$0.62	\$0.63	\$0.65	\$0.69	\$0.61	\$0.70	\$0.61	\$0.68
Apples, Fresh	\$0.67	\$0.61	\$0.65	\$0.66	\$0.59	\$0.70	\$0.43	\$0.66
Fruit Juice, Mixed, Individual	\$0.63	\$0.58	\$0.70	\$0.75	\$0.70	\$0.66	\$0.95	\$0.80
Cookie Dough	\$1.54	\$1.63	\$1.71	\$1.70	\$1.67	\$1.98	\$2.08	\$1.45
Pizza, Pepperoni w/Real Cheese	\$2.10	\$1.95	\$1.92	\$1.99	\$2.14	\$2.49	\$2.42	\$1.51
Chicken, Nuggets, White/dark Mix, Unknown	\$1.84	\$2.28	\$1.96	\$1.94	\$2.10	\$1.79	\$2.21	\$2.16
Milk, Flavored, Lo Fat, Fat Solids Unknown	\$0.39	\$0.39	\$0.53		\$0.48	\$0.52		\$0.39
Milk, Lo Fat, 2%	\$0.39	\$0.42	\$0.40	\$0.38	\$0.40	\$0.49	\$0.47	\$0.46
Chips, Tortilla/Corn	\$2.25	\$2.09	\$2.19	\$2.08	\$2.18	\$2.21	\$2.66	\$1.83
Chicken, Nuggets, White Meat	\$1.98	\$2.08	\$1.89	\$2.20	\$2.09	\$2.32	\$1.90	\$2.43
Muffins	\$2.22	\$2.25	\$2.37	\$1.50	\$2.53	\$2.28	\$3.10	\$2.57
Beef, Patties, Cooked	\$1.93	\$2.11	\$2.18	\$2.31	\$2.20	\$1.77	\$2.30	\$2.33
Yogurt	\$1.21	\$1.14	\$1.22	\$1.12	\$1.27	\$1.27	\$1.07	\$1.27
Chicken, Patties, Breaded, White Meat	\$1.98	\$1.86	\$1.98	\$1.77	\$2.03	\$1.54	\$1.26	\$1.94
Water	\$0.25	\$0.24	\$0.21	\$0.40	\$0.27	\$0.34	\$0.33	\$0.35
Crackers, Graham, Individual	\$2.21	\$2.26	\$2.54	\$2.50	\$2.32	\$3.52	\$2.27	\$2.53
Bread/Biscuit/Pastry Dough	\$1.04	\$1.05	\$1.19	\$1.47	\$1.15	\$1.38	\$2.22	\$0.85

SCHOOL FOOD PURCHASE STUDY-III

SECTION 8: COMPARISONS OF FOOD ACQUISITIONS AND COSTS BY PROCUREMENT PRACTICES

Food Items	Formal pricing method				Informal pricing method			Other
	Fixed price contract	Fixed price with adjustment clause	Formula price	Cost based price	Bid or quote	Retail price	Mutually accepted discount	
	-----dollars per pound-----							
Cheese Filled Pastry(Includes Hot Pocket)	\$1.91	\$1.85	\$1.97	\$1.79	\$2.07	\$2.50	\$1.63	\$1.76
Ice Cream Novelties	\$1.64	\$1.63	\$1.86	\$2.04	\$1.70	\$2.18	\$1.71	\$1.27
Cookies, Individual	\$2.86	\$3.08	\$3.18	\$3.41	\$2.67	\$3.85	\$2.59	\$2.18
Pizza, Pepperoni w/Cheese Blend	\$1.58	\$1.55	\$1.61	\$1.35	\$1.58	\$2.26	\$2.12	\$1.46
Pizza, Cheese Blend	\$1.61	\$1.49	\$1.59	\$1.63	\$1.60	\$1.52	\$1.66	\$1.35
Chips, Potato or Potato Sticks	\$4.24	\$4.39	\$4.51	\$3.56	\$4.38	\$3.96	\$4.55	\$4.22
Oranges, Fresh	\$0.57	\$0.56	\$0.55	\$0.61	\$0.56	\$0.69	\$0.62	\$0.63
Potatoes, Formed, Frozen	\$0.63	\$0.62	\$0.61	\$0.67	\$0.67	\$0.77	\$0.73	\$0.68
Bananas, Fresh	\$0.53	\$0.50	\$0.48	\$0.51	\$0.49	\$0.62	\$0.50	\$0.56
Pork, Sausage, Cooked	\$2.01	\$2.09	\$1.87	\$2.12	\$2.18	\$2.79	\$2.07	\$2.23
Pizza Shells/Pizza Dough	\$1.27	\$1.21	\$1.12	\$1.14	\$0.91	\$1.09	\$1.59	\$1.06
Pizza, Cheese, Type Unknown	\$1.73	\$1.60	\$1.82	\$2.04	\$1.91	\$1.66		\$2.07
Beef, Ground	\$1.74	\$1.71	\$1.84	\$1.72	\$1.67	\$1.57	\$1.46	\$1.72
Lettuce, Salad Mix	\$0.91	\$0.83	\$0.86	\$0.86	\$0.90	\$0.94	\$0.94	\$0.93
Poptarts	\$2.09	\$1.62	\$1.92	\$1.94	\$1.89	\$2.22	\$2.70	\$1.67
Milk, Skim/Nonfat	\$0.38	\$0.37	\$0.35	\$0.31	\$0.37	\$0.35	\$0.49	\$0.37
French Toast/Sticks/French Toast Bagels	\$1.50	\$1.48	\$1.35	\$1.58	\$1.42	\$1.59	\$1.63	\$1.46
Lettuce, Shredded/Chopped	\$0.99	\$0.98	\$0.93	\$1.04	\$0.96	\$0.98	\$1.07	\$0.94
Catsup, Individual Pack	\$0.79	\$0.89	\$0.80	\$0.88	\$0.89	\$1.29	\$1.00	\$0.94
Pizza, Sausage w/Cheese Blend	\$1.64	\$1.66	\$1.57	\$1.61	\$1.72	\$1.65	\$1.70	\$1.70
Potatoes, Dry, w/Milk	\$1.85	\$1.83	\$2.01	\$1.65	\$2.00	\$2.13	\$1.86	\$1.96
Peanut Butter and Jelly Sandwich	\$2.48	\$2.73	\$2.52	\$2.91	\$2.80	\$3.14	\$2.53	\$2.53
Number of lowest mean cost items	3	4	12	9	1	6	5	10
Number of highest mean cost items	0	1	3	1	2	18	19	6

Note: Yellow shading indicates lowest mean price, red shading indicates highest mean price. Ties were broken by the next decimal place.

Source: School Food Purchase Study, 2011.

8.7 Relationship between cost per pound and participation in cooperative buying

Respondents were asked if they used cooperative buying for the nine food categories. Table 8-11 presents the recalculated mean prices for the top 50 food items according to whether or not they were purchased through a cooperative arrangement. Cooperative buyers appear to have a slight advantage, achieving the lower price on 30 of the 50 items. Most of the differences are smaller than for some of the other comparisons, i.e. the lower price is seldom more than 10 percent less than the higher price.

Table 8-11: Cost per pound of foods frequently acquired by public unified NSLP school districts, by participation in cooperative buying, SY 2009/10

Food item	Purchased through co-op buying	Not purchased through co-op buying
-----dollars per pound-----		
Milk, Flavored, Lo Fat, 1%	\$0.41	\$0.39
Milk, Flavored, Skim/Nonfat	\$0.37	\$0.38
Hamburger, Hot Dog Buns ,Steak, Sub & Dinner Rls	\$1.13	\$1.12
Milk, Lo Fat, 1%	\$0.38	\$0.37
Orange Juice, Individual	\$0.56	\$0.63
Cereals, Individual	\$3.45	\$4.43
Apple Juice, Individual	\$0.50	\$0.59
Milk, Flavored, Lo Fat, .5%	\$0.39	\$0.36
Sport Drink, e.g. Gatorade	\$0.63	\$0.77
Pizza, w/Real Cheese	\$2.00	\$1.92
Chips, Misc. Snack (Cheetos,Sun Chips)	\$3.74	\$3.76
Potatoes, French Fries	\$0.62	\$0.69
Apples, Fresh	\$0.63	\$0.64
Fruit Juice, Mixed, Individual	\$0.64	\$0.78
Cookie Dough	\$1.63	\$1.59
Pizza, Pepperoni w/Real Cheese	\$2.05	\$1.90
Chicken, Nuggets, White/dark Mix, Unknown	\$1.95	\$1.99
Milk, Flavored, Lo Fat, Fat Solids Unknown	\$0.41	\$0.40
Milk, Lo Fat, 2%	\$0.40	\$0.43
Chips, Tortilla/Corn	\$2.21	\$2.03
Chicken, Nuggets, White Meat	\$2.01	\$2.17
Muffins	\$2.28	\$2.50
Beef, Patties, Cooked	\$1.99	\$2.00
Yogurt	\$1.18	\$1.26
Chicken, Patties, Breaded, White Meat	\$1.85	\$1.82
Water	\$0.24	\$0.34
Crackers, Graham, Individual	\$2.25	\$2.51
Bread/Biscuit/Pastry Dough	\$1.01	\$1.19
Cheese Filled Pastry(Includes Hot Pocket)	\$1.85	\$1.97

SCHOOL FOOD PURCHASE STUDY-III

SECTION 8: COMPARISONS OF FOOD ACQUISITIONS AND COSTS BY PROCUREMENT PRACTICES

Food item	Purchased through co-op buying	Not purchased through co-op buying
	-----dollars per pound-----	
Ice Cream Novelties	\$1.55	\$1.62
Cookies, Individual	\$2.87	\$2.80
Pizza, Pepperoni w/Cheese Blend	\$1.59	\$1.47
Pizza, Cheese Blend	\$1.54	\$1.44
Chips, Potato or Potato Sticks	\$4.36	\$4.15
Oranges, Fresh	\$0.58	\$0.61
Potatoes, Formed, Frozen	\$0.64	\$0.67
Bananas, Fresh	\$0.51	\$0.53
Pork, Sausage, Cooked	\$2.02	\$2.22
Pizza Shells/Pizza Dough	\$1.29	\$1.09
Pizza, Cheese, Type Unknown	\$1.70	\$1.99
Beef, Ground	\$1.71	\$1.87
Lettuce, Salad Mix	\$0.88	\$0.90
Poptarts	\$1.87	\$2.03
Milk, Skim/Nonfat	\$0.36	\$0.37
French Toast/Sticks/French Toast Bagels	\$1.41	\$1.49
Lettuce, Shredded/Chopped	\$0.98	\$0.98
Catsup, Individual Pack	\$0.80	\$0.94
Pizza, Sausage w/Cheese Blend	\$1.64	\$1.63
Potatoes, Dry, w/Milk	\$1.83	\$1.83
Peanut Butter and Jelly Sandwich	\$2.64	\$2.69
Number of lowest prices in each category	33	16

Note: Yellow shading indicates lowest mean price. Ties broken by next decimal place.
Source: School Food Purchase Study, 2011.

APPENDIX I: SCHOOL FOOD PURCHASE STUDY METHODOLOGY

This methodological appendix provides a more detailed description of how the study was conducted than the overview provided in Section I of the report. It covers the following main topics: study objectives and associated variables, sample selection, recruitment and training, data collection and processing, valuation of donated USDA Foods, derivation of final weights, and evaluation of standard errors.

I.1 Study objectives and associated variables

Section I of the report described the five main objectives of the study:

1. Develop national estimates of the types, amounts, and costs of food acquired (purchased food and USDA donations) by unified public school districts participating in USDA-sponsored nutrition programs.
2. Describe any changes in the mix of foods acquired by these schools since the last study of school food purchases (SY 1996/97), the extent to which acquired foods are prepared or processed, and the extent to which the relative costs of school food purchases have changed.
3. Compare the mix of foods acquired by various subgroups within the population.
4. Describe current school food purchase practices and identify relationships between food purchase practices and school district characteristics and the cost of foods to schools.
5. Describe the extent to which á la carte foods are available to students and the types and volumes of á la carte foods purchased.

Each of these objectives was translated into research questions that served as a guide to specifying the variables to be collected and used in the survey, the analysis to be applied, and the outputs from the survey in terms of tables, charts, and analytical techniques. Three categories of variables were used in the study: food procurement variables, SFA characteristic variables, and SFA procurement, preparation and serving practice variables. For the most part these were the same variables examined in SFPS-II.

I.1.1 The food procurement variables

- **Name of the individual food item.** The generic name for each individual food item for which volume/quantity and value information were reported. A total of 865 unique food items were identified, compared with the 842 food items identified in the study conducted in SY 1996/96. The system used in assigning 6-digit codes to the individual items was the same as for the SY 1996/97 study, and is detailed in Appendix 8. This food coding system can be used to analyze individual food items or aggregated groups of items (e.g., dairy products, vegetables, etc.). A complete list of the identified food items is provided in the Statistical Appendices Report.

-
- **Form in which the food is acquired.** This refers to whether the food has been in fresh, frozen, canned, dried, or fluid form at the time of procurement.
 - **Volume of acquisition.** Volume refers to the net weight of the acquisition. It was determined by multiplying the per unit weight by the number of units purchased. When the unit of acquisition was in another form (e.g. cases of 'number 10' cans), standard conversion factors were used to derive the weight.
 - **Mean cost per pound of food item.** For commercially purchased foods this is the mean delivered cost of the food item per pound measured in dollars based on invoice cost. For donated USDA Foods and processed foods containing donated USDA Foods, the mean costs were calculated on the basis of both a fair market value and USDA's actual incurred costs.
 - **Total cost of food item acquisition.** This represents the total amount spent for each acquisition, derived by multiplying the mean cost per pound times the number of pounds.
 - **Cost per 100,000 meal equivalents of food item acquired.** The variable is derived by dividing the total dollar cost of the food item by meal equivalents where a lunch equals one meal and a breakfast equals two-thirds of a meal (i.e. a meal equals 1.5 breakfasts) for consistency with the 2008 School Lunch and Breakfast Cost Study funded by FNS.
 - **Cost per thousand students of food item acquired.** The variable is derived by dividing the total dollar cost of the food item by the student enrollment with access to the program and multiplying by 1,000. An adjustment to account only for students who have access to the meal program was necessary because in some cases there were enrolled students without access to the meal programs. The cost per 1,000 students is used in this report only for comparison with SFPS-II.
 - **Donated USDA Foods.** These are food items donated by USDA and received by the SFAs in the same form in which they were purchased and shipped by USDA. They are often the same as food items purchased by SFAs but are treated separately.
 - **Purchased processed food items containing one or more donated USDA Foods.** Manufacturers of processed foods like pizza or chicken nuggets can obtain donated USDA Foods to use as an ingredient in manufacturing those products and the savings are supposed to be reflected in prices charged to school districts for the processed items. Again, they are usually the same as the products that districts are buying commercially.
 - **Period of purchase.** The period of study was divided into four quarterly periods of purchase: July-September, 2009; October-December, 2009; January-March, 2010; and April-June, 2010. The food item was considered acquired at the time that the SFA accepted delivery.
 - **Food items used in à la carte offerings.** SFAs were asked to identify the foods used in à la carte offerings and to estimate the share of the total food item volume that was used in à la carte offerings. School districts' reporting on this variable was relatively incomplete and inconsistent. Only 128 districts provided useable data sets on à la carte foods.

- **Change of volume of acquisition and share of total volume.** This variable was derived from the national estimates for individual foods purchased in both SY 2009/10 and SY 1996/97 and for aggregations of food items.
- **Change in per unit food item cost.** This variable was derived from national estimates for those individual food items for which information is available both in SY 1996/97 and SY 2009/10 and for certain aggregations of food items. Costs for SY 1996/97 were adjusted for inflation.

I.1.2 The SFA characteristic variables

- **School district enrollment.** Student enrollment is an indicator of the school district size. Student enrollment adjusted for daily absences and students who do not have access to the meal programs provides an estimate of the average number of students who could participate in a school meal program.
- **Number of schools and student enrollment by grade category.** The following grade categories were used: Elementary, Middle/Secondary, and Other. Elementary schools were defined as having pre-kindergarten or kindergarten, or grade 1, or grade 2, or grade 3, and no class higher than grade 6. Middle/Secondary schools were defined as schools with no grade lower than 6. All other schools were assigned to the 'Other' category (e.g., a school with grades K through 12)
- **Program participation by meal category.** This variable is expressed by the number of reimbursable lunches and breakfasts served, and by category of participation (free, reduced price and full price meals).
- **Meal prices.** The variable is disaggregated by grade category, by full- or reduced price meal, and by lunch and breakfast. If more than one price was charged, the weighted average price was calculated.
- **Number of students approved for free or reduced price meals.** This variable is based on the total number of students approved to receive free or reduced price meals. It sets the upper boundary of the number of meals served in these categories.
- **Receipts from other food program sales.** Many SFAs prepare and serve meals for purposes other than just student and staff meals. Typically, the districts' overall food procurement includes the foods utilized by these additional programs. This variable provides an estimate of the scale of these activities relative to the receipts from reimbursable meals and à la carte sales.
- **Regional location of school district.** The school districts' proximity to sources of food supply could have an impact on the availability and cost of some foods. The USDA's ten agricultural production regions have been used as a proxy for these influences.
- **Urbanicity.** Urbanicity can influence the cost of food to a school district, depending on its proximity to central points of distribution and/or competitive vendor markets. The urbanicity measure used was based on National Center for Education Statistics (NCES) data.

- **Income.** The income levels of households within a school district have a direct impact on students' eligibility for free or reduced price meals. They can have some influence on participation in school feeding programs. A variable included in the QED database that measures the share of students within a school district that are approved for free and reduced price meals was used as a proxy measure for poverty.

I.1.3 The SFA procurement, preparation and serving practice variables

- **Food service options.** These include the number and type of schools offering different types of food service such as offer versus serve, choice of NSLP entrees, vending machines, snack bars, etc.
- **Indicators of à la carte activity.** These include an indication as to whether à la carte was used, its incidence, the total à la carte receipts for the quarter and the previous school year for this and previous SFPSs, and the foods that feature most prominently in à la carte offerings.
- **Other food programs served.** Some school districts use their facilities to prepare foods for purposes other than breakfasts and lunches for students. This variable provides the number of schools with other reimbursable programs (After School Snack Program, Head Start, etc.) or non-reimbursable programs (staff meals, catering of school athletic events, etc.).
- **Indicators of vendor use and availability.** This includes the number of vendors serving school districts for each of eight product categories (defined as in SFPS-II) and the total number of vendors serving the market in which the school district is located for each product line.
- **Procurement methods.** As in SFPS-I and SFPS-II, this variable represents a range of procurement options, disaggregated by major food category: formal line item bids, formal lump sum bids, telephone bids/quotes, visits, and other methods.
- **Product pricing.** For the principal vendors and for each of the major food categories we identify the methods of product pricing (including payment terms) used in procurement transactions.
- **Use of food service management companies.** This variable indicates whether the procurement in the school district was undertaken by a food service management company. We identify whether the FSMC is also responsible for vendor selection and food selection.
- **Cooperative buying.** School districts were asked whether they were participating in cooperative buying programs and if so, about key features of the program being used (e.g., product lines included, purchasing procedures, and other participants in the program).
- **Product specifications.** School districts were asked whether they have specifications for the foods they acquire and if so, on what basis they were developed, what they include, and how they are used. For example, this includes use of quality/grade standards, brand names, food safety criteria, fat content and type, whole grain, use of Child Nutrition (CN) labeling, etc..

-
- **Preparation facilities.** As in the earlier SFPs, information was collected on the number of kitchens by type in each district (e.g., central kitchen, base kitchen, on-site kitchen, receiving/satellite kitchen or combinations).
 - **Storage and delivery of food.** For each of the major food categories, information was collected relating to the principal point of receipt within the SFA, and the frequency of vendor delivery. Information was collected on whether the delivery went to a central warehouse, the frequency of deliveries to schools, whose vehicles are used, and the cost of transporting food within the district.
 - **Inventory control processes.** This variable shows whether the SFA is able to trace a product during a recall, and how far back it can be traced, e.g. to a vendor, to storage at another site, to use as a menu item, etc..
 - **Menu planning.** Information was collected on the menu planning methods used during SY 2009/10. This included the range of nutrient-based and food-based menu planning alternatives allowed under the School Meals Initiative.
 - **School district decision-making.** This included indicators of the level within the school district organization at which decisions are made regarding choice of vendors and identification of foods to be purchased.
 - **Branded food products.** This variable identifies the use of food service company branded food products in SY 2009/10. For those districts using branded products, this variable indicates the number of schools within the district that feature brands, principal types of products sold under brand, and principal forms in which the product is supplied.
 - **Donated USDA Foods.** SFAs were asked about participation in the commodity donation program, how they receive their USDA Foods, the proportion spent on processed products containing donated foods, use of the Fresh Fruit and Vegetable Program, and how quality and price of produce acquired that way compared to commercial purchases. If an SFA accepted delivery of donated USDA Foods and the same USDA Foods were then used in locally processed products that are delivered to the SFA by the processor, it was necessary to adjust the procurement records to avoid double-counting. SFAs were also asked about the main features of these programs that they liked or disliked, and how the donated food distribution program could be improved.
 - **Locally grown produce.** This was a new variable indicating whether the SFA has a buying program for locally grown products, the main products purchased, and what is considered locally grown.

1.2 Sample selection

This section discusses the various aspects of the sampling plan, including the sampling frame, stratification, weighting scheme, and prospective analyses of how tests based on the sample data would perform.

1.2.1 Primary requirement 1: Measuring annual purchases

The first primary requirement for the sample design was that the sample must measure annual food purchases. The same method was used as in the last survey: the sample districts were assigned evenly to all four quarters of the year. This approach has the advantage of imposing a low burden on the respondents. Given the relatively high nonresponse rate of the SFPS-II survey – about a third of the sample – keeping the burden low was paramount.

Primary requirement 2: Representative sampling

The second primary requirement was that the sample must be representative of the population. The concern here is that because of the skewed size distribution of school districts, simple random sampling with an equal weight on all districts would yield many small districts and too few students. This would be statistically inefficient in a survey that takes the student population as its universe, so weighting districts by enrollment was indicated. One of the positive features of this approach is that having more students represented in the sample dampens the effect of outliers because they will be averaged into a larger pool of expenditures.

The sample design used a modified form of PPS (probability proportional to size) sampling that counters some of the drawbacks that come with the simplest form of PPS sampling, such as the tendency of larger school districts to have higher data-collection costs. Another disadvantage of standard PPS sampling is that it can sometimes shift the sample too far toward the large units and leave the smaller units under-represented. This would be the case, for example, when there is a concern that smaller units could be responsible for more innovations, deviations from regulations, or other behaviors that result in increased variability. PPS sampling in such a skewed population will gather fewer observations on the smaller members than one would like. Finally, PPS sampling can produce probabilities of selection for the larger members of a stratum that are greater than one. While the sampling literature includes procedures for dealing with this, a modified PPS sampling method avoids it in the first place.

The modification to simple PPS sampling that was used to counter these disadvantages is taken from the statistical literature.³¹ The technique is to use a sampling weight, W_i , computed as:

$$W_i = S_i^\beta$$

where S_i is the measure of size of the i^{th} unit and β is a parameter with a value between zero and one. Setting β at zero is the same as equal probability sampling; setting it at one is simple PPS sampling; and values in between are a compromise of the two extremes. The values of β used for the various regions were generally close to one.

Primary requirement 3: Comparing food mix between subgroups

The third requirement for the sample design was to calculate power estimates and minimum detectable differences of food mix for subgroup analyses. The study involved making a broad range of comparisons,

31 Brewer & Hanif, **Lecture Notes in Statistics**, Vol. 15 "Sampling with Unequal Probabilities", New York: Springer-Verlag, 1983, p. 3, "... sometimes it is actually desirable to select with probability proportional to a power of size."

such as the percent spent on low-fat milk or fresh fruits and vegetables across various subgroups, including comparing districts that are FSMC versus Non-FSMC, Nutrient Standard menu-planning school districts versus food-based menu-planning, urban versus rural, various meal preparation facility types, different enrollment sizes, the degree of poverty, etc. The question was how big a sample is needed to achieve an acceptable degree of statistical precision in these comparisons.

As the list of possible comparisons is large and indeterminate, we solved this problem in a general way rather than testing the example divisions. The key feature of the listed comparisons that affects the power of such tests is that the sample split between one subgroup and the other may be as extreme as 85 percent to 15 percent, because the statistical power is greatest at a 50-50 split and falls as the split becomes more uneven. Another reason for a general approach is that the various food groups to be compared will have different variances in their estimates of share of expenditures.

We therefore tested different sample sizes, basing our calculations on data from SFPS-II. As example groups of foods, we took the total dollar value of acquisitions of low-fat and fat-free milk (including plain and flavored, called “low-fat” hereafter), fruits and juices, and vegetables. In the classification used in that survey, milk was a subgroup with low-fat as part of the subgroup, and the other two were groups. We refer to all three as simply “groups” hereafter. For each school district, we divided these three values by the total acquisition cost of all foods to get the percent of cost due to each. Tests of the mix of foods served would compare such fractions across types of school districts. We then found the variance of each series using the standard estimator for a stratified sample.

Table AI-1 below shows the minimum detectable differences (MDDs) for the sample size of 400 that was chosen based on these calculations. It shows the MDDs for two different allocations of sample school districts – 200 of each type (e.g., large v. small districts) and 60 of one type and 340 of the other, two significance levels (5 and 10 percent, two-tailed test), and two power levels (80 and 90 percent chance of detecting a difference at least as small as the MDD). The MDDs were mostly in the 1-3 percent range, which was judged to be acceptable.

Table AI-1: MDDs for a total sample of 400 respondents/100 per quarter

Food Group	Power	200-200 Sample Split		60-340 Sample Split	
		10% Signif.	5% Signif.	10% Signif.	5% Signif.
Vegetables	80%	0.90%	1.01%	1.26%	1.42%
	90%	1.05%	1.17%	1.48%	1.64%
Fruits & Juices	80%	0.91%	1.02%	1.27%	1.44%
	90%	1.07%	1.19%	1.50%	1.66%
Low-Fat Milk	80%	1.60%	1.81%	2.25%	2.54%
	90%	1.89%	2.09%	2.65%	2.94%

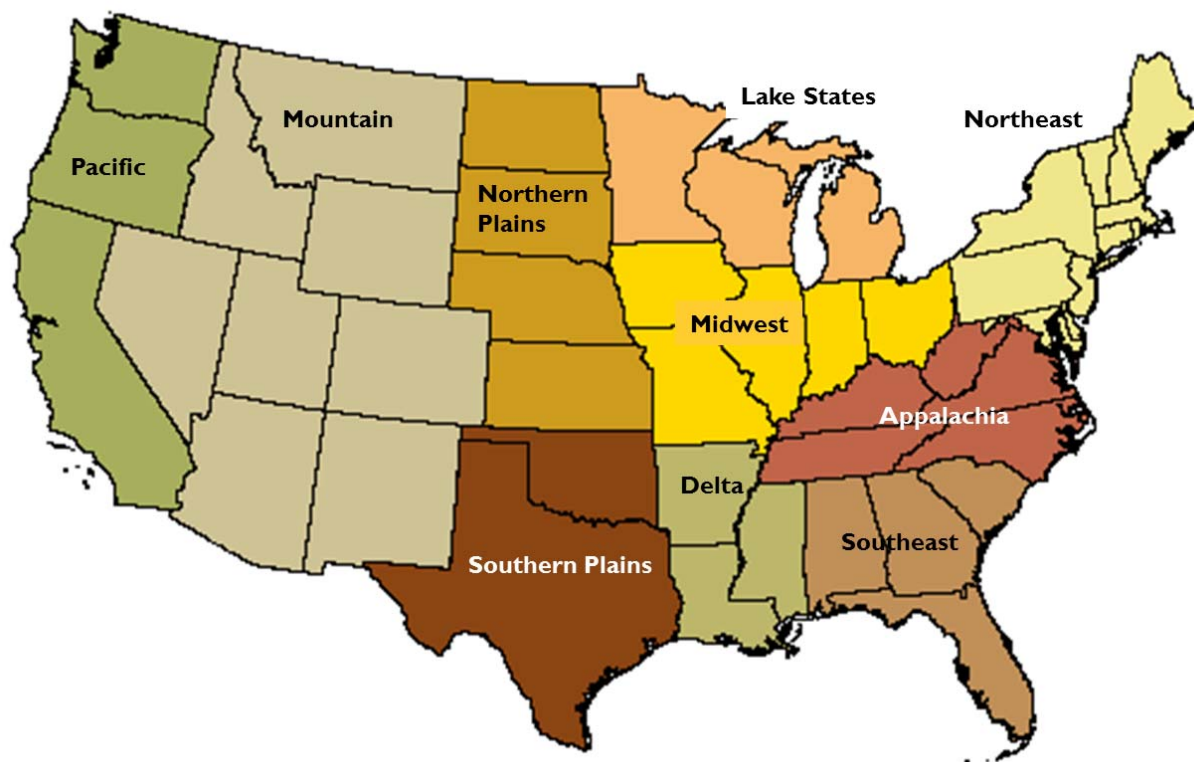
The sampling frame was a list of districts obtained from QED (Quality Education Data). As in SFPS-II, that data included variables such as the Title I entitlement percentage and use of FSMCs that are needed for the analysis of the collected survey data. Use of the FNS-742 verification summary data file was considered but rejected because it excludes SFAs that do not have any students approved for free or reduced-price meals. The study covered only public unified school districts, so private schools, charter schools, and other special schools were excluded from the sampling frame.

A few hundred of the 10,826 public unified school districts that participated in the NSLP in SY 2009/10 do not receive donated USDA Foods. These include all 289 school districts in Kansas and the 56 districts that receive cash or commodity letters of credit (CLOC). They were kept in the database for drawing the sample. Of the 600 school districts in the sample, eight were in Kansas, two were CLOC districts, and one district received cash.

As in SFPS-II, the sample was stratified by the Farm Production Regions used by USDA to ensure that the sample was evenly distributed across the country. Dividing the sample among the ten regions in the chart below (Figure AI-1) permits examination of whether differences in procurement of certain items, such as fresh fruits and vegetables, are related to purchase location of the products. Each of the regional strata was assigned a share of the total sample, prorated by total regional student enrollment. The school districts within each region were distributed to the four quarters of the year as evenly (with regard to total enrollment) as possible.

The allocation of the sample by state is provided in Table AI-2. The allocation of the sample enrollment by region and school districts by quarter is provided in Table AI-3. The same sampling frame and similar methodologies for sample selection were used in the 1996/97 School Food Purchase Study. This facilitates comparisons of the results of the two studies.

Figure AI-1: Farm production regions



SCHOOL FOOD PURCHASE STUDY-III

APPENDIX I

Table A1-2: Number of school districts in the sample by region and by state

Region/state		Number of school districts	Region/state		Number of school districts	
Northeast	Connecticut	12	Appalachia	Kentucky	11	
	District of Columbia	1		North Carolina	15	
	Delaware	3		Tennessee	10	
	Massachusetts	16		Virginia	17	
	Maryland	5		West Virginia	8	
	Maine	1		Total	61	
	New Hampshire	3		Southeast	Alabama	18
	New Jersey	12			Florida	25
	New York	26			Georgia	25
	Pennsylvania	31			South Carolina	10
	Rhode Island	1			Total	78
	Vermont	2		Delta	Arkansas	7
	Total	113			Louisiana	8
					Mississippi	8
Lake States	Michigan	18	Southern Plains	Total	23	
	Minnesota	12		Oklahoma	9	
	Wisconsin	12		Texas	59	
Total	42		Total	68		
Midwest	Iowa	6	Mountain	Arizona	6	
	Illinois	16		Colorado	13	
	Indiana	11		Idaho	7	
	Missouri	14		Montana	4	
	Ohio	27		New Mexico	7	
Total	74		Nevada	4		
Northern Plains	Kansas	8	Pacific	Utah	2	
	North Dakota	1		Total	43	
	Nebraska	3		California	49	
	South Dakota	1		Oregon	12	
	Total	13		Washington	24	
			Total	85		
Grand total					600	

Source: School Food Purchase Study, 2011

Table AI-3: Allocation of the sample by region and by quarter

Region	Enrollment ^{1/}		School district sample by quarter				
	Number of students	Percent of total	1	2	3	4	Total
Northeast	8,878,387	18.5	28	29	28	28	113
Lake States	3,240,611	6.8	11	11	10	10	42
Midwest	6,063,714	12.6	19	18	19	18	74
Northern Plains	970,633	2.0	4	3	3	3	13
Appalachia	4,574,945	9.5	15	14	16	16	61
Southeast	5,798,040	12.1	20	19	19	20	78
Delta	1,686,485	3.5	5	6	6	6	23
Southern Plains	5,420,216	11.3	17	17	17	17	68
Mountain	3,628,429	7.6	10	11	11	11	43
Pacific	7,737,901	16.1	21	22	21	21	85
Total	47,999,361	100.0	150	150	150	150	600

^{1/} Enrollment figures as per the National Data Bank, Version 8.2
 Source: School Food Purchase Study, 2011

The final stratification separated SFAs into those that operate independently and those that are operated by FSMCs. SFPS-II found that 9.7 percent of SFAs were operated by FSMCs. When the current study was launched, it was estimated from the QED database that FSMCs were operating SFAs accounting for 14.7 percent of enrollment. The purpose of this stratification was to reduce the variance in the number of FSMCs in the sample, i.e. reduce the chance of accidentally drawing fewer FSMCs than expected.

A systematic or fixed-interval sampling technique was used because it guarantees a representative distribution of district sizes in the sample. This technique orders the schools in a stratum by size, forming a vector of their cumulative size measures. Then a skip interval is computed as the ratio of total size to the number of samples to be drawn. For example, if the total size of the stratum were 100,000 and a sample of ten were to be drawn, the skip interval would be 10,000. The school district is drawn by taking a random point on the first skip interval and determining what school district corresponds to that point on the cumulative size vector (CSV). For example, if the random draw were 5,000, and the boundaries on the CSV were 4,000, 7,000, 9,000, etc., that draw would pick the second school district lying between 4,000 and 7,000 on the CSV. Then the skip interval is added repeatedly to the random draw, giving 15,000, 25,000, etc., to pick the school districts whose intervals on the CSV contain the random picks until the sample of ten is drawn.

Finally, provision was made for nonresponse by drawing a sample of $400/(1-NRR)$, where NRR is the nonresponse rate. Then the nonresponse can be expected to reduce the net sample size to the target of 400. As the nonresponse rate experienced in SFPS-II was very close to one-third, a sample of 600 school districts was used.

I.3 Recruitment and training

Recruiting the selected sites required a combination of art and skill. Time pressed and frequently staff constrained SFAs are often reluctant to participate in national data collection efforts and convincing them requires knowledge of the expected burden and the ability to demonstrate the benefits of participation to the program as a whole. Various steps were taken to maximize the success of the recruitment effort. Contractor and subcontractor staff had a strong and consistent record of recruiting SFAs and maintaining their participation in similar USDA studies. To ensure higher recruitment rates, the team was augmented with two recruiters, each with extensive personal experience as a School Food Service Director. Special measures were also used in recruitment of FSMCs, which had proved challenging in SFPS-II. Once the sample was identified, senior contractor staff first contacted the head offices of the FSMCs with school districts in the sample to enlist their support for the study. The arguments for participation were carefully developed to emphasize the benefits to many in the school meals sector as a result of having a sound information base upon which to make administrative, policy and commercial decisions.

During the 1996/97 School Food Purchase Study the participating SFAs were provided with a nominal compensation to help offset the costs they incur during the data collection phase. They were allowed to use these funds at their discretion. The intent was to ease any financial burden they would have as a result of participation (e.g. staff time). The ability to collect more of the data this time via electronic submission, was anticipated to reduce the costs of copying and postage somewhat. However, it was judged necessary to once again offer small monetary compensation to participating SFAs. During SFPS-II, school districts were offered a payment of 0.7 cents per free or reduced price meal served in October, with a minimum of \$70 and a maximum of \$270. The average payment was approximately \$200 per SFA. For SFPS-III, they were offered a payment of 1.0 cent per meal and a minimum of \$100 and maximum of \$400. The average payment was approximately \$328 per SFA or a total of \$137,655 for the SFAs in the contiguous 48 states and District of Columbia.

The recruitment process involved the following steps

1. Initial call to FNS Regional Office staff to introduce project staff, and answer questions.
2. Notification of FNS Regional Offices about the school districts included in the sample from their respective regions.
3. Notification of State Child Nutrition Directors about the school districts within their states that are included in the sample and request that they:
 - verify the school district's participation in the NSLP;
 - provide names, addresses, telephone numbers and information on number and types of reimbursable meals served by each SFA in October 2008 for the purpose of calculating the administrative allowance; and
 - provide information on any special circumstances that should be considered in recruiting these districts to participate in the study.

4. Once the State Child Nutrition Directors had reviewed and commented on the list of school districts in the sample, a letter of introduction was sent to all sites selected for each specific quarter. The letter briefly outlined the study and the overall rationale for the study questions, and served as notification of an upcoming call from data collection staff. The support of the School Nutrition Association had been obtained and a letter in support of the survey was prepared and signed by their Executive Director. The letter of support was included in the initial package sent to State Child Nutrition directors and to individual SFAs in the sample.
5. Call to SFA contact (food service director, school district superintendent or designee) to obtain agreement. During this call, the recruiter described the incentives, such as the administrative allowance, and the benefits of the study to the NSLP, and verified the correct mailing address and e-mail address.
6. Once there was agreement to participate, the final step was to establish contact with the person that would actually be responsible for providing the food purchase data.

FSMCs were contacted at a senior level in their head office to assure them of the confidentiality of the data and the care that would be taken in ensuring that no individual company information would be identified. They were shown the SFPS-II report and urged to recognize the benefits of accurate and representative data on the characteristics of school food expenditure for all who service this sector.

