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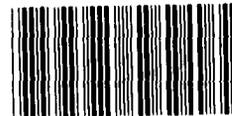
# Report To The Congress

OF THE UNITED STATES

## Alternatives To Reduce Dairy Surpluses

The Government dairy price-support program is viewed by many as the major cause of dairy surpluses, which at times have been burdensome. This program is based on the concept of parity, a standard used to measure the degree to which farm prices are in line with what the Congress has defined as a fair goal. The standard does not fully consider production costs. The price-support levels have promoted more milk supplies than can be marketed commercially at established market prices and have increased milk producer returns to levels more than sufficient to maintain productive capacity.

GAO believes the time has come to reassess the program. The report discusses several alternatives for congressional consideration that could help reduce surpluses and balance the interests of producers, consumers, and taxpayers.



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COMPTROLLER GENERAL OF THE UNITED STATES  
WASHINGTON, D.C. 20548

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To the President of the Senate and the  
Speaker of the House of Representatives

*CWO 00001*

This report assesses the Federal dairy price-support program administered by the Department of Agriculture and discusses the consequences of possible new programs for controlling or minimizing Government purchases of surplus dairy products. We made this review because of concern that the program is not performing as it should, as has been evidenced in recent years by heavy Government purchases at high costs. <sup>10</sup>

We are sending copies of this report to the Director, Office of Management and Budget, and to the Secretary of Agriculture.

*James A. Heath*  
Comptroller General  
of the United States

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HSE 00100  
SE 006100*



D I G E S T

The U.S. Government faces the difficult task of balancing interests of the dairy industry and interests of consumers and taxpayers. Federal dairy policies and programs are designed, in part, to assure an adequate milk supply. But the U.S. dairy industry has continually produced more milk than can be marketed commercially at established market prices. The surplus, in the form of dairy products such as butter and cheese, is purchased by the Government. At times these purchases have been burdensome. (See p. 1.)

From 1949 through 1979 these removals totaled over 142 billion pounds (in milk equivalent) and the Government's net expenditures for dairy price-support and related programs totaled over \$9 billion. (See p. 5.)

PARITY PRICE NOT EFFECTIVELY  
ACCOMPLISHING PROGRAM OBJECTIVES

The dairy price-support program, which uses parity price as the standard for determining the support level, is considered by many to be the principal cause of surpluses. Its objective is to set a support price that will (1) assure an adequate supply of milk to meet current needs, (2) reflect changes in production costs, and (3) assure a level of farm income adequate to maintain productive capacity sufficient to meet anticipated future needs. (See pp. 2 and 8.)

The milk support price has rapidly increased--from \$6.57 per hundredweight in April 1974 to \$12.36 per hundredweight in April 1980. Most of the increase resulted from the formula for computing the parity price for milk. The formula does not adequately consider many economic factors

affecting milk market conditions, such as costs of production and productivity. It includes some factors, such as family housing and clothing costs, which have little to do with milk production. (See pp. 9 to 16 and 21.)

The dairy price-support levels also have promoted more than adequate milk supplies and, in recent years, increased milk producer returns to levels more than adequate to maintain productive capacity. In every year since 1960, the total supply of dairy products has exceeded the total demand. In recent years dairy farm cash receipts have been at high levels (\$14.7 billion in 1979), farm dairy prices have increased faster than the average prices for all farm products, and producer returns have increased faster than inflation. (See pp. 16 to 20.)

The Congress and the Secretary of Agriculture could make some changes in the program to help reduce surpluses and improve the parity price standard's effectiveness. (See pp. 20 to 27 and recommendations on pp. 27 and 28.) These changes, however, would still not ensure that the program's objectives would be effectively accomplished. Alternative milk-pricing standards need to be considered.

#### ALTERNATIVE STANDARDS

Several alternative milk-pricing standards could help solve or reduce the surplus problem and more effectively and equitably accomplish program objectives. These include a dairy parity price standard, a cost-of-production standard, and a standard based on a comprehensive formula that systematically and simultaneously considers changes in cost of production, milk product stocks, and demand.

The following table compares the milk support price as of October 1, 1979, based on the current parity price standard, with the estimated support prices based on two of the alternative standards. (See p. 32.)

Support price based on			
<u>Current</u> <u>parity</u> <u>price</u>	<u>Dairy</u> <u>parity</u> <u>price</u>	<u>Cost-of-</u> <u>production</u>	<u>Comprehensive</u> <u>formula</u>
------(per hundredweight)-----			
\$11.49	\$10.51 (est.)	\$10.00 (est.)	(a)

a/The price could not be estimated because sufficient research has not been done to design and implement a comprehensive formula.

In contrast to the current standard, the dairy parity price formula would use indexes reflecting only the prices received for dairy products and the prices paid for items used in producing milk. Each production item would be weighted according to its importance to the total production cost.

A dairy parity price standard would more closely reflect changes in factors affecting prices of dairy inputs but would not reflect productivity increases or supply and demand factors. Also, it would assure more balanced production and consumption, thereby reducing Government purchases of surpluses while still providing a reasonable return to producers. For example, in 1979 a dairy parity support price would have allowed producers a return over direct production costs of an estimated \$3.31 per hundredweight. (See pp. 33 to 36 and 47.)

