

National School Lunch and School Breakfast Program Reforms

Policy Development and Economic Impacts

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This chapter summarizes the development and analysis of USDA's policy to bring the National School Lunch Program and School Breakfast Program into compliance with the Dietary Guidelines for Americans. The analysis shows that the impact of the school lunch reform on the major commodity markets and related farm programs would be minimal. Commodity prices, producer marketings and receipts, and farm program outlays would not vary significantly from current projections. On the consumption side, the health of our Nation's children may be improved by offering them healthier meals and educating them on the importance of long-term healthy eating habits.

Introduction

The U.S. Department of Agriculture (USDA) has long been committed to promoting nutritious diets, and this commitment was recently translated into sweeping new requirements for school meals.

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Concerns that meals served in schools were not meeting current dietary advice led to the development of the School Meals Initiative for Healthy Children. At the heart of the proposal was the belief that federally subsidized meals should meet Federal nutrition standards and help develop healthy eating habits among school-age children.

However, USDA must balance its responsibility to provide healthy school meals with its responsibility to support and promote U.S. agricultural production. Potential tradeoffs between diet quality and the use of various agricultural commodities result in seemingly competing interests, with important implications for agriculture, childhood nutrition, and Federal food policy. For example, red meats such as beef have a relatively high fat content compared with vegetables, but also contain vitamins and minerals that are essential to good health and are not readily available from vegetables. USDA maintains that there are no “good” or “bad” foods, instead stressing the importance of balanced diets.

This chapter summarizes USDA’s efforts to bring the National School Lunch Program and School Breakfast Program into compliance with the Dietary Guidelines for Americans issued by USDA in conjunction with the U.S. Department of Health and Human Services (USDA and DHHS, 1990). Additional details are available in the regulatory impact analysis conducted for the School Meals Initiative for Healthy Children, published in the Federal Register (USDA, 1994a).

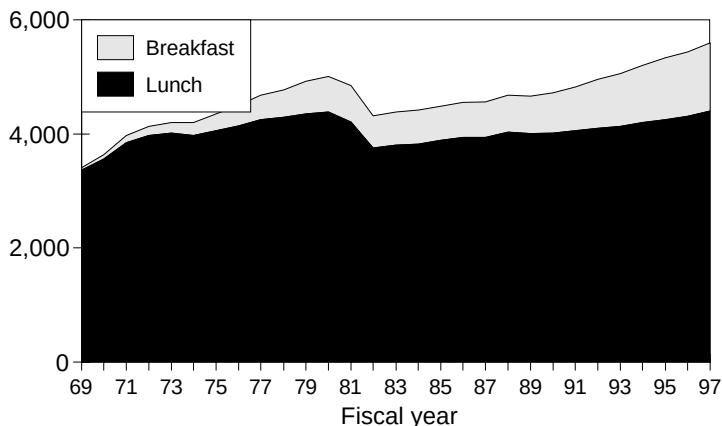
Policy Development of School Meal Programs

Federal efforts to address citizens’ concerns about the quality of their diets have been in existence for over 50 years. In earlier years, Federal food assistance served two purposes: fighting hunger and malnutrition among schoolchildren, and disposing of surplus farm commodities. The economic hardships experienced by many families during the Great Depression were felt by millions of schoolchildren who were unable to pay for their lunches. Temporary legislation was passed to provide funding and, by early 1942, about 6 million school children were being served low-cost meals, partially subsidized by USDA surplus agricultural commodities and Works Progress Administration laborers who worked in the cafeterias.

Figure 1

School meal service resumed growth after dip in 1980's

Meals served (millions)



Source: USDA/ERS.

From 1944 to 1946, Congress appropriated \$50 million per year to operate school food programs, but local school boards were reluctant to participate without permanent funding. Thus, in 1946, Congress passed Public Law 79-396, the National School Lunch Act, and student participation began to rise in the 1946-47 school year.

The Child Nutrition Act of 1966 was the first major change in the National School Lunch Program (NSLP). This act placed USDA in charge of food services to ensure uniform standards of operation, expanded administrative support, and started the School Breakfast Program (SBP) as a pilot project that was made permanent in 1975.

Growth in the number of meals served has remained fairly constant, with the exception of a downward dip in the early 1980's (fig. 1). The Omnibus Budget Reconciliation Act of 1981 (OBRA) reduced reimbursement rates paid by the Federal Government to States for school meals. This in turn caused States to raise prices of school meals, lowering participation.

Most schools in the Nation participate in the NSLP and many participate in the SBP. Under the law, all students enrolled at participating schools are entitled to take part in the programs. In the 1996-97

school year, about 94,000 schools served NSLP meals to an average of 26 million students per day. During the same period, 68,000 schools served about 7 million children per day under the SBP.