Out of the 600 school districts, eight did not participate in the NSLP and were not eligible for participation in the study. Of the remaining 592 districts, 444 agreed to participate. During the data collection process an additional 24 districts either cancelled their participation or could not provide complete sets of food purchase data before the cut-off for data collection. Overall, 420 districts (70%) either responded to the procurement practices survey or provided food purchase data by the final cutoff date (October 31, 2010). This response rate was higher than the original target of 400 participating districts. Details by quarter are shown in Table A1-4.

Table A1-4: Final count of participation within the sample of 600 public unified NSLP districts

Quarter	Participation status	Numbers of districts participating			Total
		Procurement practices survey	Food purchase data	Participated in both	
1	Ineligible				2
	Dropped/ incomplete				6
	Refused				44
	Participated	98	98	98	98
	Total	98	98	98	150
	Participation rate (%)	65%	65%	65%	
2	Ineligible				1
	Dropped/incomplete				10
	Refused				30
	Participated	107	107	105	109
	Total	107	107	105	150

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX I

Quarter	Participation status	Numbers of districts participating			Total
		Procurement practices survey	Food purchase data	Participated in both	
	Participation rate (%)	71%	71%	70%	
3	Ineligible				2
	Dropped/incomplete				3
	Refused				45
	Participated	99	93	92	100
	Total	99	93	92	150
	Participation rate (%)	66%	62%	61%	
4	Ineligible				3
	Dropped/incomplete				5
	Refused				29
	Participated	112	110	109	113
	Total	112	110	109	150
	Participation rate (%)	75%	73%	73%	
Grand Total		416	408	404	600
Total participation rate (%)		69%	68%	67%	

Source: School Food Purchase Study, 2011

One hundred and seventy two eligible school districts did not participate in the study. Of these, 24 had initially indicated that they would participate but failed to meet their commitment. The remaining 148 districts indicated that they did not want to participate at the time of the initial recruitment call. The reasons for non-participation are itemized in Table AI-5.

Table AI-5: Reasons for non-response

Non participation in either data collection component		Reason for non-response
Refused	Dropped*	
82	6	Lack of staff resources/lack of time
20	5	Staff change/issue
19	5	Unknown/other/unresponsive
6	1	FSMC would not agree
3	4	No/inadequate food purchase data availability
4	1	Hung up (immediately/after initial agreement to participate)
4	-	Supervisor declined
4	-	Unhappy with study/district doesn't do studies
3	-	Recently participated in similar study
1	-	Flood damage recently
0	1	Unable to provide data
1	-	Not certain data will be confidential
0	1	Computer issue
1	-	Unhappy with previous FNS study
8	-	Ineligible
156	24	Total

* Dropped = not complete after initial agreement to participate

Source: School Food Purchase Study, 2011

The most common reason for non-participation was the lack of staff or other resources to assist, followed by staff changes or related issues (e.g. illness, maternity leave, change in staff management, etc.). Twenty four districts either did not give a reason for refusal to participate (four of which simply hung up on recruiters). Four other districts were uncomfortable undertaking the study and one had been unhappy with a previous (unidentified) study. Three others had recently participated in a similar study and were not prepared to assist with another one. Six indicated that their FSMC did not want to participate, and one FSMC-managed district could not provide the data before the deadline, despite the full backing for the study from senior FSMC management.

To produce national estimates for public unified school districts participating in the NSLP and/or SBP, three sets of weights were developed for the final sample of cooperating school districts in the 48 contiguous states and the District of Columbia. Different sets of weights were necessary because the response rates for the procurement practices survey and the submission of food purchase data were different. The three sets of weights derived were for those who provided food purchase data, those who submitted procurement practices data, and the intersection of those who submitted both sets of data.

Sub-contractor staff and the consultants responsible for recruitment served as trainers for the SFA staff that would be submitting the food purchase data. These individuals were knowledgeable in school food service procedures, purchasing practices, likely SFA burden, FNS protocols and administrative requirements. They had previously participated in school food service data collection efforts and/or worked as a school food service director.

This task could more accurately be called “data negotiation”. Participants were provided a training manual that reviewed the study requirements, optional methods for providing food purchase data, information about how school districts would receive their administrative allowance, and instructions for use of the 800 number to reach data collection office staff.

About one week after the training manuals were sent, training/data negotiation calls were made to the key contact in each participating SFA. The purpose of the call was to establish the most efficient, least burdensome way for them to provide the required data, and to collect information about the SFA and its vendors.

I.4 Data collection and processing

There were two main forms of data collection: the food purchase information for a three-month period submitted by the SFA, and a Procurement Practices Survey (PPS) completed by the SFA after the quarter’s food purchase information had been completed. In addition, the Department of Defense provided volume and value data by state for each product supplied through its Fresh Fruit and Vegetable Program, and the Food and Nutrition Service provided nationally aggregated data on the volume and value of USDA Food donations.

Instruments to collect data on school food purchases and procurement practices were developed. These followed closely the instruments that had been developed for SFPS-II to assist the assembly of comparative data. In addition to capturing basic information on procurement practices similar to SFPS-II, the survey

form was adjusted to capture issues of current interest to FNS, such as for example, the use of the Department of Defense Fresh Fruit and Vegetable Program, the use of local foods, and the development of food safety protocols.

The instruments were tested in SFAs in Maryland, Virginia, and North Carolina, and some minor adjustments were made.

1.4.1 Food purchase information

A Data Collection Office with a staff of about ten was set up to process all the food purchase information submitted by participating SFAs. The same food coding system was used as in SFPS-II but some adjustments were made to the categorization of different foods. This system is also referred to as the food file. Some of the groups of foods were separated into finer subgroups to focus attention on certain foods with particular relevance to nutritional issues. As for SFPS-II, highlighters and descriptors were added for certain types of products indicating nutritional or other key product features. Also, as the study progressed, new food groups were added and new subgroups created. A crosswalk was prepared to link phrases that may appear in food item descriptions and the appropriate highlighter codes for use by data transcribers. A copy of the final food file is provided in Appendix 8 of this report.

Food purchase data collection was tailored to the individual district's needs and abilities while removing as much of the burden as possible from the school districts and ensuring the quality of the data. Districts could choose one of the following methods or a combination of methods to best suit their needs:

- **Vendor summaries:** Many of the participating districts had one or more vendors who were able to provide a monthly summary of purchased foods. The use of such summaries imposes no burden on the district except to request such a summary. SFAs were provided a sample letter which could be used to request information.
- **Copies of invoices:** For vendors without summary capability, districts usually preferred to send copies of invoices. This method is relatively cost effective for districts because no knowledge of food purchasing is required.
- **Tally sheets:** For food items such as bread, milk, and snack items, some districts preferred to send in tally sheets compiled at the district offices. This method is generally quicker and more efficient than copying invoices since tally sheets generally cover many deliveries, but only for a few, similarly priced products in a limited range of sizes.
- **Bid specifications:** The quality of the data collected from invoices and tally sheets can be greatly enhanced by reference to district bid specifications. These documents provide more detailed information about product characteristics, i.e., fat content in ground beef or salad dressings, and unit size and weight information.

As the data arrived, it was subject to comprehensive checking. The different data checks are summarized below.

- The data were checked for completeness – for example, a comparison was made with the vendors identified during the negotiation call, vendor lists were checked for continuity and all items were checked for product/pack size and price;

- Check for duplications – there were several different types of duplication which were necessary to look out for;
- Check for transcription errors such as in the unit codes, highlighters, or unit sizes;
- Check the cost per pound and examine for outliers for each of the different food codes;
- Check consistent spelling of all text so that filtering of data by name could be undertaken; and,
- Check for clear identification of donated USDA Foods.

Any obvious problems were referred back to the district and missing data or inconsistencies were checked. Where necessary, corrected or missing data were requested to be sent to the Data Collection Office.

After an additional check for accuracy, the data were transcribed and added to the database.

The data was then subjected to further, more detailed, edit checks for finalization in the data base. The procedure was as follows:

- Check all the highlighters (except product codes) and nutrition codes to confirm they were correct and consistently used;
- Where available, assign product weights to the data where these were missing;
- Where new products emerged, product weights were referred to contractor staff who researched various sources such as the SFPS-II study or various USDA publications;
- Check percentages in each food group to identify possible omissions or mistakes;
- Check price data for groups of products to assess inconsistencies and outliers.
- Standardize the price information to ensure that it was uniformly presented (including credits and charges).
- Where delivery charges were identified, they were allocated to a separate food code for later reallocation to product values.
- Sort the food codes and descriptors and check for consistency;
- Identify questions that we needed to be asked to the school districts (e.g. milk fat content of milk, possible missing food groups, etc).

Following finalization of the data of each school district, a copy was sent to the district for checking and for identification of foods used in à la carte.

Once the transcription activities were complete, a series of final edit checks were performed by the contractor's Alexandria office using statistical analysis methodology and SPSS software version 18. The Alexandria office was first sent a copy of the commercial data for analysis. The data was converted to a normalized unit of measure "price per pound" which could be compared. The first round of edits

consisted of running a statistical analysis of price per pound by the food item. This is a relatively broad analysis that enabled the extreme outliers to be identified and removed first (SPSS default is to show the five highest and five lowest outliers). Extreme values were compared to the histogram for each food code. Anything over approximately 2.5 standard deviations was flagged. Several hundred outliers were identified by the Alexandria office and were sent back to the Data Collection Office for review. Only a fraction turned out to be legitimate outliers. The Data Collection Office sent a revised file for further analysis.

A second analysis was run using the food code against the price per pound, the narrowest analysis performable. Again several hundred outliers were identified and only a handful turned out to be legitimate. A second revision followed and an analysis was again run using the food code against the price per pound. No outliers were found to be legitimate in the last round. In all less than 0.5 percent of the commercial data was found to have an error that had to be corrected.

The USDA Food data set was analyzed the same way but one run was sufficient to eliminate the handful of errors found. The DoD data we received was organized by state and by individual product delivery. The data was reorganized to provide average product value and volume by state. The FNS data provided volume and value for the US as a whole. DoD products are as delivered to districts, while FNS data are as delivered to one location in each state or to the larger school districts.

1.4.2 Procurement Practices Survey data

The procurement practices survey (PPS) was managed from the contractor's Alexandria office. The survey instrument was sent to participating SFAs by email at the end of the quarter during which they were assigned to provide food purchase data. At this stage, most participant districts had not sent all of their food purchase data. Participants were asked to return the completed survey within one month. To those that had not responded to this deadline, several reminders were sent – after two weeks, one month, and finally a telephone follow-up. Assistance was offered by telephone to all who had questions or were finding the survey too challenging. Only four districts that provided food purchase data did not complete a PPS. Twelve districts that completed a PPS did not provide a useable set of food purchase data.

Once received, the data were checked for completeness and for logic and any questions were followed up with a telephone call or an e-mail to the district. When all issues had been resolved, the data were entered into the procurement practices database. This database included information that allowed matching with data in the food purchase and donated USDA Food databases.

The PPS database consists of 416 records and 450 variables (187,200 data points). Excel 2010 was used almost exclusively to perform all the edit checks in the PPS. Edit checks are much harder to perform on this dataset because of the nature of the data and the format. Variables were checked for internal consistency. Individual variables were summed and compared to the record totals; if these did not match then the survey was consulted to determine the source of the error. In some cases, respondents were contacted to review their answers. The numerical variables in the dataset were reviewed to flag the highest and lowest 5%. These were then checked against the survey form. Roughly 1.5% of the data was reviewed as a result of these procedures.

Edit checks were also carried out variable by variable to determine that the coding scheme had been followed in every case and as a double check for outliers. This round of edits yielded mostly coding

inconsistencies and very few errors. As a final step, logical, pairwise variable checks were used to determine data integrity.

Issues related to the completeness and quality of the PPS data were resolved. Most of the problems were related either to failure to answer some questions or inconsistencies in the data provided (e.g. the addition of columns or rows not matching the totals).

1.4.3 Merging the databases

The data was delivered in Excel format which needed to be concatenated, normalized, and coded for SPSS analysis. The food purchase data was delivered in two databases along with the food file database that documented additional characteristics such as food groups/subgroups and individual food codes. The dataset of commercially purchased food consisted of 131,470 cases and 17 variables (2,234,990 data points). The donated USDA Food dataset is approximately 8,231 cases and 20 variables (164,620 data points). Processed foods containing donated USDA Foods are included in the commercially purchased food database. The food file is 1,028 cases and 7 variables (7,196 data points).

Before the datasets were joined, additional delivery charges were allocated across delivered products, and additional variables needed to be created.

Where additional delivery charges were included at the line item level and were not allocated to a particular shipment or food code, they were allocated in proportion to the pounds of products. We applied an algorithm to calculate and distribute the delivery charges for each district to each food code. This created a new variable of total cost plus delivery charges (DEL_COST), weighted by the total product weight. For the SFAs whose item prices already included delivery charges, the TOT_COST value was simply copied to the new variable DEL_COST.

After the databases were combined, two additional variables were created (CASE_NUM and DATABASE). CASE_NUM was used to identify the location of a record in the joined database, while the DATABASE variable was used to identify the record in its original database. The full dataset of commercially purchased food, processed foods containing donated USDA Foods, donated USDA Foods and DOD purchases, with the addition of the new variables, consists of 143,294 cases and 30 variables (4,298,820 data points).

1.5 Valuation of donated USDA Foods

The majority of donated foods arrive at the SFA in the same form that they were purchased by USDA. A smaller portion arrives in a more processed form through commodity processing agreements. In 2009/10 \$1.128 billion of USDA Foods were made available to schools. The majority of donated foods diverted for further processing are shipped directly from the USDA supplier to the processor designated by the state agency or SFA. In rare instances, donated foods are routed through the SFA before moving to the processor and back again as finished product.

Depending on the type of contract negotiated, the state agency or SFA purchases finished end products from the processors through a variety of distribution channels often at a discount or with a rebate that reflects the value of the donated food ingredients contained in each case. A third payment option is a fee

for service which is usually used for meat and poultry products. Under this arrangement the end products are sold at a processing fee, which represents the processor's costs for labor, packaging, other ingredients, and administrative overhead. With a fee for service, the value of the donated commodities in the end products is not included in the price of the product.

Processed products using donated USDA Foods are available from contracts negotiated by the state, the SFA or USDA as follows:

- **NPA processing.** Almost all states participate in some form of National Processing Agreement (NPA). As of SY 2009/10, there were 121 NPA processors of USDA Foods. Under this agreement the state agency or SFA procures processed end products from approved manufacturers. Donated food ingredients are shipped directly from the USDA supplier to the processor designated by the state agency or SFA.
- **State processing.** This is where state agencies negotiate processing agreements on behalf of their SFAs. The state agency conducts the procurement to select the processors and the end products. The state also designates the end product delivery point and billing terms. Donated food ingredients are shipped directly to processors from the USDA supplier. In some instances the processor invoices the state agency for finished end products shipped to a destination specified by the state agency. In other instances the processor invoices each SFA individually for the processed product they receive. Approximately 10 states currently use state-wide procurement of processing contracts to select further processors and end products on behalf of their SFAs.
- **SFA processing.** Under this type of arrangement, larger SFAs conduct the procurement and negotiate the processing contracts rather than the state. These arrangements are fairly rare, usually involving an in-state processor, and require the approval of the state agency. An SFA seeking this type of arrangement would typically be the only SFA in the state desiring end products from a specific processor. The processors may be supplied with the donated USDA Foods through the SFA. These products are important to identify so that the USDA Foods are not double-counted - once as received by the SFA and again as received in the form of a processed product.

SFAs sometimes had difficulty identifying donated USDA Foods in the documentation forwarded to the study Data Collection Office. Deliveries of donated USDA Foods may be combined with commercial purchases and food service managers may only note these deliveries if they are part of the delivery slip.

The same issue arises with processed foods prepared with donated USDA Foods. For those districts that were unable to provide this information, we contacted a relatively small number of State Distribution Agencies. All of the State Distribution Agencies were able to provide this information promptly. Regular USDA Foods were identified from state delivery slips or invoices or as marked on vendor summaries. While it may have been more efficient to collect these data from State Distribution Agencies for all districts, it would have been challenging to disentangle these products from the deliveries reported by school districts.

We were required to value the entitlement and bonus USDA Foods in two different ways. The first method was to follow the procedures used in SFPS-II and establish a fair market price. This was the price of similar products purchased from the marketplace by the district or by other districts in the state, region or nation. This price was identified from the purchase of identical products in the same region, in an identical procedure to that adopted for SFPS-II.

The second method was to use the price charged by the government agency procuring and delivering products to the district. The food distribution division of FNS arranges delivery of requested entitlement and bonus donations purchased or otherwise acquired by USDA. These are delivered to a single location within the state and not to individual districts unless it is a large district. The price includes a delivery charge to that single location but not the cost of delivering to individual districts.

We also had to identify two prices for deliveries under the Department of Defense (DoD) Fresh Fruit and Vegetable Program. The DoD price includes delivery to the individual district. From this data we calculated average quarterly prices for each state for each food item delivered by DOD. The procedure for assessing the fair market price for these DOD donations is identical to that used for the USDA donations.

Another issue was the delivery of processed items by state distribution agencies for which no price was given. These products, such as chicken nuggets and cooked ground beef patties, presented two problems. The first was identifying the products as processed USDA Foods as opposed to USDA purchases. This identification was particularly difficult for beef products and turkey products. USDA buys and distributes turkey deli meat and it is also delivered as a processed item. Products for which identification was difficult were flagged and the products were assigned a USDA code or treated as a processed product. The decision was based on pack size and by going back to the original data to check for more information. Sometimes we could determine that the product was a processed commodity by whether or not the district received it as part of their state delivery of other processed items.

The second problem was assigning a price. The commodity processed items were assigned prices by looking for comparable USDA processed products within the SFA's state; then within the region and finally within the entire database. Those products are included in the food purchase database and are marked with a code for unknown pass through system.

1.6 Derivation of final weights

The approach for derivation of final weights was similar to that used for SFPS-II, except that three sets of final weights were calculated – one for the 416 SFAs that completed the Procurement Practices Survey, one for the 408 SFAs that submitted food purchase data, and one for the 404 SFAs that did both. The weights that provide national estimates are derived in three stages of computation. Initially, each school district is assigned a weight that is the inverse probability of being drawn in the modified PPS sampling discussed above. Then these weights are calibrated to known enrollment totals. After recruitment and data collection, the final weights are obtained by redistributing nonrespondents' weights to the respondents within homogeneity response groups (HRG).

Here is a more detailed description of the steps in computing the final weights that shows how the derivation of the weights links up with the generation of national estimates:

- The sample of 600 is drawn by region with modified PPS. For each SFA the inverse probability of selection is recorded as the draft weight. Each region/FSMC-status stratum gets a number of SFAs that reflects its share of total population enrollment.
- Within each region/FSMC-status stratum, the sample SFAs are distributed evenly and at random to the four quarters. As the number of SFAs per region is not necessarily a multiple of four, some quarters will have one more or one less than other quarters. As much as possible, this allocation is also done evenly with respect to SFA enrollment. One final constraint on this allocation is that a total of 150 SFAs, one-quarter of 600, are assigned to each quarter.
- For each cell in the design with specified region, quarter, and FSMC status, the ratio of the cell's total enrollment in the population to the (draft) weighted enrollment of the sample SFAs assigned to it is recorded as the cell-calibration factor.
- After recruitment, the responsive SFAs were grouped into homogeneity response groups (HRGs) to adjust the weights for nonresponse. The HRGs are the cells further divided by enrollment level. The larger regions are divided into three HRGs by small, medium, and large enrollment. The smaller regions may be divided into only two (large and small) HRGs. Within each HRG the inverse of the weighted-average response rate becomes the nonresponse adjustment factor. This factor raises the weights of the responding SFAs to account for the SFAs that were nonresponsive by redistributing the weights of non-respondents to respondents.
- The final weights are computed as the triple product of the draft weights, the cell-calibration factors, and the nonresponse adjustment factors. A test that we perform to check the final-weight computations illustrates their function. If the final weights are correct, the sum of the products of the final weights times the sample SFA enrollments (the inner product) will equal the total population enrollment.

With these adjustments the final weights can be used to raise the food cost or PPS data from the sampled SFAs up to the national level or to any subset level of the population, such as a particular quarter or region. Thus, a researcher can compute the ten regional estimates of ground beef costs and then add those up to get a national estimate of ground beef cost, if desired. Another who is interested only in national estimates can go straight to that level without any intermediate aggregations. The same comment applies to quarterly estimates as well.

I.7 Evaluation of standard errors

The standard errors of survey variables were estimated using a bootstrap (or resampling) approach – the same technique that was used for the last survey. The bootstrap method requires a computer program to create many alternative samples from the survey data. These samples are drawn with replacement from the observed data. Then simulated national estimates of variables are collected as the program resamples many times, and the variance among those simulated samples will be our variance estimate. As it arrives at

the simulated samples, the program simulates every step in the process of obtaining the final data from drawing the original sample, nonresponse, and final weight calculation.

We used a logistic model to test whether the nonresponse rate varied significantly among groups or types of SFAs. The results showed no significant variation by region or quarter. The enrollment size of an SFA was not significant. This effect was tested two ways. One method was to enter the number of students. The other used the size rank of SFAs within the region. Neither was significant.

The only significant effect was for FSMC status, which is harmless and controlled because we stratify on that factor. SFAs with an FSMC were more likely to be nonresponsive. The p-value on this test was less than one percent. This result indicates that it was important to stratify by FSMC status, not only to reduce the overall variance of the estimates, but also to control for the different response rate.

The estimated standard errors for a selected list of prominent food items and SFA characteristics, and the confidence intervals calculated on the basis of a 90 percent confidence level, are provided in Table A1-6.

Table A1-6: Standard error of estimate for selected variables

Variable	Unit	48-State projection	Standard error	90-Percent confidence interval		Confidence interval as % of estimate
				Lower bound	Upper bound	
All acquired food	\$m	\$8,536	\$128.3	\$8,323	\$8,749	5.0%
Purchased ground beef	\$m	\$38	\$2.5	\$34	\$42	21.7%
Donated ground beef	\$m	\$56	\$5.2	\$47	\$64	31.0%
Purchased 2% fluid milk	\$m	\$70	\$5.8	\$60	\$80	27.5%
Purchased 1% flavored milk	\$m	\$550	\$21.1	\$515	\$585	12.7%
Purchased 1% flavored milk	tons	673,247	24,432	632,852	713,642	12.0%
Number of lunches served	mill	5,054	100	4,887	5,221	6.6%
Number of free lunches served	mill	2,771	84	2,627	2,915	10.4%
Number of SFAs with an FSMC	count	1,462	86	1,319	1,605	19.5%
Number of NSLP schools	count	87,832	1533	85,329	90,335	5.7%

Source: School Food Purchase Study, 2011

APPENDIX 2: PROCUREMENT PRACTICES SURVEY

SCHOOL FOOD PURCHASE STUDY

PROCUREMENT PRACTICES SURVEY

This survey is being conducted for the Food and Nutrition Service, U.S. Department of Agriculture as part of a study of school food purchases of public school systems throughout the nation. The information gathered through this survey supplements detailed information on food purchases and USDA food donations collected over the past three months. **All responses will be treated in strict confidence; only aggregated results will be reported.**

To assist you in completing this survey, we have defined the terms that are used. They appear in shaded boxes throughout the survey. If you need help in answering any of the questions, please call us toll free at 1-866-461-4378, ext. 112 and ask for the School Food Study Project.

Unless otherwise indicated, the information you provide should be for the same three-month period for which you have provided data on food purchases and USDA donated foods, i.e., **July to September, 2009**

The form can be completed either electronically when you open the file on your computer, or you can print it and complete it by hand.

Please return survey by October 30, 2009 by:

Email: gbaker@promarinternational.com

Fax: 703 739 9098

or

Mail:

School Food Purchase Study

Promar International

1737 King Street, Suite 330

Alexandria, VA 22314

School District Name: _____

Date: _____

Name and address of Food Service Director

Name: _____

Title: _____

Address: _____

Telephone: (____) _____

Email: _____

Name and address of person filling out this survey if other than Food Service Director

Name: _____

Title: _____

Address: _____

Telephone: (____) _____

Email: _____

OMB Clearance Number: 0584-0471

Expiration Date: 06/30/2012

Public reporting burden for this collection of information is estimated to average 1.25 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. **An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.** Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to: U.S. Department of Agriculture, Food and Nutrition Service, Office of Research and Analysis, Room 1014, Alexandria, VA 22302 ATTN: PRA (0584-xxxx*). **Do not return the completed form to this address.**

I SCHOOL DISTRICT CHARACTERISTICS

In this section we ask several questions about the schools within your school district. In answering these questions please use the following definitions:

Elementary School: Any school that has a pre-kindergarten or kindergarten or Grade 1 or Grade 2 or Grade 3 **and** no class higher than Grade 6

Middle/Secondary School: A school with no grade lower than Grade 6

Other School: All other schools.

Reminder: The information requested here is for **School Year 2009/10**.

I.1 Number of Schools. How many schools are there in your school district and how many are participating in the National School Lunch Program (NSLP) and/or the School Breakfast Program (SBP) during the 2009/10 School Year? Please record separately for elementary and middle/secondary schools as defined above.

Number of Schools	<u>Elementary</u>	<u>Middle/Secondary</u>	<u>Other*</u>	<u>Total</u>
Total Number	_____	_____	_____	_____
Number participating in NSLP only	_____	_____	_____	_____
Number participating in SBP only	_____	_____	_____	_____
Number participating in both NSLP and SBP	_____	_____	_____	_____
Number of SBP severe-need schools	_____	_____	_____	_____

* Briefly describe any "other" schools here: _____

I.2 Student Enrollment. Indicate total student enrollment, average daily attendance, and the number of students approved to receive free and reduced price meals as of October 31, 2009.

Number of Students	<u>Elementary</u>	<u>Middle/Secondary</u>	<u>Other</u>	<u>Total</u>
Total Student Enrollment	_____	_____	_____	_____
Average Daily Attendance	_____	_____	_____	_____
Number approved to receive:				
free meals	_____	_____	_____	_____
reduced price meals	_____	_____	_____	_____

- a) Do any of the students included in "Total Student Enrollment" not have access to school lunches or school breakfasts (e.g. kindergartners who are not in session at meal time)?

YES _____

NO _____

(IF **NO**, SKIP TO QUESTION 1.3)

- b) If **YES**, indicate number of students who do **not** have access.

	<u>Elementary</u>	<u>Middle/Secondary</u>	<u>Other*</u>	<u>Total</u>
NSLP	_____	_____	_____	_____
SBP	_____	_____	_____	_____

- 1.3** **Number of serving days/number of meals served.** Record the number of serving days and the number of student lunches and student breakfasts served, indicating whether they were full price, reduced price, or free. If your district operates under provisions 1, 2, or 3 of the NSLP regulations, you may indicate the number of meals claimed in each category. Please provide this information for School Year 2008/09 and for the period July-September, 2009.

	<u>School Year</u> <u>2008/09</u>	<u>July – September,</u> <u>2009</u>
Student Lunches		
Number of serving days*	_____	_____
Number of full price lunches served/claimed	_____	_____
Number of reduced price lunches served/claimed	_____	_____
Number of free lunches served/claimed	_____	_____
Student Breakfasts		
Number of serving days*	_____	_____
Number of full price breakfasts served/claimed	_____	_____
Number of reduced price breakfasts served/claimed	_____	_____
Number of free breakfasts served/claimed (include severe need)	_____	_____
Number of severe need breakfasts served/claimed	_____	_____
Number of After School Snack program meals claimed	_____	_____

* If there are differences among schools within the school district, provide average number.

1.4 Year-round schools. Do any of the schools in your district that participate in the NSLP or SBP operate year round?

YES _____

NO _____

(IF **NO**, SKIP TO QUESTION 1.5)

a) If **YES**, indicate the number of schools.

	<u>Elementary</u>	<u>Middle/Secondary</u>	<u>Other*</u>	<u>Total</u>
Year-round schools	_____	_____	_____	_____

b) If **YES**, indicate the number of students included in "Total Student Enrollment" (Question 1.2) that are enrolled in year-round schools.

	<u>Elementary</u>	<u>Middle/Secondary</u>	<u>Other*</u>	<u>Total</u>
Enrolled in year-round schools	_____	_____	_____	_____

1.5 Meal Prices. As of October 31, 2009, what prices were charged to students for full price and for reduced price lunches and breakfasts in your school district by level of school?

For full price lunches and breakfasts, we have provided space for more than one price if multiple prices were offered (e.g. higher price for larger portions or discount for weekly meal ticket). If you indicate more than one charge for full price meals, please indicate the share of meals sold at each price.

Student Lunch Prices	<u>Elementary</u>	<u>Share of Full Price Meals at each price</u>	<u>Middle/Secondary</u>	<u>Share of Full Price Meals at each price</u>
Full price lunch	\$ _____	% _____	\$ _____	% _____
	\$ _____	% _____	\$ _____	% _____
	\$ _____	% _____	\$ _____	% _____
		100%		100%
Reduced price lunch	\$ _____		\$ _____	
Student Breakfast Prices				
Full price breakfast	\$ _____	% _____	\$ _____	% _____
	\$ _____	% _____	\$ _____	% _____
	\$ _____	% _____	\$ _____	% _____
		100%		100%
Reduced price breakfast	\$ _____		\$ _____	

1.6 Kitchen Types. How many of each of the following types of kitchens does your school district currently operate? Each type is briefly described. If you have kitchen types not described here, please record under "Other" and provide a brief description.

<u>Type</u>	<u>Number of kitchens</u>
Central kitchens where meals are prepared for serving at receiving or satellite schools. No student meals are served on-site at a central kitchen	_____
Base kitchen where meals are prepared for serving on-site and for shipment to other locations (including multiple locations within the same school).	_____
Receiving or satellite kitchens which obtain partially or fully prepared meals from base or central kitchens or an outside vendor. Other than re-heating or refrigeration, no food preparation occurs at a satellite kitchen	_____
Combination kitchens in which some food is prepared for on-site consumption and some food is received fully or partially prepared from a central or base kitchen.	_____
On-site kitchens where all meals served are prepared at the facility in which the kitchen is located.	_____
Other (describe)	_____
_____	_____
_____	_____
Total number of kitchens	_____

1.7 A la carte food sales. Do any of the schools in your school district offer foods on an a la carte basis?

YES _____ NO _____

(IF **NO**, SKIP TO QUESTION 1.8)

a) If **YES**, what was the total dollar amount of revenue from a la carte sales of foods and beverages for the entire 2008/09 School Year? What was total revenue from a la carte sales for the period **July-September, 2009?**

A la carte sales revenue

2008/09: \$ _____
 July-September, 2009: \$ _____

A la carte foods are those that are priced and sold on an individual item basis rather than as a unit or complete meal. This includes items from a reimbursable meal if sold separately. It also includes sales through vending machines using foods or beverages purchased through the school food service account.

- b) If **YES**, list the 10 top selling a la carte foods for elementary and middle/secondary schools. Describe in general terms (e.g. hamburgers, french fries, potato chips, milk, ice cream, cookies, etc.). If possible, base your response on dollar sales for **July-September, 2009**, ranked from largest to smallest. If that is not possible, please give us your best judgment as to what were the leading a la carte foods during that period.

For each item listed, please estimate the **percentage share of total dollar sales of that item** that was from a la carte sales during this period. For example:

- If there is an item that is only sold a la carte (e.g. candy, popcorn, soda), please fill in 100% in the space next to that item.
- If there is an item that is sold both a la carte and as part of the reimbursable meal (e.g. pizza, cookies, hamburgers, subs), then please estimate the percentage of the total value of the item sold a la carte. For example, if the value of total pizza sales consisted of 15% from a la carte sales and 85% from reimbursable meal sales then please write in 15% on the line next to pizza.

Since most of the items included on this list will represent aggregations of several individual food products (e.g. “cookies” might include 10 or 20 different types, package sizes, flavors, etc.), record the percentage share that applies to the entire group of products.

Leading A La Carte Items

<u>Elementary</u>		<u>Middle/Secondary</u>	
<u>Name of Item</u>	Percent of total sales of item <u>a la carte</u>	<u>Name of item</u>	Percent of total sales of item <u>a la carte</u>
1. _____	_____	1. _____	_____
2. _____	_____	2. _____	_____
3. _____	_____	3. _____	_____
4. _____	_____	4. _____	_____
5. _____	_____	5. _____	_____
6. _____	_____	6. _____	_____
7. _____	_____	7. _____	_____
8. _____	_____	8. _____	_____
9. _____	_____	9. _____	_____
10. _____	_____	10. _____	_____

1.8 **Number of schools offering food service options.** How many of the schools in your school district currently offer the following options to your students?

	Number of Schools			
	<u>Elementary</u>	<u>Middle/Secondary</u>	<u>Other</u>	<u>Total</u>
A la carte items during breakfast	_____	_____	_____	_____
A la carte items during lunch	_____	_____	_____	_____
Choice of NSLP entrees	_____	_____	_____	_____
Offer vs. serve	_____	_____	_____	_____
Open campus at lunch time	_____	_____	_____	_____
Vending machines	_____	_____	_____	_____
Snack bars	_____	_____	_____	_____
Electronic debit cards	_____	_____	_____	_____
Store selling food, other items	_____	_____	_____	_____
Free fresh fruit or vegetables	_____	_____	_____	_____

1.9 **Other food programs served.** Some school districts use their facilities to prepare foods for purposes other than breakfasts and lunches for students in their school system. Some examples are listed below. Please indicate with a check (x) which, if any, of these purposes you are currently providing meals or food to.

Check (x) all that apply

Reimbursable

- Head Start _____
- Elderly Nutrition Program _____
- Child and Adult Care Food Program _____
- After School Snack Program _____
- Summer Food Service Program _____
- Fresh Fruit and Vegetable Program _____
- Other schools or school systems _____
- Disaster Feeding _____
- Seamless Summer Option _____

Non-Reimbursable

- School staff meals _____
- School related events (e.g. athletic events, PTA meetings) _____
- Public catering _____
- Other day care _____
- Other(specify) _____
- _____

1.10 Other food program sales. If your school district had other food program sales (as noted in response to Question 1.9) during July-September, 2009, are the foods used for any of these other programs included among the food purchase information you have provided to us over the last 3 months?

YES _____

NO _____

(IF **NO**, SKIP TO QUESTION 1.11)

a) If **YES**, for those programs included in the food purchase data you submitted, please indicate separately the dollar amount of revenue for (a) those “other programs” that are reimbursable (e.g. Summer Food Service or food for other school systems), (b) those “other programs” that are non-reimbursable (e.g. staff meals or catering), and (c) the total for both. If your response is an estimate, indicate with a check (x) in the space titled “estimate.”

Revenues from other food program sales:

	School Year <u>2008/09</u>	<u>Estimate</u>	July-Sep. 2009	<u>Estimate</u>
(a) Reimbursable	\$ _____	<input type="checkbox"/>	\$ _____	<input type="checkbox"/>
(b) Non-reimbursable	\$ _____	<input type="checkbox"/>	\$ _____	<input type="checkbox"/>
(c) Total	\$ _____	<input type="checkbox"/>	\$ _____	<input type="checkbox"/>

1.11 Total food expenditures. What was the school district’s total expenditure for food and beverages during the 2008/09 School Year and during the July-September, 2009 period? Do not include expenditures for any nonfood supplies such as plastic wrap, paper and surface cleaning products. If your response is an estimate, indicate with a check (x).

Total Food Expenditures:		<u>Estimate</u>
School Year 2008/09	\$ _____	<input type="checkbox"/>
July-September, 2009	\$ _____	<input type="checkbox"/>

I.12 Number of schools using menu planning. How many of the schools in your school district use each of the following methods in planning their lunch menus?

The National School Lunch Act mandates that school meals "safeguard the health and well-being of the Nation's children". Participating schools must serve lunches that are consistent with the applicable recommendations of the most recent Dietary Guidelines for Americans. Local food service professionals have the choice of four menu planning approaches. These are defined as follows:

Nutrient Standard Menu Planning (sometimes called "NuMenus") - Attainment of minimum weekly nutrient levels based on nutrient analysis of all meal items conducted by the SFA.

Assisted Nutrient Standard Menu Planning (sometimes called "Assisted NuMenus") - Attainment of minimum weekly nutrient levels using approved menu cycles based on nutrient analysis conducted outside of the SFA by other sources.

Enhanced Food-Based Menu Planning - Attainment of minimum weekly nutrient levels by offering specific meal components in prescribed quantities with an emphasis on increased fruits, vegetables, and grain products.

Traditional Food-Based Meal Planning - Attainment of minimum weekly levels by offering a certain number of food items from specific meal components in prescribed quantities.

Alternate Menu Planning - Allows states and school districts to develop their own approaches to menu planning, subject to the guidelines established in the regulations.

	Number of Schools			
	<u>Elementary</u>	<u>Middle/ Secondary</u>	<u>Other</u>	<u>Total</u>
Nutrient Standard Menu Planning	_____	_____	_____	_____
Assisted Nutrient Standard Menu Planning	_____	_____	_____	_____
Enhanced Food-Based Menu Planning	_____	_____	_____	_____
Traditional Food-Based Meal Planning	_____	_____	_____	_____
Alternate Menu Planning	_____	_____	_____	_____

2 **PROCUREMENT PRACTICES AND PROCEDURES**

Questions in this section of the survey pertain to foods purchased commercially. Unless otherwise specified, they do not pertain to foods donated by the USDA, unless they have been used as ingredients in processed foods that you purchased commercially.

2.1 **Vendor selections.** Who in your school district has primary responsibility for determining where foods are purchased, i.e. which vendors are selected, whether by bid or other method? (If this person has more than one position, please select the position that best describes the person’s duties.)

	<u>Check (x)</u> <u>one</u>
District Food Service Director/Manager	_____
Business Office/Purchasing Department	_____
Nutritionist	_____
Kitchen Manager/Head Cook	_____
School Board	_____
Other (specify) _____	_____
_____	_____
_____	_____

2.2 **Food selection.** Who in your school district has primary responsibility for determining which foods are purchased? (Again, if this person has more than one position, select the one that best describes the person’s duties.)