A cost-of-production standard would use average production costs per hundredweight of milk during a specified period as the basis for supporting milk prices. Such a standard would reflect the costs of producing milk and productivity increases but would not consider supply and demand factors. (See pp. 36 to 41.)

A standard could be developed that would use a comprehensive formula to relate the price of milk to factors affecting supply and demand. Such a formula could systematically and simultaneously consider changes in cost of production, milk product stocks,

and demand. If properly developed, it would represent a distinct improvement over the parity price, dairy parity price, and cost-of-production standards in that both supply and demand factors would be considered. (See pp. 41 to 45.)

GAO believes that a comprehensive formula could eventually be used to adjust the dairy price-support level. However, sufficient research needs to be done before this approach could be used. In the interim, the basis for setting the milk support price could be changed to either a dairy parity price standard or a cost-of-production standard. GAO believes the dairy parity price standard would be the least disruptive to the industry.

In computing a dairy parity price, a more recent base period should be used. The price-support level should initially be set at 100 percent of the dairy parity price. However, the Secretary of Agriculture should have the flexibility to adjust the level when Government purchases of surpluses exceed specified levels. This flexibility would help balance producer, consumer, and taxpayer interests and adjustments made would signal producers when problems existed. (See pp. 47 and 48.)

Whether to adopt a dairy parity price standard for the short term and, if appropriate, a standard based on a more comprehensive formula for the long term is a matter to be determined by the Congress. However, if the Congress decides to adopt this approach, GAO recommends that legislation be enacted

--directing the Secretary to perform necessary research to develop and, if appropriate, implement a comprehensive formula designed to simultaneously consider changes in milk production costs, milk product stocks, and demand and

--authorizing the Secretary, until such a comprehensive formula can be developed and implemented, to (1) base the milk support price on 100 percent of the dairy parity price using a base period comparable with

other national indexes and (2) adjust the price-support level when Government purchases of dairy products exceed specified levels. (See p. 48.)

PRODUCER PARTICIPATION IN DAIRY PROMOTION PROGRAMS SHOULD BE INCREASED

These programs are funded by contributions authorized or mandated under Federal milk-marketing orders, State laws, and cooperative plans or provided under voluntary programs. In some cases producers may request and receive refunds. In 1978 producers contributed about \$53 million to promotion programs.

Not all producers help finance these programs. As a result, noncontributors are benefiting from the investments made by others, and the overall program suffers from lack of financing. Also, mandatory programs without refund provisions have been most effective in obtaining funds, and contribution rates set as a percentage of sales are more effective than a fixed rate per hundred-weight of milk.

GAO believes producer participation in financing dairy promotion programs could be increased by eliminating the refund provision and making promotion provisions a part of all Federal milk-marketing orders or by establishing a Federal nationwide producer promotion program. More uniform participation in funding promotion programs would remove inequities as well as generate increased contributions. Increased contributions should help the industry promote consumption of dairy products, thereby reducing Government purchases of surpluses. (See pp. 61 to 70.)

GAO recommends that the Congress either

- establish a Federal nationwide producer promotion program with the contribution rate set as a percentage of sales or
- improve the promotion programs under current Federal milk-marketing orders by (1) eliminating the refund provision

in Federal orders, (2) making mandatory promotion provisions a part of all Federal orders, and (3) setting the contribution rate as a percentage of sales. (See p. 71.)

#### OTHER DAIRY POLICY ALTERNATIVES

Other alternatives available for reducing surpluses include

- production controls, such as producer quotas and penalties, and
- new concepts, such as target prices and deficiency payments, a national milk-marketing order program, and deregulation of the industry.

These alternatives and their potential consequences are discussed in chapters 4 and 6.

#### AGENCY COMMENTS

According to the Department, GAO's report is comprehensive in that it covers the many alternatives to the present program that have been discussed in recent years. (See app. VI.) Also, it is most timely because there now is a consensus that the milk support-price program is not performing as it should, as is evidenced by this year's heavy price-support purchases and the excessive Government costs. The Department said that a dialogue on dairy policy has already begun among producers, the industry, consumers, and the administration. It also said that GAO's report should make an important contribution to the ongoing discussion.

The Department did not take a specific position on GAO's recommendations to improve the present price-support standard or any of the alternative milk-pricing standards. It disagreed, however, with the recommendations to either establish a Federal nationwide producer promotion program or improve the promotion programs under current Federal milk-marketing

orders. It said that, as a general policy, the Department does not support mandatory advertising and promotion programs for any commodity.

The Department's comments and GAO's evaluation of them are discussed on pages 28, 49, 59, 71, and 89.



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- VI Letter dated May 7, 1980, from the Administrator, Agricultural Stabilization and Conservation Service, Department of Agriculture

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ABBREVIATIONS

ADA	American Dairy Association
CCC	Commodity Credit Corporation
DRINC	Dairy Research, Inc.
GAO	General Accounting Office
NDC	National Dairy Council
UDIA	United Dairy Industry Association
USDA	U.S. Department of Agriculture



## CHAPTER 1

### INTRODUCTION

The U.S. Government faces the difficult task of balancing the interests of the dairy industry and the interests of consumers and taxpayers. Federal dairy policies and programs are designed, in part, to assure an adequate milk supply. The industry, however, has continually produced more milk than can be marketed commercially at established market prices. As a result, Government purchases of surplus dairy products have, at times, been burdensome.