Children from homes with income at or below 130 percent of the Federal poverty level (\$20,865 for a family of four in the 1997-98 school year) can receive their meals free. Children from homes with income between 130 and 185 percent of the Federal poverty level are eligible for reduced-price meals, for which students can be charged no more than 40 cents. Children in other households pay a higher price for the meal, but these are also subsidized. In the 1997-98 school year, for each free meal that qualifies for reimbursement, schools receive about \$1.89 from USDA.¹ They receive about \$1.49 for each reduced-price meal and 18 cents for each full-price meal served.

In addition to reimbursing State agencies for meals served and providing administrative support, USDA also makes “entitlement” agricultural commodities (such as nonfat dry milk) available at a value of 15 cents per meal. States select entitlement foods for their schools from a list of more than 60 different kinds of food purchased by USDA. Participating schools are also eligible to receive “bonus” agricultural commodities that USDA procures from surplus stocks. They are only offered as they become available through agricultural surplus. The variety and quantity of both entitlement and bonus food commodities in schools depends on their availability and price.

Since the school meal programs are entitlement programs—all eligible children are able to participate—total program costs are related to the reimbursement rates and the total number and types of meals served. USDA uses the food-away-from-home price index to determine year-to-year change in annual reimbursement rates.

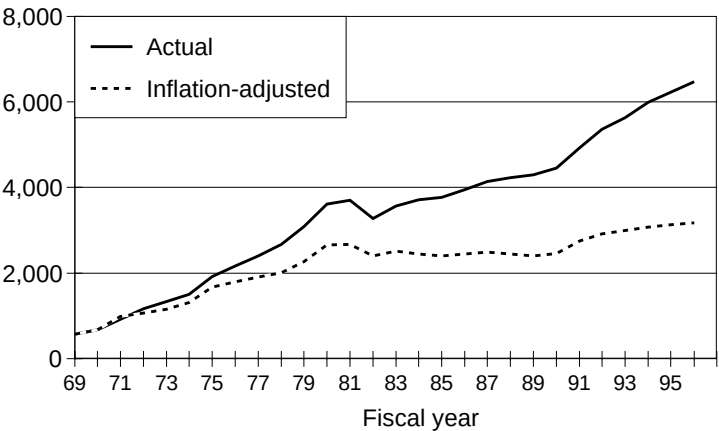
The total cost to the Federal Government in fiscal year 1997 was about \$6.4 billion for the two programs. While the amount spent on the programs has increased, when adjusted for inflation the cost to the Government remained fairly constant through the 1980's (fig. 2). The increase in the 1990's was due to efforts to increase participation in the School Breakfast Program.

¹ Not all meals served in participating schools qualify for reimbursement. For example, if a student selected mashed potatoes and pie in an a la carte line, it would not meet qualifying Federal standards for a meal and therefore would not be subsidized.

Figure 2

Federal cost of school food programs has grown

\$ million



Source: USDA/ERS.

USDA's 1989-91 Continuing Survey of Food Intakes by Individuals (CSFII) showed that children's diets, including meals served in schools, met few of the recommendations in the Dietary Guidelines. Of particular concern was the high fat content of children's diets, since high fat intake is associated with increased risk for coronary heart disease, stroke, and some types of cancer (see chapter 1). Data from the 1994-95 CSFII reveal that fat consumption in school-age children has decreased slightly but is still higher than recommended.

In 1992, USDA sponsored the School Nutrition Dietary Assessment (SNDA) study, which focused on the foods and nutrient content of meals offered to the students as well as what was actually eaten (Devaney and others, 1993). While school lunches met or exceeded the required one-third of the Recommended Dietary Allowance (RDA) for key nutrients, they provided 38 percent of calories from total fat and 15 percent of calories from saturated fat — considerably more than the 30 and 10 recommended. The study also showed that while school breakfasts fared better in terms of total fat (31 percent of calories), they still derived 14 percent of calories from saturated fat.

Based on this knowledge, USDA began developing the School Meals Initiative for Healthy Children in 1993 by holding a series of public

hearings and inviting written comments from interested parties unable to attend the hearings. From the testimony and written comments, USDA developed a proposed rule in 1994. The final rule was published in the Federal Register in 1995.