	<u>Check (x)</u> <u>one</u>
District Food Service Director/Manager	_____
Business Office/Purchasing Department	_____
Nutritionist	_____
Kitchen Manager/Head Cook	_____
School Board	_____
Other (specify) _____	_____
_____	_____
_____	_____

2.3 Food service management companies. Is your food service operation currently under the direction of a private food service management company?

YES _____ NO _____

(IF **NO**, SKIP TO QUESTION 2.4)

a) If **YES**: Is the food service management company responsible for determining **where** foods are purchased (i.e. vendor selection)?

YES _____ NO _____

b) If **YES**, is the food service management company responsible for determining **which** foods are purchased (i.e. food selection)?

YES _____ NO _____

2.4 Nationally Branded Fast Food Products. Do you offer branded products from national fast food restaurant chains (e.g., Subway, Taco Bell, Pizza Hut, etc.) in you food service operation?

YES _____ NO _____

(IF **NO**, SKIP TO QUESTION 2.5)

a) If **YES**, how many schools offer these national branded products?

	<u>Elementary</u>	<u>Middle/Secondary</u>	<u>Other*</u>	<u>Total</u>
Number of Schools	_____	_____	_____	_____

b) If **YES**, which of the following do you offer? Check (x) all that apply

Arby's	_____	Pizza Hut	_____
Boardwalk Fries and Burgers	_____	Subway	_____
Burger King	_____	Taco Bell	_____
Chick-fil-A	_____	Other (list)	_____
Domino's	_____		_____
Kentucky Fried Chicken	_____		_____
Little Caesar's	_____		_____
McDonald's	_____		_____

c) If **Yes**, how do the vendors supply the product?

**Check (x) all
that apply**

As ingredients, school prepares	_____
As cold product, school heats	_____
As finished item, delivered to school	_____
Other (describe)	_____
_____	_____
_____	_____
_____	_____

d) If **YES**, are these products used in reimbursable meals only, sold a la carte only, or used in both reimbursable meals and a la carte sales?

**Check
(x) one**

In reimbursable meals only	_____
A la carte only	_____
Both reimbursable meals and a la carte	_____

In some of the questions that follow, we ask for information related to particular types of food. These food types are described below.

Dairy Products: Fresh milk, cheese, butter, yogurt, and other milk-related products; fresh eggs; substitute dairy products. Ice cream is not included; it is treated separately.

Bread and Bakery Products: Bread, rolls, buns, cakes, cookies, crackers, donuts. Do not include snack items such as pretzels and snack cookies (see below).

Fresh Produce: Fresh fruits and vegetables.

Canned and Staple Foods: All canned foods including canned fruits, vegetables, and meat; staple foods such as flour, sugar, rice, cereals, and cooking oils.

Frozen Foods: All frozen foods including frozen fruits and vegetables, frozen meats and frozen pizza, and other frozen entrees or side dishes. Ice cream is not included.

Fresh meat/poultry/fish: All fresh meat, poultry, and fish. Canned and frozen meat, poultry, and fish are not included.

Snack Items: Potato chips, pretzels, candy, individual packs of cookies.

Ice cream: Include all ice cream, ice milk products, and frozen yogurt.

Non-Dairy Beverages: Include fruit juice, water and sparkling beverages.

2.5 Level of purchasing. Are food purchase decisions made at the level of the school district (centralized), at the level of the individual school (decentralized), or some combination of the two? Check (x) one space for each type of food.

	<u>Dairy</u>	<u>Bread</u>	<u>Fresh Produce</u>	<u>Canned/ Staples</u>	<u>Frozen Foods</u>	<u>Fresh Meats</u>	<u>Snack Items</u>	<u>Ice Cream</u>	<u>Non-dairy Beverages</u>
Centralized	_____	_____	_____	_____	_____	_____	_____	_____	_____
Decentralized	_____	_____	_____	_____	_____	_____	_____	_____	_____
Combination	_____	_____	_____	_____	_____	_____	_____	_____	_____

2.6 **Product specifications.** In purchasing individual food items, do you use product specifications to describe the product?

YES _____

NO _____

a) If **YES**, which of the following specifications do you use?

Check (x) all that apply

- Official quality/grade standards (e.g. Grade A) _____
- Style/variety of product (e.g. sliced cling peaches) _____
- Brand name _____
- Container weight _____
- Fat content and/or type of fat _____
- Calorie content _____
- Sodium content _____
- Whole grain content _____
- Origin (where produced) _____
- Packaging unit (e.g. case of 6-#10 cans) _____
- Condition (e.g. temperature or evidence of spoilage) _____
- Use of Child Nutrition (CN) labels that identify contribution toward meal pattern requirements _____
- Official standards of identity from Code of Federal Regulations _____

2.7 **Food safety criteria:** Are there food safety criteria in your procurement specifications?

YES _____

NO _____

If **YES**, did you use USDA Agricultural Marketing Service specifications to develop them?

YES _____

NO _____

2.8 **Product recall:** Do you have inventory control processes so that a product can be traced during a recall?

YES _____

NO _____

a) If **YES**, in the event you need to locate a specific product, for example due to a recall, how far can you track the product? To:

**Check (x) all
that apply**

- Vendors _____
- Receiving _____
- Warehouse _____
- Distribution to another site _____
- Storage at another site _____
- Used in a recipe or as a menu item _____

2.9 Locally grown produce. Does your institution have a buying program for locally grown produce?

YES _____

NO _____

(IF **NO**, SKIP TO d))

a) If **YES**, how do you define “locally grown”? Check (x) one of the following:

**Check (x)
one**

- a. Same city/county _____
- b. Produced within a 50 mile radius _____
- c. Produced within a 100 mile radius _____
- d. Produced within a 200 mile radius _____
- e. Produced within a day’s drive _____
- f. Produced within the State _____
- g. Produced within the region _____
- h. Other _____

b) Of your total food costs in **School Year 2008/09**, what share do you estimate was locally grown?

_____ percent

c) What were the top 5 locally grown/produced items by value that you purchased in **School Year 2008/09**?

1. _____

2. _____

3. _____

4. _____

5. _____

d) If you do not have a program, are you developing one?

YES _____

NO _____

Not Applicable _____

2.10 State Farm to School Program: Does your state have a State Farm to School Program?

YES _____

NO _____

(IF **NO**, SKIP TO QUESTION 3.1)

If **YES**, does your district purchase foods through the State Farm to School Program?

YES _____

NO _____

3. USDA DONATED FOODS

The following questions relate to the various types of USDA donated foods, including those provided directly like canned beans, those incorporated in a processed product (cheese and ground beef on a pizza), and fresh produce from the Department of Defense.

3.1 USDA entitlement. Do you know the dollar amount of your USDA donated food entitlement for School Year 2009/10?

YES _____ NO _____

a) If YES, what is your USDA entitlement for School Year 2009/10?

AMOUNT \$ _____

b) What percentage of your donated food entitlement for School Year 2008/09 was spent on processed end products that incorporate USDA donated foods? If the percentage you provide is an estimate please check (x) the box.

_____ % Estimate

3.2 Fresh Produce from the Department of Defense. Do you apply any of your USDA entitlement towards the acquisition of fresh produce from the Department of Defense's Fresh Fruit and Vegetable Program?

YES _____ NO _____

(IF NO, SKIP TO QUESTION 3.3 below)

a) If YES, how does the quality compare to commercial products?

	<u>Check (x)</u> <u>one</u>
Lower quality than commercial products	_____
Comparable to commercial products' quality	_____
Higher quality than commercial products	_____

b) If YES, how do the prices compare to commercial products?

Check (x)
one

- Lower prices than commercial products _____
- Comparable to prices for commercial products _____
- Higher prices than commercial products _____

3.3 Fresh Produce from the Department of Defense. Do you also use any of your cash reimbursement to purchase additional fresh produce from the Department of Defense's Fresh Fruit and Vegetable Program?

YES _____ NO _____

3.4 USDA donated foods. How do USDA donated foods reach your school district?

Check (x) all
that apply

- Commercial foodservice distributor, WITH commercial products _____
- Commercial foodservice distributor, SEPARATE from commercial products _____
- Commercial trucking company _____
- State delivery _____
- School district pick-up _____
- Other (describe) _____

3.5 **The USDA donated food program:** What are the three main features of this program that you most like?

1.

2.

3.

If no major LIKES check (x) box

What are the three main features of this program that you most dislike?

1.

2.

3.

If no major DISLIKES check (x) box

In your opinion, how can the USDA donated food distribution program be improved?

4. VENDOR INFORMATION

In the following questions “vendor” is defined as a seller of commercial products. Do not include vendors or distributors that **only** supply a product containing USDA donated foods. Do include vendors that distribute **both** commercial products and those containing USDA donated foods.

4.1 Number of vendors. How many separate vendors do you currently use for each of the following food types? How many vendors serve your area and are willing to meet your food purchase requirements? If a vendor supplies more than one type of food, count it separately in each appropriate category. (If you don’t know the number of vendors in the area, please make an estimate and indicate with a check (x).)

	<u>Dairy</u>	<u>Bread</u>	<u>Fresh Produce</u>	<u>Canned/ Staples</u>	<u>Frozen Foods</u>	<u>Fresh Meats</u>	<u>Snack Items</u>	<u>Ice Cream</u>	<u>Non-dairy Beverages</u>
<u>Number of vendors used</u>	_____	_____	_____	_____	_____	_____	_____	_____	_____
<u>Number serving area</u>	_____	_____	_____	_____	_____	_____	_____	_____	_____
If Estimate check (x) box	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.2 Total number of vendors. What is the total number of vendors from whom you currently purchase food?

Number of vendors _____

4.3 Vendor selection criteria. Which factors influence your selection of food vendors? Check (x) all that apply.

	<u>Check (x) all that apply</u>
Price	_____
Brands	_____
Ability to meet specifications	_____
Service after sale	_____
Dependability	_____
Also handles USDA donated foods	_____
Location	_____
Flexibility	_____
Food quality	_____
Delivery schedules	_____
Promotion programs	_____

4.4 Procurement methods. Indicate the principal method you use to purchase each type of food. Check (x) one for each food type.

	<u>Dairy</u>	<u>Bread</u>	<u>Fresh Produce</u>	<u>Canned/ Staples</u>	<u>Frozen Foods</u>	<u>Fresh Meats</u>	<u>Snack Items</u>	<u>Ice Cream</u>	<u>Non-dairy Beverages</u>
Formal line item bids (Items individually priced.)	_____	_____	_____	_____	_____	_____	_____	_____	_____
Formal lump sum bids (Items priced in combination.)	_____	_____	_____	_____	_____	_____	_____	_____	_____
Telephone bid/quote	_____	_____	_____	_____	_____	_____	_____	_____	_____
Sales representative visits	_____	_____	_____	_____	_____	_____	_____	_____	_____
Other (specify)	_____	_____	_____	_____	_____	_____	_____	_____	_____

4.5 Cooperative buying. Are you participating with other school districts in the cooperative purchasing of food?

YES _____ NO _____

(IF **NO**, SKIP TO QUESTION 0)

a) If **YES**, what effect has it had on your ability to purchase the food items you want?

Check (x)
one

Limits ability _____
 Expands ability _____
 No effect _____

b) If **YES**, what effect has it had on your overall food costs?

Check (x)
one

Increased costs _____
 Reduced costs _____
 No effect _____

c) If **YES and you participated in a cooperative buying program in School Year 2008/09**, please estimate the share of total food purchases by the school district in **School Year 2008/09** that were purchased cooperatively (in percent).

_____ %

d) If **YES**, indicate with a check (x) the foods you used in **School Year 2008/09** that were purchased through a cooperative buying program.

	<u>Dairy</u>	<u>Bread</u>	<u>Fresh Produce</u>	<u>Canned/ Staples</u>	<u>Frozen Foods</u>	<u>Fresh Meats</u>	<u>Snack Items</u>	<u>Ice Cream</u>	<u>Non-dairy Beverages</u>
Purchased through cooperative program	_____	_____	_____	_____	_____	_____	_____	_____	_____

e) Does your cooperative charge a fee for participating?

YES _____ NO _____

The following questions pertain to your major vendor for each type of food purchase. If you have only one vendor in a category, answer the question for that vendor. Otherwise, answers should reflect the vendor from which you expect to make the largest volume of purchases in each category during the **2009/10 School Year**.

4.6 Product pricing. For each food type below, indicate whether you have a formal agreement (contract) or an informal agreement with your major vendor. Within the category selected, check (x) the one approach to pricing that best describes how your food purchase prices are determined.

	<u>Dairy</u>	<u>Bread</u>	<u>Fresh Produce</u>	<u>Canned/ Staples</u>	<u>Frozen Foods</u>	<u>Fresh Meats</u>	<u>Snack Items</u>	<u>Ice Cream</u>	<u>Non-dairy Beverages</u>
A. Formal Agreement									
Fixed price contract	_____	_____	_____	_____	_____	_____	_____	_____	_____
Fixed price with adjustment clause (e.g., increase based on specific condition such as inflation rate).	_____	_____	_____	_____	_____	_____	_____	_____	_____
Formula price (list plus fixed amount or percentage)	_____	_____	_____	_____	_____	_____	_____	_____	_____
Cost-based price	_____	_____	_____	_____	_____	_____	_____	_____	_____
B. Informal Agreement									
Bid or quote price	_____	_____	_____	_____	_____	_____	_____	_____	_____
Retail price	_____	_____	_____	_____	_____	_____	_____	_____	_____
Mutually accepted discount rate	_____	_____	_____	_____	_____	_____	_____	_____	_____
Other (specify)	_____	_____	_____	_____	_____	_____	_____	_____	_____

4.7 Vendor services: Which of the following services do your major vendors supply?

Check (x) all that apply

- Advice on purchasing _____
- Unloading at dock/school _____
- Placing packages in coolers/storage area _____
- Shelving delivered foods _____
- Inventory updating _____
- Summary of purchases on a monthly or quarterly basis _____
- Menu planning _____
- Delivery of USDA donated foods _____
- Storage of USDA donated foods _____
- Processing of USDA donated foods _____

If you are returning this form by post could we suggest that you keep a copy of the completed form as a record of your responses. If you are returning by email, please save and keep a copy of the file for your records.

Please return survey by October 16, 2009 by:

Email: gbaker@promarinternational.com

Fax: 703 739 9098

Or

**Mail to:
School Food Purchase Study
Promar International
1737 King Street, Suite 330
Alexandria, VA 22314**

**Thank you for completing the survey and for taking part in the study.
Once all the data have been tabulated and the analysis completed,
we will send you a summary of the results.**

APPENDIX 3: NCES DEFINITIONS OF URBANICITY

How is school locale defined?

The National Center for Education Statistics (NCES) revised its definitions of school locale types in 2006 after working with the Census Bureau to create a new locale classification system. The revision capitalizes on improved geocoding technology and the 2000 Office of Management and Budget (OMB) definitions of metro areas that rely less on population size and county boundaries than proximity of an address to an urbanized area.

Referred to as the "urban-centric" classification system to distinguish it from the previous "metro-centric" classification system, the new classification system has four major location categories—city, suburban, town, and rural - each of which is subdivided into three subcategories.

Exhibit A: NCES's urban-centric location categories, released in 2006

City

Locale	Definition
Large	Territory inside an urbanized area and inside a principal city with population of 250,000 or more
Midsized	Territory inside an urbanized area and inside a principal city with population less than 250,000 and greater than or equal to 100,000
Small	Territory inside an urbanized area and inside a principal city with population less than 100,000

Suburb

Locale	Definition
Large	Territory outside a principal city and inside an urbanized area with population of 250,000 or more
Midsized	Territory outside a principal city and inside an urbanized area with population less than 250,000 and greater than or equal to 100,000
Small	Territory outside a principal city and inside an urbanized area with population less than 100,000

Town

Locale	Definition
Fringe	Territory inside an urban cluster that is less than or equal to 10 miles from an urbanized area
Distant	Territory inside an urban cluster that is more than 10 miles and less than or equal to 35 miles from an urbanized area
Remote	Territory inside an urban cluster that is more than 35 miles from an urbanized area

Rural

Locale	Definition
Fringe	Census-defined rural territory that is less than or equal to 5 miles from an urbanized area, as well as rural territory that is less than or equal to 2.5 miles from an urban cluster
Distant	Census-defined rural territory that is more than 5 miles but less than or equal to 25 miles from an urbanized area, as well as rural territory that is more than 2.5 miles but less than or equal to 10 miles from an urban cluster
Remote	Census-defined rural territory that is more than 25 miles from an urbanized area and is also more than 10 miles from an urban cluster

Source: Office of Management and Budget (2000). Standards for Defining Metropolitan and Micropolitan Statistical Areas; Notice. Federal Register (65) No. 249.

These twelve categories are based on several key concepts that the Census Bureau uses to define an area's urbanicity: principal city, urbanized area, and urban cluster. A principal city is a city that contains the primary population and economic center of a metropolitan statistical area, which, in turn, is defined as one or more contiguous counties that have a "core" area with a large population nucleus and adjacent communities that are highly integrated economically or socially with the core. Urbanized areas and urban clusters are densely settled "cores" of Census-defined blocks with adjacent densely settled surrounding areas. Core areas with populations of 50,000 or more are designated as urbanized areas; those with populations between 25,000 and 50,000 are designated as urban clusters. Rural areas are designated by the Census Bureau as those areas that do not lie inside an urbanized area or urban cluster.

NCES has classified all schools into one of these twelve categories based on schools' actual addresses and their corresponding coordinates of latitude and longitude. Not only does this mean that the location of any school can be identified precisely, but also that distance measures can be used to identify town and rural subtypes.

How many urban school districts, schools, and students are there?

(A.1.a.-1) Number of public school districts, by locale and state or jurisdiction: School year 2007–08

(A.1.a.-2) Number of operating public elementary and secondary schools, by locale and state or jurisdiction: School year 2007–08

(A.1.a.-3) Enrollment of public elementary and secondary students, by locale and state or jurisdiction: School year 2007–08

How was school locale previously defined?

Until 2006 three different urban/rural classification systems were used by NCES: Beale codes, Metro Status codes, and Metro-centric locale codes.

APPENDIX 4: COMPLETE LIST OF TOP SELLING A LA CARTE FOODS AND CLASSIFICATION SYSTEM

Number of public unified NSLP school districts identifying specified foods as one of the top ten selling a la carte food items, by elementary and middle/secondary, SY 2009/10

Elementary				Middle/secondary			
Rank	Food group	Number of districts	% of all districts	Rank	Food group	Number of districts	% of all districts
1	snack chips	3,000	27.7%	1	snack chips	4,944	45.7%
2	milk	2,888	26.7%	2	cookies	4,205	38.8%
3	ice cream	2,471	22.8%	3	pizza	4,141	38.2%
4	pizza	2,284	21.1%	4	water	4,003	37.0%
5	water	1,964	18.1%	5	ice cream	3,458	31.9%
6	juice	1,883	17.4%	6	juice	2,658	24.6%
7	entree	1,787	16.5%	7	sport drink	2,482	22.9%
8	cookies	1,672	15.4%	8	french fries	2,449	22.6%
9	snack cakes	1,266	11.7%	9	entree	2,429	22.4%
10	fruit roll-ups	1,157	10.7%	10	milk	2,337	21.6%
11	salad	1,065	9.8%	11	snack cakes	2,041	18.9%
12	sandwiches	1,001	9.2%	12	sandwiches	2,026	18.7%
13	snack	979	9.0%	13	hamburger	1,579	14.6%
14	fruit	948	8.8%	14	fruit roll-ups	1,494	13.8%
15	sport drink	876	8.1%	15	beverage	1,479	13.7%
16	cheeseburger	863	8.0%	16	pretzels	1,319	12.2%
17	fried chicken	796	7.4%	17	fried chicken	1,298	12.0%
18	chicken sandwich	774	7.1%	18	nachos	1,195	11.0%
19	french fries	691	6.4%	19	tea	1,048	9.7%
20	snack crackers	634	5.9%	20	fruit	962	8.9%
21	vegetables	569	5.3%	21	chicken sandwich	959	8.9%
22	pretzels	481	4.4%	22	slushie/smoothie	893	8.3%
23	hamburger	447	4.1%	23	snack	774	7.1%
24	slushie/smoothie	447	4.1%	24	salad	591	5.5%
25	breadsticks/breads/rolls	436	4.0%	25	cheeseburger	578	5.3%
26	yogurt	408	3.8%	26	meat snack	551	5.1%
27	hot dog	380	3.5%	27	snack crackers	550	5.1%
28	nachos	284	2.6%	28	breadsticks/breads/rolls	547	5.0%
29	bagels	247	2.3%	29	burrito	523	4.8%
30	string cheese	210	1.9%	30	bagels	495	4.6%
31	meat snack	188	1.7%	31	yogurt	422	3.9%
32	tea	179	1.7%	32	flavored water	395	3.7%
33	popcorn	179	1.7%	33	vegetables	361	3.3%

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 4

Elementary				Middle/secondary			
Rank	Food group	Number of districts	% of all districts	Rank	Food group	Number of districts	% of all districts
34	beverages	164	1.5%	34	cereal bar	360	3.3%
35	cereal bar	163	1.5%	35	cereals	355	3.3%
36	sides	142	1.3%	36	potato item	327	3.0%
37	cheese sticks	135	1.2%	37	misc. pocket sandwiches	323	3.0%
38	cereals	132	1.2%	38	hot dog	318	2.9%
39	other	109	1.0%	39	condiments	304	2.8%
40	desert/baked goods	104	1.0%	40	cheese sticks	299	2.8%
41	flavored water	84	0.8%	41	chicken fillet	235	2.2%
42	corn dog	78	0.7%	42	dessert/baked goods	231	2.1%
43	produce	74	0.7%	43	soup	172	1.6%
44	granola bars	72	0.7%	44	vitamin water	171	1.6%
45	pickles	61	0.6%	45	granola bars	167	1.5%
46	rice	60	0.6%	46	other	149	1.4%
47	potato item	55	0.5%	47	tacos	131	1.2%
48	chicken fillet	54	0.5%	48	cheese	127	1.2%
49	pudding	54	0.5%	49	popcorn	115	1.1%
50	candy	49	0.4%	50	rice	114	1.1%
51	mashed potatoes	49	0.4%	51	mozzarella sticks	102	0.9%
52	misc. pocket sandwiches	48	0.4%	52	pickles	76	0.7%
53	tacos	38	0.4%	53	hot wings	76	0.7%
54	egg roll	31	0.3%	54	corn dog	71	0.7%
55	sunflower seeds	23	0.2%	55	candy	67	0.6%
56	soup	17	0.2%	56	string cheese	53	0.5%
57	baked potato	10	0.1%	57	produce	48	0.4%
58	cottage cheese	7	0.1%	58	sides	43	0.4%
59	hot wings	5	0.1%	59	pudding	27	0.2%
	No a la carte sales	4,266	39.4%	60	egg roll	13	0.1%
				61	baked potato	10	0.1%
				62	soda	8	0.1%
				63	mashed potatoes	6	0.1%
				64	milkshake	3	0.0%
					No a la carte sales	2,860	26.4%

Source: School Food Purchase Study, 2011

Classification system used for a la carte items

Description	Code	Description	Code
Bagel	117	Mashed potatoes	138
Baked potato	145	Meat snacks	131
Beverage	102	Milk	101
Breadsticks/bread/rolls	137	Misc. pockets sandwiches	159
Burrito	109	Mozzarella sticks	173
Candy	124	Nachos	121
Cereal	154	Other	161
Cereal bars	166	Pickle	128
Cheese	172	Pizza	103
Cheese sticks	149	Popcorn	116
Cheeseburger	107	Potato item	144
Chicken fillet	158	Pretzels	114
Chicken sandwich	160	Produce	174
Chips	108	Pudding	133
Condiments	170	Rice	150
Cookies	113	Salad	129
Corn dog	141	Sandwiches	110
Cottage cheese	151	Side	167
Dessert/baked goods	157	Slushies/smoothies	163
Egg rolls	135	Snack	162
Entree	130	Snack cakes	115
Flavored water	169	Snack crackers	134
French Fries	104	Soda	105
Fried chicken	165	Soup	118
Fruit	119	Sport beverages	168
Fruit roll up	123	String cheese	143
Fruit snack/dried fruit	155	Sunflower seeds	152
Granola bar	136	Tacos	120
Hamburger	106	Tea	140
Hot dog	112	Vegetable	147
Hot wings	139	Vitamin water	171
Ice cream	111	Water	122
Juice	164	Yogurt	132

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 5

APPENDIX 5: TOP 100 MOST PURCHASED FOOD ITEMS

Food Code	Food item	Total	Purchases	Processed foods containing donated USDA Foods	Donated USDA Foods
		----- dollars -----			
	All food items	\$8,503,473,776	\$6,887,555,679	\$678,121,549	\$937,796,546
	Top 50 food items	\$4,544,420,367	\$3,861,161,586	\$353,090,037	\$330,168,743
	Top 100 food items	\$5,910,275,434	\$5,059,416,738	\$426,157,624	\$424,701,071
1	500959 Milk, Flavored, Lo Fat, 1%	\$550,382,415	\$550,376,958	\$5,458	
2	501354 Milk, Flavored, Skim/Nonfat	\$274,236,751	\$274,236,751		
3	457357 Hamburger, Hot Dog Buns, Steak, Sub/Dinner Rls	\$224,257,094	\$222,076,543	\$2,180,551	
4	500257 Milk, Lo Fat, 1%	\$212,135,030	\$209,094,989		\$3,040,041
5	153254 Chicken, Nuggets, White/dark Mix, Unknown	\$126,109,215	\$68,533,141	\$56,829,680	\$746,394
6	233171 Orange Juice, Individual	\$119,076,408	\$114,294,170	\$799,223	\$3,983,015
7	903054 Pizza, w/Real Cheese	\$117,277,561	\$87,171,491	\$30,106,070	
8	506659 Cheese, Mozzarella/String	\$109,301,843	\$31,881,719	\$7,980,051	\$69,440,073
9	459477 Cereals, Individual	\$107,362,483	\$107,192,241	\$170,242	
10	140351 Beef, Patties, Cooked	\$104,591,457	\$60,311,554	\$33,545,551	\$10,734,352
11	200279 Apple Juice, Individual	\$103,763,494	\$103,763,494		
12	370535 Potatoes, French Fries	\$102,253,396	\$81,054,185	\$10,102,315	\$11,096,896
13	904151 Pizza, Pepperoni w/Real Cheese	\$95,613,651	\$72,549,458	\$23,064,193	
14	506056 Cheese, American/Processed	\$95,425,958	\$22,400,508	\$4,918,211	\$68,107,239
15	140054 Beef, Ground	\$93,294,537	\$37,712,011		\$55,582,526
16	200015 Apples, Fresh	\$89,678,646	\$78,059,093	\$185,706	\$11,433,847
17	500851 Milk, Flavored, Lo Fat, .5%	\$89,644,937	\$89,644,937		
18	999984 Sport Drink, e.g. Gatorade	\$87,956,204	\$87,956,204		
19	458855 Chips, Misc. Snack (Cheetos, Sun Chips)	\$82,665,967	\$82,665,967		
20	260075 Fruit Juice, Mixed, Individual	\$78,046,990	\$77,180,236	\$866,754	
21	455559 Cookie Dough	\$73,519,405	\$73,430,374	\$89,031	
22	900852 Cheese Filled Pastry(Includes Hot Pocket)	\$71,839,065	\$49,893,407	\$21,945,658	
23	500455 Milk, Lo Fat, 2%	\$70,403,986	\$70,403,874		\$112
24	501255 Milk, Flavored, Lo Fat, Fat Solids Unkwn	\$68,479,359	\$68,479,359		
25	153155 Chicken, Nuggets, White Meat	\$68,265,864	\$64,438,461	\$3,827,403	
26	410654 Chips, Tortilla/Corn	\$68,019,570	\$66,526,152	\$1,493,418	
27	152157 Turkey Breasts	\$66,010,023	\$17,060,570	\$5,560,088	\$43,389,365
28	457555 Chicken, Patties, Breaded, White Meat	\$63,049,710	\$59,796,086	\$3,253,624	
29	912154 Muffins	\$62,798,700	\$61,058,207	\$1,740,493	
30	503557 Cheese, Cheddar	\$62,167,602	\$11,595,280	\$3,062,406	\$47,509,916
31	903459 Peanut Butter and Jelly Sandwich	\$60,354,919	\$32,465,266	\$27,889,653	
32	999999 Yogurt	\$59,911,667	\$59,911,667		

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 5

Food Code	Food item	Total	Purchases	Processed foods containing donated USDA Foods	Donated USDA Foods
33	152256 Pizza, Cheese, Type Unknown	\$59,605,615	\$38,010,890	\$21,594,725	
34	340216 Water	\$58,933,600	\$58,933,600		
35	459873 Chicken, Patties, White/dark Meat, Unkn	\$58,240,990	\$32,030,241	\$26,210,749	
36	370139 Lettuce, Salad Mix	\$58,031,189	\$38,262,155		\$19,769,034
37	903153 Crackers, Graham, Individual	\$57,554,976	\$57,501,674	\$53,302	
38	455253 Potatoes, Formed, Frozen	\$56,779,855	\$40,020,839	\$6,708,301	\$10,050,714
39	904259 Pizza, Cheese Blend	\$56,216,161	\$42,908,748	\$13,307,413	
40	234228 Bread/Biscuit/Pastry Dough	\$53,048,148	\$51,931,169	\$1,116,979	
41	161059 Pizza, Pepperoni w/Chs Blend	\$52,994,000	\$45,101,393	\$7,892,607	
42	503152 Peaches, Canned, Light Syrup	\$51,868,073	\$24,579,434		\$27,288,638
43	458074 Ham, Boneless/Canadian Bacon	\$50,936,455	\$20,805,513	\$286,599	\$29,844,342
44	233015 Ice Cream Novelties	\$49,407,438	\$49,407,438		
45	153056 Cookies, Individual	\$47,790,689	\$47,320,890	\$469,798	
46	458652 Turkey, Mixed Roasts	\$47,710,554	\$4,649,762	\$956,424	\$42,104,368
47	160259 Oranges, Fresh	\$47,379,982	\$39,860,818		\$7,519,164
48	204016 Chicken, Nuggets, Mixed Meat	\$46,874,327	\$20,909,767	\$25,964,560	
49	903351 Chicken, Parts, Breaded, Cooked	\$45,958,168	\$15,676,696	\$8,228,190	\$22,053,282
50	370659 French Toast/Sticks/French Toast Bagels	\$43,246,460	\$36,441,207	\$6,805,253	
51	340117 Pork, Sausage, Cooked	\$43,079,987	\$38,587,618	\$4,492,370	
52	238229 Bananas, Fresh	\$41,543,495	\$40,011,140		\$1,532,354
53	459155 Beef, Ground, Cooked	\$41,196,687	\$14,186,247	\$17,265,391	\$9,745,049
54	459254 Pizza, Sausage w/Chs Blend	\$40,677,823	\$33,483,728	\$7,194,095	
55	500653 Chips, Potato/Potato Sticks	\$40,494,822	\$40,494,822		
56	904655 Lettuce, Shredded/Chopped	\$39,933,542	\$34,762,266		\$5,171,277
57	200073 Pears, Canned, Light Syrup	\$39,717,363	\$17,867,266		\$21,850,097
58	378470 Chicken, Patties, Breaded, Mixed Meat	\$39,449,024	\$16,297,250	\$23,151,774	
59	261222 Pizza Shells/Pizza Dough	\$38,600,881	\$38,600,881		
60	370147 Poptarts	\$37,830,478	\$37,830,478		
61	174052 Milk, Skim/Nonfat	\$37,324,425	\$37,324,425		
62	508358 Pizza, Pepperoni, Cheese Unknown	\$36,422,457	\$26,115,716	\$10,306,741	
63	224014 Apples, Fresh, Individual	\$36,297,839	\$19,913,949	\$10,259	\$16,373,631
64	925450 Catsup, Individual Pack	\$36,244,981	\$33,787,062	\$2,457,919	
65	378553 Mixed Fruit, Canned, Light Syrup	\$35,132,982	\$17,249,591		\$17,883,391
66	458355 Potatoes, Dry, w/Milk	\$34,970,033	\$32,994,829	\$1,975,203	
67	224278 Corn Dogs/Nuggets, Turkey	\$34,571,162	\$32,063,035	\$2,508,126	
68	900654 Chicken, Pulled or Diced	\$34,543,860	\$14,290,854	\$2,609,376	\$17,643,630
69	304022 Cheese Sauce or Soup, Ready to Use	\$33,830,054	\$26,442,576	\$7,387,478	
70	166058 Grapes, Fresh	\$33,780,753	\$31,070,860		\$2,709,893
71	378017 Meal Component Kit	\$32,971,082	\$30,312,602	\$2,658,480	

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 5

Food Code	Food item	Total	Purchases	Processed foods containing donated USDA Foods	Donated USDA Foods
72	144154 Tomato Recipe Sauce	\$32,546,063	\$22,607,597	\$3,247,682	\$6,690,784
73	455055 Granola Bars/Trail Mix	\$32,043,214	\$30,904,878	\$553,228	\$585,108
74	158155 Chicken, Grill Strips/Patties, Dark/White Mix, U	\$32,012,585	\$14,020,951	\$17,991,634	
75	472273 Turkey Ham/Turkey Canadian Bacon	\$31,819,379	\$13,974,289	\$5,573,281	\$12,271,809
76	457051 Grape Juice, Individual	\$31,553,268	\$31,553,268		
77	455852 Meat Filled Pastry/Hot Pockets	\$31,381,773	\$24,910,172	\$6,471,601	
78	458454 Potatoes, Wedges, Frozen	\$30,271,414	\$16,915,408	\$4,762,662	\$8,593,344
79	240325 Peaches, Individual Serving	\$29,274,032	\$1,493,929	\$280	\$27,779,823
80	458173 Green Beans, Canned	\$28,727,797	\$18,535,392		\$10,192,404
81	456053 Sausage in Batter/Blanket	\$28,660,872	\$27,470,581	\$1,190,290	
82	140657 Tomatoes, Fresh	\$28,317,554	\$26,969,202		\$1,348,352
83	452052 Beef, Breaded, Patties/Nuggets	\$28,180,460	\$19,820,802	\$8,359,657	
84	905059 Tortillas, Flour	\$28,087,566	\$25,510,367	\$152,698	\$2,424,502
85	378421 Chicken Nuggets/Patties w Sauce or Glaze	\$27,946,482	\$20,646,420	\$7,300,063	
86	320119 Salad Dressing, Individual	\$27,203,638	\$26,720,022	\$483,616	
87	260752 Bagels	\$27,155,973	\$27,053,044	\$102,929	
88	260274 Cinnamon Rolls/Honey Bun	\$26,796,844	\$26,712,536	\$84,309	
89	457753 Chicken Fajita Strips/Patties, Dark Meat	\$26,768,168	\$3,335,504	\$944,971	\$22,487,693
90	600552 Pancakes	\$26,173,723	\$24,115,556	\$135,742	\$1,922,425
91	602251 Pineapple, Canned, Juice Pack	\$26,125,250	\$26,125,250		
92	905158 Crackers, Individual	\$25,922,533	\$25,922,533		
93	156257 Bread, White	\$25,599,186	\$25,495,700	\$103,486	
94	260034 Meatballs/Meatloaf/Salisbury Stk, No Sce	\$25,245,129	\$17,627,795	\$7,617,334	
95	102054 Pasta, Dry	\$24,849,962	\$19,126,212		\$5,723,749
96	800053 Pasta and Cheese Products	\$24,798,539	\$12,516,953	\$12,281,586	
97	458553 Burrito, Bean	\$24,113,408	\$18,550,463	\$5,562,946	
98	151654 Turkey, Pulled/ Sliced/ Diced/ Deli Meat	\$23,491,317	\$13,934,277	\$9,557,040	
99	456257 Chicken, Cut up/Parts, Raw	\$23,312,946	\$14,150,632	\$39,319	\$9,122,995
100	233122 Catsup or Chili Sauce, Bulk	\$23,236,916	\$21,150,411	\$2,086,506	

Source: School Food Purchase Study, 2011

APPENDIX 6: SCHOOL DISTRICTS ACQUIRING FOOD ITEMS AS USDA FOODS, SY 2009/10

Share of school districts acquiring food item that received it as a USDA Foods item,
SY 2009/10

	Food description	School districts acquiring food item	School districts receiving item as USDA Foods	Share of districts acquiring food item as USDA Foods
		Number	Number	Percent
1	Apricots, Frozen	775	775	100.0%
2	Cherries, Tart, Dry	1,258	1,258	100.0%
3	Strawberries, Individual Serv	1,813	1,792	98.9%
4	Cherries, Red Tart, Frozen	1,068	998	93.4%
5	Applesauce, Unsweetened	6,608	5,933	89.8%
6	Peaches, Individual Serving	3,204	2,849	88.9%
7	Turkey, Mixed Roasts	4,153	3,574	86.0%
8	Apples, Frozen	1,180	1,011	85.7%
9	Chicken Fajita Strips/Patties, Dark Meat	4,293	3,430	79.9%
10	Sweet Potatoes, Frozen	344	273	79.4%
11	Blueberries, Frozen	2,265	1,724	76.1%
12	Sweet Potatoes, Canned, Light Syrup	848	614	72.4%
13	Dry Beans, Bagged, Miscellaneous	615	436	70.9%
14	Apricots, Canned, Light Syrup	2,325	1,553	66.8%
15	Blackberries, Frozen	260	167	64.2%
16	Oil, Vegetable	3,325	2,075	62.4%
17	Butter, Legume/nut/seed	749	450	60.1%
18	Beef, Ground	7,629	4,571	59.9%
19	Turkey Breasts	6,139	3,676	59.9%
20	Peaches, Frozen	252	149	59.1%
21	Pork, Cuts, Boneless, Raw	1,994	1,165	58.4%
22	Apples, Canned	5,087	2,964	58.3%
23	Cheese, Mozzarella/String	8,553	4,875	57.0%
24	Mixed Fruit, Canned, Light Syrup	7,630	4,221	55.3%
25	Vegetarian Beans, Canned	3,536	1,917	54.2%
26	Green Beans, Canned	8,149	4,398	54.0%
27	Nuts (Not Peanuts), Shelled	2,641	1,416	53.6%
28	Cheese, American/Processed	8,709	4,650	53.4%
29	Cheese, Cheddar	8,374	4,430	52.9%
30	Turkey, Whole	666	344	51.7%
31	Flour, Bread	1,038	528	50.9%
32	Peaches, Canned, Light Syrup	8,433	4,284	50.8%
33	Peanut Butter	4,669	2,371	50.8%
34	Corn on the Cob, Frozen	3,736	1,890	50.6%
35	Pears, Canned, Light Syrup	8,047	4,067	50.5%
36	Green Beans, Frozen	2,727	1,352	49.6%
37	Catfish Fillet/Catfish Nuggets	364	178	48.9%
38	Egg, Raw, No Shells	3,598	1,671	46.4%
39	Chicken, Parts, Breaded, Cooked	3,353	1,538	45.9%