Surpluses have several causes. The Federal dairy programs have contributed significantly to creating the surpluses. Most producers in the United States may produce as much milk as they choose, but domestic per capita consumption of dairy products is declining. Also, outlets for disposing of surpluses, such as domestic and foreign aid programs, have declined substantially.

### DAIRY INDUSTRY

The importance of dairy products to the American diet underlies the need for an assured milk supply. Dairy products are the most important source of calcium and provide significant amounts of other important nutrients, including protein.

The industry has experienced dramatic changes through the years. Annual milk production per cow has more than doubled since 1950, thus offsetting a decline in the number of commercial dairy farms and cows from about 602,000 and 21.9 million, respectively, in 1950 to about 205,000 and 10.8 million, respectively, in 1979. The trend has been toward fewer but larger farms and manufacturing plants. Production gradually rose to a peak of 127 billion pounds in the mid-1960s. Since that time annual production has declined to about 115 billion pounds in 1973 through 1975, but increased to nearly 124 billion pounds in 1979. More than three-fourths of the Nation's milk is sold through cooperatives.

Two grades of milk are produced--grade A is eligible for fluid use or manufacturing and grade B may be used only for manufacturing. Grade A milk production has increased dramatically. About 83 percent of the milk sold to plants and dealers in 1978 was grade A, up from about 66 percent during the early 1960s.

Fluid milk is bulky, highly perishable, and subject to bacterial contamination. It must be produced and handled under sanitary conditions and marketed quickly. Thus, milk not consumed in fluid form must be processed to prevent loss. In 1979 an estimated 41 percent of the market supply of milk was used as fluid milk and 59 percent as manufactured dairy products, such as butter, cheese, and nonfat dry milk.

Milk production is seasonal. Production is generally greatest during spring and early summer and lowest in November. Consumption of fluid milk is relatively constant throughout the year, but sales vary throughout the week. Thus, to supply the demand for fluid milk, production must be adequate to meet demand on days of high sales, even in fall and winter. Consequently, plants in many areas use the excess production from days of low demand and periods of heavy production to manufacture dairy products.

#### DAIRY PROGRAMS

To assure adequate milk supplies, the Government has used several interrelated programs, the most important of which are price supports, marketing orders, and import quotas. Also, some State governments regulate milk marketing.

- Price supports help assure dairy farmers a minimum average price for manufacturing-grade milk and support the level of all milk prices.
- Marketing orders establish minimum prices that fluid milk handlers are required to pay grade A dairy farmers for milk in specified marketing areas according to the use made of the milk.
- Import quotas prevent import interference with the price-support program.

#### Price supports

The Agricultural Act of 1949 (7 U.S.C. 1421 et seq.), which created the price-support program, requires the Secretary of Agriculture to support the price of milk at 75 to 90 percent of its parity price. Several subsequent laws have increased the minimum level of parity for certain periods to 80 percent. The latest, Public Law 96-127 (Nov. 28, 1979; 93 Stat. 981), sets the minimum level at 80 percent through September 30, 1981. The program's purpose is to set a price-support level that will (1) assure an adequate supply of pure and wholesome milk to meet current needs, (2) reflect changes in the cost of production, and (3) assure a level of farm income adequate

to maintain productive capacity sufficient to meet anticipated future needs.

The price-support level is based on the concept of parity. Parity is a standard used to measure the degree to which farm prices are in line with what the Congress has defined as a fair goal. Parity prices, the most commonly used parity standard, are those prices that will give farm commodities the same purchasing power they had in a selected base period when prices received and paid by farmers were considered to be in good balance. By law, the base period (that is, the period with which current prices are compared) is January 1910 through December 1914.

The U.S. Department of Agriculture's (USDA's) Agricultural Stabilization and Conservation Service administers the price-support program. In carrying out the program, the Service supports the price of milk used in manufactured dairy products. To maintain minimum prices, the Service, through USDA's Commodity Credit Corporation (CCC), purchases any quantity of nonfat dry milk, cheese, and butter that is offered and meets specifications. Such purchases, at a price based on the support price plus an allowance for processing costs, reduce supplies of dairy products on the commercial market to the quantities that can be sold at prices equivalent to the support price. Increases in the milk support price require higher CCC purchase prices for dairy products. For example, the following table shows the increase in purchase prices for butter, cheese, and nonfat dry milk from 1974 to 1980.

<u>Product</u>	<u>1974</u>	<u>1980</u>	<u>Increase</u>	<u>Percent increase</u>
	---(cents per pound)---			
Butter, U.S. grade A or better	62.00	143.25	81.25	131.0
Cheese, cheddar, U.S. grade A or higher	70.75	132.50	61.75	87.3
Nonfat dry milk, U.S. extra grade	56.60	89.50	32.90	58.1

Source: USDA.