School meals have always been required to meet certain nutritional goals. In the past, the nutritional goals focused solely on providing sufficient calories, protein, vitamins, and minerals. This was accomplished by offering specified amounts of foods from the four food groups. Today, school meals must not only provide sufficient amounts of six nutrients (calories, protein, vitamin A, vitamin C, iron, and calcium), but must also meet the Dietary Guidelines recommendations and limit the amounts of fat and saturated fat. In particular, lunches must provide at least one-third of the RDA for each of the specified six nutrients, and breakfasts, one-fourth. No more than 30 percent of the calories offered are to come from total fat and less than 10 percent are to come from saturated fat. Schools' compliance with both the Dietary Guidelines and the RDA's is measured over a week's menu cycle.

The School Meals Initiative for Healthy Children represents the largest change the National School Lunch Program and the School Breakfast Program have undergone since their inception. School menus have changed to reflect the *Dietary Guidelines for Americans*. Schools had until the 1996-97 school year to implement the new regulation, but some received authorized waivers until the 1998-99 school year.

Determining Economic Impacts

The regulation recognized that simply offering a nutritious meal serves no use unless it is actually eaten. Therefore, in addition to meeting Federal nutrition standards, federally subsidized meals served in the Nation's schools should taste good and be acceptable to children. Furthermore, the initiative is designed to minimize impacts on agricultural commodity markets and to control program costs.

To model the likely impacts of different alternatives, USDA's Economic Research Service, in cooperation with the Food and Nutrition Service (formerly the Food and Consumer Service), developed and analyzed projected behavioral and economic impacts of the

initiative. A mathematical programming model to reflect how children were likely to react to changes in their lunch menu formed the basis of the analysis. The model incorporated information on the kinds, amounts, nutrient content, and costs of foods served in school lunches. Foods and recipes were constrained to those actually offered in schools. Food consumption patterns were allowed to vary from baseline food group and serving size regulations so long as nutritional, cost, and policy constraints (such as the requirement to offer whole milk) were maintained.

Data for the model were obtained from a number of sources. Data on the foods offered in the NSLP were obtained from the 1992 USDA School Nutrition Dietary Assessment (SNDA) survey conducted by Mathematica Policy Research Inc., an independent consulting firm (Devaney and others, 1993). Interviews of 3,550 students (grades 1-12) in about 545 schools throughout the country yielded detailed information on the kinds and amounts of foods they consumed over a 24-hour period. Only data on foods offered as part of credited school lunches were used in order to focus on Federal requirements for the meals.² The SNDA survey contained over 600 foods offered in the NSLP. These foods were coupled with nutritional content information from USDA's nutrient database and grouped into over 50 food groups, including high-fat and low-fat versions of different food categories, such as baked goods, meats, etc.

Food price information was obtained from a nationally representative sample of schools included in USDA's School Lunch and Breakfast Cost Study (USDA, 1994). The survey took place during the 1992-93 school year and included food costs as well as other direct and indirect costs of providing school meals.

These food prices were matched to the SNDA data to calculate food costs. The 1992-93 median cost of producing NSLP and SBP meals, which included both direct costs (such as labor, supplies, and utilities) and indirect costs (such as administrative, facilities, services, and employee benefits), was about \$1.63, compared with the 1992-93 Federal subsidy for free meals of \$1.84. Food costs were estimated to be about 77 cents per meal for meals meeting former NSLP crite-

² Not all meals served qualify for reimbursement. See footnote 1.

ria. The balance was accounted for in direct costs other than food and indirect costs.

The optimal solution generated by the model was the meal pattern that deviated least from the actual meal pattern observed in the SNDA survey (for sake of acceptability) and met all of the nutrition, food group, and cost requirements.

School Meals Will Change

A wide variety of alternative scenarios were explored using the model to gain an understanding of the economic impacts and alternative meal patterns that could occur under the School Meals Initiative for Healthy Children. This chapter looks at three of those scenarios to illustrate the numerous options available.

All the scenarios explored met the nutritional requirements specified in the regulation based on the nutritional recommendations that were in effect at the time—the 1990 *Dietary Guidelines* and the 1989 RDA's (National Research Council, 1989). All the scenarios also enforced policy constraints, such as the requirement that fluid milk be offered with lunch and that food costs not be increased. In addition, it was assumed that schools would no longer use butter.

The first and third scenarios (see table 1) demonstrate the range of market impacts associated with either minimizing the change in food offerings or minimizing the change in agricultural commodity markets. The second scenario was designed to show how the results could change if lower-fat preparation techniques were followed in only one of the commodity groups. Although chicken was used in this example, other commodities, such as beef or pork, might show similar changes if substitutions were made between high- and low-fat alternatives. The three scenarios estimate impacts using 1992-93 market prices for foods available and in use by schools. To the extent that products are reformulated and additional lower fat products become available, both consumption patterns and costs would probably be affected.