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 6

	Food description	School districts acquiring food item	School districts receiving item as USDA Foods	Share of districts acquiring food item as USDA Foods
		Number	Number	Percent
40	Salsa	7,027	3,104	44.2%
41	Flour, Whole Wheat	1,814	789	43.5%
42	Turkey BBQ/Sloppy Joes/Taco Filling	1,660	695	41.9%
43	Pinto Beans, Canned	2,879	1,199	41.7%
44	Corn, Whole Kernel, Frozen	7,219	2,992	41.4%
45	Strawberries, Frozen	3,682	1,506	40.9%
46	Ham, Boneless/Canadian Bacon	7,202	2,940	40.8%
47	Cranberries, Frozen	30	12	40.0%
48	Corn, Whole Kernel, Canned	6,619	2,553	38.6%
49	Flour, All Purpose	5,868	2,212	37.7%
50	Chicken, Pulled or Diced	6,228	2,312	37.1%
51	Beef, Patties, Raw	3,090	1,133	36.7%
52	Chicken, Cut up/Parts, Raw	2,550	934	36.6%
53	Raisins, Individual Pack	2,672	952	35.6%
54	Potatoes, Wedges, Frozen	6,135	2,157	35.2%
55	Rice, Brown	2,402	822	34.2%
56	Peas, Green, Frozen	6,219	2,114	34.0%
57	Peas, Green, Canned	4,178	1,382	33.1%
58	Tomato Recipe Sauce	9,090	2,971	32.7%
59	Potatoes, Formed, Frozen	9,475	3,012	31.8%
60	Carrots, Canned	3,066	956	31.2%
61	Tomato Sauce, Canned	4,518	1,394	30.9%
62	Tomatoes, Canned	6,427	1,923	29.9%
63	Orange Juice, Concentrate	764	212	27.7%
64	Mixed Vegetables, Fresh	559	155	27.7%
65	Alfalfa Sprouts	186	50	26.9%
66	Carrots, Frozen	4,837	1,262	26.1%
67	Rice, White	6,781	1,766	26.0%
68	Tuna, Canned	5,037	1,297	25.7%
69	Grapefruit, Fresh	1,126	278	24.7%
70	Peanuts, Shelled	532	126	23.7%
71	Turkey Ham/Turkey Canadian Bacon	4,546	1,065	23.4%
72	Refried Beans, Canned	3,346	761	22.7%
73	Tropical Fruit, Fresh	164	37	22.6%
74	Apples, Fresh, Individual	3,159	708	22.4%
75	Pinto Beans, Bagged	521	115	22.1%
76	Sweet Potato, Mashed	304	67	22.0%
77	Tomato Paste, Canned	4,518	959	21.2%
78	Potatoes, French Fries	9,767	2,046	20.9%
79	Chicken, Canned	136	28	20.6%
80	Orange Juice, Individual	10,023	1,968	19.6%
81	Sweet Potatoes, Fresh	665	123	18.5%
82	Pasta, Dry	10,104	1,856	18.4%
83	Tangerines, Fresh	1,249	229	18.3%

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 6

	Food description	School districts acquiring food item	School districts receiving item as USDA Foods	Share of districts acquiring food item as USDA Foods
		Number	Number	Percent
84	Pears, Fresh	4,160	751	18.1%
85	Chicken, Whole, Raw	167	30	18.0%
86	Apples, Fresh	10,511	1,867	17.8%
87	Cranberry Sauce	1,861	325	17.5%
88	Milk, Lo Fat, 1%	7,310	1,256	17.2%
89	Pancakes	7,992	1,332	16.7%
90	Green Beans, Fresh	496	81	16.3%
91	Oranges, Fresh	10,216	1,658	16.2%
92	Carrots, Individual Serving, Fresh	4,466	691	15.5%
93	Tomatoes, Cherry or Grape, Fresh	5,756	882	15.3%
94	Oranges, Peeled/Sectioned	699	99	14.2%
95	Cranberries, Dry	453	64	14.1%
96	Black-eye Peas/Field Peas/Purple, Canned	1,164	153	13.1%
97	Mushrooms, Fresh	2,064	269	13.0%
98	Star fruit	257	33	12.8%
99	Broccoli Florets	7,105	905	12.7%
100	Cauliflower, Florets	4,467	544	12.2%
101	Celery Sticks/Diced Celery	6,246	703	11.3%
102	Beef, Ground, Cooked	5,432	611	11.2%
103	Tangeloes, Fresh	408	44	10.8%
104	Kiwi	3,776	402	10.6%
105	Lettuce, Salad Mix	8,894	945	10.6%
106	Kidney Beans, Canned	3,594	373	10.4%
107	Garbanzo Beans/Chick Peas, Canned	936	97	10.4%
108	Carrots Sticks/Baby Carrots/Shrd, Bulk	9,439	909	9.6%
109	Potatoes, Fresh	7,582	728	9.6%
110	Oil, Soybean	1,308	119	9.1%
111	Rolled Oats	4,344	395	9.1%
112	Melons, Watermelons	4,364	396	9.1%
113	Plums, Fresh	1,163	105	9.0%
114	Corn on the Cob, Fresh	122	11	9.0%
115	Beef, Patties, Cooked	9,445	847	9.0%
116	Tortillas, Flour	9,525	838	8.8%
117	Tomatoes, Fresh	9,710	854	8.8%
118	Strawberries, Fresh	4,341	375	8.6%
119	Lettuce, Shredded/Chopped	9,605	801	8.3%
120	Corn Grits	760	63	8.3%
121	Radishes, Fresh	3,434	284	8.3%
122	Dry Beans, Canned, Miscellaneous	1,996	165	8.3%
123	Lima Beans, Canned	341	27	7.9%
124	Spinach, Fresh	4,185	302	7.2%
125	Broccoli, Fresh	3,306	233	7.0%
126	Melons, Cantaloupes	5,662	382	6.7%
127	Cabbage, Shredded w/Other Veg.	3,234	213	6.6%

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 6

	Food description	School districts acquiring food item	School districts receiving item as USDA Foods	Share of districts acquiring food item as USDA Foods
		Number	Number	Percent
128	Lemons, Fresh	1,598	104	6.5%
129	Onions, Fresh	8,935	555	6.2%
130	Grapes, Fresh	8,040	469	5.8%
131	Onions, Green, Fresh	2,152	122	5.7%
132	Cabbage, Head	2,460	133	5.4%
133	Avocado, Fresh	504	27	5.4%
134	Cabbage, Shredded	2,145	112	5.2%
135	Peppers, Fresh	8,197	417	5.1%
136	Pomegranates, Fresh	121	6	5.0%
137	Melons, Honeydew	4,135	188	4.5%
138	Cucumbers, Fresh	9,484	414	4.4%
139	Lettuce, Heads	6,772	278	4.1%
140	Granola Bars/Trail Mix	8,000	319	4.0%
141	Jicama	613	24	3.9%
142	Cauliflower, Heads	2,994	109	3.6%
143	Raisins, Bulk	1,288	44	3.4%
144	Carrots, Fresh	3,201	108	3.4%
145	Celery, Fresh	5,893	183	3.1%
146	Peaches, Fresh	852	26	3.1%
147	Parsley, Fresh	563	16	2.8%
148	Shortening, Vegetable	2,956	80	2.7%
149	Squash, Fresh	1,819	49	2.7%
150	Cilantro	996	26	2.6%
151	Vegetable Salad, Specialty	169	4	2.4%
152	Nectarines, Fresh	648	10	1.5%
153	Peas, Snow/Pods	1,356	20	1.5%
154	Oranges, Mandarin, Fresh	276	4	1.4%
155	Pineapple, Fresh	3,164	40	1.3%
156	Bread/Biscuit Mixes	1,497	15	1.0%
157	Corn Meal	2,094	18	0.9%
158	Mixed Vegetables, Oriental	2,815	22	0.8%
159	Bananas, Fresh	9,528	48	0.5%
160	Pineapple, Canned, Syrup Pack Unknown	1,366	5	0.4%
161	Cheese, Miscellaneous	2,720	8	0.3%
162	Beef, Cuts, Raw	1,841	5	0.3%
163	Milk, Dry, Non Fat	3,058	3	0.1%
164	Chicken, Nuggets, White/dark Mix, Unknown	8,430	5	0.1%
165	Milk, Lo Fat, 2%	6,951	4	0.1%

Source: School Food Purchase Study, 2011

APPENDIX 7: TOP 50 FOOD ITEMS FOR A LA CARTE OFFERING

All food offerings					A la carte only				
Rank	Food code	Food Items	lb/1000st	\$/1000st	Rank	Food code	Food Items	lb/1000st	\$/1000st
1	500959	Milk, Flavored, Lo Fat, 1%	4,983	\$1,945	1	999984	Sport Drink, e.g. Gatorade	442	\$278
2	501354	Milk, Flavored, Skim/Nonfat	4,662	\$1,771	2	455559	Cookie Dough	152	\$240
3	500257	Milk, Lo Fat, 1%	3,054	\$1,182	3	458855	Chips, Misc. Snack(Cheetos, Sun Chips)	59	\$217
4	457357	Hamburger, Hot Dog Buns, Steak, Sub/Dinner Rls	863	\$1,003	4	999999	Water	509	\$135
5	459477	Cereals, Individual	161	\$620	5	503152	Ice Cream Novelties	74	\$119
6	500851	Milk, Flavored, Lo Fat, .5%	1,366	\$531	6	370535	Potatoes, French Fries	140	\$93
7	233171	Orange Juice, Individual	914	\$520	7	370659	Chips, Potato or Potato Sticks	19	\$80
8	200279	Apple Juice, Individual	938	\$489	8	233015	Oranges, Fresh	125	\$60
9	260075	Fruit Juice, Mixed, Individual	757	\$470	9	260752	Fruit Rolls/Snacks	16	\$60
10	457555	Muffins	227	\$463	10	410654	Chips, Tortilla/Corn	25	\$58
11	152157	Chicken, Patties, Breaded, White Meat	223	\$454	11	458074	Cookies, Individual	19	\$57
12	455559	Cookie Dough	270	\$427	12	999974	Water, Flavored	135	\$56
13	903054	Pizza, w/Real Cheese	235	\$391	13	150557	Chicken, Parts, Breaded, Cooked	23	\$56
14	458855	Chips, Misc. Snack(Cheetos, Sun Chips)	98	\$357	14	458958	Pretzels	12	\$37
15	370535	Potatoes, French Fries	498	\$331	15	458950	Pretzels, Soft	29	\$36
16	200015	Apples, Fresh	533	\$319	16	458272	Cakes/Brownies, Prepared, Individual	15	\$30
17	410654	Chips, Tortilla/Corn	134	\$318	17	900852	Cheese Filled Pastry(Includes Hot Pocket)	17	\$30
18	999984	Sport Drink, e.g. Gatorade	497	\$313	18	470153	Popcorn, Popped	5	\$30
19	153155	Chicken, Nuggets, White Meat	169	\$307	19	904151	Pizza, Pepperoni w/Real Cheese	14	\$28
20	456251	Bread, Whole Wheat/Whole Grain	232	\$288	20	260075	Fruit Juice, Mixed, Individual	39	\$24
21	459873	Crackers, Graham, Individual	119	\$265	21	458355	Granola Bars/Trail Mix	7	\$23
22	503557	Yogurt	234	\$262	22	503053	Ice Cream	17	\$21
23	500653	Milk, Skim/Nonfat	740	\$259	23	152157	Chicken, Patties, Breaded, White Meat	10	\$20
24	153254	Chicken, Nuggets, White/dark Mix, Unknown	144	\$256	24	457753	Donuts/Churros	10	\$20

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 7

All food offerings				
Rank	Food code	Food Items	lb/ 1000st	\$/ 1000st
25	455253	Bread/Biscuit/Pastry Dough	240	\$245
26	900852	Cheese Filled Pastry(Includes Hot Pocket)	138	\$244
27	904151	Pizza, Pepperoni w/Real Cheese	117	\$236
28	999999	Water	835	\$222
29	233015	Oranges, Fresh	445	\$215
30	204016	Bananas, Fresh	432	\$208
31	150251	Chicken, Rotisserie	153	\$202
32	378470	Catsup, Individual Pack	232	\$197
33	260034	Fruit Juice, Bars, Frozen	194	\$192
34	458074	Cookies, Individual	65	\$191
35	174052	Corn Dogs/Nuggets, Turkey	128	\$187
36	911354	Cheese Sandwich	80	\$179
37	459254	Poptarts	97	\$174
38	903153	Pizza, Cheese Blend	110	\$170
39	500455	Milk, Lo Fat, 2%	414	\$166
40	370139	Potatoes, Formed, Frozen	246	\$155
41	503152	Ice Cream Novelties	95	\$152
42	370633	Potatoes, Wedges, Frozen	193	\$150
43	224278	Grape Juice, Individual	233	\$146
44	458652	French Toast/Sticks/French Toast Bagels	88	\$145
45	370147	Potatoes, Dry, w/Milk	74	\$144
46	458454	Pancakes	117	\$144
47	340216	Lettuce, Salad Mix	168	\$143
48	200073	Apples, Fresh, Individual	59	\$140
49	152256	Chicken, Patties, White/dark Meat, Unkn	82	\$137
50	912154	Peanut Butter and Jelly Sandwich	62	\$135

A la carte only				
Rank	Food code	Food Items	lb/ 1000st	\$/ 1000st
25	230111	Melons, Cantaloupes	25	\$19
26	224014	Grapes, Fresh	14	\$19
27	506353	Cheese, Cream	7	\$19
28	503359	Sherbet/Push Ups	19	\$16
29	230219	Melons, Honeydew	18	\$15
30	903054	Pizza, w/Real Cheese	9	\$15
31	457051	Bagels	10	\$14
32	506659	Cheese, Mozzarella/String	6	\$14
33	602251	Tea, Prepared	24	\$13
34	142141	Beef Jerkey/Slim Jims/Dried Beef	1	\$13
35	260274	Fruit Drinks, Individual	23	\$13
36	508358	Cheese Sauce or Soup, Ready to Use	10	\$12
37	260258	Fruit Drinks, Single Strength	40	\$12
38	455451	Cake/Brownie Mixes	7	\$11
39	227479	Lemonade, Individual	18	\$10
40	459873	Crackers, Graham, Individual	4	\$10
41	601352	Sodas, Carbonated	18	\$10
42	503532	Yogurt, Frozen	7	\$9
43	458173	Crackers, Individual	4	\$9
44	260034	Fruit Juice, Bars, Frozen	7	\$7
45	251017	Strawberries, Fresh	3	\$7
46	455852	Cinnamon Rolls/Honey Bun	3	\$6
47	905158	Burrito, Beef and Bean	4	\$6
48	260233	Popsicles/Fruit Ices	4	\$6
49	601955	Candy	2	\$6
50	457555	Muffins	3	\$6

All food offerings				
Rank	Food code	Food Items	lb/ 1000st	\$/ 1000st

A la carte only				
Rank	Food code	Food Items	lb/ 1000st	\$/ 1000st

Notes:

1. Based on food purchase data provided by 128 respondents which differentiated food purchases by type of use.
2. Based on highest expenditure per 1,000 students
3. Food items that appear in bold lists are shaded

Source: School Food Purchase Study, 2011

APPENDIX 8: FOOD CATEGORIES

In some of the questions included in the Procurement Practices Survey (see Appendix 2), we ask for information related to particular categories of foods. These are discussed in Sections 6 and 8. These categories are described below.

- **Dairy products:** Fresh milk, cheese, butter, yogurt, and other milk-related products; fresh eggs; substitute dairy products. Ice cream is not included; it is treated separately.
- **Bread and bakery products:** Bread, rolls, buns, cakes, cookies, crackers, donuts. Do not include snack items such as pretzels and snack cookies (see below).
- **Fresh produce:** Fresh fruits and vegetables.
- **Canned and staple foods:** All canned foods including canned fruits, vegetables, and meat; staple foods such as flour, sugar, rice, cereals, and cooking oils.
- **Frozen foods:** All frozen foods including frozen fruits and vegetables, frozen meats and frozen pizza, and other frozen entrees or side dishes. Ice cream is not included.
- **Fresh meat/poultry/fish:** All fresh meat, poultry, and fish. Canned and frozen meat, poultry, and fish are not included.
- **Snack items:** Potato chips, pretzels, candy, individual packs of cookies.
- **Ice cream:** Include all ice cream, ice milk products, and frozen yogurt.
- **Non-dairy beverages:** Include fruit juice, water and sparkling beverages

APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

9.1 Introduction

This Appendix extends the comparison of food purchases of SFAs with different characteristics undertaken in Section 7 of the report to examine the mean volume in pounds per 1,000 enrollment with access to NSLP and the total cost per 1,000 enrollment for each food group and subgroup. The analysis follows that of Section 7 and compares:

- Districts that have contracted with FSMCs for food service functions against those that have not;
- Districts located in urban areas and those in towns and rural areas (which are referred to as rural);
- Districts with more than 60 percent of students from households with low incomes against those with 30 to 60 percent and those with less than 30 percent;
- Districts using different menu planning systems;
- Districts located in different regions; and,
- Districts with different levels of student enrollment.

The tables in this appendix also include data that describe the mean cost per unit of subgroup and food item purchases. While this duplicates the data supplied in Section 7, it aids the review of the columns providing data on volume and value of purchases per 1,000 students with access to NSLP meals.

As noted in Section 7.1, not all school districts responded to both the food purchase survey and the procurement practices survey. To avoid losing any data provided by respondents, three different sets of weights were used. One was used to estimate food acquisitions and included all respondents who provided food purchase data, another for analyzing procurement practices and school district characteristics, included all districts that responded to the PPS, and another for analyzing various relationships where all districts that responded to both surveys were used. For this Appendix and all estimates in Sections 7 and 8, the third set of weights was used. Thus, some very small differences in the estimates occur between this section and other sections. For example, the volume and value of food acquisitions discussed in Sections 7 and 8 and this Appendix will be slightly different from those in Sections 5-3 to 5-5. The difference is less than 0.1 percent.

SCHOOL FOOD PURCHASE STUDY-III
APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

9.2 Food service management companies

9.2.1 Differences in purchase costs between districts that have and have not contracted with FSMCs

Table A9-1 illustrates that FSMCs pay a slightly higher price per pound for all purchased foods (2.7 percent above the average for all purchases). However, this difference (three cents per pound) is small, and is more than compensated for by the lower volume of food purchased per 1,000 students. As a result, the mean cost of all purchased foods for districts managed by FSMCs per 1,000 students is \$144,200, compared with \$154,300 for those SFAs without a contract with an FSMC. So the overall cost of purchased food per 1,000 students with access to school meals in districts managed by FSMCs is 7 percent lower than for those without FSMCs.

Table A9-1 shows that FSMC districts purchase much smaller volumes per 1,000 students for thirteen of the sixteen product groups. The three exceptions are bakery products, eggs, and poultry, and the latter is only marginally higher. This smaller volume of purchases more than compensates for the higher price per unit that they pay for all food sub-groups other than bakery products, eggs, fish, and prepared foods (the latter two, marginally).

Districts with FSMCs purchase fish, fruits/juices, grain products, legumes/nuts/seeds, milk and other dairy products, prepared foods, red meats, soups and gravies, sugar/desserts, and vegetables at lower mean cost per 1,000 students than those without FSMCs.

Table A9-1: Comparisons of summary cost and volume of food purchases by FSMC and Non-FSMC operated public unified NSLP school districts, SY 2009/10

Food groups/subgroups	Cost per unit		Volume per 1,000 students		Cost per 1,000 students	
	FSMC	non-FSMC	FSMC	non-FSMC	FSMC	non-FSMC
	\$/lb		lb/1,000students		\$/1,000 students	
All foods	\$0.85	\$0.82	170,069	187,823	\$144,201	\$154,328
Bakery products	\$1.53	\$1.63	18,878	16,285	\$28,929	\$26,575
Biscuits, muffins, pancakes & waffles	\$1.78	\$1.79	2,618	2,775	\$4,668	\$4,970
Bread & rolls	\$1.14	\$1.15	11,229	8,624	\$12,757	\$9,898
Cakes & other bakery desserts	\$2.01	\$2.09	2,614	2,198	\$5,255	\$4,586
Crackers	\$2.53	\$2.25	580	959	\$1,466	\$2,161
Pretzels & snack chips	\$2.60	\$2.87	1,837	1,728	\$4,782	\$4,959
Condiments	\$0.86	\$0.81	3,912	4,055	\$3,349	\$3,288
Catsup & other sauces	\$0.88	\$0.87	2,784	2,835	\$2,460	\$2,464
Flavorings	\$1.33	\$1.19	166	230	\$221	\$273
Pickles/olives	\$0.69	\$0.56	962	990	\$668	\$550
Eggs	\$1.51	\$1.54	629	564	\$950	\$866
Eggs	\$1.13	\$1.08	287	303	\$325	\$327
Mixtures with eggs	\$1.83	\$2.07	342	261	\$625	\$539

SCHOOL FOOD PURCHASE STUDY-III

*APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS*

Food groups/subgroups	Cost per unit		Volume per 1,000 students		Cost per 1,000 students	
	FSMC	non-FSMC	FSMC	non-FSMC	FSMC	non-FSMC
	\$/lb		lb/1,000students		\$/1,000 students	
Fats/oils	\$1.24	\$1.16	2,319	2,421	\$2,875	\$2,800
Butter	\$1.98	\$1.90	73	37	\$144	\$71
Margarine	\$1.01	\$0.74	365	469	\$369	\$349
Salad dressings & mayonnaise	\$1.22	\$1.31	1,501	1,457	\$1,828	\$1,908
Vegetable oils & shortenings	\$1.40	\$1.03	381	457	\$535	\$472
Fish	\$2.25	\$2.26	335	574	\$753	\$1,299
Fish	\$2.25	\$2.26	323	459	\$725	\$1,037
Shellfish	\$2.35	\$2.29	12	115	\$29	\$262
Fruits/juice	\$0.71	\$0.68	24,204	29,003	\$17,074	\$19,613
Fruits	\$0.75	\$0.77	13,141	14,795	\$9,811	\$11,417
Juices	\$0.66	\$0.58	11,063	14,208	\$7,263	\$8,197
Grain products	\$1.95	\$1.55	2,408	3,846	\$4,700	\$5,973
Breakfast cereals	\$4.15	\$3.43	583	764	\$2,420	\$2,622
Flour & other milled grains	\$0.40	\$0.32	206	757	\$82	\$240
Flour mix	\$1.40	\$1.13	227	313	\$318	\$355
Mixtures with grain	\$1.67	\$1.78	619	1,034	\$1,034	\$1,846
Pasta & noodles	\$1.00	\$0.92	521	547	\$523	\$502
Rice, barley & other grains	\$1.28	\$0.95	253	431	\$323	\$408
Legumes/nuts/seeds	\$0.97	\$0.77	736	1,285	\$712	\$983
Dry beans/peas	\$0.72	\$0.61	566	1,129	\$410	\$685
Other nuts	\$3.48	\$5.37	3	2	\$9	\$10
Peanuts/peanut butter	\$1.49	\$1.49	75	71	\$111	\$106
Seeds	\$2.31	\$2.55	15	41	\$35	\$106
Soybeans & soy products	\$1.89	\$1.85	78	42	\$147	\$77
Milk & other dairy products	\$0.47	\$0.45	73,292	81,003	\$34,343	\$36,469
Cheese	\$1.90	\$1.87	2,658	1,565	\$5,046	\$2,919
Cream	\$1.21	\$1.39	172	168	\$208	\$234
Ice cream & ice milk	\$1.48	\$1.47	869	1,014	\$1,285	\$1,495
Milk	\$0.39	\$0.39	68,609	77,044	\$26,542	\$30,381
Yogurt	\$1.28	\$1.19	984	1,213	\$1,262	\$1,440

SCHOOL FOOD PURCHASE STUDY-III
APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Cost per unit		Volume per 1,000 students		Cost per 1,000 students	
	FSMC	non-FSMC	FSMC	non-FSMC	FSMC	non-FSMC
	\$/lb		lb/1,000students		\$/1,000 students	
Non-dairy drinks	\$0.54	\$0.45	10,669	11,258	\$5,765	\$5,121
Carbonated	\$0.57	\$0.58	316	226	\$181	\$132
Coffee & tea	\$0.63	\$0.67	1,438	861	\$910	\$573
Dry beverage	\$4.43	\$2.31	9	19	\$42	\$45
Enriched drinks	\$0.77	\$0.64	2,224	3,137	\$1,719	\$1,999
Fruit drinks	\$0.73	\$0.66	1,428	1,270	\$1,037	\$836
Water	\$0.36	\$0.27	5,254	5,745	\$1,876	\$1,535
Poultry	\$1.94	\$1.93	6,025	5,981	\$11,691	\$11,568
Chicken	\$2.01	\$1.96	4,195	4,611	\$8,440	\$9,059
Game birds	\$6.02	\$-	1	-	\$5	\$-
Mixed poultry	\$4.45	\$4.47	1	0	\$3	\$1
Recipe mix	\$2.64	\$2.24	2	8	\$4	\$17
Turkey	\$1.77	\$1.83	1,827	1,362	\$3,238	\$2,492
Prepared foods	\$1.84	\$1.87	4,936	7,676	\$9,061	\$14,359
Burritos/tacos	\$1.64	\$1.59	447	887	\$734	\$1,411
Meat or cheese filled pastry	\$2.00	\$1.95	398	982	\$795	\$1,919
Mixtures with fish	\$17.00	\$4.66	0	2	\$0	\$10
Pizza	\$1.77	\$1.79	3,573	4,888	\$6,314	\$8,756
Prepared meals	\$2.13	\$2.13	155	286	\$331	\$610
Prepared sandwiches	\$2.44	\$2.62	363	630	\$886	\$1,653
Red meats	\$2.13	\$2.05	3,854	4,197	\$8,209	\$8,590
Beef & veal	\$2.09	\$2.03	2,161	2,223	\$4,507	\$4,514
Lamb	\$-	\$5.40	-	0	\$-	\$1
Mixed meats	\$2.22	\$1.78	551	630	\$1,223	\$1,120
Pork	\$2.21	\$2.22	1,088	1,300	\$2,398	\$2,880
Recipe mix	\$1.48	\$1.72	54	43	\$81	\$75
Soups & gravies	\$1.57	\$1.49	676	775	\$1,064	\$1,151
Gravies	\$2.22	\$2.37	132	136	\$292	\$322
Soups	\$1.42	\$1.30	544	640	\$772	\$829
Sugar/desserts	\$0.96	\$0.92	1,743	2,627	\$1,670	\$2,416
Candies/toppings	\$2.54	\$2.06	79	181	\$201	\$372
Gelatins	\$1.22	\$1.24	78	95	\$95	\$118
Jellies, jams & preserves	\$1.19	\$1.14	167	184	\$198	\$209
Puddings/pie filling	\$0.64	\$0.76	437	432	\$278	\$326
Sherbet/ices	\$1.24	\$1.02	173	411	\$214	\$420
Sugars	\$0.80	\$0.60	267	769	\$213	\$461
Syrups	\$0.87	\$0.92	543	555	\$471	\$509

SCHOOL FOOD PURCHASE STUDY-III

**APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS**

Food groups/subgroups	Cost per unit		Volume per 1,000 students		Cost per 1,000 students	
	FSMC	non-FSMC	FSMC	non-FSMC	FSMC	non-FSMC
	\$/lb		lb/1,000students		\$/1,000 students	
Vegetables	\$0.84	\$0.81	15,453	16,274	\$13,057	\$13,256
Green vegetables	\$0.99	\$0.85	3,396	3,971	\$3,359	\$3,376
Mixed vegetables	\$0.91	\$0.89	1,607	1,615	\$1,467	\$1,433
Mixtures with vegetables	\$1.57	\$1.44	47	119	\$73	\$170
Other vegetables	\$1.18	\$1.22	310	326	\$367	\$399
Potato & potato products	\$0.74	\$0.72	6,088	6,173	\$4,485	\$4,421
Tomatoes & tomato products	\$0.77	\$0.86	2,252	1,838	\$1,726	\$1,579
Yellow vegetables	\$0.90	\$0.84	1,753	2,233	\$1,580	\$1,879

Note: Data has been adjusted for students with access to NSLP only
Source: School Food Purchase Study, 2011

For comparing costs at a level that is closer to that of individual foods, the top 50 individual food items that were purchased in the largest dollar value by school districts was used (Table A9-2). These account for over 50 percent of the total value of food acquisitions in SY 2009/10.

In addition, the price paid and volume purchased per 1,000 students with access to NSLP for the 50 top food items were reviewed. FSMCs paid higher prices for 31 of the 50 items, including six of the top 10. As for 'all food items' purchased, districts serviced by FSMCs purchased lower volumes per 1,000 students with access to NSLP. Consequently, FSMCs incurred less cost per 1,000 students for 30 of the top 50 menu items and for 6 of the top 10 items. When all of these 50 leading food items are combined, the mean cost per 1,000 students with access to NSLP was 5.3 percent less than in districts without FSMCs.

Table A9-2: Comparisons of cost and volume of the top 50 food items purchased by public unified NSLP school districts under and not under FSMC operation, SY 2009/10

Food items	Cost per unit		Volume per 1,000 students		Cost per 1,000 students	
	FSMC	non-FSMC	FSMC	non-FSMC	FSMC	non-FSMC
	\$/lb		lb/1,000 students		\$/1,000 students	
1 Milk, Flavored, Lo Fat, 1%	\$0.39	\$0.41	28,657	30,363	\$11,259	\$12,467
2 Milk, Flavored, Skim/Nonfat	\$0.38	\$0.37	11,628	17,249	\$4,406	\$6,306
3 Hamburger, Hot Dog Buns, Steak, Sub & Dinner Rls	\$1.12	\$1.14	4,470	4,292	\$5,018	\$4,892
4 Milk, Lo Fat, 1%	\$0.37	\$0.38	13,236	12,075	\$4,940	\$4,608
5 Orange Juice, Individual	\$0.63	\$0.53	3,656	4,954	\$2,299	\$2,619
6 Cereals, Individual	\$4.43	\$3.62	462	674	\$2,047	\$2,438
7 Apple Juice, Individual	\$0.59	\$0.50	4,854	4,453	\$2,885	\$2,214
8 Milk, Flavored, Lo Fat, .5%	\$0.36	\$0.38	4,911	5,302	\$1,774	\$2,021
9 Sport Drink, e.g. Gatorade	\$0.77	\$0.64	2,224	3,137	\$1,719	\$1,998
10 Pizza, w/Real Cheese	\$1.92	\$1.88	1,419	969	\$2,726	\$1,821
11 Chips, Misc. Snack(Cheetos, Sun Chips)	\$3.76	\$3.71	427	510	\$1,603	\$1,893
12 Potatoes, French Fries	\$0.69	\$0.62	3,196	2,781	\$2,220	\$1,730
13 Apples, Fresh	\$0.64	\$0.62	3,363	2,670	\$2,162	\$1,669

SCHOOL FOOD PURCHASE STUDY-III
APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Food items	Cost per unit		Volume per 1,000 students		Cost per 1,000 students	
	FSMC	non-FSMC	FSMC	non-FSMC	FSMC	non-FSMC
	\$/lb		lb/1,000 students		\$/1,000 students	
14 Fruit Juice, Mixed, Individual	\$0.78	\$0.62	1,635	2,886	\$1,283	\$1,787
15 Cookie Dough	\$1.59	\$1.60	1,422	953	\$2,255	\$1,525
16 Pizza, Pepperoni w/Real Cheese	\$1.90	\$2.07	228	877	\$433	\$1,812
17 Chicken, Nuggets, White/dark Mix, Unknown	\$1.99	\$1.95	638	812	\$1,268	\$1,584
18 Milk, Flavored, Lo Fat, Fat Solids Unknown	\$0.40	\$0.39	3,824	3,854	\$1,513	\$1,519
19 Milk, Lo Fat, 2%	\$0.43	\$0.40	2,221	3,958	\$951	\$1,592
20 Chips, Tortilla/Corn	\$2.03	\$2.20	746	670	\$1,511	\$1,471
21 Chicken, Nuggets, White Meat	\$2.17	\$2.02	580	717	\$1,259	\$1,452
22 Muffins	\$2.50	\$2.24	475	616	\$1,186	\$1,383
23 Beef, Patties, Cooked	\$2.00	\$2.06	752	634	\$1,507	\$1,306
24 Yogurt	\$1.26	\$1.17	931	1,162	\$1,176	\$1,357
25 Chicken, Patties, Breaded, White Meat	\$1.82	\$1.97	445	716	\$810	\$1,408
26 Water	\$0.34	\$0.25	4,725	5,102	\$1,602	\$1,261
27 Crackers, Graham, Individual	\$2.51	\$2.25	366	595	\$919	\$1,335
28 Bread/Biscuit/Pastry Dough	\$1.19	\$1.03	752	1,151	\$894	\$1,189
29 Cheese Filled Pastry(Includes Hot Pocket)	\$1.97	\$1.90	279	640	\$550	\$1,218
30 Ice Cream Novelties	\$1.62	\$1.65	607	669	\$984	\$1,105
31 Cookies, Individual	\$2.80	\$2.90	360	362	\$1,008	\$1,050
32 Pizza, Pepperoni w/Cheese Blend	\$1.47	\$1.58	342	681	\$503	\$1,079
33 Pizza, Cheese Blend	\$1.44	\$1.58	657	599	\$944	\$947
34 Chips, Potato or Potato Sticks	\$4.15	\$4.30	218	209	\$906	\$899
35 Oranges, Fresh	\$0.61	\$0.56	1,781	1,514	\$1,082	\$854
36 Potatoes, Formed, Frozen	\$0.67	\$0.63	1,239	1,421	\$829	\$897
37 Bananas, Fresh	\$0.53	\$0.50	1,675	1,759	\$890	\$883
38 Pork, Sausage, Cooked	\$2.22	\$2.04	328	446	\$730	\$908
39 Pizza Shells/Pizza Dough	\$1.09	\$1.33	2,775	364	\$3,030	\$486
40 Pizza, Cheese, Type Unknown	\$1.99	\$1.73	188	539	\$374	\$932
41 Beef, Ground	\$1.87	\$1.70	326	524	\$612	\$889
42 Lettuce, Salad Mix	\$0.90	\$0.87	1,168	930	\$1,046	\$813
43 Poptarts	\$2.03	\$1.89	550	418	\$1,119	\$790
44 Milk, Skim/Nonfat	\$0.37	\$0.37	2,601	2,222	\$955	\$815
45 French Toast/Sticks/French Toast Bagels	\$1.49	\$1.47	618	546	\$924	\$805
46 Lettuce, Shredded/Chopped	\$0.98	\$0.97	866	777	\$849	\$755
47 Catsup, Individual Pack	\$0.94	\$0.81	598	965	\$560	\$786
48 Pizza, Sausage w/Cheese Blend	\$1.63	\$1.65	466	446	\$758	\$738
49 Potatoes, Dry, w/Milk	\$1.83	\$1.87	288	415	\$526	\$777
50 Peanut Butter and Jelly Sandwich	\$2.69	\$2.55	157	304	\$424	\$774
All fifty items	\$0.69	\$0.67	120,328	130,881	\$83,226	\$87,856

Note: Data has been adjusted for students with access to NSLP only
Source: School Food Purchase Study, 2011

9.3 Menu planning systems

9.3.1 Differences in purchase costs among districts with different menu planning systems

Table A9-3 illustrates that districts with different menu planning systems paid broadly similar prices for all purchased foods and they purchased similar volumes per 1,000 students. The Enhanced Food Based (EFB) system was one cent per pound higher than the NUMenu (NM) system and two cents higher than the Traditional Food Based (TFB) system.

The EFB system had the highest price for purchased foods for eight of the 16 categories. It also had the highest mean cost per 1,000 students for eight of the 16 categories, compared with seven and five respectively for the NM and TFB systems (there were four joint highest mean costs per 1,000 students).

These data were examined for the top 50 individual food items that were purchased in the largest dollar value by school districts (see Table A9-4). The TFB menu planning system had the highest mean cost per 1,000 students for 18 of the 50 food items, compared with 16 for both EFB and NM systems. When all of these 50 leading food items are combined, the mean cost per 1,000 students was 3 – 8 percent lower for the NM system. In general, the different menu planning systems did not appear to be closely associated with the cost per unit.