Higher purchase prices result in higher market prices for dairy products received by manufacturers and prevent the average farm-level price for milk from falling below the support level.

## Marketing orders

The Federal milk-marketing order program is administered by USDA's Agricultural Marketing Service. There are currently 47 milk-marketing orders based on the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601 et seq.). Each order applies to a specific geographical area and is administered by a Federal milk market administrator appointed by the Secretary of Agriculture. The main objectives of milk-marketing orders are to (1) provide stable and dependable markets for farmers who sell fluid milk for consumption, (2) assure consumers an adequate and dependable supply of pure and wholesome milk, and (3) provide an efficient mechanism which will operate in the public interest for establishing prices for fluid milk.

A milk-marketing order regulates the terms under which milk processors purchase milk from farmers. Each order requires fluid milk handlers to pay specified minimum prices according to the milk's use. Milk used for fluid consumption (class I milk) is placed in the highest price class. Class I milk generally includes whole milk, skim and low-fat milk, milk drinks, flavored milk, and buttermilk. Milk used in manufactured products is placed in lower price classes. Minimum prices for each class are established for each marketing order on the basis of specified relationships to the price of manufacturing-grade milk in Minnesota and Wisconsin; therefore, they automatically reflect changes in support prices when market prices are at or near the support price.

Federal milk-marketing orders regulate over 80 percent of milk eligible for fluid use and about 65 percent of total milk marketings in the United States.

## Import quotas

Import quotas are authorized under section 22 of the Agricultural Adjustment Act of 1933, as amended (7 U.S.C. 624). Section 22 provides for restricting imports if they are expected to interfere with a price-support program. These quotas now cover most manufactured dairy products. Only the President can impose, adjust, or eliminate section 22 import quotas, based on the findings and recommendations of the U.S. International Trade Commission.

The price-support program currently maintains prices of dairy products above world market levels. Therefore, import controls are necessary to prevent flooding the U.S. market with lower priced foreign dairy products. Since 1974 imports of dairy products have been held to about 1.5 to 1.6 percent of U.S. production.

## SURPLUS PROBLEM

CCC's net market removal of dairy products is the main indicator of surplus milk production. From 1949 through 1979, the net market removals of dairy products, in milk equivalent, totaled over 142 billion pounds, ranging from a high of 10.7 billion pounds in 1962 to a very low level in 1951 when stocks acquired in previous years were sold. More recently, CCC purchases of surplus dairy products, in milk equivalent, have been 6.1 billion pounds in 1977, 2.7 billion pounds in 1978, and 2.1 billion pounds in 1979.

Traditional Government outlets to dispose of surplus dairy products have largely disappeared. Until recent years, the Government relied heavily on domestic and foreign aid programs to dispose of burdensome surpluses. In recent years, however, funds available for foreign donations have been reduced and the domestic commodity distribution programs have been largely replaced with the Food Stamp Program. According to the Agricultural Marketing Service, the recent broadening of the Food Stamp Program and the phaseout of direct distribution of food to welfare recipients have greatly reduced the Government's ability to dispose of dairy surpluses.

The present practice for disposing of surpluses is to sell products for human consumption back to industry at 105 percent of the purchase price. The 105-percent provision also helps stabilize prices by moderating price increases. CCC also sells products back to the industry at less than the purchase price for use as animal feed. For example, during marketing year 1977-78, CCC purchased 338.9 million pounds of nonfat dry milk. During 1978, 48.1 million pounds were sold back to the industry for use as animal feed at about half the procurement cost.

Net Government expenditures on dairy price-support and related programs from 1949 through 1979 totaled over \$9 billion. Of this amount, CCC's net support purchases and related costs for processing, packaging, transporting, and storing dairy products accounted for over \$7 billion. Over the last 3 milk-marketing years (October 1976 through September 1979), CCC's net support purchases were about \$1.4 billion.

Higher support prices also increase consumer costs through higher prices for dairy products. Although retail prices of dairy products have increased more slowly than the average prices for all food, they have increased significantly. From 1975 to 1979, for example, when the Bureau of Labor Statistics' Consumer Price Index increased

56 points and its all-food index increased 59 points, the retail dairy price index increased 51 points. Within the dairy category, however, the increases varied. For example, the fluid milk price index increased 39 points between 1975 and 1979, while the butter price index increased 79 points.

The following table shows, in terms of actual retail costs to consumers, the price increases between 1975 and 1977 for fluid milk, cheese, and butter.

<u>Product</u>	<u>1975</u>	<u>1977</u>	<u>Increase</u>	<u>Percent increase</u>
	----- (cents) -----			
Milk, fresh grocery 1/2 gallon	78.5	83.9	5.4	6.8
Cheese, American, processed, sliced, 1/2-pound package	76.8	86.0	9.2	11.9
Butter, pound	102.5	133.1	30.6	29.8

Source: Bureau of Labor Statistics.