Minimum Change in Current Offerings

This scenario established the amounts of foods from each of the food groups required to meet dietary, cost, and milk requirements with as

Table 1—Estimated food use in school lunches under different scenarios

	1993 market size			Estimated food use under alternative scenarios		
	U.S. farm-level disappearance	School lunch use	Lunch use as %	Minimum change	Reduced-fat chicken prep.	No change
	<i>Million pounds</i>		<i>Percent</i>		<i>Million pounds</i>	
Butter	1,007	55	5.5	0	0	0
Cheese ¹	6,633	135	2.0	53	47	135
Broilers	19,855	245	1.2	125	283	245
Turkey	4,591	105	2.3	53	121	105
Beef	24,040	485	2.0	385	359	485
Pork	17,268	280	1.6	296	280	280
Fruit and juices	61,055	1,097	1.8	1,815	2,234	1,097
Vegetables	71,018	1,218	1.7	1,307	1,253	1,218
Potatoes	34,079	674	2.0	376	372	674
Peanuts	2,050	44	2.1	50	50	44
Rice ²	180	1	0.7	2	2	1
Wheat ³	2,500	16	0.6	30	28	16

¹ Milk equivalents.

² Million hundredweight.

³ Million bushels.

little deviation as possible from the eating choices of children as captured in the 1992 SNDA. This resulted in meal patterns that contained considerably less meat and cheese and more grains and fruits (table 1). Beef was often chosen to be used in mixtures such as spaghetti with meat sauce, as opposed to roasts.

Lower Fat Chicken Preparation

This scenario illustrates the dietary change when lower-fat preparation techniques are used in one food category while holding food preparation techniques in other food categories constant. In this scenario, high-fat chicken preparation techniques (such as fried chicken nuggets) were entirely replaced by lower fat preparation techniques (such as baked or broiled chicken parts). This scenario showed that diets can be reformulated without removing the foods children enjoy eating. This scenario resulted in meal patterns that used more chicken, grains, and fruits, and less cheese (table 1).

No Change in Commodity Markets

This scenario was designed to show what dietary changes might be achieved while keeping major agricultural commodity groups at their baseline market levels (with the exception of butter). Consumption of various foods was allowed to vary within the commodity groups, but not outside them. For example, beef could be consumed alone as a roast or as ground beef in a mixture such as lasagna, but the total level of beef served was required to be the same as the baseline (table 1). In general, this adaptation required that low-fat foods be chosen within food groups, such as nonfat milk instead of whole milk. Notable exceptions included serving high-fat chicken and potatoes, probably to provide sufficient calories. Also, food cost became more of a limiting factor in this scenario. Many of the fattier or more costly foods were eliminated from the solution.

Agricultural Impacts Minimal

Most foods used in the NSLP and SBP account for only a minor share of overall food supply. For example, potatoes are a heavily used commodity, yet school use is only 2 percent of the potato market (table 1). Consequently, the estimated impacts of program changes on most agricultural commodities were found to be relatively small. The models used to estimate the impacts were developed by commodity specialists at ERS (USDA, 1994a). The estimated impacts of the two first scenarios on the dairy, poultry, and the fruit and vegetable markets are discussed below and detailed in tables 1 and 2 (the third scenario does not affect the commodity markets other than butter).

Dairy Sector

Estimated impacts differed across the fluid milk, butter, and cheese components of the dairy sector. In all scenarios, fluid milk was still required to be offered, although low-fat milk could be substituted for whole milk. The amount of cheese used was reduced, and butter was eliminated entirely. Hence, the major impacts were found for processed product markets as opposed to the fluid market.

If butter were totally eliminated from school lunches, it would displace 55 million pounds of butter annually in the 1.0-billion pound U.S. market (table 1). Displacement of butter was estimated to have

Table 2—Farm price, revenue, and program impacts for major agricultural commodities

Commodity	Farm receipts \$ billion	Minimum change in current offerings				Reduced-fat chicken prep.			
		School lunch use Million lbs.	Farm price %	Farm revenue \$ million	Farm program cost \$ million	School lunch use Million lbs.	Farm price %	Farm revenue \$ million	Farm prog. cost \$ million
Cheese ¹	19.4	- 82	-0.6	-166	23	-88	-0.6	-178	25
Broilers	11.0	-120	-1.8	-134	0	38	0.4	19	0
Turkey	2.9	- 52	-2.1	-36	0	16	0.5	4	0
Beef	28.3	-100	-0.9	-143	0	-126	-0.9	-103	0
Pork	10.7	16	0.2	11	0	0	0.0	0	0
Fruit/juices	10.2	718	0.1	124	0	1,137	0.2	200	0
Vegetables	9.4	89	0.0	12	0	35	0.0	5	0
Potatoes	2.0	-298	-0.1	-20	0	-302	-0.1	-20	0
Peanuts	1.0	6	0.1	1	0	6	0.1	1	0
Rice	1.3	1	0.6	9	-8	1	0.5	7	-6
Wheat	7.3	14	0.7	45	-35	12	0.7	45	-35

¹ Milk equivalents.

minimal impact on producer prices, incomes, and government farm programs since virtually all of the butter used in school programs is donated by the Commodity Credit Corporation (CCC) from stocks acquired under price support operations. The school lunch portion of CCC stocks is small and could be donated to other institutions or programs.