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Table A9-3: Comparison of summary cost and volume of food acquisitions of public unified NSLP school districts by menu planning system, SY 2009/10

Food groups/subgroups	Cost per unit			Volume per 1,000 students			Cost per 1,000 students		
	Nu Menu	Enhanced food based	Traditional	Nu Menu	Enhanced food based	Traditional	Nu Menu	Enhanced food based	Traditional
	<i>Dollars/pound</i>			<i>pounds/1,000 students</i>			<i>dollars/1,000 students</i>		
All foods	\$0.83	\$0.84	\$0.82	172,547	180,115	191,593	\$143,300	\$151,628	\$156,955
Bakery products	\$1.64	\$1.59	\$1.58	16,541	17,440	16,347	\$27,193	\$27,813	\$25,890
Biscuits, muffins, pancakes & waffles	\$1.79	\$1.82	\$1.79	2,535	2,459	2,841	\$4,540	\$4,481	\$5,091
Bread & rolls	\$1.14	\$1.17	\$1.12	8,808	9,596	8,948	\$10,025	\$11,201	\$10,030
Cakes & other bakery desserts	\$2.10	\$2.00	\$2.06	2,443	2,799	2,015	\$5,139	\$5,609	\$4,160
Crackers	\$2.35	\$2.31	\$2.28	845	799	877	\$1,987	\$1,844	\$2,000
Pretzels & snack chips	\$2.88	\$2.62	\$2.77	1,910	1,786	1,666	\$5,502	\$4,678	\$4,609
Condiments	\$0.80	\$0.85	\$0.82	3,802	4,185	4,139	\$3,043	\$3,558	\$3,390
Catsup & other sauces	\$0.85	\$0.91	\$0.88	2,612	3,054	2,875	\$2,211	\$2,783	\$2,519
Flavorings	\$1.08	\$1.21	\$1.25	197	207	249	\$212	\$250	\$310
Pickles/olives	\$0.62	\$0.57	\$0.55	993	924	1,016	\$620	\$524	\$562
Eggs	\$1.47	\$1.55	\$1.56	541	596	589	\$798	\$925	\$918
Eggs	\$1.09	\$1.05	\$1.10	261	281	322	\$284	\$295	\$354
Mixtures with eggs	\$1.83	\$2.00	\$2.11	281	315	267	\$514	\$630	\$565
Fats/oils	\$1.18	\$1.12	\$1.19	1,989	2,662	2,560	\$2,352	\$2,985	\$3,037
Butter	\$1.68	\$1.89	\$1.97	22	67	49	\$37	\$127	\$97
Margarine	\$0.76	\$0.85	\$0.75	364	487	511	\$277	\$413	\$385
Salad dressings & mayonnaise	\$1.30	\$1.17	\$1.35	1,224	1,616	1,523	\$1,597	\$1,894	\$2,052
Vegetable oils & shortenings	\$1.17	\$1.12	\$1.05	379	492	477	\$442	\$550	\$503
Fish	\$2.21	\$2.30	\$2.24	436	410	603	\$963	\$945	\$1,354
Fish	\$2.29	\$2.34	\$2.27	348	335	542	\$796	\$783	\$1,230
Shellfish	\$1.91	\$2.15	\$2.02	88	75	61	\$167	\$162	\$123
Fruits/juices	\$0.67	\$0.70	\$0.67	26,949	24,214	29,707	\$18,083	\$17,063	\$19,977
Fruits	\$0.74	\$0.77	\$0.78	15,229	14,238	13,837	\$11,209	\$11,020	\$10,842
Juices	\$0.59	\$0.61	\$0.58	11,720	9,976	15,870	\$6,874	\$6,043	\$9,135

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Cost per unit			Volume per 1,000 students			Cost per 1,000 students		
	Nu Menu	Enhanced food based	Traditional	Nu Menu	Enhanced food based	Traditional	Nu Menu	Enhanced food based	Traditional
	<i>Dollars/pound</i>			<i>pounds/1,000 students</i>			<i>dollars/1,000 students</i>		
Grain products	\$1.70	\$1.72	\$1.54	3,265	3,492	3,859	\$5,557	\$6,022	\$5,944
Breakfast cereals	\$3.49	\$3.88	\$3.44	730	664	785	\$2,552	\$2,575	\$2,697
Flour & other milled grains	\$0.31	\$0.35	\$0.32	427	692	822	\$130	\$241	\$263
Flour mix	\$1.37	\$1.37	\$1.08	356	258	277	\$488	\$353	\$299
Mixtures with grain	\$1.71	\$1.89	\$1.76	959	1,020	999	\$1,636	\$1,924	\$1,756
Pasta & noodles	\$0.96	\$0.99	\$0.91	435	560	605	\$418	\$556	\$548
Rice, barley & other grains	\$0.93	\$1.25	\$1.03	358	298	371	\$333	\$373	\$380
Legumes/nuts/seeds	\$0.89	\$0.80	\$0.71	1,123	1,279	1,306	\$1,003	\$1,028	\$932
Dry beans/peas	\$0.70	\$0.59	\$0.59	961	1,114	1,150	\$668	\$662	\$673
Other nuts	\$5.16	\$4.37	\$5.26	3	3	1	\$13	\$15	\$6
Peanuts/peanut butter	\$1.85	\$1.67	\$1.32	71	52	85	\$132	\$87	\$113
Seeds	\$2.36	\$2.54	\$2.87	35	67	20	\$82	\$171	\$59
Soybeans & soy products	\$2.04	\$2.21	\$1.67	53	42	49	\$109	\$93	\$83
Milk & other dairy products	\$0.46	\$0.44	\$0.46	74,322	75,133	82,822	\$33,981	\$32,737	\$38,047
Cheese	\$1.86	\$1.74	\$1.90	1,966	1,476	1,691	\$3,666	\$2,564	\$3,220
Cream	\$1.32	\$1.36	\$1.40	153	200	163	\$201	\$273	\$228
Ice cream & ice milk	\$1.48	\$1.34	\$1.51	809	953	1,144	\$1,198	\$1,281	\$1,724
Milk	\$0.39	\$0.38	\$0.40	70,135	71,283	78,754	\$27,376	\$27,197	\$31,593
Yogurt	\$1.22	\$1.16	\$1.20	1,259	1,221	1,071	\$1,540	\$1,422	\$1,282
Non-dairy drinks	\$0.48	\$0.44	\$0.47	9,897	12,911	11,168	\$4,731	\$5,721	\$5,279
Carbonated	\$0.56	\$0.54	\$0.60	230	274	247	\$128	\$148	\$148
Coffee & tea	\$0.80	\$0.67	\$0.61	481	1,303	1,178	\$383	\$879	\$719
Dry beverage	\$3.50	\$1.61	\$2.99	19	49	11	\$65	\$80	\$32
Enriched drinks	\$0.70	\$0.64	\$0.65	2,552	2,705	3,035	\$1,790	\$1,729	\$1,978
Fruit drinks	\$0.67	\$0.61	\$0.65	1,374	1,159	1,414	\$917	\$712	\$920
Water	\$0.28	\$0.29	\$0.28	5,242	7,420	5,283	\$1,448	\$2,174	\$1,482

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Cost per unit			Volume per 1,000 students			Cost per 1,000 students		
	Nu Menu	Enhanced food based	Traditional	Nu Menu	Enhanced food based	Traditional	Nu Menu	Enhanced food based	Traditional
	<i>Dollars/pound</i>			<i>pounds/1,000 students</i>			<i>dollars/1,000 students</i>		
Poultry	\$1.89	\$1.94	\$1.94	5,603	6,535	6,053	\$10,608	\$12,708	\$11,763
Chicken	\$1.98	\$2.00	\$1.97	3,963	5,059	4,646	\$7,864	\$10,103	\$9,151
Game birds	\$6.02			1	-	-	\$3	\$-	\$-
Mixed poultry	\$4.48	\$6.34	\$4.13	0	0	0	\$2	\$1	\$1
Recipe mix	\$3.13	\$3.06	\$2.05	1	5	10	\$4	\$17	\$20
Turkey	\$1.67	\$1.76	\$1.86	1,638	1,471	1,396	\$2,735	\$2,588	\$2,592
Prepared foods	\$1.86	\$1.86	\$1.86	6,373	8,115	7,369	\$11,856	\$15,116	\$13,687
Burritos/tacos	\$1.65	\$1.56	\$1.63	868	625	719	\$1,434	\$973	\$1,176
Meat or cheese filled pastry	\$1.97	\$1.91	\$1.97	564	1,017	989	\$1,111	\$1,939	\$1,944
Mixtures with fish	\$9.07		\$10.26	0	-	1	\$1	\$-	\$6
Pizza	\$1.81	\$1.79	\$1.75	4,315	5,313	4,826	\$7,807	\$9,526	\$8,454
Prepared meals	\$1.86	\$2.11	\$2.19	176	574	258	\$328	\$1,210	\$565
Prepared sandwiches	\$2.61	\$2.50	\$2.67	450	588	577	\$1,175	\$1,469	\$1,541
Red meats	\$2.03	\$2.11	\$2.04	3,655	3,872	4,620	\$7,412	\$8,169	\$9,415
Beef & veal	\$1.96	\$2.14	\$2.02	2,123	2,144	2,405	\$4,160	\$4,589	\$4,869
Lamb			\$5.40	-	-	0	\$-	\$-	\$1
Mixed meats	\$1.98	\$1.88	\$1.75	537	587	692	\$1,063	\$1,104	\$1,215
Pork	\$2.21	\$2.21	\$2.21	973	1,080	1,468	\$2,155	\$2,384	\$3,238
Recipe mix	\$1.57	\$1.51	\$1.70	21	61	54	\$34	\$92	\$93
Soups & gravies	\$1.78	\$1.58	\$1.39	582	710	826	\$1,035	\$1,122	\$1,150
Gravies	\$2.30	\$2.31	\$2.30	139	115	143	\$320	\$267	\$329
Soups	\$1.61	\$1.44	\$1.20	443	595	683	\$715	\$855	\$821

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Cost per unit			Volume per 1,000 students			Cost per 1,000 students		
	Nu Menu	Enhanced food based	Traditional	Nu Menu	Enhanced food based	Traditional	Nu Menu	Enhanced food based	Traditional
	<i>Dollars/pound</i>			<i>pounds/1,000 students</i>			<i>dollars/1,000 students</i>		
Sugar/desserts	\$0.88	\$0.99	\$0.93	2,770	2,541	2,554	\$2,439	\$2,508	\$2,383
Candies/toppings	\$2.22	\$2.23	\$2.08	133	189	182	\$295	\$422	\$378
Gelatins	\$1.27	\$1.17	\$1.22	153	39	87	\$194	\$46	\$107
Jellies, jams & preserves	\$1.16	\$1.18	\$1.12	145	229	199	\$167	\$270	\$223
Puddings/pie filling	\$0.73	\$0.71	\$0.78	871	359	302	\$632	\$256	\$235
Sherbet/ices	\$1.15	\$1.00	\$1.03	273	541	414	\$314	\$542	\$425
Sugars	\$0.58	\$0.65	\$0.61	683	652	776	\$399	\$425	\$476
Syrups	\$0.85	\$1.03	\$0.91	513	532	594	\$437	\$548	\$540
Vegetables	\$0.83	\$0.82	\$0.81	14,700	16,020	17,071	\$12,246	\$13,209	\$13,787
Green vegetables	\$0.89	\$0.83	\$0.86	3,624	4,058	3,973	\$3,234	\$3,370	\$3,434
Mixed vegetables	\$0.89	\$0.89	\$0.89	1,544	1,436	1,704	\$1,381	\$1,279	\$1,510
Mixtures with vegetables	\$1.73	\$1.58	\$1.35	63	138	108	\$109	\$218	\$145
Other vegetables	\$1.30	\$1.27	\$1.17	273	316	353	\$354	\$402	\$413
Potato & potato products	\$0.72	\$0.76	\$0.70	5,462	6,135	6,702	\$3,957	\$4,667	\$4,708
Tomatoes & tomato products	\$0.82	\$0.85	\$0.86	1,742	1,717	1,970	\$1,428	\$1,462	\$1,694
Yellow vegetables	\$0.89	\$0.82	\$0.83	1,993	2,218	2,261	\$1,783	\$1,811	\$1,883

Note: Data has been adjusted for students with access to NSLP only
Source: School Food Purchase Study, 2011

SCHOOL FOOD PURCHASE STUDY-III

*APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS*

Table A9-4: Food cost and volume comparisons for the top 50 food items purchased by public unified NSLP school districts by menu planning system, SY 2009/10

Food items	Cost per units			Volume per 1,000 students			Cost per 1,000 students		
	Enhanced NuMenu	Enhanced food based	Traditional	Enhanced NuMenu	Enhanced food based	Traditional	Enhanced NuMenu	Enhanced food based	Traditional
	\$/lb			lb/1,000 students			\$/1,000 students		
1 Milk, Flavored, Lo Fat, 1%	\$0.40	\$0.40	\$0.41	24,251	25,295	35,452	\$9,635	\$10,056	\$14,689
2 Milk, Flavored, Skim/Nonfat	\$0.38	\$0.36	\$0.37	20,224	15,622	12,834	\$7,641	\$5,554	\$4,794
3 Hamburger, Hot Dog Buns, Steak, Sub & Dinner Rls	\$1.16	\$1.15	\$1.12	3,869	4,782	4,436	\$4,487	\$5,504	\$4,970
4 Milk, Lo Fat, 1%	\$0.38	\$0.36	\$0.39	11,582	13,721	11,506	\$4,359	\$5,003	\$4,474
5 Orange Juice, Individual	\$0.55	\$0.54	\$0.53	3,391	2,642	5,953	\$1,869	\$1,440	\$3,159
6 Cereals, Individual	\$3.75	\$4.07	\$3.62	585	559	707	\$2,196	\$2,275	\$2,555
7 Apple Juice, Individual	\$0.53	\$0.53	\$0.51	3,811	3,301	5,273	\$2,037	\$1,748	\$2,666
8 Milk, Flavored, Lo Fat, .5%	\$0.38	\$0.40	\$0.37	3,600	5,409	6,385	\$1,377	\$2,158	\$2,382
9 Pizza, w/Real Cheese	\$1.97	\$2.03	\$1.79	965	1,097	1,103	\$1,900	\$2,224	\$1,975
10 Sport Drink, e.g. Gatorade	\$0.70	\$0.64	\$0.65	2,551	2,705	3,035	\$1,785	\$1,729	\$1,978
11 Potatoes, French Fries	\$0.62	\$0.66	\$0.63	2,387	2,829	3,116	\$1,486	\$1,874	\$1,974
12 Chips, Misc. Snack(Cheetos, Sun Chips)	\$3.87	\$3.42	\$3.73	524	442	463	\$2,029	\$1,512	\$1,726
13 Apples, Fresh	\$0.62	\$0.65	\$0.62	3,090	2,690	2,597	\$1,916	\$1,742	\$1,600
14 Fruit Juice, Mixed, Individual	\$0.57	\$0.61	\$0.65	3,181	2,311	2,574	\$1,821	\$1,403	\$1,677
15 Milk, Lo Fat, 2%	\$0.41	\$0.39	\$0.41	2,450	2,867	4,976	\$1,008	\$1,106	\$2,016
16 Cookie Dough	\$1.61	\$1.62	\$1.58	1,088	1,265	925	\$1,753	\$2,046	\$1,464
17 Pizza, Pepperoni w/Real Cheese	\$1.97	\$2.13	\$2.06	994	812	654	\$1,954	\$1,728	\$1,345
18 Chicken, Nuggets, White Meat	\$2.09	\$1.88	\$2.05	757	692	750	\$1,581	\$1,302	\$1,536
19 Chicken, Nuggets, White/dark Mix, Unknown	\$1.79	\$2.16	\$1.98	521	832	844	\$933	\$1,800	\$1,671
20 Chips, Tortilla/Corn	\$2.23	\$2.24	\$2.09	732	724	681	\$1,631	\$1,625	\$1,423
21 Milk, Flavored, Lo Fat, Fat Solids Unknown	\$0.40	\$0.38	\$0.39	3,819	3,129	3,593	\$1,532	\$1,187	\$1,401
22 Beef, Patties, Cooked	\$1.97	\$2.25	\$1.99	711	687	637	\$1,403	\$1,546	\$1,268
23 Water	\$0.27	\$0.27	\$0.26	4,932	6,255	4,627	\$1,320	\$1,693	\$1,185
24 Yogurt	\$1.21	\$1.13	\$1.18	1,218	1,144	1,032	\$1,477	\$1,293	\$1,214
25 Chicken, Patties, Breaded, White Meat	\$2.00	\$2.04	\$1.90	639	953	566	\$1,280	\$1,948	\$1,074
26 Muffins	\$2.35	\$2.36	\$2.26	535	513	556	\$1,256	\$1,214	\$1,254
27 Crackers, Graham, Individual	\$2.34	\$2.40	\$2.30	516	447	548	\$1,207	\$1,071	\$1,259

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Food items	Cost per units			Volume per 1,000 students			Cost per 1,000 students		
	Enhanced NuMenu	Enhanced food based	Traditional	Enhanced NuMenu	Enhanced food based	Traditional	Enhanced NuMenu	Enhanced food based	Traditional
	\$/lb			lb/1,000 students			\$/1,000 students		
28 Bread/Biscuit/Pastry Dough	\$1.05	\$1.15	\$1.03	1,121	1,522	1,029	\$1,176	\$1,747	\$1,059
29 Ice Cream Novelties	\$1.69	\$1.67	\$1.65	519	473	808	\$878	\$788	\$1,333
30 Cheese Filled Pastry(Includes Hot Pocket)	\$1.92	\$1.78	\$1.91	380	622	644	\$729	\$1,109	\$1,227
31 Pizza, Pepperoni w/Cheese Blend	\$1.63	\$1.63	\$1.53	534	785	676	\$868	\$1,283	\$1,034
32 Cookies, Individual	\$2.68	\$2.67	\$3.03	453	416	295	\$1,213	\$1,110	\$896
33 Pizza, Cheese Blend	\$1.52	\$1.55	\$1.54	498	939	611	\$756	\$1,454	\$939
34 Potatoes, Formed, Frozen	\$0.68	\$0.67	\$0.62	1,155	1,387	1,547	\$783	\$930	\$953
35 Chips, Potato or Potato Sticks	\$4.30	\$3.98	\$4.29	255	212	197	\$1,098	\$842	\$845
36 Beef, Ground	\$1.68	\$1.77	\$1.71	444	375	593	\$746	\$663	\$1,017
37 Pork, Sausage, Cooked	\$2.18	\$2.02	\$2.04	262	418	508	\$571	\$845	\$1,038
38 Oranges, Fresh	\$0.57	\$0.58	\$0.59	1,715	1,206	1,473	\$981	\$705	\$872
39 Lettuce, Salad Mix	\$0.88	\$0.88	\$0.88	924	860	1,020	\$809	\$760	\$902
40 French Toast/Sticks/French Toast Bagels	\$1.56	\$1.57	\$1.44	417	517	655	\$650	\$811	\$945
41 Poptarts	\$2.08	\$1.67	\$1.90	388	563	424	\$807	\$937	\$804
42 Bananas, Fresh	\$0.52	\$0.55	\$0.50	1,768	1,522	1,541	\$921	\$835	\$773
43 Pizza Shells/Pizza Dough	\$1.20	\$0.99	\$1.15	1,295	480	497	\$1,559	\$474	\$572
44 Milk, Skim/Nonfat	\$0.36	\$0.34	\$0.39	2,632	2,738	1,761	\$946	\$923	\$688
45 Pizza, Cheese, Type Unknown	\$1.72	\$1.61	\$1.73	312	304	552	\$539	\$488	\$957
46 Pizza, Sausage w/Cheese Blend	\$1.61	\$1.67	\$1.67	475	587	426	\$766	\$979	\$712
47 Catsup, Individual Pack	\$0.82	\$0.94	\$0.80	743	913	1,001	\$609	\$855	\$804
48 Lettuce, Shredded/Chopped	\$1.01	\$0.94	\$0.98	708	871	764	\$716	\$821	\$752
49 Chicken, Patties, White/dark Meat, Unkn	\$1.75	\$1.64	\$1.76	362	600	415	\$634	\$986	\$729
50 Grape Juice, Individual	\$0.63	\$0.62	\$0.60	838	1,052	1,424	\$527	\$655	\$855
All fifty items	\$0.68	\$0.69	\$0.66	121,120	123,087	134,683	\$82,156	\$84,781	\$89,433

Note: Data has been adjusted for students with access to NSLP only
Source: School Food Purchase Study, 2011

SCHOOL FOOD PURCHASE STUDY-III
APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

9.4 School district location

9.4.1 Differences in purchase costs between urban and rural districts

Table A9-5 shows that urban districts paid less for purchased foods per unit than rural districts (just 0.9% less than the average for all foods). This difference was two cents per pound. They also purchased less food per 1,000 students and hence the overall result was a very much lower mean cost per 1,000 students. This difference was \$34,539 per 1,000 students.

Urban school districts paid lower mean prices for only seven of the 16 food groups – eggs, fish, fruit/juices, grain products (a difference of eight cents per pound), milk and dairy products, and poultry. However, the mean cost per 1,000 students was lower for urban districts for all sub groups except nondairy drinks. Of particular note is the mean cost per 1,000 students for red meat. There was a \$5,643 per 1,000 students difference as urban districts purchased much lower volumes of red meats per 1,000 students.

Table A9-5: Comparisons of summary cost and volume of food purchases by public unified NSLP school districts by district location, SY 2009/10

Food groups/subgroups	Cost per unit		Volume per 1,000 students`		Cost per 1,000 students	
	Urban	Rural	Urban	Rural	Urban	Rural
	\$/lb		lb/1,000 students		\$/1,000 students	
All foods	\$0.82	\$0.84	172,411	210,209	\$141,142	\$175,681
Bakery products	\$1.65	\$1.56	15,655	18,643	\$25,787	\$29,137
Biscuits, muffins, pancakes & waffles	\$1.80	\$1.78	2,674	2,904	\$4,800	\$5,171
Bread & rolls	\$1.17	\$1.11	8,130	10,722	\$9,533	\$11,855
Cakes & other bakery desserts	\$2.04	\$2.13	2,199	2,378	\$4,487	\$5,071
Crackers	\$2.24	\$2.37	983	748	\$2,203	\$1,776
Pretzels & snack chips	\$2.85	\$2.78	1,669	1,890	\$4,764	\$5,263
Condiments	\$0.83	\$0.80	3,513	5,051	\$2,917	\$4,039
Catsup & other sauces	\$0.89	\$0.85	2,471	3,524	\$2,195	\$2,988
Flavorings	\$1.13	\$1.31	197	266	\$223	\$350
Pickles/olives	\$0.59	\$0.56	845	1,260	\$500	\$701
Eggs	\$1.48	\$1.60	493	730	\$731	\$1,167
Eggs	\$1.10	\$1.06	268	365	\$296	\$388
Mixtures with eggs	\$1.93	\$2.14	225	365	\$435	\$779
Fats/oils	\$1.18	\$1.15	2,107	2,990	\$2,496	\$3,427
Butter	\$1.98	\$1.82	41	46	\$80	\$84
Margarine	\$0.78	\$0.77	354	650	\$275	\$504
Salad dressings & mayonnaise	\$1.30	\$1.29	1,344	1,698	\$1,742	\$2,197
Vegetable oils & shortenings	\$1.08	\$1.08	368	596	\$399	\$642
Fish	\$2.25	\$2.27	461	692	\$1,037	\$1,573
Fish	\$2.22	\$2.30	352	610	\$779	\$1,404
Shellfish	\$2.37	\$2.08	109	82	\$258	\$170
Fruits/juices	\$0.67	\$0.70	27,900	29,072	\$18,740	\$20,215
Fruits	\$0.76	\$0.78	13,945	15,736	\$10,641	\$12,234
Juices	\$0.58	\$0.60	13,955	13,335	\$8,099	\$7,980

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Cost per unit		Volume per 1,000 students`		Cost per 1,000 students	
	Urban	Rural	Urban	Rural	Urban	Rural
	\$/lb		lb/1,000 students		\$/1,000 students	
Grain products	\$1.56	\$1.64	3,364	4,161	\$5,245	\$6,843
Breakfast cereals	\$3.54	\$3.48	659	890	\$2,334	\$3,095
Flour & other milled grains	\$0.31	\$0.33	648	729	\$204	\$244
Flour mix	\$1.07	\$1.33	291	318	\$312	\$423
Mixtures with grain	\$1.79	\$1.75	835	1,244	\$1,495	\$2,179
Pasta & noodles	\$0.93	\$0.93	485	655	\$453	\$607
Rice, barley & other grains	\$1.00	\$0.91	445	325	\$446	\$296
Legumes/nuts/seeds	\$0.84	\$0.73	937	1,727	\$783	\$1,257
Dry beans/peas	\$0.64	\$0.59	790	1,547	\$504	\$918
Other nuts	\$5.28	\$4.60	2	2	\$9	\$11
Peanuts/peanut butter	\$1.42	\$1.57	59	97	\$84	\$152
Seeds	\$2.46	\$2.74	41	31	\$100	\$85
Soybeans & soy products	\$1.88	\$1.82	45	50	\$86	\$90
Milk & other dairy products	\$0.44	\$0.47	74,363	90,620	\$32,974	\$42,371
Cheese	\$1.95	\$1.76	1,555	2,058	\$3,037	\$3,614
Cream	\$1.29	\$1.48	159	187	\$206	\$277
Ice cream & ice milk	\$1.46	\$1.49	834	1,302	\$1,217	\$1,946
Milk	\$0.38	\$0.41	70,614	85,937	\$27,090	\$35,139
Yogurt	\$1.19	\$1.23	1,200	1,137	\$1,423	\$1,395
Non-dairy drinks	\$0.47	\$0.46	11,135	11,243	\$5,221	\$5,204
Carbonated	\$0.58	\$0.64	334	55	\$193	\$35
Coffee & tea	\$0.65	\$0.67	910	1,018	\$590	\$687
Dry beverage	\$2.03	\$3.33	18	18	\$36	\$61
Enriched drinks	\$0.64	\$0.67	2,959	3,087	\$1,908	\$2,055
Fruit drinks	\$0.68	\$0.66	1,348	1,187	\$911	\$778
Water	\$0.28	\$0.27	5,568	5,878	\$1,584	\$1,588
Poultry	\$1.92	\$1.95	5,513	6,914	\$10,602	\$13,508
Chicken	\$1.94	\$2.02	4,166	5,300	\$8,090	\$10,681
Game birds	\$6.02		0	-	\$1	\$-
Mixed poultry	\$4.26	\$4.72	0	0	\$1	\$2
Recipe mix	\$2.08	\$2.42	5	10	\$10	\$24
Turkey	\$1.86	\$1.75	1,342	1,604	\$2,499	\$2,802
Prepared foods	\$1.90	\$1.82	7,083	7,643	\$13,428	\$13,874
Burritos/tacos	\$1.53	\$1.73	831	806	\$1,269	\$1,394
Meat or cheese filled pastry	\$1.92	\$2.02	861	965	\$1,653	\$1,950
Mixtures with fish	\$4.66	\$17.00	3	0	\$12	\$0
Pizza	\$1.83	\$1.72	4,359	5,351	\$7,996	\$9,178
Prepared meals	\$2.06	\$2.45	328	148	\$675	\$363
Prepared sandwiches	\$2.60	\$2.65	702	374	\$1,822	\$990

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Cost per unit		Volume per 1,000 students`		Cost per 1,000 students	
	Urban	Rural	Urban	Rural	Urban	Rural
	\$/lb		lb/1,000 students		\$/1,000 students	
Red meats	\$2.06	\$2.05	3,210	5,975	\$6,623	\$12,266
Beef & veal	\$2.04	\$2.04	1,738	3,145	\$3,546	\$6,402
Lamb		\$5.40	-	0	\$-	\$2
Mixed meats	\$1.87	\$1.80	469	910	\$877	\$1,640
Pork	\$2.22	\$2.21	953	1,885	\$2,115	\$4,165
Recipe mix	\$1.68	\$1.65	50	34	\$85	\$57
Soups & gravies	\$1.54	\$1.45	587	1,100	\$905	\$1,594
Gravies	\$2.34	\$2.36	94	216	\$220	\$509
Soups	\$1.39	\$1.23	493	884	\$685	\$1,085
Sugar/desserts	\$0.94	\$0.90	2,065	3,340	\$1,948	\$3,007
Candies/toppings	\$2.18	\$1.95	149	199	\$326	\$389
Gelatins	\$1.21	\$1.27	76	126	\$91	\$160
Jellies, jams & preserves	\$1.13	\$1.16	146	250	\$165	\$291
Puddings/pie filling	\$0.73	\$0.75	322	648	\$234	\$484
Sherbet/ices	\$1.03	\$1.04	325	475	\$336	\$495
Sugars	\$0.62	\$0.60	559	961	\$345	\$581
Syrups	\$0.92	\$0.89	488	681	\$450	\$608
Vegetables	\$0.83	\$0.80	14,026	20,308	\$11,704	\$16,200
Green vegetables	\$0.91	\$0.82	3,383	4,870	\$3,064	\$3,977
Mixed vegetables	\$0.90	\$0.88	1,409	2,016	\$1,267	\$1,770
Mixtures with vegetables	\$1.47	\$1.41	98	127	\$144	\$179
Other vegetables	\$1.22	\$1.21	288	392	\$352	\$475
Potato & potato products	\$0.73	\$0.71	5,114	8,204	\$3,715	\$5,827
Tomatoes & tomato products	\$0.83	\$0.87	1,779	2,131	\$1,469	\$1,859
Yellow vegetables	\$0.87	\$0.82	1,955	2,569	\$1,693	\$2,112

Note: Data has been adjusted for students with access to NSLP only
Source: School Food Purchase Study, 2011

Analysis revealed interesting differences between the price paid and the volume purchased per 1,000 students for the top 50 food items in urban and rural districts (see Table A9-6). The price paid for purchased foods in rural areas was lower for only 18 of these 50 food items. Also, the mean cost per 1,000 students was lower in rural areas for only 16 of these 50 food items. Four of the 16 were in the top 10 food items purchased. When all of these 50 leading food items are combined, the mean cost per 1,000 students with access to the NSLP was 18.2 percent less for urban than rural districts. It is clear that urban districts supplied food at a much lower cost per 1,000 students.

SCHOOL FOOD PURCHASE STUDY-III
APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Table A9-6: Comparisons of cost and volume of the top 50 food items purchased by public unified NSLP school districts by district location, SY 2009/10

Food items	Cost per unit		Volume per 1,000 students		Cost per 1,000 students	
	Urban	Rural	Urban	Rural	Urban	Rural
	\$/lb		lb/1,000 students		\$/1,000 students	
1 Milk, Flavored, Lo Fat, 1%	\$0.41	\$0.41	26,523	37,139	\$10,750	\$15,294
2 Milk, Flavored, Skim/Nonfat	\$0.35	\$0.40	16,028	17,227	\$5,606	\$6,847
3 Hamburger, Hot Dog Buns, Steak, Sub & Dinner Rls	\$1.15	\$1.12	3,957	5,049	\$4,532	\$5,650
4 Milk, Lo Fat, 1%	\$0.37	\$0.40	12,641	11,463	\$4,708	\$4,557
5 Orange Juice, Individual	\$0.53	\$0.56	4,862	4,573	\$2,584	\$2,550
6 Cereals, Individual	\$3.69	\$3.72	590	745	\$2,180	\$2,771
7 Apple Juice, Individual	\$0.50	\$0.53	4,493	4,518	\$2,261	\$2,414
8 Milk, Flavored, Lo Fat, .5%	\$0.38	\$0.38	5,935	3,872	\$2,239	\$1,487
9 Sport Drink, e.g. Gatorade	\$0.64	\$0.67	2,959	3,087	\$1,908	\$2,053
10 Pizza, w/Real Cheese	\$1.89	\$1.89	1,164	784	\$2,195	\$1,483
11 Chips, Misc. Snack (Cheetos, Sun Chips)	\$3.69	\$3.77	491	510	\$1,814	\$1,922
12 Potatoes, French Fries	\$0.64	\$0.62	2,395	3,714	\$1,540	\$2,313
13 Apples, Fresh	\$0.62	\$0.65	2,825	2,668	\$1,739	\$1,746
14 Fruit Juice, Mixed, Individual	\$0.63	\$0.64	3,123	1,878	\$1,973	\$1,205
15 Cookie Dough	\$1.57	\$1.64	1,044	981	\$1,644	\$1,610
16 Pizza, Pepperoni w/Real Cheese	\$2.10	\$1.96	831	685	\$1,745	\$1,343
17 Chicken, Nuggets, White/dark Mix, Unknown	\$1.87	\$2.07	691	972	\$1,295	\$2,011
18 Milk, Flavored, Lo Fat, Fat Solids Unknown	\$0.38	\$0.42	3,353	4,803	\$1,258	\$2,027
19 Milk, Lo Fat, 2%	\$0.38	\$0.42	2,218	6,616	\$845	\$2,771
20 Chips, Tortilla/Corn	\$2.27	\$2.02	613	814	\$1,393	\$1,642
21 Chicken, Nuggets, White Meat	\$2.06	\$2.03	549	986	\$1,128	\$2,000
22 Muffins	\$2.23	\$2.38	621	547	\$1,381	\$1,302
23 Beef, Patties, Cooked	\$2.03	\$2.09	573	804	\$1,160	\$1,678
24 Yogurt	\$1.17	\$1.21	1,145	1,093	\$1,335	\$1,321
25 Chicken, Patties, Breaded, White Meat	\$1.94	\$1.97	575	875	\$1,114	\$1,722
26 Water	\$0.27	\$0.24	5,030	5,089	\$1,350	\$1,235
27 Crackers, Graham, Individual	\$2.21	\$2.49	662	363	\$1,464	\$903
28 Bread/Biscuit/Pastry Dough	\$1.05	\$1.04	744	1,773	\$784	\$1,852
29 Cheese Filled Pastry(Includes Hot Pocket)	\$1.88	\$1.96	560	638	\$1,054	\$1,248
30 Ice Cream Novelties	\$1.61	\$1.69	558	857	\$901	\$1,451
31 Cookies, Individual	\$2.85	\$2.94	344	396	\$983	\$1,162
32 Pizza, Pepperoni w/Cheese Blend	\$1.65	\$1.54	308	1,263	\$509	\$1,941
33 Pizza, Cheese Blend	\$1.57	\$1.53	611	600	\$960	\$921
34 Chips, Potato or Potato Sticks	\$4.19	\$4.41	185	259	\$775	\$1,143
35 Oranges, Fresh	\$0.55	\$0.61	1,575	1,510	\$869	\$925
36 Potatoes, Formed, Frozen	\$0.63	\$0.65	1,241	1,693	\$778	\$1,099
37 Bananas, Fresh	\$0.49	\$0.54	1,792	1,658	\$882	\$887
38 Pork, Sausage, Cooked	\$2.01	\$2.10	294	691	\$591	\$1,449
39 Pizza Shells/Pizza Dough	\$1.26	\$1.05	737	686	\$932	\$722
40 Pizza, Cheese, Type Unknown	\$1.74	\$1.76	548	370	\$952	\$651
41 Beef, Ground	\$1.74	\$1.69	299	877	\$522	\$1,486
42 Lettuce, Salad Mix	\$0.88	\$0.88	847	1,194	\$742	\$1,053

SCHOOL FOOD PURCHASE STUDY-III
APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Food items	Cost per unit		Volume per 1,000 students		Cost per 1,000 students	
	Urban	Rural	Urban	Rural	Urban	Rural
	\$/lb		lb/1,000 students		\$/1,000 students	
43 Poptarts	\$2.00	\$1.78	411	490	\$821	\$872
44 Milk, Skim/Nonfat	\$0.36	\$0.38	2,424	1,993	\$876	\$756
45 French Toast/Sticks/French Toast Bagels	\$1.52	\$1.42	523	624	\$792	\$883
46 Lettuce, Shredded/Chopped	\$1.01	\$0.91	720	928	\$730	\$844
47 Catsup, Individual Pack	\$0.83	\$0.82	807	1,114	\$672	\$910
48 Pizza, Sausage w/Cheese Blend	\$1.66	\$1.64	288	764	\$479	\$1,253
49 Potatoes, Dry, w/Milk	\$1.88	\$1.85	301	584	\$566	\$1,081
50 Peanut Butter and Jelly Sandwich	\$2.52	\$2.65	303	242	\$764	\$641
All fifty items	\$0.66	\$0.69	122,315	143,055	\$81,077	\$99,084

Note: Data has been adjusted for students with access to NSLP only
Source: School Food Purchase Study, 2011

9.5 Poverty levels

9.5.1 Differences in purchase costs among districts with students from households with different levels of poverty

Table A9-7 shows that the cost per unit of purchased foods was highest for SFAs with less than 30 percent of students approved for free or reduced lunch (\$0.85 per pound, 2.95% higher than the average price paid for all purchased foods, compared with \$0.82 and \$0.81 for the 30 - 59 percent and 60 percent or more categories respectively). The price paid for purchased food in districts with lower poverty levels was the highest in ten of the 16 food subgroups compared with one and seven in the 30 – 59 percent, and 60 percent or more groups. However, the volumes purchased meant that overall, the districts with the lowest percentage of students eligible for either free or reduced lunch had the lowest mean cost per 1,000 students in 15 of the 16 food subgroups. The exception was for the non-dairy drinks food subgroup.

Analysis in Table A9-8 shows that the school districts with the lowest percentage of students approved for free or reduced lunch had the lowest mean cost per 1,000 students for 28 of the most popular 50 food items. These districts also had the lowest mean cost per 1,000 students for seven of the top 10 food items in terms of value. When all of these 50 leading food items are combined, the mean cost per 1,000 students was 19 – 23 percent lower for the districts with the lowest level of students approved for free or reduced lunch.

It appears that districts with the lowest proportion of students approved for free or reduced lunch spent less on purchased food per student with access to the NSLB. It is possible that one explanatory factor is lower participation in school meal programs in these more prosperous school districts.