#### SCOPE OF STUDY

We made this study to evaluate the strengths and weaknesses of existing Federal programs and the consequences of possible new programs for controlling or minimizing surpluses. Our analysis of alternative dairy price-support standards was generally based on national weighted average cost and price data developed by USDA. While wide variability exists in prices and costs over time, from farm to farm, and across States and regions due to factors such as differences in production per cow, climate, management skills of individual producers, and herd size, we did not evaluate the economic and social impacts of such differences. Nevertheless, the estimated averages represent general changes in milk prices and costs from one year to another and are analogous to estimates which influence or determine current support levels.

We interviewed USDA officials and other knowledgeable Government officials, selected university professors, and selected officials of industry and State governments. Also, we discussed the Canadian dairy program with a Canadian official. Further, we reviewed many studies on dairy programs and analyzed other statistics.

We sent a specially designed questionnaire to 40 knowledgeable representatives in Government, industry, and the academic community. We received 34 responses, including 1 from the Agricultural Marketing Service's Dairy Division, which submitted a consolidated reply on behalf of the Division and the four Federal milk market administrators to whom we had sent individual questionnaires. Those individuals responding are listed in appendix I. Not all of those responding addressed all of the questions. Dr. Ronald D. Knutson, professor and extension economist at Texas A&M University, assisted us in our study. Dr. Knutson, who has extensive experience with dairy marketing and policy matters, suggested the names of those to whom we sent our questionnaire.

We did not evaluate the impact of various levels of parity. This issue was the focus of a March 1979 report issued by the Congressional Budget Office entitled "Consequences of Dairy Price Support Policy." Also, some agricultural economists, farmers, and various farm and community support groups have contended that social and national welfare factors should be considered in farm program decisions such as the setting of parity level prices. However, it was not the purpose of this report to evaluate those factors.

## CHAPTER 2

### PARITY PRICE STANDARD HAS NOT EFFECTIVELY

#### ACCOMPLISHED SUPPORT PROGRAM OBJECTIVES

The dairy price-support program is considered by many to be the principal cause of dairy surpluses. The price-support level has had a major impact in creating surpluses. Parity price, the support program standard, has not effectively accomplished program objectives. The parity price formula does not adequately consider the cost of producing milk or changes in demand.

Also, in recent years, the milk support price has rapidly increased and has promoted more than adequate supplies of milk to meet current needs and has enhanced producer returns to levels more than adequate to assure future anticipated needs. The parity price standard's effectiveness could be improved. However, such improvements would still not ensure that program objectives would be effectively accomplished.

#### PRICE-SUPPORT PROGRAM CAUSES SURPLUSES

We asked each participant in our questionnaire survey to assess the extent to which surpluses were caused by (1) the price-support program, (2) declining per capita consumption, and (3) disappearing disposal outlets for surplus products.

Of the 31 respondents commenting on the price-support program, 20, or over 60 percent, indicated that it causes surpluses to a great or moderate extent. For the most part, these respondents represented the academic and proprietary groups. Respondents from the dairy cooperatives and producer associations, which have traditionally favored high price supports, generally viewed the price-support program as causing surpluses to some or a little extent. The following table shows the extent to which respondents in each group thought the price-support program causes surpluses.

<u>Respondent group</u>	<u>Number of responses</u>			
	<u>Great</u>	<u>Moderate</u>	<u>Some</u>	<u>Little</u>
Academic	6	2	2	1
Cooperatives and producer associations	-	2	2	4
Proprietary firms	7	1	-	-
Other	<u>2</u>	-	<u>2</u>	-
Total	<u>15</u>	<u>5</u>	<u>6</u>	<u>5</u>

Many respondents viewed declining per capita consumption of dairy products and disappearing disposal outlets as contributing to surpluses; however, most did not consider each as a cause to a great or moderate extent. The following table summarizes the extent to which each group viewed declining per capita consumption and disappearing disposal outlets as a cause of surpluses.

<u>Respondent group</u>	<u>Per capita consumption</u>		<u>Disposal outlets</u>	
	<u>Great or moderate</u>	<u>Some or little</u>	<u>Great or moderate</u>	<u>Some or little</u>
Academic	3	7	6	3
Cooperatives and producer associations	1	7	1	6
Proprietary firms	3	5	3	3
Other	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>
Total	<u>8</u>	<u>21</u>	<u>11</u>	<u>14</u>

The Agricultural Marketing Service's consolidated reply (see p. 7) pointed out that the price-support program is the primary factor affecting surpluses. According to the Service, the price-support level should correspond to supply/demand conditions. In this way, inventories could be kept at manageable levels. If support levels are high in relation to supply and demand, then consumer prices increase, consumption decreases, and inventories accumulate. The Service also said that declining per capita consumption is a secondary factor to changes in supply and demand. It did not specify the extent to which the disappearance of disposal outlets influenced surpluses.

SUPPORT PRICE BASED ON PARITY  
PRICE HAS RAPIDLY INCREASED

The milk support price is based on a parity price formula designed to identify the current price level at which a unit of milk would have the same purchasing power it held from 1910 to 1914. In recent years, the milk support price has escalated rapidly.

Method of computing support price

Under the price-support program, only the price of manufacturing-grade milk is directly supported. In establishing the support price, the parity price for all milk sold to plants is computed, then adjusted to reflect the parity price equivalent for only the portion of the milk

used in manufacturing dairy products. The announced support level, expressed as a percentage of parity, is applied to the parity price equivalent to arrive at the support price for manufacturing-grade milk.