Under the first scenario, consumption of cheese in schools would decline by 82 million pounds annually, a 1.2-percent drop in U.S. cheese disappearance (table 2). The decline would lower farm milk prices 7-8 cents per hundredweight, causing a decline in production and lowering farm revenues by about \$166 million per year (from a 1990-93 base of \$19.4 billion). CCC dairy program costs would increase \$23 million to purchase the excess production. Given the size of the dairy market, these impacts are small, and the substitution and introduction of reduced-fat cheese or other dairy products could moderate the impacts.

Broiler and Turkey Sector

Impacts on the broiler market were estimated to be minimal. In 1993, the NSLP used about 245 million pounds of broilers in a U.S. market of 19.9 billion pounds. The broilers were most frequently served as high-fat chicken nuggets or sandwiches. Under the first scenario, NSLP broiler use would decline by about 120 million pounds, lowering broiler prices by about 1.8 percent and farm revenues by 1.2 percent. However, under the second scenario, when lower-fat cooking techniques are used to prepare chicken, broiler use increases by 38 million pounds, broiler prices increase by 0.4 percent, and farm revenues rise by 0.2 percent.

As with broilers, use of turkey in the NSLP is small (105 million pounds) relative to the total U.S. market of about 4.6 billion pounds. Under the first scenario, turkey use in school lunches would decline by 52 million pounds, driving prices down about 2 percent and reducing farm revenues by about \$36 million, 0.01 percent of current revenues. In the second scenario, consumption would increase by 16 million pounds, increasing prices by 0.5 percent and farm revenues by \$4 million.

Fruit and Vegetable Sector

Schools use fruits and vegetables in a variety of forms, including fresh, frozen, canned, and as ingredients in commercially processed mixtures such as lasagna. In spite of the relatively large increase in the use of fruits under the School Meals Initiative for Healthy Children, the impact on the fruit market would be minimal since schools account for less than 2 percent of the market. For example, in the first scenario, fruit use would increase 718 million pounds, but prices would increase by only 0.1 percent and farm revenues would increase by \$124 million in the \$10.2-billion market. The second scenario would increase fruit school consumption by 1.1 billion pounds, increasing farm revenues by \$200 million.

Potato consumption would decrease substantially under the first two scenarios since the majority of potatoes used in school meals are deep-fried and contain a lot of fat. French fries would likely be served less often under the program reforms. Even so, the impact on potato prices would be minimal—prices would decline by 0.1 percent—and farm revenues would decrease by \$20 million (a 1-per-

cent decline). However, as illustrated in the second scenario for chicken, if potatoes are prepared in a lower-fat manner, schools could make adjustments that would help moderate the market impacts.

Use of other types of vegetables in the NSLP is expected to increase under the reform measures. Vegetable use would increase by about 89 million pounds annually in the first scenario and 35 million pounds in the second scenario. In the 71-billion-pound U.S. vegetable market, this increase has no impact on prices, and farm revenue increases less than 0.01 percent.

Conclusions

The National School Lunch Program serves lunches to over 26 million children per day and thus represents a ready tool to improve the diet quality and health of school children. The impact of school lunch reform on the major commodity markets and related farm programs would be minimal. As detailed in this chapter for three illustrative scenarios, commodity prices, producer marketings and receipts, and farm program outlays did not vary significantly from baseline projections. Use of lower-fat versions of commodities could result in increased use of these items.

The adjustments needed to make school meals conform to the Dietary Guidelines appear feasible economically; we assume the meals can be made palatable to children. While nutritionists, program administrators, and foodservice workers contributed to the regulatory impact analysis and the details of the regulation, it is not yet known how smoothly the implementation of the new regulation will go if actual costs and impacts differ from estimates, or whether children will eat what is offered.

Data on the opinions of frontline administrators and school foodservice personnel on the implementation of the new regulations are now being collected and analyzed. The analysis should provide practical information on the benefits and problems encountered in the new regulations and indicate further refinements.

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