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Table A9-7: Comparisons of summary cost and volume of food purchases of public unified NSLP school districts by poverty level, SY 2009/10

Food groups/subgroups	Cost per unit			Volume per 1,000 students			Cost per 1,000 students		
	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more
	Dollars/pound			Pounds/1,000 students			Dollars/1,000 students		
All foods	\$0.85	\$0.82	\$0.81	152,030	201,608	202,231	\$129,234	\$165,406	\$163,379
Bakery products	\$1.68	\$1.58	\$1.60	15,482	17,694	16,508	\$25,966	\$27,959	\$26,430
Biscuits, muffins, pancakes & waffles	\$1.86	\$1.77	\$1.75	2,177	2,782	3,488	\$4,051	\$4,931	\$6,115
Bread & rolls	\$1.17	\$1.12	\$1.16	8,150	9,852	8,716	\$9,551	\$11,053	\$10,098
Cakes & other bakery desserts	\$2.14	\$1.99	\$2.12	2,659	2,278	1,680	\$5,688	\$4,538	\$3,564
Crackers	\$2.51	\$2.26	\$2.16	567	965	1,258	\$1,422	\$2,179	\$2,722
Pretzels & snack chips	\$2.72	\$2.89	\$2.88	1,928	1,817	1,366	\$5,254	\$5,257	\$3,931
Condiments	\$0.79	\$0.82	\$0.85	3,341	4,676	3,869	\$2,637	\$3,815	\$3,303
Catsup & other sauces	\$0.82	\$0.88	\$0.90	2,370	3,239	2,742	\$1,942	\$2,866	\$2,480
Flavorings	\$1.20	\$1.17	\$1.30	163	274	206	\$195	\$321	\$267
Pickles/olives	\$0.62	\$0.54	\$0.60	808	1,164	921	\$500	\$628	\$556
Eggs	\$1.51	\$1.52	\$1.57	376	698	628	\$568	\$1,063	\$984
Eggs	\$1.10	\$1.09	\$1.07	217	364	305	\$239	\$396	\$327
Mixtures with eggs	\$2.08	\$2.00	\$2.04	158	334	323	\$329	\$667	\$657
Fats/oils	\$1.24	\$1.12	\$1.18	1,928	2,788	2,397	\$2,392	\$3,126	\$2,840
Butter	\$2.01	\$1.85	\$1.88	45	27	66	\$91	\$50	\$125
Margarine	\$1.00	\$0.72	\$0.72	268	581	488	\$268	\$419	\$351
Salad dressings & mayonnaise	\$1.25	\$1.32	\$1.30	1,331	1,519	1,550	\$1,669	\$2,008	\$2,012
Vegetable oils & shortenings	\$1.28	\$0.98	\$1.20	284	661	293	\$363	\$649	\$352
Fish	\$2.22	\$2.20	\$2.38	365	555	750	\$808	\$1,218	\$1,782
Fish	\$2.28	\$2.21	\$2.31	276	494	569	\$628	\$1,092	\$1,313
Shellfish	\$2.03	\$2.06	\$2.59	89	61	181	\$180	\$127	\$469
Fruits/juices	\$0.73	\$0.67	\$0.66	19,231	30,714	36,528	\$14,123	\$20,429	\$24,189
Fruits	\$0.80	\$0.75	\$0.78	10,549	16,038	17,460	\$8,457	\$11,975	\$13,533
Juices	\$0.65	\$0.58	\$0.56	8,683	14,676	19,068	\$5,665	\$8,454	\$10,656

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Cost per unit			Volume per 1,000 students			Cost per 1,000 students		
	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more
	<i>Dollars/pound</i>			<i>Pounds/1,000 students</i>			<i>Dollars/1,000 students</i>		
Grain products	\$1.63	\$1.51	\$1.70	2,578	4,014	4,423	\$4,204	\$6,045	\$7,504
Breakfast cereals	\$3.66	\$3.38	\$3.64	352	840	1,088	\$1,287	\$2,834	\$3,960
Flour & other milled grains	\$0.31	\$0.32	\$0.33	293	990	654	\$91	\$316	\$219
Flour mix	\$1.32	\$1.14	\$1.02	265	324	308	\$350	\$370	\$314
Mixtures with grain	\$1.78	\$1.79	\$1.75	853	949	1,181	\$1,514	\$1,697	\$2,069
Pasta & noodles	\$0.99	\$0.89	\$0.93	565	551	499	\$557	\$488	\$464
Rice, barley & other grains	\$1.62	\$0.95	\$0.69	251	360	693	\$405	\$340	\$479
Legumes/nuts/seeds	\$1.07	\$0.70	\$0.79	571	1,572	1,433	\$611	\$1,099	\$1,130
Dry beans/peas	\$0.73	\$0.59	\$0.61	424	1,427	1,238	\$308	\$843	\$761
Other nuts	\$4.65	\$5.93	\$4.40	3	2	2	\$12	\$9	\$8
Peanuts/peanut butter	\$1.60	\$1.42	\$1.50	51	79	88	\$81	\$113	\$132
Seeds	\$2.64	\$2.71	\$2.34	40	22	61	\$105	\$60	\$143
Soybeans & soy products	\$1.94	\$1.72	\$1.95	54	43	44	\$104	\$74	\$86
Milk & other dairy products	\$0.46	\$0.46	\$0.43	62,329	86,998	91,533	\$28,767	\$40,204	\$39,259
Cheese	\$1.87	\$1.88	\$1.88	1,858	1,797	1,421	\$3,467	\$3,372	\$2,669
Cream	\$1.30	\$1.44	\$1.31	181	173	143	\$236	\$249	\$188
Ice cream & ice milk	\$1.60	\$1.43	\$1.18	1,278	1,052	500	\$2,048	\$1,506	\$591
Milk	\$0.37	\$0.41	\$0.39	57,936	82,776	88,187	\$21,704	\$33,670	\$34,247
Yogurt	\$1.22	\$1.17	\$1.22	1,076	1,200	1,283	\$1,312	\$1,407	\$1,564
Non-dairy drinks	\$0.48	\$0.45	\$0.48	16,131	10,120	6,198	\$7,740	\$4,515	\$2,971
Carbonated	\$0.62	\$0.48	\$0.61	441	131	152	\$271	\$62	\$93
Coffee & tea	\$0.56	\$0.77	\$1.22	1,868	627	236	\$1,039	\$486	\$288
Dry beverage	\$6.62	\$2.31	\$1.73	5	21	29	\$33	\$49	\$51
Enriched drinks	\$0.66	\$0.64	\$0.65	4,767	2,411	1,610	\$3,166	\$1,532	\$1,042
Fruit drinks	\$0.64	\$0.74	\$0.57	1,498	1,249	1,088	\$965	\$930	\$620
Water	\$0.30	\$0.26	\$0.28	7,553	5,681	3,083	\$2,266	\$1,456	\$877

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Cost per unit			Volume per 1,000 students			Cost per 1,000 students		
	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more
	<i>Dollars/pound</i>			<i>Pounds/1,000 students</i>			<i>Dollars/1,000 students</i>		
Poultry	\$2.02	\$1.90	\$1.91	4,798	6,711	6,363	\$9,711	\$12,746	\$12,142
Chicken	\$2.07	\$1.93	\$1.94	3,614	5,110	4,859	\$7,465	\$9,878	\$9,447
Game birds	\$6.02			0	-	-	\$2	\$-	\$-
Mixed poultry		\$3.75	\$4.70	-	0	1	\$-	\$1	\$4
Recipe mix	\$2.41	\$2.17	\$3.37	6	11	0	\$14	\$24	\$1
Turkey	\$1.89	\$1.79	\$1.79	1,178	1,589	1,503	\$2,230	\$2,844	\$2,691
Prepared foods	\$1.93	\$1.86	\$1.83	5,570	7,936	8,454	\$10,752	\$14,735	\$15,447
Burritos/tacos	\$1.62	\$1.72	\$1.50	378	685	1,671	\$610	\$1,175	\$2,508
Meat or cheese filled pastry	\$1.92	\$1.96	\$2.00	839	908	954	\$1,607	\$1,781	\$1,908
Mixtures with fish	\$10.34	\$3.21	\$6.20	1	3	0	\$11	\$10	\$0
Pizza	\$1.85	\$1.78	\$1.75	3,773	5,679	4,250	\$6,962	\$10,091	\$7,422
Prepared meals	\$1.93	\$2.33	\$2.10	115	156	667	\$222	\$364	\$1,402
Prepared sandwiches	\$2.89	\$2.60	\$2.42	464	505	912	\$1,341	\$1,313	\$2,208
Red meats	\$2.17	\$2.02	\$2.04	2,900	4,942	4,473	\$6,287	\$9,968	\$9,124
Beef & veal	\$2.18	\$2.01	\$1.99	1,465	2,627	2,526	\$3,190	\$5,269	\$5,016
Lamb	\$8.00	\$3.96		0	0	-	\$1	\$1	\$-
Mixed meats	\$1.93	\$1.79	\$1.80	553	731	511	\$1,069	\$1,310	\$923
Pork	\$2.34	\$2.15	\$2.25	843	1,564	1,339	\$1,969	\$3,357	\$3,009
Recipe mix	\$1.48	\$1.57	\$1.82	39	20	97	\$58	\$31	\$177
Soups & gravies	\$1.49	\$1.46	\$1.60	711	853	668	\$1,061	\$1,241	\$1,066
Gravies	\$2.43	\$2.29	\$2.42	96	171	126	\$232	\$392	\$305
Soups	\$1.35	\$1.25	\$1.41	616	682	542	\$828	\$849	\$761
Sugar/desserts	\$1.03	\$0.86	\$0.94	2,061	2,980	2,255	\$2,117	\$2,565	\$2,118
Candies/toppings	\$2.24	\$1.85	\$2.30	214	163	107	\$479	\$302	\$246
Gelatins	\$1.27	\$1.23	\$1.20	74	125	62	\$94	\$153	\$75
Jellies, jams & preserves	\$1.15	\$1.19	\$1.07	108	205	242	\$124	\$243	\$260
Puddings/pie filling	\$0.76	\$0.67	\$0.90	479	494	261	\$364	\$332	\$234
Sherbet/ices	\$1.10	\$1.02	\$0.96	398	406	293	\$438	\$414	\$283
Sugars	\$0.66	\$0.60	\$0.61	367	995	625	\$242	\$593	\$383
Syrups	\$0.89	\$0.89	\$0.96	422	592	664	\$377	\$527	\$638

SCHOOL FOOD PURCHASE STUDY-III

**APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS**

Food groups/subgroups	Cost per unit			Volume per 1,000 students			Cost per 1,000 students		
	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more
	<i>Dollars/pound</i>			<i>Pounds/1,000 students</i>			<i>Dollars/1,000 students</i>		
Vegetables	\$0.84	\$0.80	\$0.83	13,658	18,356	15,750	\$11,490	\$14,677	\$13,090
Green vegetables	\$0.90	\$0.84	\$0.88	3,063	4,410	4,105	\$2,753	\$3,717	\$3,625
Mixed vegetables	\$0.91	\$0.87	\$0.92	1,291	1,834	1,677	\$1,171	\$1,590	\$1,540
Mixtures with vegetables	\$1.78	\$1.23	\$1.58	88	139	83	\$156	\$170	\$131
Other vegetables	\$1.23	\$1.16	\$1.29	278	317	397	\$341	\$367	\$513
Potato & potato products	\$0.76	\$0.71	\$0.69	5,767	7,039	5,174	\$4,355	\$4,986	\$3,568
Tomatoes & tomato products	\$0.84	\$0.82	\$0.88	1,638	2,077	1,945	\$1,371	\$1,714	\$1,721
Yellow vegetables	\$0.88	\$0.84	\$0.84	1,533	2,541	2,369	\$1,342	\$2,133	\$1,993

Note: Data has been adjusted for students with access to NSLP only
Source: School Food Purchase Study, 2011

**Table A9-8: Comparisons of cost and volume of the top 50 food items purchased by public unified NSLP school districts by poverty level
SY 2009/10**

Food items	Cost per unit			Volume per 1,000 students			Cost per 1,000 students		
	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more
	<i>Dollars/Pound</i>			<i>Dollars/Pound</i>			<i>Pounds/1,000 students</i>		
1 Milk, Flavored, Lo Fat, 1%	\$0.39	\$0.41	\$0.42	24,492	36,089	27,443	\$9,632	\$14,844	\$11,498
2 Milk, Flavored, Skim/Nonfat	\$0.35	\$0.39	\$0.36	14,863	12,722	24,975	\$5,152	\$4,981	\$9,039
3 Hamburger, Hot Dog Buns, Steak, Sub & Dinner RIs	\$1.14	\$1.12	\$1.17	3,992	4,514	4,426	\$4,532	\$5,055	\$5,181
4 Milk, Lo Fat, 1%	\$0.36	\$0.39	\$0.38	7,705	12,270	18,427	\$2,789	\$4,833	\$6,912
5 Orange Juice, Individual	\$0.59	\$0.54	\$0.51	2,996	4,849	7,036	\$1,766	\$2,615	\$3,604
6 Cereals, Individual	\$3.89	\$3.59	\$3.78	262	733	1,008	\$1,020	\$2,632	\$3,809
7 Apple Juice, Individual	\$0.55	\$0.50	\$0.50	2,788	5,144	5,778	\$1,540	\$2,579	\$2,910
8 Milk, Flavored, Lo Fat, .5%	\$0.34	\$0.39	\$0.37	2,090	8,400	4,092	\$714	\$3,258	\$1,515
9 Sport Drink, e.g. Gatorade	\$0.66	\$0.64	\$0.65	4,767	2,411	1,610	\$3,163	\$1,532	\$1,042
10 Pizza, w/Real Cheese	\$1.96	\$1.97	\$1.66	1,171	917	1,053	\$2,290	\$1,809	\$1,744
11 Chips, Misc. Snack(Cheetos, Sun Chips)	\$3.74	\$3.67	\$3.79	476	549	438	\$1,781	\$2,015	\$1,660
12 Potatoes, French Fries	\$0.65	\$0.62	\$0.62	3,019	3,193	1,990	\$1,971	\$1,991	\$1,243
13 Apples, Fresh	\$0.61	\$0.65	\$0.60	1,907	3,175	3,259	\$1,166	\$2,069	\$1,961

SCHOOL FOOD PURCHASE STUDY-III

**APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS**

Food items	Cost per unit			Volume per 1,000 students			Cost per 1,000 students		
	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more
	<i>Dollars/Pound</i>			<i>Dollars/Pound</i>			<i>Pounds/1,000 students</i>		
14 Fruit Juice, Mixed, Individual	\$0.74	\$0.63	\$0.58	1,552	2,633	4,396	\$1,154	\$1,665	\$2,562
15 Cookie Dough	\$1.66	\$1.54	\$1.56	1,317	1,027	611	\$2,190	\$1,584	\$950
16 Pizza, Pepperoni w/Real Cheese	\$2.04	\$2.08	\$2.03	699	990	534	\$1,424	\$2,059	\$1,082
17 Chicken, Nuggets, White/dark Mix, Unknown	\$2.06	\$1.93	\$1.88	629	1,059	529	\$1,295	\$2,041	\$996
18 Milk, Flavored, Lo Fat, Fat Solids Unknown	\$0.39	\$0.42	\$0.35	2,695	4,528	4,253	\$1,049	\$1,912	\$1,480
19 Milk, Lo Fat, 2%	\$0.38	\$0.42	\$0.40	2,802	3,876	4,634	\$1,058	\$1,632	\$1,865
20 Chips, Tortilla/Corn	\$2.25	\$2.18	\$2.05	605	762	645	\$1,361	\$1,658	\$1,323
21 Chicken, Nuggets, White Meat	\$2.13	\$2.00	\$1.98	758	689	627	\$1,615	\$1,376	\$1,243
22 Muffins	\$2.40	\$2.23	\$2.22	487	591	753	\$1,168	\$1,320	\$1,669
23 Beef, Patties, Cooked	\$2.15	\$2.07	\$1.95	420	780	744	\$904	\$1,611	\$1,449
24 Yogurt	\$1.17	\$1.17	\$1.20	978	1,174	1,252	\$1,148	\$1,375	\$1,503
25 Chicken, Patties, Breaded, White Meat	\$1.91	\$1.92	\$2.18	616	906	361	\$1,179	\$1,739	\$785
26 Water	\$0.28	\$0.23	\$0.27	6,678	4,969	2,944	\$1,874	\$1,159	\$806
27 Crackers, Graham, Individual	\$2.52	\$2.27	\$2.16	282	580	909	\$711	\$1,319	\$1,965
28 Bread/Biscuit/Pastry Dough	\$1.16	\$1.01	\$1.07	616	1,575	908	\$713	\$1,590	\$968
29 Cheese Filled Pastry(Includes Hot Pocket)	\$1.92	\$1.92	\$1.88	710	569	447	\$1,361	\$1,090	\$842
30 Ice Cream Novelties	\$1.83	\$1.55	\$1.38	815	747	296	\$1,495	\$1,157	\$409
31 Cookies, Individual	\$2.97	\$2.92	\$2.63	463	327	284	\$1,373	\$955	\$746
32 Pizza, Pepperoni w/Cheese Blend	\$1.70	\$1.56	\$1.51	302	974	487	\$515	\$1,520	\$737
33 Pizza, Cheese Blend	\$1.61	\$1.56	\$1.48	501	856	321	\$805	\$1,332	\$474
34 Chips, Potato or Potato Sticks	\$4.34	\$4.23	\$4.29	244	225	138	\$1,059	\$950	\$594
35 Oranges, Fresh	\$0.59	\$0.57	\$0.56	925	1,734	2,101	\$547	\$991	\$1,175
36 Potatoes, Formed, Frozen	\$0.67	\$0.64	\$0.59	1,316	1,427	1,445	\$888	\$906	\$852
37 Bananas, Fresh	\$0.50	\$0.52	\$0.49	1,080	1,852	2,476	\$543	\$965	\$1,211
38 Pork, Sausage, Cooked	\$2.08	\$2.06	\$2.03	299	535	421	\$621	\$1,103	\$855
39 Pizza Shells/Pizza Dough	\$1.18	\$1.27	\$1.05	897	720	474	\$1,055	\$917	\$495
40 Pizza, Cheese, Type Unknown	\$1.71	\$1.74	\$1.77	365	542	562	\$625	\$943	\$997
41 Beef, Ground	\$1.68	\$1.72	\$1.71	152	699	610	\$256	\$1,202	\$1,044
42 Lettuce, Salad Mix	\$0.89	\$0.87	\$0.87	899	1,059	892	\$797	\$926	\$779
43 Poptarts	\$2.04	\$1.77	\$2.06	439	494	337	\$896	\$875	\$696

SCHOOL FOOD PURCHASE STUDY-III

**APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS**

Food items	Cost per unit			Volume per 1,000 students			Cost per 1,000 students		
	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more	Less than 30 %	30 to 59 %	60% or more
	<i>Dollars/Pound</i>			<i>Dollars/Pound</i>			<i>Pounds/1,000 students</i>		
44 Milk, Skim/Nonfat	\$0.33	\$0.39	\$0.38	2,452	1,889	2,713	\$820	\$728	\$1,042
45 French Toast/Sticks/French Toast Bagels	\$1.47	\$1.42	\$1.55	461	521	751	\$676	\$741	\$1,164
46 Lettuce, Shredded/Chopped	\$0.97	\$1.00	\$0.93	804	784	782	\$779	\$785	\$725
47 Catsup, Individual Pack	\$0.81	\$0.81	\$0.87	471	1,178	1,051	\$381	\$956	\$909
48 Pizza, Sausage w/Cheese Blend	\$1.64	\$1.63	\$1.70	202	607	514	\$332	\$989	\$872
49 Potatoes, Dry, w/Milk	\$1.88	\$1.88	\$1.82	318	482	357	\$596	\$907	\$649
50 Peanut Butter and Jelly Sandwich	\$2.63	\$2.70	\$2.38	228	234	442	\$600	\$630	\$1,049
All fifty items	\$0.69	\$0.69	\$0.63	106,007	139,559	143,537	\$73,377	\$95,821	\$91,082

Note: Data has been adjusted for students with access to NSLP only
Source: School Food Purchase Study, 2011

9.6 Regions

9.6.1 Differences in purchase costs between regions

Tables A9-9, A9-10, and A9-11 show the mean cost per unit, the mean volume per 1,000 students, and the cost per 1,000 students for all purchased foods in each of the regions. Overall, the highest mean price per pound for all food items is paid in the Northern Plains region (\$0.93 per pound), some \$0.13 per pound higher than the lowest mean price in the Pacific region (\$0.80 per pound) and 7.8% above the average for all purchased food products. The Northern Plains region had the highest price in five of the 16 food groups. The Delta region did not have the lowest overall mean cost per unit; however, it purchased at the lowest mean price per unit in 10 of the 16 subgroups. The only subgroups in which it did not have the lowest price were condiments, fish, fruits/juices, grain products, red meats, and milk and other dairy products.

The Northern Plains region also had the highest cost per 1,000 students as the high price it paid was not compensated by the volumes it purchased. Overall, the region with the lowest mean cost per 1,000 students was the Pacific region, although the Mountain region had a very similar value. The Mountain region purchased much lower volumes per 1,000 students than the other regions. The Delta region purchased at low prices, but also purchased larger volumes per 1,000 students. In fact, it purchased more per 1,000 students with access to NSLP in 10 of the food subgroups. As noted in other analyses of subgroup purchases, those subgroups buying at the lowest price tend to be purchasing the largest volume per 1,000 students.

The difference in cost per 1,000 students between the highest and the lowest region is quite startling - almost \$92,000 per 1,000 students with access to NSLP.

Tables A9-12, A9-13, and A9-14 show the mean cost per unit, the mean volume per 1,000 students, and the cost per 1,000 students for the top 50 purchased food items. Analysis shows that the Delta region has some of the most interesting characteristics. It has the highest cost per unit for nine of the top 50 food items and the lowest for 14 food items. This is more highest-cost and lowest-cost items than any other region. Similarly, the Delta region has the highest cost per 1,000 students for 9 food items (and here it is joint leader with the Northern Plains) and the lowest cost per 1,000 students for 11 food items (again, more than any other region). This region pays the highest price for three of the top four food items (all fluid milk categories). The other regions with low mean costs per 1,000 students are the Pacific and Mountain regions (each for nine food items).

When all of these 50 leading food items are combined, the mean cost per 1,000 students was 36 percent lower for the Pacific and Mountain regions (the lowest) compared with the Northern Plains (the highest).

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Table A9-9: Comparison of summary of mean cost per pound of foods purchased by public unified NSLP school districts by region, SY 2009/10

Food groups/subgroups	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	----- dollars/pound-----									
All foods	\$0.84	\$0.82	\$0.82	\$0.93	\$0.81	\$0.82	\$0.84	\$0.82	\$0.83	\$0.80
Bakery products	\$1.69	\$1.68	\$1.68	\$1.63	\$1.52	\$1.41	\$1.21	\$1.57	\$1.72	\$1.78
Biscuits, muffins, pancakes & waffles	\$1.83	\$1.74	\$1.93	\$1.82	\$1.77	\$1.65	\$1.51	\$1.73	\$1.87	\$1.84
Bread & rolls	\$1.27	\$1.18	\$1.09	\$1.19	\$1.06	\$1.09	\$0.88	\$1.01	\$1.18	\$1.33
Cakes & other bakery desserts	\$2.21	\$2.13	\$2.14	\$2.16	\$1.96	\$1.72	\$1.40	\$2.19	\$2.25	\$2.23
Crackers	\$2.53	\$2.52	\$2.59	\$2.38	\$2.37	\$1.99	\$2.14	\$2.12	\$2.71	\$2.14
Pretzels & snack chips	\$2.76	\$2.83	\$2.68	\$2.67	\$2.92	\$2.61	\$2.44	\$3.24	\$2.80	\$2.88
Condiments	\$0.85	\$0.71	\$0.86	\$0.79	\$0.84	\$0.93	\$0.76	\$0.67	\$0.77	\$0.89
Catsup & other sauces	\$0.89	\$0.70	\$0.91	\$0.81	\$0.88	\$1.01	\$0.81	\$0.79	\$0.78	\$0.90
Flavorings	\$1.14	\$1.63	\$1.15	\$1.50	\$1.18	\$1.27	\$1.15	\$0.78	\$1.24	\$1.66
Pickles/olives	\$0.66	\$0.62	\$0.60	\$0.59	\$0.53	\$0.53	\$0.46	\$0.49	\$0.65	\$0.70
Eggs	\$1.60	\$1.58	\$1.53	\$1.64	\$1.61	\$1.30	\$1.14	\$1.66	\$1.62	\$1.70
Eggs	\$1.18	\$0.96	\$1.12	\$0.98	\$1.16	\$0.96	\$0.82	\$1.20	\$1.15	\$1.22
Mixtures with eggs	\$2.02	\$2.20	\$1.91	\$2.22	\$1.90	\$1.84	\$1.96	\$2.12	\$2.11	\$2.25
Fats/oils	\$1.37	\$1.17	\$1.25	\$1.10	\$1.11	\$1.09	\$0.87	\$1.16	\$1.08	\$1.22
Butter	\$2.07	\$1.61	\$1.90	\$1.83	\$2.03	\$1.82	\$1.66	\$1.96	\$1.82	\$1.88
Margarine	\$1.10	\$1.02	\$0.74	\$0.69	\$0.79	\$0.70	\$0.56	\$0.74	\$0.69	\$0.95
Salad dressings & mayonnaise	\$1.36	\$1.17	\$1.37	\$1.21	\$1.32	\$1.36	\$1.32	\$1.29	\$1.10	\$1.20
Vegetable oils & shortenings	\$1.51	\$1.20	\$1.31	\$0.81	\$0.99	\$0.90	\$0.75	\$1.39	\$1.06	\$1.64
Fish	\$2.27	\$2.25	\$2.23	\$2.58	\$2.41	\$2.06	\$2.28	\$2.18	\$2.02	\$2.50
Fish	\$2.26	\$2.42	\$2.29	\$2.75	\$2.44	\$2.04	\$2.36	\$2.22	\$2.04	\$2.19
Shellfish	\$2.69	\$1.93	\$1.98	\$2.07	\$2.12	\$2.30	\$1.81	\$1.92	\$1.96	\$2.75
Fruits/juices	\$0.71	\$0.69	\$0.72	\$0.80	\$0.68	\$0.63	\$0.65	\$0.63	\$0.71	\$0.69
Fruits	\$0.83	\$0.72	\$0.80	\$0.90	\$0.79	\$0.72	\$0.73	\$0.68	\$0.76	\$0.80
Juices	\$0.61	\$0.64	\$0.62	\$0.63	\$0.57	\$0.56	\$0.59	\$0.58	\$0.61	\$0.55

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	----- dollars/pound -----									
Grain products	\$1.93	\$1.67	\$1.82	\$2.08	\$1.56	\$1.33	\$1.41	\$1.35	\$1.69	\$1.65
Breakfast cereals	\$3.82	\$3.24	\$3.73	\$4.11	\$3.72	\$3.39	\$3.15	\$3.12	\$3.20	\$3.82
Flour & other milled grains	\$0.35	\$0.26	\$0.36	\$0.32	\$0.32	\$0.36	\$0.34	\$0.30	\$0.26	\$0.28
Flour mix	\$1.43	\$1.49	\$1.51	\$1.93	\$1.24	\$1.02	\$0.89	\$0.93	\$1.29	\$0.89
Mixtures with grain	\$1.93	\$1.72	\$1.51	\$1.84	\$1.60	\$1.77	\$2.18	\$1.78	\$2.14	\$1.87
Pasta & noodles	\$0.92	\$0.98	\$1.04	\$1.00	\$0.93	\$0.83	\$0.80	\$0.80	\$1.09	\$1.14
Rice, barley & other grains	\$1.74	\$1.48	\$1.71	\$0.99	\$1.56	\$0.80	\$0.43	\$0.66	\$0.78	\$0.70
Legumes/nuts/seeds	\$0.96	\$1.03	\$0.84	\$0.99	\$0.67	\$0.62	\$0.60	\$0.75	\$0.85	\$1.06
Dry beans/peas	\$0.65	\$0.66	\$0.61	\$0.64	\$0.55	\$0.55	\$0.57	\$0.63	\$0.77	\$0.69
Other nuts	\$4.29	\$4.03	\$3.99	\$6.31	\$6.51	\$5.05	\$5.49	\$5.15	\$5.62	\$5.32
Peanuts/peanut butter	\$1.24	\$1.39	\$2.38	\$2.11	\$1.59	\$1.38	\$1.17	\$1.23	\$1.70	\$2.20
Seeds	\$3.04	\$2.59	\$3.24	\$2.49	\$2.87	\$3.31	\$2.34	\$2.67	\$2.42	\$2.33
Soybeans & soy products	\$1.95	\$1.92	\$1.46	\$2.26	\$1.70	\$2.40	\$2.90	\$1.74	\$1.17	\$1.97
Milk & other dairy products	\$0.48	\$0.41	\$0.44	\$0.48	\$0.44	\$0.46	\$0.53	\$0.49	\$0.47	\$0.39
Cheese	\$1.94	\$1.68	\$1.84	\$1.90	\$1.82	\$2.01	\$1.66	\$1.80	\$1.99	\$1.91
Cream	\$1.28	\$1.27	\$1.54	\$1.14	\$1.37	\$1.61	\$1.61	\$1.53	\$1.02	\$1.14
Ice cream & ice milk	\$1.72	\$1.82	\$1.70	\$1.25	\$1.39	\$1.36	\$1.14	\$1.21	\$1.69	\$1.58
Milk	\$0.39	\$0.35	\$0.38	\$0.40	\$0.39	\$0.41	\$0.50	\$0.43	\$0.42	\$0.34
Yogurt	\$1.20	\$1.22	\$1.23	\$1.20	\$1.16	\$1.11	\$1.42	\$1.25	\$1.24	\$1.19
Non-dairy drinks	\$0.44	\$0.55	\$0.51	\$0.48	\$0.46	\$0.42	\$0.24	\$0.56	\$0.43	\$0.45
Carbonated	\$0.55	\$1.76	\$0.56	\$0.81	\$0.30	\$0.52		\$0.54	\$0.72	\$0.59
Coffee & tea	\$0.51	\$1.00	\$0.69	\$1.51	\$0.92	\$0.76	\$2.78	\$1.03	\$0.67	\$1.49
Dry beverage	\$9.29	\$3.02	\$2.86	\$11.30	\$2.69	\$1.38	\$11.58	\$6.21	\$4.31	\$1.02
Enriched drinks	\$0.69	\$0.70	\$0.66	\$0.62	\$0.65	\$0.61	\$0.63	\$0.65	\$0.68	\$0.62
Fruit drinks	\$0.50	\$0.75	\$0.61	\$0.85	\$0.70	\$0.49	\$1.17	\$1.17	\$0.59	\$1.00
Water	\$0.30	\$0.32	\$0.34	\$0.29	\$0.29	\$0.25	\$0.16	\$0.26	\$0.25	\$0.26

SCHOOL FOOD PURCHASE STUDY-III
APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	----- dollars/pound -----									
Poultry	\$2.03	\$2.07	\$2.07	\$2.00	\$1.83	\$1.90	\$1.78	\$1.90	\$1.92	\$1.92
Chicken	\$1.90	\$2.11	\$2.16	\$2.06	\$1.90	\$1.95	\$1.79	\$1.97	\$2.15	\$1.99
Game birds			\$6.02							
Mixed poultry	\$5.98		\$6.34	\$5.29	\$5.59	\$2.34		\$4.45		\$4.50
Recipe mix	\$2.54	\$1.61	\$3.54	\$4.49	\$2.46	\$3.12		\$2.62		\$1.34
Turkey	\$2.42	\$1.97	\$1.82	\$1.78	\$1.56	\$1.71	\$1.72	\$1.77	\$1.57	\$1.67
Prepared foods	\$1.97	\$1.88	\$1.88	\$1.97	\$1.83	\$1.80	\$1.70	\$1.85	\$2.04	\$1.82
Burritos/tacos	\$1.92	\$1.74	\$1.62	\$1.67	\$1.48	\$1.56	\$1.69	\$1.74	\$1.70	\$1.47
Meat or cheese filled pastry	\$2.05	\$1.88	\$1.82	\$2.08	\$1.99	\$1.83	\$1.67	\$1.95	\$2.11	\$2.07
Mixtures with fish	\$10.65	\$7.83			\$8.24			\$17.00		\$3.20
Pizza	\$1.89	\$1.70	\$1.80	\$1.86	\$1.75	\$1.70	\$1.65	\$1.76	\$1.94	\$1.78
Prepared meals	\$3.11	\$2.61	\$2.10	\$2.37	\$2.04	\$2.02	\$2.11	\$2.35	\$2.44	\$2.02
Prepared sandwiches	\$3.01	\$2.59	\$2.58	\$2.59	\$2.63	\$2.58	\$2.25	\$2.78	\$3.10	\$2.35
Red meats	\$2.27	\$2.12	\$2.10	\$2.06	\$2.04	\$2.04	\$1.99	\$1.88	\$2.14	\$2.13
Beef & veal	\$2.25	\$2.06	\$2.19	\$2.01	\$2.12	\$2.07	\$2.01	\$1.77	\$2.07	\$2.10
Lamb	\$8.00									\$3.96
Mixed meats	\$2.07	\$1.88	\$1.68	\$2.06	\$1.61	\$1.70	\$1.84	\$1.70	\$2.04	\$2.61
Pork	\$2.42	\$2.46	\$2.27	\$2.22	\$2.12	\$2.12	\$2.05	\$2.14	\$2.34	\$2.14
Recipe mix	\$1.94	\$1.47	\$1.40	\$1.66	\$2.43	\$1.02		\$1.74	\$3.62	\$1.82
Soups & gravies	\$1.27	\$1.70	\$1.43	\$1.39	\$1.54	\$1.54	\$0.97	\$1.50	\$2.27	\$1.87
Gravies	\$2.15	\$2.27	\$2.36	\$2.61	\$2.29	\$2.67	\$2.28	\$1.92	\$2.84	\$3.07
Soups	\$1.13	\$1.57	\$1.23	\$1.18	\$1.25	\$1.28	\$0.82	\$1.38	\$2.10	\$1.68
Sugar/desserts	\$1.02	\$1.07	\$0.98	\$1.14	\$0.90	\$0.82	\$0.80	\$0.85	\$0.85	\$1.09
Candies/toppings	\$2.23	\$2.55	\$1.99	\$2.28	\$1.88	\$1.53	\$1.38	\$3.08	\$2.19	\$2.34
Gelatins	\$1.33	\$1.25	\$1.39	\$1.16	\$1.17	\$1.11	\$1.17	\$1.16	\$1.18	\$1.55
Jellies, jams & preserves	\$0.86	\$1.09	\$1.28	\$1.15	\$1.20	\$1.23	\$1.13	\$1.31	\$0.99	\$1.23
Puddings/pie filling	\$0.70	\$0.76	\$0.62	\$1.57	\$0.69	\$0.67	\$0.71	\$0.70	\$0.80	\$1.20
Sherbet/ices	\$1.14	\$1.12	\$1.06	\$1.03	\$1.02	\$0.83	\$1.00	\$1.07	\$1.24	\$1.21
Sugars	\$0.78	\$0.67	\$0.64	\$0.63	\$0.62	\$0.58	\$0.59	\$0.59	\$0.55	\$0.66
Syrups	\$0.90	\$0.90	\$0.96	\$1.05	\$0.89	\$1.01	\$0.87	\$0.84	\$0.68	\$1.00

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	----- dollars/pound-----									
Vegetables	\$0.88	\$0.87	\$0.82	\$0.93	\$0.77	\$0.78	\$0.73	\$0.76	\$0.83	\$0.90
Green vegetables	\$1.02	\$0.94	\$0.84	\$0.92	\$0.76	\$0.82	\$0.70	\$0.73	\$0.92	\$1.04
Mixed vegetables	\$0.95	\$0.90	\$0.86	\$0.80	\$0.87	\$0.88	\$0.84	\$0.87	\$0.85	\$0.96
Mixtures with vegetables	\$1.59	\$1.90	\$1.48	\$2.84	\$1.24	\$1.09	\$1.34	\$1.81	\$1.45	\$1.82
Other vegetables	\$1.09	\$1.17	\$1.40	\$1.70	\$1.26	\$1.03	\$0.99	\$1.04	\$1.49	\$1.50
Potato & potato products	\$0.74	\$0.81	\$0.75	\$0.89	\$0.70	\$0.69	\$0.65	\$0.70	\$0.73	\$0.68
Tomatoes & tomato products	\$0.86	\$0.78	\$0.88	\$1.02	\$0.89	\$0.79	\$0.87	\$0.78	\$0.73	\$0.93
Yellow vegetables	\$0.95	\$0.92	\$0.85	\$0.84	\$0.81	\$0.81	\$0.74	\$0.77	\$0.88	\$0.92

Note: Data has been adjusted for students with access to NSLP only
Source: School Food Purchase Study, 2011

Table A9-10: Comparison of summary of volume per 1,000 students with access to NSLP of foods purchased by public unified NSLP school districts by region, SY 2009/10

Food groups/subgroups	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	----- Pounds/1,000 students-----									
All foods	161,189	172,110.86	188,685.48	235,944.67	199,986.09	212,267.16	221,722.60	226,470.35	153,078.52	158,643.79
Bakery products	16,506	17,256.93	16,553.20	20,754.75	16,780.33	18,710.15	16,232.28	19,639.80	12,463.94	14,533.76
Biscuits, muffins, pancakes & waffles	2,686	2,521.09	2,668.84	2,219.23	2,563.31	2,651.34	2,039.28	3,706.52	2,471.54	2,854.13
Bread & rolls	9,264	8,822.74	8,026.90	12,050.16	9,540.56	11,303.11	9,963.01	10,779.77	6,260.37	6,948.36
Cakes & other bakery desserts	2,042	3,229.83	3,101.25	3,195.34	2,561.99	2,389.63	2,200.26	1,768.13	1,743.94	1,660.86
Crackers	644	845.29	624.52	1,057.05	644.78	951.51	735.77	1,179.08	485.08	1,583.82
Pretzels & snack chips	1,870	1,837.98	2,131.70	2,232.97	1,469.69	1,414.57	1,293.97	2,206.29	1,503.01	1,486.59
Condiments	3,471	3,726.85	4,027.87	4,868.04	4,598.43	4,744.53	6,353.32	5,646.71	3,165.89	2,620.40
Catsup & other sauces	2,681	2,656.08	3,117.77	3,767.73	3,593.94	3,511.17	4,350.93	3,016.31	2,014.45	1,680.86
Flavorings	135	144.10	170.85	163.54	255.82	326.35	513.02	316.54	241.82	156.01
Pickles/olives	655	926.67	739.26	936.76	748.66	907.01	1,489.37	2,313.86	909.62	783.53
Eggs	472	441.86	447.45	855.70	629.06	877.74	974.17	738.74	541.08	358.55
Eggs	236	220.87	215.65	398.10	246.74	539.71	699.17	371.30	272.71	193.53
Mixtures with eggs	236	221.00	231.81	457.60	382.32	338.03	275.00	367.44	268.37	165.02