The present method of computing parity prices for farm commodities was defined in the Agricultural Adjustment Act of 1938 (7 U.S.C. 1301), as amended by the Agricultural Acts of 1948, 1949, 1954, and 1956. Simply stated, the parity price for any agricultural commodity is determined by multiplying the commodity's adjusted base price by the current Index of Prices Paid by Farmers (commonly known as the parity index). A commodity's adjusted base price is determined by dividing the most recent 10-year average price received for the commodity by the most recent 10-year average of the Index of Prices Received by Farmers. The Index of Prices Received is a measure of changes in the average price level of all agricultural commodities that farmers sell. The parity index is a measure of changes in the average price level of commodities and services (including interest, taxes, and wage rates) that farmers buy. Both indexes compare current prices with prices in the 1910-14 base period. The following example briefly illustrates the methods of computing the parity price for milk and the support price for manufacturing-grade milk, effective October 1, 1979.

First, compute the parity price for all milk sold to plants using the parity price formula described above. For the most recent 10-year period (1969-78), the average of all milk prices received was \$7.75 per hundredweight and the average Index of Prices Received for all agricultural commodities was 406. The adjusted base price for milk was \$1.91 per hundredweight. The parity index was 862 on September 15, 1979. Thus, the parity price for all milk sold to plants was about \$16.50 per hundredweight ( $\$1.91 \times 8.62 = \$16.46$ , rounded to \$16.50).

Second, compute the parity price equivalent for manufacturing-grade milk. That figure is determined by multiplying the parity price for all milk sold to plants by a parity equivalent factor. This factor is the ratio, for the most recent 10-year period, of the average prices received for manufacturing-grade milk to the average prices received for all milk. For 1979 the ratio was 87 percent. The parity price equivalent for manufacturing-grade milk was \$14.36 per hundredweight ( $\$16.50 \times 0.87 = \$14.36$ ).

Third, compute the support price for manufacturing-grade milk. The support price is determined by multiplying the parity price equivalent for manufacturing-grade milk by the announced support level, expressed as a percentage of parity.

The price-support level was set at 80 percent of parity on October 1, 1979. The support price for manufacturing-grade milk with average milkfat content, effective October 1, 1979, was \$11.49 per hundredweight ( $\$14.36 \times 0.80 = \$11.49$ ).

In setting the support price within the legislative range, the Secretary of Agriculture, who finally determines the price-support level, considers such economic factors as the farm prices of milk, productivity, estimated cost of production, and estimated consumer demand. Also, several USDA officials said the Secretary's decision is based, in part, on political considerations, but they were not sure how much weight the Secretary places on such considerations in determining the price-support level.

#### Support price has rapidly increased

Since April 1974 the milk support price has increased from \$6.57 to \$12.36 per hundredweight, or about 88 percent. In fact, the current support price (\$12.36 as of April 1, 1980) represents an increase of \$1.60 per hundredweight, or about 15 percent, from a year earlier. The graph on page 12 shows the increase in the support price for manufacturing-grade milk since 1965.

#### PARITY PRICE FORMULA DOES NOT ADEQUATELY CONSIDER COST OF MILK PRODUCTION

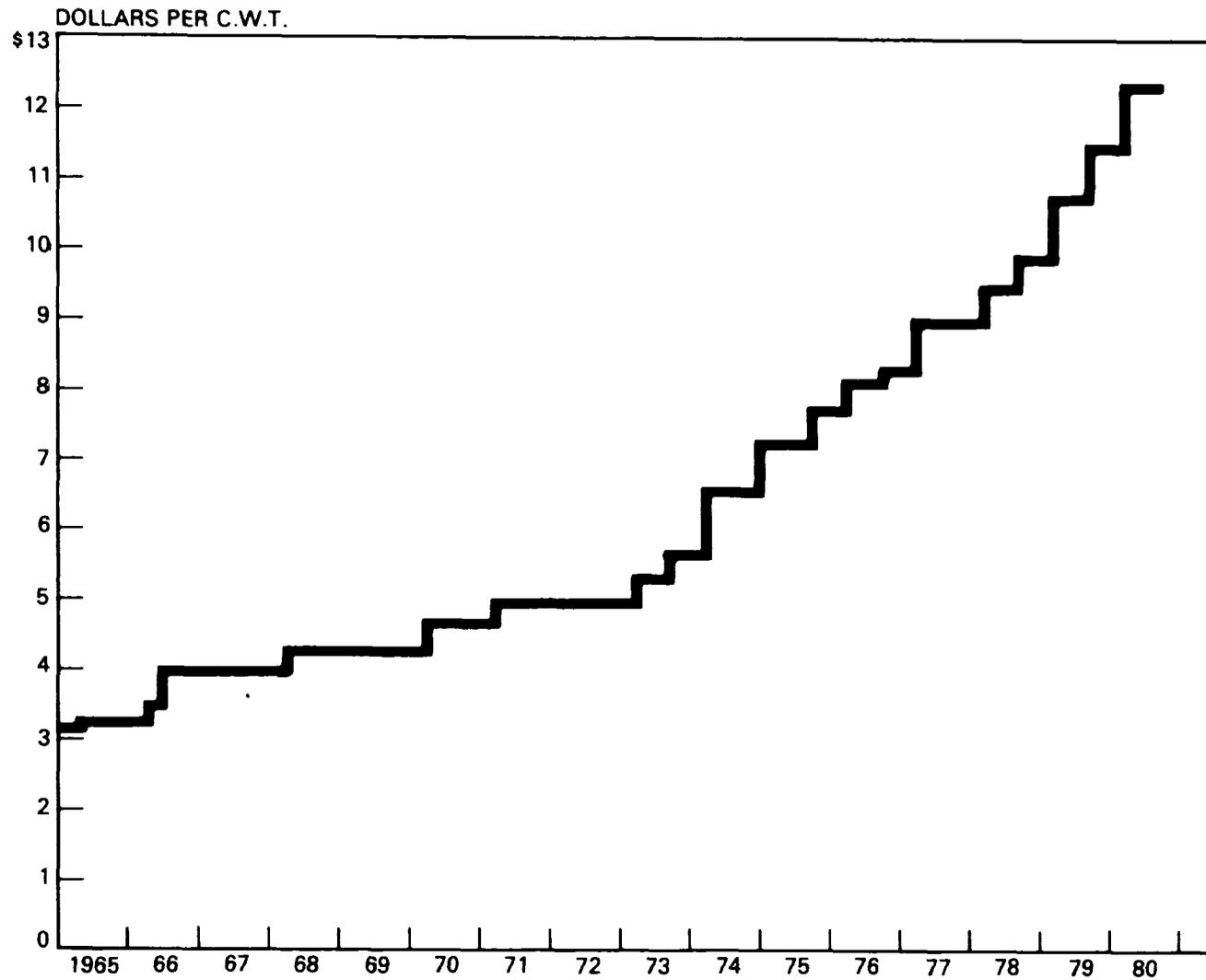
Most of the recent increase in the milk support price resulted from the formula for computing the parity price. The formula does not adequately consider many factors affecting milk market conditions, such as costs of production and productivity. In addition, the parity formula includes some factors which have little to do with milk production.

#### Production cost not adequately considered

The cost of producing milk has not increased as rapidly as support prices. Recent USDA studies show that production costs during 1977 and 1978 actually decreased as a result of increased productivity. The milk support price, however, rose principally because of rapid increases in the parity index, which does not accurately reflect production cost.

The Agriculture and Consumer Protection Act of 1973 requires USDA to conduct cost-of-production studies of various agricultural commodities, including milk (7 U.S.C. 1441a). USDA has issued four annual reports on the cost of producing milk in the United States covering 1974, 1975, 1976, and 1977. The 1977 report included preliminary data for 1978 and projected data for 1979.

### SUPPORT PRICE FOR MANUFACTURING - GRADE MILK (1965-1980)



SOURCE: Prepared by GAO from information obtained from USDA.

According to these reports, the production cost increased about 11 percent between 1974 and 1976, then decreased a total of about 5 percent in 1977 and 1978. USDA expected the production cost to rise again in 1979.

In 1978 producing a hundredweight of milk cost an average of \$9.53 after allowing for returns from cull cow and calf sales. This figure was a decrease from \$9.70 per hundredweight in 1977. Direct costs, which decreased from \$6.89 in 1977 to \$6.71 in 1978, include feed, milk hauling, artificial insemination, veterinary and medicine items, fuels and electricity, machinery and equipment repair, hired labor, interest on operating capital, overhead, and miscellaneous expenses. Indirect costs, however, rose from \$3.66 per hundredweight of milk in 1977 to \$4.05 in 1978. These costs include ownership costs of machinery, buildings, equipment, livestock, and land, plus operator and family labor and management. The sum of direct and indirect costs was adjusted by \$0.85 in 1977 and by \$1.23 in 1978 to allow for income from cull cows and calves.

Feed costs make up the largest component of both direct and total costs. They accounted for 74 and 71 percent of direct costs in 1977 and 1978, respectively. They also accounted for 52.3 and 50.2 percent of total production costs in 1977 and 1978, respectively. Feed costs decreased from \$5.07 per hundredweight of milk in 1977 to \$4.78 in 1978.

The dramatic increase in feed costs during 1973 and part of 1974 was not adequately reflected in parity computations, and the support price increased slowly. During these years, dairy feed prices rose to about 78 percent more than 1972 prices, but the milk support price increased only about 33 percent. As a result, milk producers used less feed and domestic production declined. However, by mid-1974 CCC had to resume buying milk surpluses.

Comparing the cost of producing milk with the support price shows that the weighted average support price has increased faster than the weighted average production cost. In fact, in 1977 and 1978 the production cost decreased while the support price increased. The following table shows the changes in the weighted average support prices and production costs from 1974 through 1979. (The cost figure for 1978 is preliminary; that for 1979 is projected.)