SCHOOL FOOD PURCHASE STUDY-III
APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	----- Pounds/1,000 students-----									
Fats/oils	2,102	2,217.30	2,446.81	3,001.91	2,872.48	3,651.09	4,770.50	2,186.96	1,754.63	1,474.74
Butter	93	68.94	34.11	160.00	9.03	6.18	3.32	4.78	76.06	30.95
Margarine	272	263.42	486.97	334.50	696.87	806.49	1,564.19	602.65	177.12	114.78
Salad dressings & mayonnaise	1,508	1,601.43	1,608.31	1,868.19	1,481.20	1,826.29	1,523.52	1,184.85	1,135.07	1,246.44
Vegetable oils & shortenings	229	283.51	317.41	639.23	685.37	1,012.14	1,679.47	394.68	366.37	82.57
Fish	341	391.36	305.22	1,065.78	593.26	641.49	1,547.49	899.54	401.85	430.16
Fish	329	256.00	249.10	798.57	536.42	603.45	1,321.87	791.04	296.64	194.72
Shellfish	12	135.36	56.12	267.20	56.84	38.04	225.62	108.50	105.20	235.44
Fruits/juices	22,662	23,076.41	25,720.52	35,462.75	27,050.60	32,107.13	34,027.99	38,046.20	23,976.84	29,945.30
Fruits	11,049	14,817.18	13,877.89	22,413.98	14,332.04	14,366.21	13,744.14	17,193.13	15,928.57	16,004.22
Juices	11,613	8,259.23	11,842.63	13,048.77	12,718.57	17,740.92	20,283.85	20,853.07	8,048.26	13,941.08
Grain products	2,175	3,388.09	2,917.06	5,168.97	3,829.27	5,077.35	5,746.84	5,143.15	3,132.45	3,324.52
Breakfast cereals	502	523.20	603.82	1,044.30	816.46	879.76	1,309.86	1,075.49	755.47	643.26
Flour & other milled grains	145	242.61	233.95	297.59	1,061.86	1,503.68	1,594.85	1,483.81	576.54	296.20
Flour mix	194	176.50	153.52	682.34	329.21	318.63	292.11	326.99	379.49	458.09
Mixtures with grain	472	1,434.84	1,420.83	2,311.45	823.21	1,025.98	963.22	1,138.89	769.39	879.82
Pasta & noodles	565	640.22	373.50	657.36	616.72	729.29	1,100.31	615.50	290.73	357.08
Rice, barley & other grains	297	370.73	131.45	175.92	181.81	620.01	486.50	502.48	360.82	690.07
Legumes/nuts/seeds	473	732.62	755.03	1,689.65	1,576.21	2,097.78	2,527.18	2,015.54	1,170.10	812.35
Dry beans/peas	295	497.25	643.02	1,318.75	1,447.61	2,010.51	2,474.30	1,783.11	1,095.35	621.69
Other nuts	1	1.94	2.23	1.32	1.24	0.63	0.73	4.42	3.54	2.14
Peanuts/peanut butter	136	113.98	46.19	251.03	22.84	40.68	37.81	121.26	21.61	23.99
Seeds	8	43.19	18.16	57.48	25.79	5.04	7.02	39.10	35.00	119.74
Soybeans & soy products	33	76.26	45.42	61.08	78.74	40.92	7.32	67.65	14.61	44.80
Milk & other dairy products	69,021	78,293.45	86,872.29	98,023.57	84,575.80	85,065.00	85,453.95	96,594.64	69,487.41	70,622.03
Cheese	1,999	2,143.86	2,260.76	2,784.00	1,172.17	1,429.36	985.88	2,145.99	1,237.01	1,318.64
Cream	182	311.97	186.57	134.62	137.40	189.39	192.38	115.77	107.00	145.95
Ice cream & ice milk	1,219	651.28	896.10	1,685.05	1,367.30	810.28	1,686.61	1,939.15	424.75	219.55
Milk	64,550	73,937.36	82,509.77	91,355.41	80,496.37	81,692.69	82,425.34	90,978.38	66,753.91	67,453.36
Yogurt	1,072	1,248.98	1,019.08	2,064.50	1,402.57	943.28	163.74	1,415.35	964.74	1,484.53

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	----- Pounds/1,000 students-----									
Non-dairy drinks	15,008	11,175.44	12,350.62	10,233.17	10,375.40	11,105.95	6,264.77	10,136.62	8,541.93	9,408.36
Carbonated	241	20.03	387.20	190.58	107.33	116.67	-	371.19	459.74	244.15
Coffee & tea	2,758	420.73	1,095.83	131.41	382.86	774.11	17.79	456.96	702.32	149.01
Dry beverage	2	5.98	16.15	1.61	28.00	43.26	0.25	16.76	5.97	29.71
Enriched drinks	2,666	4,743.33	3,984.31	3,762.58	2,525.92	2,966.09	172.58	3,386.49	1,332.81	3,235.69
Fruit drinks	2,078	1,226.71	1,238.05	831.66	1,292.20	1,633.32	414.06	1,276.26	1,311.01	439.83
Water	7,263	4,758.66	5,629.08	5,315.33	6,039.08	5,572.51	5,660.10	4,628.95	4,730.09	5,309.98
Poultry	4,564	4,715.05	4,345.90	9,053.12	7,789.83	9,289.47	10,416.32	7,076.75	4,476.67	4,517.59
Chicken	3,504	3,438.99	3,117.69	7,100.25	6,231.08	7,536.85	9,260.57	4,679.30	2,705.62	3,554.36
Game birds	-	-	1.02	-	-	-	-	-	-	-
Mixed poultry	0	-	0.15	1.35	0.03	0.33	-	0.79	-	0.36
Recipe mix	1	23.11	6.25	0.01	26.68	1.95	-	2.62	-	6.40
Turkey	1,059	1,252.96	1,220.79	1,951.51	1,532.04	1,750.34	1,155.75	2,394.03	1,771.05	956.47
Prepared foods	4,741	5,009.00	8,674.94	9,789.65	7,664.52	7,966.19	7,725.66	8,798.83	6,901.85	8,018.31
Burritos/tacos	26	292.58	528.27	1,220.22	119.65	562.88	459.13	1,852.54	807.94	2,122.46
Meat or cheese filled pastry	600	1,059.35	1,107.11	1,151.71	957.68	577.97	758.46	1,274.13	761.08	1,005.01
Mixtures with fish	2	0.75	-	-	0.22	-	-	0.01	-	8.57
Pizza	3,891	2,913.54	5,638.64	5,890.92	5,929.01	5,721.02	5,689.30	5,047.32	4,633.01	3,559.02
Prepared meals	17	206.40	725.11	244.59	213.12	301.55	672.37	117.14	82.12	342.84
Prepared sandwiches	205	536.39	675.81	1,282.22	444.85	802.77	146.41	507.69	617.70	980.41
Red meats	2,895	3,558.78	3,671.25	9,465.92	4,823.78	5,802.60	9,674.08	6,999.31	2,607.55	1,421.81
Beef & veal	1,174	1,761.88	1,780.49	5,939.58	2,533.24	3,613.25	5,006.52	3,994.15	1,536.04	706.43
Lamb	0	-	-	-	-	-	-	-	-	0.51
Mixed meats	624	730.45	744.21	992.41	742.01	647.63	1,752.52	760.81	341.14	108.25
Pork	1,078	973.04	1,088.26	2,419.39	1,545.99	1,528.25	2,915.04	2,223.46	729.34	473.11
Recipe mix	18	93.41	58.30	114.54	2.54	13.47	-	20.89	1.03	133.51
Soups & gravies	827	703.08	807.58	1,512.01	755.50	673.69	1,271.32	1,056.92	413.17	485.31
Gravies	114	130.77	137.09	218.08	210.05	129.70	125.49	224.06	93.71	67.72
Soups	713	572.31	670.50	1,293.93	545.45	543.98	1,145.83	832.86	319.46	417.59

SCHOOL FOOD PURCHASE STUDY-III

*APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS*

Food groups/subgroups	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	----- Pounds/1,000 students-----									
Sugar/desserts	1,856	2,324.52	2,596.66	3,418.04	3,152.68	3,652.37	4,466.91	3,355.36	2,340.49	910.65
Candies/toppings	156	247.22	320.58	191.36	209.38	123.70	300.09	66.91	172.31	64.71
Gelatins	49	45.30	94.43	173.22	65.51	91.86	216.68	213.15	124.48	41.73
Jellies, jams & preserves	202	105.05	86.45	314.85	183.82	368.34	490.40	254.98	55.53	45.83
Puddings/pie filling	310	613.14	625.81	700.01	298.62	568.11	695.59	581.16	575.99	63.60
Sherbet/ices	352	445.50	371.25	806.98	756.05	614.54	99.26	360.87	161.56	89.30
Sugars	236	319.79	521.82	734.57	1,059.22	1,292.52	1,939.25	1,198.72	750.73	207.70
Syrups	551	548.54	576.31	497.04	580.08	593.30	725.64	679.57	499.89	397.79
Vegetables	14,072	15,100.10	16,193.07	21,581.66	22,918.95	20,804.62	24,269.83	18,135.28	11,702.68	9,759.96
Green vegetables	3,556	3,311.17	4,267.30	4,874.86	4,934.74	4,860.57	6,630.87	4,223.55	2,505.92	2,557.23
Mixed vegetables	1,507	1,837.51	1,830.57	2,739.67	1,857.16	2,033.35	1,884.58	1,428.14	1,209.60	1,140.15
Mixtures with vegetables	83	33.81	76.80	194.99	128.77	317.77	119.82	160.61	20.13	12.66
Other vegetables	293	374.53	252.92	433.25	315.48	375.20	740.05	328.01	261.68	281.45
Potato & potato products	5,363	5,564.27	5,744.84	7,946.16	10,979.37	7,540.93	9,397.52	7,292.66	4,245.63	2,956.11
Tomatoes & tomato products	2,053	2,086.19	1,781.46	2,361.27	2,033.21	2,254.33	2,496.48	2,263.50	1,395.68	1,173.32
Yellow vegetables	1,218	1,892.61	2,239.19	3,031.46	2,670.22	3,422.48	3,000.51	2,438.82	2,064.04	1,639.03

Note: Data has been adjusted for students with access to NSLP only
Source: School Food Purchase Study, 2011

Table A9-1 I: Comparison of summary of cost per 1,000 students with access to NSLP of foods purchased public unified NSLP school districts by region, SY 2009/10

Food groups/subgroups	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	----- Dollars/1,000 students-----									
All foods	\$136,093	\$140,275	\$154,981	\$220,451	\$162,629	\$173,084	\$185,328	\$186,777	\$127,786	\$127,202
Bakery products	\$27,961	\$28,991	\$27,875	\$33,747	\$25,478	\$26,360	\$19,617	\$30,784	\$21,473	\$25,889
Biscuits, muffins, pancakes & waffles	\$4,912	\$4,394	\$5,139	\$4,034	\$4,529	\$4,370	\$3,085	\$6,407	\$4,627	\$5,250
Bread & rolls	\$11,752	\$10,396	\$8,776	\$14,325	\$10,115	\$12,304	\$8,731	\$10,853	\$7,401	\$9,261
Cakes & other bakery desserts	\$4,513	\$6,864	\$6,623	\$6,916	\$5,021	\$4,099	\$3,074	\$3,867	\$3,924	\$3,706
Crackers	\$1,630	\$2,132	\$1,615	\$2,515	\$1,529	\$1,895	\$1,571	\$2,502	\$1,316	\$3,394
Pretzels & snack chips	\$5,155	\$5,204	\$5,723	\$5,957	\$4,285	\$3,692	\$3,156	\$7,155	\$4,206	\$4,278

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	----- Dollars/1,000 students-----									
Condiments	\$2,956	\$2,657	\$3,465	\$3,850	\$3,844	\$4,428	\$4,827	\$3,767	\$2,452	\$2,325
Catsup & other sauces	\$2,372	\$1,848	\$2,824	\$3,049	\$3,146	\$3,532	\$3,542	\$2,383	\$1,562	\$1,514
Flavorings	\$154	\$235	\$197	\$246	\$303	\$415	\$592	\$247	\$299	\$259
Pickles/olives	\$429	\$574	\$444	\$555	\$394	\$480	\$692	\$1,137	\$591	\$552
Eggs	\$756	\$698	\$685	\$1,405	\$1,014	\$1,141	\$1,112	\$1,224	\$879	\$609
Eggs	\$280	\$212	\$241	\$389	\$287	\$521	\$573	\$446	\$312	\$237
Mixtures with eggs	\$477	\$486	\$443	\$1,016	\$728	\$621	\$538	\$777	\$567	\$372
Fats/oils	\$2,890	\$2,593	\$3,049	\$3,309	\$3,197	\$3,967	\$4,164	\$2,534	\$1,901	\$1,798
Butter	\$192	\$111	\$65	\$292	\$18	\$11	\$5	\$9	\$138	\$58
Margarine	\$299	\$269	\$362	\$230	\$549	\$567	\$883	\$443	\$122	\$109
Salad dressings & mayonnaise	\$2,054	\$1,872	\$2,207	\$2,266	\$1,954	\$2,477	\$2,010	\$1,532	\$1,252	\$1,495
Vegetable oils & shortenings	\$345	\$341	\$415	\$520	\$676	\$912	\$1,265	\$549	\$389	\$136
Fish	\$775	\$881	\$680	\$2,751	\$1,430	\$1,319	\$3,523	\$1,962	\$811	\$1,074
Fish	\$742	\$619	\$569	\$2,198	\$1,309	\$1,232	\$3,116	\$1,754	\$606	\$427
Shellfish	\$33	\$262	\$111	\$553	\$121	\$87	\$407	\$208	\$206	\$647
Fruits/juices	\$16,171	\$15,986	\$18,474	\$28,409	\$18,453	\$20,203	\$22,116	\$23,848	\$17,055	\$20,513
Fruits	\$9,130	\$10,732	\$11,099	\$20,172	\$11,256	\$10,287	\$10,067	\$11,657	\$12,127	\$12,781
Juices	\$7,041	\$5,254	\$7,375	\$8,237	\$7,197	\$9,916	\$12,049	\$12,191	\$4,928	\$7,732
Grain products	\$4,194	\$5,668	\$5,318	\$10,776	\$5,964	\$6,765	\$8,112	\$6,963	\$5,298	\$5,489
Breakfast cereals	\$1,918	\$1,694	\$2,252	\$4,293	\$3,034	\$2,984	\$4,121	\$3,360	\$2,415	\$2,460
Flour & other milled grains	\$50	\$63	\$83	\$96	\$344	\$540	\$542	\$439	\$150	\$84
Flour mix	\$277	\$263	\$231	\$1,315	\$407	\$326	\$259	\$305	\$489	\$410
Mixtures with grain	\$911	\$2,472	\$2,139	\$4,242	\$1,321	\$1,814	\$2,099	\$2,031	\$1,647	\$1,647
Pasta & noodles	\$521	\$627	\$387	\$657	\$575	\$607	\$880	\$493	\$316	\$409
Rice, barley & other grains	\$517	\$549	\$225	\$174	\$283	\$495	\$211	\$333	\$281	\$480

SCHOOL FOOD PURCHASE STUDY-III
APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	----- Dollars/1,000 students-----									
Legumes/nuts/seeds	\$454	\$756	\$636	\$1,669	\$1,054	\$1,290	\$1,507	\$1,520	\$999	\$863
Dry beans/peas	\$192	\$331	\$392	\$850	\$802	\$1,116	\$1,421	\$1,126	\$840	\$430
Other nuts	\$5	\$8	\$9	\$8	\$8	\$3	\$4	\$23	\$20	\$11
Peanuts/peanut butter	\$168	\$159	\$110	\$530	\$36	\$56	\$44	\$149	\$37	\$53
Seeds	\$25	\$112	\$59	\$143	\$74	\$17	\$16	\$104	\$85	\$280
Soybeans & soy products	\$64	\$147	\$67	\$138	\$134	\$98	\$21	\$118	\$17	\$88
Milk & other dairy products	\$32,877	\$32,314	\$38,495	\$46,665	\$37,632	\$38,757	\$45,342	\$47,452	\$32,333	\$27,440
Cheese	\$3,871	\$3,611	\$4,153	\$5,278	\$2,132	\$2,879	\$1,639	\$3,857	\$2,465	\$2,524
Cream	\$232	\$397	\$287	\$153	\$188	\$306	\$309	\$178	\$110	\$167
Ice cream & ice milk	\$2,098	\$1,182	\$1,527	\$2,108	\$1,905	\$1,100	\$1,928	\$2,343	\$717	\$347
Milk	\$25,396	\$25,602	\$31,275	\$36,641	\$31,775	\$33,429	\$41,233	\$39,304	\$27,849	\$22,636
Yogurt	\$1,281	\$1,522	\$1,253	\$2,484	\$1,632	\$1,043	\$232	\$1,771	\$1,192	\$1,767
Non-dairy drinks	\$6,590	\$6,196	\$6,297	\$4,951	\$4,786	\$4,711	\$1,523	\$5,659	\$3,681	\$4,215
Carbonated	\$133	\$35	\$217	\$154	\$33	\$61	\$-	\$202	\$333	\$145
Coffee & tea	\$1,403	\$419	\$760	\$198	\$354	\$591	\$49	\$472	\$471	\$221
Dry beverage	\$20	\$18	\$46	\$18	\$75	\$60	\$3	\$104	\$26	\$30
Enriched drinks	\$1,832	\$3,297	\$2,610	\$2,321	\$1,645	\$1,815	\$108	\$2,191	\$903	\$2,011
Fruit drinks	\$1,044	\$922	\$758	\$708	\$906	\$807	\$484	\$1,494	\$772	\$440
Water	\$2,158	\$1,505	\$1,906	\$1,552	\$1,773	\$1,377	\$879	\$1,196	\$1,176	\$1,366
Poultry	\$9,245	\$9,761	\$8,984	\$18,110	\$14,282	\$17,685	\$18,548	\$13,463	\$8,605	\$8,692
Chicken	\$6,673	\$7,259	\$6,734	\$14,630	\$11,827	\$14,682	\$16,557	\$9,211	\$5,827	\$7,081
Game birds	\$-	\$-	\$6	\$-	\$-	\$-	\$-	\$-	\$-	\$-
Mixed poultry	\$0	\$-	\$1	\$7	\$0	\$1	\$-	\$4	\$-	\$2
Recipe mix	\$3	\$37	\$22	\$0	\$66	\$6	\$-	\$7	\$-	\$9
Turkey	\$2,568	\$2,465	\$2,221	\$3,473	\$2,389	\$2,997	\$1,991	\$4,242	\$2,778	\$1,600

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	----- Dollars/1,000 students-----									
Prepared foods	\$9,320	\$9,394	\$16,269	\$19,259	\$14,058	\$14,350	\$13,163	\$16,302	\$14,095	\$14,567
Burritos/tacos	\$50	\$509	\$856	\$2,033	\$177	\$878	\$774	\$3,219	\$1,373	\$3,121
Meat or cheese filled pastry	\$1,228	\$1,992	\$2,015	\$2,393	\$1,904	\$1,057	\$1,265	\$2,486	\$1,605	\$2,076
Mixtures with fish	\$17	\$6	\$-	\$-	\$2	\$-	\$-	\$0	\$-	\$27
Pizza	\$7,353	\$4,961	\$10,136	\$10,932	\$10,372	\$9,736	\$9,375	\$8,908	\$8,999	\$6,351
Prepared meals	\$54	\$539	\$1,520	\$579	\$434	\$610	\$1,419	\$275	\$200	\$692
Prepared sandwiches	\$618	\$1,387	\$1,742	\$3,322	\$1,169	\$2,068	\$329	\$1,413	\$1,917	\$2,301
Red meats	\$6,582	\$7,540	\$7,698	\$19,523	\$9,855	\$11,837	\$19,298	\$13,159	\$5,586	\$3,025
Beef & veal	\$2,646	\$3,629	\$3,900	\$11,935	\$5,374	\$7,485	\$10,085	\$7,069	\$3,182	\$1,484
Lamb	\$2	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$2
Mixed meats	\$1,294	\$1,377	\$1,249	\$2,040	\$1,194	\$1,099	\$3,231	\$1,293	\$697	\$282
Pork	\$2,605	\$2,397	\$2,467	\$5,359	\$3,282	\$3,239	\$5,982	\$4,761	\$1,704	\$1,014
Recipe mix	\$35	\$137	\$81	\$190	\$6	\$14	\$-	\$36	\$4	\$243
Soups & gravies	\$1,048	\$1,194	\$1,151	\$2,097	\$1,164	\$1,041	\$1,230	\$1,582	\$936	\$908
Gravies	\$245	\$297	\$324	\$569	\$481	\$346	\$286	\$430	\$266	\$208
Soups	\$803	\$898	\$827	\$1,528	\$683	\$695	\$944	\$1,152	\$670	\$700

SCHOOL FOOD PURCHASE STUDY-III

APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Regions									
	Northeast	Lake States	Midwest	Northern Plains	Appalachia	Southeast	Delta	Southern Plains	Mountain	Pacific
	----- Dollars/1,000 students-----									
Sugar/desserts	\$1,885	\$2,477	\$2,552	\$3,906	\$2,840	\$2,983	\$3,586	\$2,856	\$1,997	\$992
Candies/toppings	\$349	\$630	\$637	\$435	\$394	\$189	\$413	\$206	\$378	\$152
Gelatins	\$65	\$57	\$131	\$201	\$77	\$102	\$253	\$247	\$147	\$65
Jellies, jams & preserves	\$173	\$115	\$111	\$362	\$221	\$454	\$553	\$334	\$55	\$56
Puddings/pie filling	\$217	\$467	\$388	\$1,097	\$206	\$380	\$495	\$409	\$461	\$76
Sherbet/ices	\$401	\$500	\$395	\$827	\$775	\$509	\$99	\$388	\$201	\$108
Sugars	\$184	\$215	\$334	\$459	\$652	\$751	\$1,140	\$703	\$414	\$136
Syrups	\$496	\$495	\$554	\$523	\$516	\$597	\$633	\$569	\$341	\$399
Vegetables	\$12,388	\$13,169	\$13,353	\$20,021	\$17,579	\$16,246	\$17,660	\$13,702	\$9,685	\$8,804
Green vegetables	\$3,612	\$3,102	\$3,568	\$4,471	\$3,775	\$3,962	\$4,647	\$3,103	\$2,306	\$2,652
Mixed vegetables	\$1,426	\$1,662	\$1,568	\$2,199	\$1,625	\$1,782	\$1,579	\$1,239	\$1,033	\$1,090
Mixtures with vegetables	\$132	\$64	\$114	\$553	\$159	\$346	\$160	\$290	\$29	\$23
Other vegetables	\$319	\$439	\$354	\$735	\$396	\$385	\$732	\$343	\$389	\$422
Potato & potato products	\$3,975	\$4,530	\$4,281	\$7,105	\$7,633	\$5,222	\$6,153	\$5,080	\$3,093	\$2,007
Tomatoes & tomato products	\$1,769	\$1,634	\$1,564	\$2,409	\$1,816	\$1,777	\$2,166	\$1,759	\$1,019	\$1,095
Yellow vegetables	\$1,153	\$1,738	\$1,904	\$2,548	\$2,174	\$2,772	\$2,222	\$1,889	\$1,815	\$1,516

Note: Data has been adjusted for students with access to NSLP only
Source: School Food Purchase Study, 2011

Table A9-12: Comparison of mean cost per pound of top 50 food items purchased by public unified NSLP school districts by region SY 2009/10

Food items	Regions									
	North-east	Lake States	Midwest	Northern Plains	Appalachia	South-west	Delta	Southern Plains	Mountain	Pacific
	----- dollars/pound-----									
1 Milk, Flavored, Lo Fat, 1%	\$0.41	\$0.38	\$0.38	\$0.45	\$0.39	\$0.43	\$0.51	\$0.42	\$0.42	\$0.36
2 Milk, Flavored, Skim/Nonfat	\$0.38	\$0.31	\$0.38	\$0.38	\$0.39	\$0.39	\$0.48	\$0.44	\$0.38	\$0.33
3 Hamburger, Hot Dog Buns, Steak, Sub & Dinner Rls	\$1.30	\$1.05	\$1.05	\$1.23	\$1.07	\$1.03	\$0.91	\$1.07	\$1.23	\$1.27
4 Milk, Lo Fat, 1%	\$0.38	\$0.33	\$0.37	\$0.41	\$0.40	\$0.41	\$0.49	\$0.43	\$0.39	\$0.34
5 Orange Juice, Individual	\$0.56	\$0.56	\$0.55	\$0.57	\$0.49	\$0.51	\$0.56	\$0.59	\$0.56	\$0.49
6 Cereals, Individual	\$4.00	\$3.58	\$3.84	\$4.53	\$3.91	\$3.61	\$3.37	\$3.28	\$3.54	\$3.89
7 Apple Juice, Individual	\$0.48	\$0.60	\$0.61	\$0.58	\$0.50	\$0.45	\$0.51	\$0.55	\$0.52	\$0.46
8 Milk, Flavored, Lo Fat, .5%	\$0.35		\$0.40		\$0.34	\$0.39		\$0.54		

SCHOOL FOOD PURCHASE STUDY-III
APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Food items	Regions									
	North-east	Lake States	Midwest	Northern Plains	Appalachia	South-west	Delta	Southern Plains	Mountain	Pacific
	----- dollars/pound-----									
9 Sport Drink, e.g. Gatorade	\$0.69	\$0.70	\$0.66	\$0.61	\$0.65	\$0.61	\$0.63	\$0.65	\$0.68	\$0.62
10 Pizza, w/Real Cheese	\$2.06	\$1.74	\$1.97	\$1.95	\$1.95	\$1.94	\$1.66	\$1.87	\$2.04	\$1.45
11 Chips, Misc. Snack(Cheetos, Sun Chips)	\$3.44	\$3.63	\$3.61	\$3.89	\$3.43	\$3.12	\$3.11	\$4.27	\$4.26	\$3.84
12 Potatoes, French Fries	\$0.66	\$0.69	\$0.65	\$0.64	\$0.61	\$0.60	\$0.62	\$0.63	\$0.62	\$0.66
13 Apples, Fresh	\$0.63	\$0.60	\$0.70	\$0.71	\$0.66	\$0.66	\$0.62	\$0.59	\$0.62	\$0.59
14 Fruit Juice, Mixed, Individual	\$0.67	\$0.73	\$0.74	\$0.67	\$0.66	\$0.61	\$0.58	\$0.51	\$0.50	\$0.73
15 Cookie Dough	\$1.55	\$1.77	\$1.73	\$1.65	\$1.56	\$1.43	\$1.21	\$1.65	\$1.52	\$1.75
16 Pizza, Pepperoni w/Real Cheese	\$2.37	\$1.86	\$2.01	\$2.12	\$2.07	\$2.05	\$2.18	\$1.79	\$2.07	\$2.09
17 Chicken, Nuggets, White/dark Mix, Unknown	\$1.82	\$2.17	\$2.36	\$1.80	\$2.10	\$1.88	\$2.30	\$1.85	\$1.84	\$1.75
18 Milk, Flavored, Lo Fat, Fat Solids Unknown	\$0.40	\$0.32	\$0.43	\$0.85	\$0.42	\$0.37	\$0.45	\$0.50	\$0.63	\$0.32
19 Milk, Lo Fat, 2%	\$0.39	\$0.39	\$0.34	\$0.45	\$0.37	\$0.41	\$0.50	\$0.46	\$0.44	\$0.34
20 Chips, Tortilla/Corn	\$2.43	\$2.25	\$2.13	\$2.28	\$2.47	\$2.05	\$1.55	\$2.04	\$2.03	\$2.13
21 Chicken, Nuggets, White Meat	\$2.08	\$2.64	\$2.42	\$1.91	\$1.88	\$1.81	\$2.07	\$1.96	\$2.46	\$2.09
22 Muffins	\$2.23	\$2.24	\$2.43	\$2.07	\$2.19	\$2.23	\$2.06	\$2.20	\$2.44	\$2.32
23 Beef, Patties, Cooked	\$2.18	\$1.93	\$2.30	\$1.97	\$2.18	\$2.23	\$2.12	\$1.60	\$2.44	\$1.61
24 Yogurt	\$1.18	\$1.16	\$1.22	\$1.19	\$1.13	\$1.08	\$1.42	\$1.25	\$1.23	\$1.16
25 Chicken, Patties, Breaded, White Meat	\$1.74	\$2.03	\$1.93	\$1.96	\$1.73	\$2.07	\$1.81	\$2.23	\$2.09	\$2.46
26 Water	\$0.27	\$0.27	\$0.33	\$0.18	\$0.28	\$0.21	\$0.16	\$0.26	\$0.23	\$0.26
27 Crackers, Graham, Individual	\$2.56	\$2.49	\$2.66	\$2.37	\$2.58	\$2.12	\$2.04	\$2.11	\$2.74	\$2.05
28 Bread/Biscuit/Pastry Dough	\$1.36	\$1.26	\$1.27	\$1.20	\$1.01	\$1.04	\$0.82	\$1.02	\$1.01	\$1.15
29 Cheese Filled Pastry(Includes Hot Pocket)	\$1.98	\$1.90	\$1.80	\$2.02	\$1.93	\$1.70	\$1.69	\$1.91	\$2.13	\$2.02
30 Ice Cream Novelties	\$1.85	\$2.39	\$2.07	\$1.76	\$1.64	\$1.42	\$1.41	\$1.28	\$2.17	\$1.67
31 Cookies, Individual	\$3.40	\$2.50	\$2.84	\$2.87	\$3.45	\$3.10	\$2.01	\$2.92	\$2.81	\$2.48
32 Pizza, Pepperoni w/Cheese Blend	\$1.42	\$1.54	\$1.50	\$1.90	\$1.55	\$1.53	\$1.44	\$1.67	\$1.96	\$1.58
33 Pizza, Cheese Blend	\$1.60	\$1.58	\$1.46	\$1.60	\$1.64	\$1.45	\$1.53	\$1.60	\$1.65	\$1.73
34 Chips, Potato or Potato Sticks	\$4.15	\$4.59	\$4.13	\$3.60	\$4.33	\$3.91	\$5.57	\$4.50	\$4.21	\$4.84
35 Oranges, Fresh	\$0.63	\$0.59	\$0.64	\$0.59	\$0.61	\$0.55	\$0.61	\$0.52	\$0.57	\$0.50
36 Potatoes, Formed, Frozen	\$0.71	\$0.67	\$0.63	\$0.65	\$0.68	\$0.62	\$0.68	\$0.61	\$0.60	\$0.57
37 Bananas, Fresh	\$0.53	\$0.49	\$0.55	\$0.52	\$0.53	\$0.52	\$0.51	\$0.43	\$0.53	\$0.50
38 Pork, Sausage, Cooked	\$2.16	\$2.28	\$2.02	\$1.96	\$1.83	\$2.01	\$2.09	\$2.05	\$2.18	\$2.26
39 Pizza Shells/Pizza Dough	\$1.16	\$1.27	\$1.08	\$0.86	\$1.01	\$1.41	\$1.00	\$0.94	\$1.07	\$1.28
40 Pizza, Cheese, Type Unknown	\$1.79	\$1.71	\$1.66	\$1.92	\$1.72	\$1.55	\$1.89	\$1.68	\$1.85	\$1.84

SCHOOL FOOD PURCHASE STUDY-III
APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Food items	Regions									
	North-east	Lake States	Midwest	Northern Plains	Appalachia	South-west	Delta	Southern Plains	Mountain	Pacific
	----- dollars/pound-----									
41 Beef, Ground	\$1.82	\$1.74	\$1.54	\$1.66	\$1.78	\$1.81	\$1.75	\$1.63	\$1.63	\$1.71
42 Lettuce, Salad Mix	\$0.95	\$0.83	\$0.81	\$0.82	\$0.89	\$0.95	\$0.91	\$0.84	\$0.84	\$0.85
43 Poptarts	\$2.17	\$1.78	\$1.94	\$2.18	\$1.96	\$1.43	\$1.19	\$2.21	\$2.17	\$2.31
44 Milk, Skim/Nonfat	\$0.37	\$0.32	\$0.35	\$0.33	\$0.39	\$0.42	\$0.49	\$0.39	\$0.43	\$0.35
45 French Toast/Sticks/French Toast Bagels	\$1.46	\$1.56	\$1.48	\$1.62	\$1.37	\$1.53	\$1.45	\$1.42	\$1.42	\$1.51
46 Lettuce, Shredded/Chopped	\$1.10	\$0.88	\$0.86	\$0.95	\$0.94	\$1.13	\$0.87	\$0.89	\$0.92	\$0.96
47 Catsup, Individual Pack	\$0.85	\$0.90	\$0.87	\$0.84	\$0.77	\$0.89	\$0.73	\$0.77	\$0.89	\$0.86
48 Pizza, Sausage w/Cheese Blend	\$1.78	\$1.69	\$1.57	\$1.70	\$1.64	\$1.68	\$1.58	\$1.66	\$1.67	\$1.67
49 Potatoes Dry, w/Milk	\$1.91	\$2.06	\$1.81	\$1.87	\$1.91	\$1.81	\$1.59	\$1.88	\$1.92	\$1.93
50 Peanut Butter and Jelly Sandwich	\$3.19	\$2.70	\$2.62	\$2.32	\$2.66	\$2.47	\$2.25	\$2.54	\$2.50	\$2.42
All fifty food items	\$0.69	\$0.64	\$0.67	\$0.73	\$0.70	\$0.69	\$0.74	\$0.68	\$0.68	\$0.61

Note: Data has been adjusted for students with access to NSLP only
Source: School Food Purchase Study, 2011

SCHOOL FOOD PURCHASE STUDY-III
APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Table A9-13: Comparison of mean cost per pound per 1,000 students of top 50 food items purchased by public unified NSLP school districts by region SY 2009/10

Food items	Regions									
	North-east	Lake States	Midwest	Northern Plains	Appalachia	South-east	Delta	Southern Plains	Mountain	Pacific
	----- pounds/1,000 students-----									
1 Milk, Flavored, Lo Fat, 1%	25,436	28,114	45,233	11,791	42,340	20,797	35,874	50,722	42,206	5,287
2 Milk, Flavored, Skim/Nonfat	3,427	24,247	12,293	53,084	10,352	10,393	19,038	17,772	8,438	37,301
3 Hamburger, Hot Dog Buns, Steak, Sub & Dinner Rls	4,059	4,146	4,361	6,176	5,032	4,979	4,476	4,777	2,917	3,805
4 Milk, Lo Fat, 1%	9,757	9,143	11,640	20,192	11,854	12,715	8,406	10,684	11,857	17,960
5 Orange Juice, Individual	2,835	3,080	4,188	4,747	4,557	4,879	5,333	9,794	2,432	5,617
6 Cereals, Individual	442	342	560	666	736	809	1,151	958	590	578
7 Apple Juice, Individual	3,914	2,899	4,467	3,788	3,762	4,776	6,233	6,639	2,606	5,275
8 Milk, Flavored, Lo Fat, .5%	10,488	-	417	-	982	25,951	-	4	-	-
9 Sport Drink, e.g. Gatorade	2,666	4,743	3,984	3,759	2,526	2,966	173	3,386	1,333	3,236
10 Pizza, w/Real Cheese	1,162	879	1,557	805	952	811	142	891	1,276	974
11 Chips, Misc. Snack (Cheetos, Sun Chips)	361	616	484	584	415	467	448	936	311	468
12 Potatoes, French Fries	3,120	2,521	2,785	2,544	4,762	4,029	5,217	2,469	2,139	789
13 Apples, Fresh	3,126	2,708	1,993	1,878	2,887	2,613	1,672	2,908	2,510	3,420
14 Fruit Juice, Mixed, Individual	3,449	974	1,327	2,066	2,244	4,828	4,343	3,189	1,749	2,120
15 Cookie Dough	970	1,259	1,162	1,686	1,490	1,393	929	765	553	660
16 Pizza, Pepperoni w/Real Cheese	408	233	787	513	799	769	423	863	1,516	1,154
17 Chicken, Nuggets, White/dark Mix, Unknown	935	779	496	1,495	757	1,209	1,285	1,293	384	173
18 Milk, Flavored, Lo Fat, Fat Solids Unkwn	7,849	1,822	2,593	221	6,547	4,177	2,623	603	666	3,656
19 Milk, Lo Fat, 2%	4,304	2,288	4,847	2,885	4,563	3,434	11,043	4,768	1,483	1,195
20 Chips, Tortilla/Corn	570	560	908	916	631	667	665	983	508	566
21 Chicken, Nuggets, White Meat	455	243	400	2,021	1,555	772	1,810	525	624	588
22 Muffins	737	594	514	627	378	593	326	580	603	686
23 Beef, Patties, Cooked	233	439	590	1,310	785	1,323	1,662	1,030	372	255
24 Yogurt	1,010	1,091	976	1,988	1,322	916	164	1,379	954	1,446
25 Chicken, Patties, Breaded, White Meat	415	159	270	892	2,063	1,455	1,047	353	469	330
26 Water	6,400	3,773	4,981	3,737	4,717	4,518	5,660	4,610	4,377	5,288
27 Crackers, Graham, Individual	400	490	349	574	296	448	345	762	323	1,200
28 Bread/Biscuit/Pastry Dough	95	682	564	1,813	1,855	2,598	3,337	1,573	865	457

SCHOOL FOOD PURCHASE STUDY-III
APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Food items	Regions									
	North-east	Lake States	Midwest	Northern Plains	Appalachia	South-east	Delta	Southern Plains	Mountain	Pacific
	----- pounds/1,000 students-----									
29 Cheese Filled Pastry(Includes Hot Pocket)	416	913	812	777	814	380	630	571	500	514
30 Ice Cream Novelties	933	332	456	984	817	600	894	1,466	187	145
31 Cookies, Individual	379	776	494	369	217	226	323	277	351	325
32 Pizza, Pepperoni w/Cheese Blend	107	194	814	789	1,767	999	1,551	634	521	172
33 Pizza, Cheese Blend	888	560	570	889	956	1,018	514	383	310	95
34 Chips, Potato or Potato Sticks	278	137	299	235	220	156	92	203	274	124
35 Oranges, Fresh	1,401	987	1,245	1,641	1,589	1,424	1,638	2,318	1,543	1,718
36 Potatoes, Formed, Frozen	1,018	1,528	1,393	2,290	1,982	1,301	892	1,681	893	1,529
37 Bananas, Fresh	1,255	1,434	1,442	2,432	1,482	1,932	1,946	2,051	1,709	2,379
38 Pork, Sausage, Cooked	325	298	344	720	394	672	1,350	867	155	90
39 Pizza Shells/Pizza Dough	1,170	990	500	315	275	1,184	153	505	463	607
40 Pizza, Cheese, Type Unknown	938	365	477	256	158	469	210	405	126	544
41 Beef, Ground	227	222	228	1,513	643	660	1,890	1,187	309	88
42 Lettuce, Salad Mix	1,034	1,157	1,249	1,659	986	1,011	781	589	779	839
43 Poptarts	383	517	876	267	541	443	791	308	261	180
44 Milk, Skim/Nonfat	1,911	6,411	1,981	2,219	2,035	1,360	736	4,123	1,225	1,571
45 French Toast/Sticks/French Toast Bagels	636	790	421	409	433	497	597	617	343	659
46 Lettuce, Shredded/Chopped	765	1,054	947	828	595	791	910	575	383	1,015
47 Catsup, Individual Pack	624	205	704	923	1,902	1,507	1,646	1,385	271	476
48 Pizza, Sausage w/Cheese Blend	131	179	388	792	694	754	1,742	642	413	167
49 Potatoes, Dry, w/Milk	200	335	430	1,025	678	501	692	561	333	153
50 Peanut Butter and Jelly Sandwich	96	311	373	907	329	280	146	151	209	470
All fifty food items	114,135	118,519	131,170	154,995	140,667	143,450	143,948	156,714	105,617	118,344

Note: Data has been adjusted for students with access to NSLP only
Source: School Food Purchase Study, 2011

SCHOOL FOOD PURCHASE STUDY-III

*APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS*

Table A9-14: Comparison of mean cost per pound per 1,000 students of top 50 food items purchased by public unified NSLP school districts by region SY 2009/10

Food items	Regions									
	North-east	Lake States	Midwest	Northern Plains	Appalachia	South-east	Delta	Southern Plains	Mountain	Pacific
	----- dollars/1,000 students-----									
1 Milk, Flavored, Lo Fat, 1%	\$10,444	\$10,706	\$17,156	\$5,339	\$16,422	\$9,006	\$18,404	\$21,453	\$17,655	\$1,909
2 Milk, Flavored, Skim/Nonfat	\$1,317	\$7,597	\$4,678	\$20,008	\$4,005	\$4,014	\$9,082	\$7,859	\$3,209	\$12,241
3 Hamburger, Hot Dog Buns, Steak, Sub & Dinner Rls	\$5,259	\$4,365	\$4,597	\$7,599	\$5,402	\$5,134	\$4,062	\$5,095	\$3,600	\$4,841
4 Milk, Lo Fat, 1%	\$3,660	\$3,008	\$4,323	\$8,308	\$4,706	\$5,192	\$4,100	\$4,612	\$4,569	\$6,074
5 Orange Juice, Individual	\$1,580	\$1,721	\$2,320	\$2,723	\$2,227	\$2,492	\$2,966	\$5,780	\$1,366	\$2,741
6 Cereals, Individual	\$1,768	\$1,227	\$2,151	\$3,013	\$2,882	\$2,919	\$3,882	\$3,140	\$2,090	\$2,253
7 Apple Juice, Individual	\$1,897	\$1,741	\$2,711	\$2,184	\$1,868	\$2,163	\$3,186	\$3,682	\$1,367	\$2,407
8 Milk, Flavored, Lo Fat, .5%	\$3,706	\$-	\$168	\$-	\$338	\$10,233	\$-	\$2	\$-	\$-
9 Sport Drink, e.g. Gatorade	\$1,832	\$3,297	\$2,610	\$2,279	\$1,645	\$1,815	\$108	\$2,191	\$903	\$2,011
10 Pizza, w/Real Cheese	\$2,387	\$1,532	\$3,066	\$1,570	\$1,860	\$1,577	\$236	\$1,668	\$2,599	\$1,413
11 Chips, Misc. Snack (Cheetos, Sun Chips)	\$1,240	\$2,240	\$1,746	\$2,273	\$1,423	\$1,459	\$1,395	\$4,003	\$1,327	\$1,798
12 Potatoes, French Fries	\$2,064	\$1,733	\$1,822	\$1,622	\$2,907	\$2,412	\$3,210	\$1,548	\$1,329	\$517
13 Apples, Fresh	\$1,957	\$1,622	\$1,398	\$1,326	\$1,905	\$1,722	\$1,034	\$1,725	\$1,548	\$2,030
14 Fruit Juice, Mixed, Individual	\$2,324	\$712	\$976	\$1,380	\$1,488	\$2,924	\$2,529	\$1,617	\$870	\$1,541
15 Cookie Dough	\$1,503	\$2,223	\$2,011	\$2,787	\$2,329	\$1,991	\$1,122	\$1,266	\$838	\$1,155
16 Pizza, Pepperoni w/Real Cheese	\$970	\$432	\$1,584	\$1,087	\$1,656	\$1,578	\$922	\$1,547	\$3,133	\$2,410
17 Chicken, Nuggets, White/dark Mix, Unknown	\$1,707	\$1,688	\$1,172	\$2,695	\$1,589	\$2,277	\$2,956	\$2,398	\$704	\$303
18 Milk, Flavored, Lo Fat, Fat Solids Unknown	\$3,141	\$577	\$1,118	\$188	\$2,741	\$1,563	\$1,188	\$303	\$418	\$1,179
19 Milk, Lo Fat, 2%	\$1,681	\$899	\$1,671	\$1,306	\$1,681	\$1,406	\$5,514	\$2,203	\$655	\$411
20 Chips, Tortilla/Corn	\$1,388	\$1,258	\$1,933	\$2,091	\$1,559	\$1,371	\$1,033	\$2,004	\$1,033	\$1,203
21 Chicken, Nuggets, White Meat	\$944	\$642	\$968	\$3,861	\$2,916	\$1,395	\$3,740	\$1,026	\$1,531	\$1,229
22 Muffins	\$1,645	\$1,331	\$1,247	\$1,299	\$827	\$1,326	\$673	\$1,275	\$1,472	\$1,595
23 Beef, Patties, Cooked	\$508	\$844	\$1,355	\$2,576	\$1,709	\$2,952	\$3,521	\$1,651	\$909	\$410
24 Yogurt	\$1,194	\$1,262	\$1,193	\$2,359	\$1,498	\$993	\$232	\$1,729	\$1,172	\$1,679
25 Chicken, Patties, Breaded, White Meat	\$724	\$324	\$521	\$1,750	\$3,571	\$3,014	\$1,893	\$788	\$982	\$811
26 Water	\$1,737	\$1,005	\$1,636	\$673	\$1,321	\$954	\$879	\$1,186	\$1,013	\$1,353
27 Crackers, Graham, Individual	\$1,024	\$1,217	\$927	\$1,363	\$765	\$949	\$703	\$1,611	\$886	\$2,458
28 Bread/Biscuit/Pastry Dough	\$130	\$862	\$719	\$2,176	\$1,866	\$2,704	\$2,722	\$1,605	\$874	\$525

SCHOOL FOOD PURCHASE STUDY-III

**APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS**

Food items	Regions									
	North-east	Lake States	Midwest	Northern Plains	Appalachia	South-east	Delta	Southern Plains	Mountain	Pacific
	----- dollars/1,000 students-----									
29 Cheese Filled Pastry(Includes Hot Pocket)	\$821	\$1,738	\$1,462	\$1,568	\$1,568	\$646	\$1,064	\$1,088	\$1,066	\$1,040
30 Ice Cream Novelties	\$1,727	\$795	\$947	\$1,730	\$1,340	\$854	\$1,260	\$1,870	\$406	\$242
31 Cookies, Individual	\$1,289	\$1,939	\$1,404	\$1,060	\$749	\$702	\$650	\$809	\$986	\$807
32 Pizza, Pepperoni w/Cheese Blend	\$151	\$300	\$1,224	\$1,498	\$2,745	\$1,530	\$2,226	\$1,056	\$1,019	\$271
33 Pizza, Cheese Blend	\$1,420	\$883	\$832	\$1,418	\$1,563	\$1,472	\$789	\$614	\$511	\$164
34 Chips, Potato or Potato Sticks	\$1,153	\$629	\$1,235	\$844	\$955	\$610	\$514	\$914	\$1,152	\$602
35 Oranges, Fresh	\$889	\$585	\$797	\$961	\$970	\$790	\$998	\$1,199	\$878	\$860
36 Potatoes, Formed, Frozen	\$721	\$1,020	\$879	\$1,487	\$1,349	\$812	\$603	\$1,017	\$540	\$871
37 Bananas, Fresh	\$661	\$708	\$787	\$1,272	\$780	\$1,012	\$988	\$880	\$902	\$1,183
38 Pork, Sausage, Cooked	\$703	\$679	\$695	\$1,409	\$719	\$1,353	\$2,815	\$1,774	\$338	\$203
39 Pizza Shells/Pizza Dough	\$1,356	\$1,256	\$539	\$273	\$278	\$1,668	\$153	\$475	\$493	\$776
40 Pizza, Cheese, Type Unknown	\$1,681	\$624	\$791	\$491	\$272	\$726	\$398	\$679	\$233	\$1,002
41 Beef, Ground	\$413	\$387	\$352	\$2,508	\$1,143	\$1,198	\$3,309	\$1,938	\$502	\$150
42 Lettuce, Salad Mix	\$980	\$965	\$1,008	\$1,358	\$882	\$964	\$708	\$492	\$656	\$715
43 Poptarts	\$832	\$918	\$1,696	\$583	\$1,060	\$631	\$942	\$682	\$566	\$416
44 Milk, Skim/Nonfat	\$707	\$2,023	\$699	\$732	\$786	\$566	\$360	\$1,591	\$523	\$555
45 French Toast/Sticks/French Toast Bagels	\$929	\$1,233	\$623	\$662	\$593	\$759	\$868	\$877	\$489	\$993
46 Lettuce, Shredded/Chopped	\$846	\$932	\$814	\$789	\$560	\$893	\$794	\$513	\$352	\$972
47 Catsup, Individual Pack	\$531	\$184	\$616	\$777	\$1,471	\$1,338	\$1,194	\$1,070	\$241	\$409
48 Pizza, Sausage w/Cheese Blend	\$234	\$303	\$609	\$1,343	\$1,141	\$1,263	\$2,757	\$1,065	\$689	\$279
49 Potatoes, Dry, w/Milk	\$381	\$692	\$776	\$1,922	\$1,298	\$907	\$1,100	\$1,056	\$638	\$296
50 Peanut Butter and Jelly Sandwich	\$306	\$839	\$978	\$2,102	\$877	\$692	\$329	\$383	\$522	\$1,138
All fifty food items	\$78,463	\$75,696	\$87,537	\$112,620	\$98,206	\$98,921	\$106,112	\$107,009	\$71,757	\$72,440

Note: Data has been adjusted for students with access to NSLP only
Source: School Food Purchase Study,2011

9.7 Size of school districts

9.7.1 Differences in purchase costs between school districts of different sizes

Table A9-15 illustrates that the smallest school district size group has a higher cost per unit for all purchased foods and that the largest size group has the lowest cost per unit (respectively 6.6% above and 3.9% below the average price for all purchased foods). The smallest school districts also purchase more per 1,000 students and consequently have a much higher cost per 1,000 students than any other size group. The largest school district size group pays less, buys less, and has the lowest cost per 1,000 students.

The smallest school district size group has the highest cost per unit for 10 of the 16 food groups. The exceptions are the following subgroups: condiments; fruits/juices; grain products; legumes/nuts/seeds; red meat; and, soups and gravies. When expressed per 1,000 students, the smallest district size group had the highest mean cost per 1,000 students for 11 food groups with the exception of condiments, fish, fruits/juices, nondairy drinks, and poultry. The largest school district size group had the lowest cost for 12 food subgroups.

When the top 50 food items are viewed, the smallest school district size group has the highest price for 27 of the 50 items and the largest size group has the lowest price for 29 items (see Table A9-16). Interestingly, these larger districts had the highest cost per 1,000 students with access to NSLP for five of the top 10 items as they tend to buy higher volumes of these products per 1,000 students (low fat milk, individual orange juice, individual apple juice, flavored low fat milk, and pizza with real cheese).

When all of these 50 leading food items are combined, the mean cost per 1,000 students with access to NSLP was 10 percent higher for the lowest size group compared with the largest district size group. However, the two size groups in the middle have the highest costs due to the much higher quantities of the top 50 items that they purchase.

SCHOOL FOOD PURCHASE STUDY-III
APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Table A9-15: Comparisons of summary cost and volume of food purchases of public unified NSLP school districts by size of district, SY 2009/10

Food groups/subgroups	Cost per unit				Volume per 1,000 students				Cost per 1,000 students			
	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more
	\$/lb				lb/1,000 students				\$/1,000 students			
All foods	\$0.88	\$0.84	\$0.84	\$0.79	204,412	200,825	189,607	167,963	\$179,906	\$168,800	\$158,350	\$133,337
Bakery products	\$1.67	\$1.61	\$1.64	\$1.58	18,861	18,018	17,953	14,215	\$31,564	\$28,986	\$29,523	\$22,396
Biscuits, muffins, pancakes & waffles	\$1.85	\$1.84	\$1.81	\$1.72	2,682	2,766	2,807	2,696	\$4,959	\$5,103	\$5,093	\$4,636
Bread & rolls	\$1.26	\$1.13	\$1.15	\$1.14	11,060	10,120	9,655	7,368	\$13,975	\$11,428	\$11,101	\$8,364
Cakes & other bakery desserts	\$2.21	\$2.12	\$2.15	\$1.90	2,714	2,515	2,457	1,837	\$5,995	\$5,339	\$5,294	\$3,483
Crackers	\$2.54	\$2.45	\$2.30	\$2.16	541	664	971	1,042	\$1,371	\$1,631	\$2,236	\$2,255
Pretzels & snack chips	\$2.82	\$2.81	\$2.81	\$2.88	1,865	1,953	2,063	1,272	\$5,265	\$5,486	\$5,800	\$3,659
Condiments	\$0.80	\$0.79	\$0.85	\$0.81	4,826	4,882	4,264	3,136	\$3,849	\$3,875	\$3,608	\$2,530
Catsup & other sauces	\$0.85	\$0.83	\$0.91	\$0.86	3,075	3,449	2,934	2,269	\$2,605	\$2,867	\$2,684	\$1,953
Flavorings	\$1.25	\$1.38	\$1.23	\$1.01	258	237	243	182	\$324	\$329	\$298	\$184
Pickles/olives	\$0.62	\$0.57	\$0.58	\$0.57	1,492	1,195	1,086	685	\$920	\$680	\$626	\$393
Eggs	\$1.67	\$1.55	\$1.57	\$1.43	1,012	718	563	434	\$1,693	\$1,112	\$882	\$622
Eggs	\$0.98	\$1.05	\$1.12	\$1.11	530	377	266	256	\$520	\$398	\$300	\$284
Mixtures with eggs	\$2.43	\$2.09	\$1.96	\$1.90	482	341	296	178	\$1,173	\$714	\$582	\$338
Fats/oils	\$1.22	\$1.18	\$1.18	\$1.13	3,337	2,924	2,406	1,945	\$4,061	\$3,461	\$2,838	\$2,197
Butter	\$1.78	\$1.92	\$2.03	\$1.89	110	76	24	30	\$197	\$146	\$49	\$57
Margarine	\$0.74	\$0.78	\$0.83	\$0.71	665	651	404	345	\$493	\$508	\$337	\$245
Salad dressings & mayonnaise	\$1.27	\$1.31	\$1.30	\$1.28	2,254	1,682	1,464	1,223	\$2,858	\$2,211	\$1,904	\$1,561
Vegetable oils & shortenings	\$1.67	\$1.16	\$1.07	\$0.96	307	515	513	347	\$513	\$596	\$548	\$335
Fish	\$2.66	\$2.31	\$2.21	\$2.23	481	612	446	588	\$1,280	\$1,412	\$984	\$1,312
Fish	\$2.67	\$2.32	\$2.25	\$2.15	477	559	364	428	\$1,271	\$1,299	\$817	\$920
Shellfish	\$2.33	\$2.16	\$2.02	\$2.45	4	53	83	160	\$9	\$114	\$167	\$392
Fruits/juice	\$0.70	\$0.72	\$0.70	\$0.64	25,309	26,774	28,091	29,887	\$17,660	\$19,145	\$19,627	\$19,103
Fruits	\$0.76	\$0.79	\$0.78	\$0.74	15,953	14,732	15,363	13,462	\$12,178	\$11,677	\$11,976	\$9,938
Juices	\$0.59	\$0.62	\$0.60	\$0.56	9,356	12,043	12,728	16,425	\$5,482	\$7,468	\$7,651	\$9,166

SCHOOL FOOD PURCHASE STUDY-III
APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS

Food groups/subgroups	Cost per unit				Volume per 1,000 students				Cost per 1,000 students			
	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more
	\$/lb				lb/1,000 students				\$/1,000 students			
Grain products	\$1.56	\$1.65	\$1.65	\$1.49	4,893	3,862	3,578	3,389	\$7,657	\$6,373	\$5,890	\$5,064
Breakfast cereals	\$3.53	\$3.54	\$3.57	\$3.45	765	806	701	724	\$2,703	\$2,849	\$2,500	\$2,494
Flour & other milled grains	\$0.30	\$0.32	\$0.34	\$0.31	917	695	657	652	\$276	\$225	\$221	\$201
Flour mix	\$1.30	\$1.41	\$1.26	\$0.93	409	291	255	339	\$530	\$410	\$323	\$314
Mixtures with grain	\$1.80	\$1.70	\$1.88	\$1.70	1,714	1,108	1,010	759	\$3,093	\$1,888	\$1,893	\$1,292
Pasta & noodles	\$0.93	\$0.95	\$0.94	\$0.89	815	680	562	399	\$757	\$645	\$531	\$356
Rice, barley & other grains	\$1.09	\$1.26	\$1.08	\$0.79	274	282	392	516	\$299	\$356	\$422	\$408
Legumes/nuts/seeds	\$0.82	\$0.75	\$0.84	\$0.75	2,012	1,419	1,193	974	\$1,644	\$1,058	\$1,001	\$727
Dry beans/peas	\$0.63	\$0.59	\$0.65	\$0.59	1,826	1,249	1,026	837	\$1,146	\$739	\$668	\$497
Other nuts	\$4.00	\$4.93	\$5.12	\$5.77	9	2	2	1	\$34	\$11	\$9	\$7
Peanuts/peanut butter	\$2.26	\$1.67	\$1.53	\$1.18	108	80	61	73	\$244	\$133	\$94	\$86
Seeds	\$3.40	\$2.79	\$2.52	\$2.34	28	28	49	33	\$95	\$78	\$124	\$78
Soybeans & soy products	\$2.97	\$1.61	\$1.91	\$1.93	42	60	55	30	\$124	\$96	\$105	\$59
Milk & other dairy products	\$0.49	\$0.48	\$0.45	\$0.43	89,000	84,861	80,865	74,412	\$43,351	\$40,321	\$36,596	\$32,041
Cheese	\$1.86	\$1.80	\$1.86	\$2.00	3,069	2,109	1,994	1,042	\$5,711	\$3,805	\$3,712	\$2,079
Cream	\$1.52	\$1.37	\$1.38	\$1.29	366	234	156	113	\$558	\$319	\$215	\$146
Ice cream & ice milk	\$1.69	\$1.44	\$1.55	\$1.37	1,612	1,509	895	665	\$2,728	\$2,171	\$1,385	\$912
Milk	\$0.40	\$0.41	\$0.39	\$0.39	83,195	79,766	76,517	71,530	\$33,381	\$32,502	\$29,706	\$27,677
Yogurt	\$1.28	\$1.23	\$1.21	\$1.16	758	1,243	1,302	1,062	\$973	\$1,523	\$1,577	\$1,227
Non-dairy drinks	\$0.50	\$0.46	\$0.47	\$0.47	9,314	14,191	13,121	7,395	\$4,696	\$6,468	\$6,184	\$3,461
Carbonated		\$0.62	\$0.56	\$0.57	-	255	196	299	\$-	\$158	\$110	\$172
Coffee & tea	\$0.73	\$0.56	\$0.70	\$0.84	1,529	1,780	884	371	\$1,116	\$1,000	\$619	\$311
Dry beverage	\$12.74	\$2.46	\$2.54	\$1.75	8	20	20	15	\$108	\$50	\$51	\$27
Enriched drinks	\$0.60	\$0.66	\$0.68	\$0.60	3,273	3,141	3,540	2,344	\$1,966	\$2,076	\$2,423	\$1,415
Fruit drinks	\$0.67	\$0.56	\$0.72	\$0.75	1,004	1,801	1,569	707	\$674	\$1,002	\$1,133	\$531
Water	\$0.24	\$0.30	\$0.27	\$0.27	3,499	7,195	6,912	3,658	\$832	\$2,181	\$1,849	\$1,005

SCHOOL FOOD PURCHASE STUDY-III

**APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS**

Food groups/subgroups	Cost per unit				Volume per 1,000 students				Cost per 1,000 students			
	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more
	\$/lb				lb/1,000 students				\$/1,000 students			
Poultry	\$2.11	\$1.98	\$1.94	\$1.88	4,387	6,153	5,989	6,058	\$9,250	\$12,204	\$11,631	\$11,391
Chicken	\$2.22	\$2.03	\$1.95	\$1.93	3,474	4,786	4,441	4,621	\$7,698	\$9,709	\$8,642	\$8,932
Game birds					-	-	0	-	\$-	\$-	\$-	\$-
Mixed poultry		\$5.85	\$4.44	\$4.23	-	0	0	0	\$-	\$0	\$2	\$1
Recipe mix		\$1.75	\$2.36	\$2.78	-	6	14	1	\$-	\$10	\$33	\$2
Turkey	\$1.70	\$1.83	\$1.92	\$1.71	913	1,361	1,534	1,436	\$1,553	\$2,484	\$2,953	\$2,456
Prepared foods	\$1.90	\$1.82	\$1.88	\$1.88	7,544	6,864	7,439	7,355	\$14,362	\$12,463	\$14,012	\$13,820
Burritos/tacos	\$2.05	\$1.71	\$1.66	\$1.48	687	660	644	1,125	\$1,407	\$1,127	\$1,069	\$1,667
Meat or cheese filled pastry	\$2.26	\$1.93	\$1.92	\$1.97	1,051	979	828	888	\$2,375	\$1,894	\$1,593	\$1,745
Mixtures with fish		\$10.68	\$7.83	\$3.28	-	1	0	4	\$-	\$13	\$1	\$13
Pizza	\$1.73	\$1.72	\$1.81	\$1.83	5,130	4,706	5,287	4,049	\$8,867	\$8,077	\$9,573	\$7,394
Prepared meals	\$2.31	\$2.41	\$2.12	\$2.05	451	135	238	364	\$1,039	\$326	\$504	\$746
Prepared sandwiches	\$3.00	\$2.69	\$2.89	\$2.44	225	382	441	925	\$675	\$1,026	\$1,272	\$2,257
Red meats	\$2.08	\$2.10	\$2.08	\$1.97	6,994	5,380	4,150	2,970	\$14,560	\$11,311	\$8,636	\$5,837
Beef & veal	\$2.09	\$2.09	\$2.03	\$1.98	3,678	2,785	2,153	1,716	\$7,698	\$5,831	\$4,366	\$3,390
Lamb		\$5.40			-	1	-	-	\$-	\$3	\$-	\$-
Mixed meats	\$1.88	\$1.84	\$1.86	\$1.78	1,459	865	596	374	\$2,740	\$1,592	\$1,108	\$664
Pork	\$2.32	\$2.26	\$2.26	\$2.05	1,644	1,692	1,387	818	\$3,815	\$3,826	\$3,136	\$1,674
Recipe mix	\$1.43	\$1.57	\$1.89	\$1.77	214	38	14	61	\$305	\$59	\$26	\$109
Soups & gravies	\$1.36	\$1.43	\$1.51	\$1.64	1,707	1,128	654	505	\$2,317	\$1,614	\$986	\$828
Gravies	\$2.10	\$2.48	\$2.24	\$2.45	322	187	135	79	\$677	\$463	\$301	\$193
Soups	\$1.18	\$1.22	\$1.32	\$1.49	1,386	941	520	426	\$1,639	\$1,150	\$685	\$635
Sugar/desserts	\$0.96	\$0.93	\$0.95	\$0.87	3,911	3,137	2,582	1,810	\$3,747	\$2,919	\$2,462	\$1,568
Candies/toppings	\$2.39	\$1.99	\$2.23	\$1.88	216	228	197	88	\$516	\$454	\$438	\$165
Gelatins	\$1.31	\$1.32	\$1.28	\$1.09	81	102	104	76	\$106	\$135	\$133	\$83
Jellies, jams & preserves	\$1.06	\$1.15	\$1.17	\$1.12	315	209	181	148	\$334	\$241	\$212	\$166
Puddings/pie filling	\$0.87	\$0.76	\$0.69	\$0.74	885	573	490	227	\$770	\$433	\$340	\$168
Sherbet/ices	\$1.22	\$1.00	\$1.04	\$1.03	610	518	377	250	\$745	\$519	\$394	\$256
Sugars	\$0.63	\$0.62	\$0.62	\$0.58	1,228	887	640	557	\$777	\$551	\$400	\$323
Syrups	\$0.87	\$0.94	\$0.92	\$0.88	575	620	593	465	\$499	\$585	\$545	\$408

SCHOOL FOOD PURCHASE STUDY-III

**APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS**

Food groups/subgroups	Cost per unit				Volume per 1,000 students				Cost per 1,000 students			
	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more
	\$/lb				lb/1,000 students				\$/1,000 students			
Vegetables	\$0.87	\$0.81	\$0.83	\$0.81	20,823	19,903	16,314	12,892	\$18,214	\$16,078	\$13,490	\$10,440
Green vegetables	\$0.81	\$0.85	\$0.90	\$0.85	6,088	4,893	3,897	2,932	\$4,921	\$4,181	\$3,515	\$2,501
Mixed vegetables	\$0.89	\$0.88	\$0.90	\$0.89	2,364	1,913	1,655	1,283	\$2,094	\$1,686	\$1,494	\$1,136
Mixtures with vegetables	\$2.77	\$1.40	\$1.30	\$1.63	92	100	162	62	\$255	\$140	\$212	\$100
Other vegetables	\$1.03	\$1.26	\$1.30	\$1.12	550	400	324	244	\$565	\$503	\$420	\$274
Potato & potato products	\$0.93	\$0.71	\$0.70	\$0.72	6,467	7,994	5,971	5,060	\$6,010	\$5,640	\$4,208	\$3,641
Tomatoes & tomato products	\$0.88	\$0.88	\$0.82	\$0.83	2,273	2,211	2,105	1,437	\$2,000	\$1,941	\$1,735	\$1,190
Yellow vegetables	\$0.79	\$0.83	\$0.87	\$0.85	2,988	2,391	2,200	1,874	\$2,370	\$1,987	\$1,907	\$1,598

Note: Data has been adjusted for students with access to NSLP only
Source: School Food Purchase Study, 2011

Table A9-16: Comparisons of cost and volume of the top 50 food items purchased by public unified NSLP school districts by size of district, SY 2009/10

Food Item	Cost per unit				Volume per 1,000 students				Cost per 1,000 students			
	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more	Less than 1,000	1,000-4,999	5,000-24,999	25,000 or more
	\$/lb				lb/1,000 students				\$/1,000 students			
1 Milk, Flavored, Lo Fat, 1%	\$0.39	\$0.42	\$0.40	\$0.41	28,451	40,441	27,771	25,570	\$11,150	\$16,792	\$11,061	\$10,562
2 Milk, Flavored, Skim/Nonfat	\$0.42	\$0.40	\$0.36	\$0.35	19,147	13,208	16,874	17,850	\$7,966	\$5,223	\$6,146	\$6,232
3 Hamburger, Hot Dog Buns, Steak, Sub & Dinner Rls	\$1.35	\$1.13	\$1.13	\$1.13	4,479	4,957	4,442	3,741	\$6,066	\$5,577	\$5,008	\$4,225
4 Milk, Lo Fat, 1%	\$0.37	\$0.39	\$0.37	\$0.38	3,330	11,237	13,276	12,948	\$1,225	\$4,395	\$4,938	\$4,955
5 Orange Juice, Individual	\$0.55	\$0.54	\$0.56	\$0.52	3,288	3,656	4,415	6,034	\$1,797	\$1,982	\$2,487	\$3,150
6 Cereals, Individual	\$3.77	\$3.79	\$3.76	\$3.59	544	672	607	670	\$2,049	\$2,545	\$2,282	\$2,403
7 Apple Juice, Individual	\$0.54	\$0.53	\$0.52	\$0.49	3,288	4,033	4,200	5,291	\$1,774	\$2,126	\$2,198	\$2,617
8 Milk, Flavored, Lo Fat, .5%	\$0.41	\$0.36	\$0.37	\$0.40	1,747	4,157	5,012	6,623	\$708	\$1,478	\$1,840	\$2,622
9 Sport Drink, e.g. Gatorade	\$0.60	\$0.66	\$0.68	\$0.60	3,273	3,140	3,540	2,344	\$1,966	\$2,073	\$2,423	\$1,415
10 Pizza, w/Real Cheese	\$1.76	\$1.93	\$1.97	\$1.81	685	912	1,014	1,181	\$1,202	\$1,764	\$1,993	\$2,132
11 Chips, Misc. Snack(Cheetos, Sun Chips)	\$3.86	\$3.67	\$3.76	\$3.69	469	497	567	433	\$1,812	\$1,824	\$2,132	\$1,595
12 Potatoes, French Fries	\$0.73	\$0.63	\$0.63	\$0.63	1,944	3,970	2,764	2,252	\$1,411	\$2,514	\$1,733	\$1,429

SCHOOL FOOD PURCHASE STUDY-III

**APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS**

Food Item	Cost per unit				Volume per 1,000 students				Cost per 1,000 students			
	Less than 1,000	1,000- 4,999	5,000- 24,999	25,000 or more	Less than 1,000	1,000- 4,999	5,000- 24,999	25,000 or more	Less than 1,000	1,000- 4,999	5,000- 24,999	25,000 or more
	\$/lb				lb/1,000 students				\$/1,000 students			
13 Apples, Fresh	\$0.66	\$0.65	\$0.63	\$0.61	2,167	2,711	3,200	2,460	\$1,438	\$1,771	\$2,010	\$1,490
14 Fruit Juice, Mixed, Individual	\$0.60	\$0.69	\$0.67	\$0.59	1,039	2,145	2,378	3,595	\$627	\$1,480	\$1,603	\$2,107
15 Cookie Dough	\$1.75	\$1.63	\$1.64	\$1.51	1,025	1,069	978	1,034	\$1,795	\$1,748	\$1,607	\$1,559
16 Pizza, Pepperoni w/Real Cheese	\$1.75	\$2.01	\$2.09	\$2.08	756	475	959	819	\$1,321	\$954	\$1,999	\$1,703
17 Chicken, Nuggets, White/dark Mix, Unknown	\$2.12	\$2.11	\$1.90	\$1.88	772	812	957	602	\$1,637	\$1,713	\$1,814	\$1,132
18 Milk, Flavored, Lo Fat, Fat Solids Unknown	\$0.39	\$0.42	\$0.43	\$0.34	4,694	1,517	5,692	3,519	\$1,811	\$631	\$2,425	\$1,192
19 Milk, Lo Fat, 2%	\$0.41	\$0.42	\$0.39	\$0.40	9,941	5,725	4,035	1,267	\$4,063	\$2,382	\$1,581	\$512
20 Chips, Tortilla/Corn	\$2.04	\$2.11	\$2.18	\$2.23	880	725	779	531	\$1,793	\$1,527	\$1,703	\$1,183
21 Chicken, Nuggets, White Meat	\$2.27	\$2.07	\$2.05	\$1.98	803	906	587	651	\$1,822	\$1,874	\$1,201	\$1,290
22 Muffins	\$2.41	\$2.44	\$2.26	\$2.16	366	601	617	597	\$881	\$1,469	\$1,396	\$1,290
23 Beef, Patties, Cooked	\$2.33	\$2.20	\$2.00	\$1.97	490	687	648	649	\$1,141	\$1,514	\$1,295	\$1,276
24 Yogurt	\$1.28	\$1.21	\$1.18	\$1.15	758	1,155	1,251	1,030	\$973	\$1,392	\$1,482	\$1,180
25 Chicken, Patties, Breaded, White Meat	\$2.28	\$1.81	\$2.09	\$1.93	576	756	511	797	\$1,312	\$1,371	\$1,065	\$1,537
26 Water	\$0.20	\$0.28	\$0.25	\$0.26	3,163	6,162	6,356	3,206	\$622	\$1,708	\$1,606	\$829
27 Crackers, Graham, Individual	\$2.55	\$2.57	\$2.32	\$2.13	198	306	618	720	\$504	\$788	\$1,436	\$1,535
28 Bread/Biscuit/Pastry Dough	\$1.21	\$1.03	\$1.10	\$0.96	1,430	1,165	1,236	862	\$1,735	\$1,200	\$1,363	\$825
29 Cheese Filled Pastry(Includes Hot Pocket)	\$2.23	\$1.87	\$1.87	\$1.95	659	652	620	500	\$1,473	\$1,217	\$1,159	\$975
30 Ice Cream Novelties	\$1.83	\$1.68	\$1.73	\$1.45	1,225	929	591	478	\$2,242	\$1,561	\$1,025	\$692
31 Cookies, Individual	\$2.91	\$3.07	\$2.93	\$2.61	460	340	487	241	\$1,336	\$1,044	\$1,427	\$630
32 Pizza, Pepperoni w/Cheese Blend	\$1.55	\$1.51	\$1.61	\$1.63	1,112	914	752	262	\$1,725	\$1,382	\$1,212	\$427
33 Pizza, Cheese Blend	\$1.64	\$1.54	\$1.57	\$1.56	146	718	831	364	\$239	\$1,109	\$1,302	\$567
34 Chips, Potato or Potato Sticks	\$3.89	\$4.35	\$4.34	\$4.15	295	316	216	122	\$1,147	\$1,375	\$940	\$507
35 Oranges, Fresh	\$0.65	\$0.63	\$0.59	\$0.51	1,621	1,431	1,611	1,572	\$1,051	\$901	\$944	\$804
36 Potatoes, Formed, Frozen	\$0.75	\$0.66	\$0.64	\$0.60	1,501	1,585	1,417	1,229	\$1,124	\$1,047	\$902	\$735
37 Bananas, Fresh	\$0.58	\$0.54	\$0.52	\$0.47	1,596	1,368	1,828	1,941	\$922	\$744	\$952	\$908
38 Pork, Sausage, Cooked	\$2.36	\$2.10	\$2.07	\$1.93	697	534	418	335	\$1,647	\$1,120	\$865	\$646
39 Pizza Shells/Pizza Dough	\$1.07	\$1.15	\$1.12	\$1.39	372	807	891	530	\$398	\$928	\$995	\$735
40 Pizza, Cheese, Type Unknown	\$1.97	\$1.65	\$1.72	\$1.78	709	338	636	418	\$1,400	\$557	\$1,095	\$743
41 Beef, Ground	\$1.63	\$1.69	\$1.74	\$1.74	1,193	721	420	334	\$1,943	\$1,221	\$733	\$581
42 Lettuce, Salad Mix	\$0.87	\$0.90	\$0.88	\$0.85	1,632	1,105	1,018	739	\$1,425	\$999	\$899	\$625

SCHOOL FOOD PURCHASE STUDY-III

**APPENDIX 9: COMPARISONS OF FOOD PURCHASES AND COSTS
BY SCHOOL DISTRICT CHARACTERISTICS**

Food Item	Cost per unit				Volume per 1,000 students				Cost per 1,000 students			
	Less than 1,000	1,000- 4,999	5,000- 24,999	25,000 or more	Less than 1,000	1,000- 4,999	5,000- 24,999	25,000 or more	Less than 1,000	1,000- 4,999	5,000- 24,999	25,000 or more
	\$/lb				lb/1,000 students				\$/1,000 students			
43 Poptarts	\$1.85	\$1.79	\$1.88	\$2.17	677	516	537	258	\$1,251	\$923	\$1,011	\$560
44 Milk, Skim/Nonfat	\$0.38	\$0.38	\$0.35	\$0.37	1,568	2,161	2,122	2,594	\$603	\$817	\$752	\$958
45 French Toast/Sticks/French Toast Bagels	\$1.73	\$1.45	\$1.47	\$1.48	332	612	596	506	\$575	\$890	\$877	\$751
46 Lettuce, Shredded/Chopped	\$0.87	\$0.96	\$1.01	\$0.97	1,248	975	800	602	\$1,086	\$932	\$804	\$585
47 Catsup, Individual Pack	\$0.95	\$0.84	\$0.84	\$0.79	443	882	927	969	\$423	\$743	\$781	\$769
48 Pizza, Sausage w/Cheese Blend	\$1.79	\$1.61	\$1.69	\$1.61	441	712	491	230	\$791	\$1,147	\$829	\$371
49 Potatoes, Dry, w/Milk	\$1.83	\$1.90	\$1.90	\$1.82	698	478	361	341	\$1,276	\$906	\$685	\$619
50 Peanut Butter and Jelly Sandwich	\$2.84	\$2.67	\$2.83	\$2.31	122	256	245	356	\$345	\$685	\$692	\$821
All fifty food items	\$0.73	\$0.69	\$0.68	\$0.65	118,448	136,149	133,096	122,198	87,024	94,060	90,708	78,989

Note: Data has been adjusted for students with access to NSLP only
Source: School Food Purchase Study, 2011