<u>Year</u>	<u>Support price</u>		<u>Production cost</u>	
	<u>Amount</u> (weighted average)	<u>Percent</u> <u>change</u>	<u>Amount</u> (weighted average)	<u>Percent</u> <u>change</u>
	----- (per hundredweight) -----			
1974	\$ 6.33	-	\$ 9.01	-
1975	7.36	16.2	9.48	5.2
1976	8.07	9.6	10.03	5.8
1977	8.82	9.2	9.70	(3.3)
1978	9.44	7.0	9.53	(1.8)
1979	10.72	13.6	10.53	10.5

As the table indicates, the support price was below production cost from 1974 to 1978. In 1979, however, the support price was expected to exceed the production cost. The production cost figures include the costs for family labor and management, which could also be considered as returns to the milk producers.

#### Productivity increases ignored

One reason parity is not indicative of the necessary price-support level is that it does not consider technological gains and productivity increases that have occurred in dairying. The industry's productive capacity has grown dramatically.

Over the years total milk production, while fluctuating somewhat from year to year, has been relatively stable, while the number of milk cows has greatly decreased. Production has ranged from 115 billion pounds in 1952 to 127 billion pounds in 1964, a total difference of only about 10 percent. From 1950 through 1979, however, the number of milk cows decreased over 50 percent, from 21.9 million to 10.8 million. In 1979 only 10.8 million cows were needed to produce 123.6 billion pounds of milk.

Output per cow increased about 116 percent between 1950 and 1979, from 5,314 pounds in 1950 to 11,471 in 1979. This increase was due to improved management, improved breeding, more scientific feeding, and other technological advances.

On the basis of 1979 prices, increased productivity allowed producers to receive about \$741 more gross revenue per cow in 1979 than in 1950.

<u>Year</u>	<u>Production per cow</u>	<u>1978 average prices (per hundredweight)</u>	<u>Gross revenue</u>
1979	11,471 lbs.	\$12.04	\$1,381.11
1950	5,314 lbs.	12.04	<u>639.81</u>
Total			<u>\$ 741.30</u>

Parity formula includes cost factors not related to milk production

Rapid escalation of the support level is mainly attributable to increases in the parity index. Between 1974 and 1979 the parity index increased 300 points, or 55 percent. Also, increases in the parity index create self-escalating increases in the support price.

Factors in the parity index, other than those directly related to the cost of producing milk, influence the milk price-support level. The parity index is a measure of changes in average prices paid by all farmers, not just dairy farmers, for goods and services used in family living and in production, together with interest, taxes, and farm wage rates relative to the base period. (See p. 10.) The components and items covered by the index and the weights of relative importance are based on a USDA survey of farm production expenditures for 1971-73. The family living component, represented by the Bureau of Labor Statistics' Consumer Price Index for all urban consumers, makes up about 30 percent of the parity index. The production component includes about 180 individual items under 12 broad groups and makes up about 58 percent of the parity index. The interest, taxes, and wage rates components account for the remaining 12 percent.

A dairy farm may have multiple enterprises--a dairy enterprise producing milk, a livestock enterprise producing meat, and a grain enterprise producing grains and forage for feed. A large part of the 1978-79 increase in the support price was attributable to a single group in the index, feeder livestock, which carries nearly a 12-percent weight. The price paid for feeder livestock is a cost of production to meat producers but a revenue to dairymen who sell calves and cows. This one item in the parity index increased by 55 percent in the year preceding April 1979 and accounted for about 30 percent of the April 1979 increase in the milk support price. Also, many of the other 11 production groups in the parity index contain items not specifically related to a dairy enterprise. For example, the seed (1.8 percent weight), fertilizer (4.2 percent weight), and agricultural

chemicals (1.7 percent weight) groups relate mainly to crop production. Crops are produced on many dairy farms for feed purposes, but the cost of feed is already reflected as a separate component in the parity index.

Feed and other costs of producing milk are not adequately reflected in the parity index. The index is designed to reflect average prices paid for production inputs for all agricultural commodities; however, the prices paid for dairy production inputs differ significantly from those reflected in the parity index. For example, feed costs represent an average of 50 percent of the cost of producing milk but have a weight of only 12 percent in the parity index. Thus, the other 50 percent of the total cost of producing milk has a weighted value of about 88 percent in the index.

Increases in the parity index create self-escalating increases in the milk support price. As the support price is raised by increases in the parity index, manufacturing-grade milk prices rise. The increased manufacturing-grade milk prices will, over time, increase the 10-year average price received for manufacturing-grade milk, which is used to compute both the adjusted base price and the parity equivalent factor components of the parity price formula. Eventually this increase in the average price received requires another increase in the support price, and the self-escalating effect continues.

Because supply and demand conditions also influence changes in manufacturing-grade milk prices, we were unable to estimate the impact of this self-escalating effect on the support price. However, from 1975 to 1979 the parity equivalent ratio increased from 83.1 percent to 87 percent and the adjusted base price increased from \$1.80 to \$1.91 per hundredweight. Also, from 1978 to 1980 the 10-year average price received for manufacturing-grade milk increased from \$6.18 to \$7.39 per hundredweight. Although these increases appear small, when multiplied by the rapidly increasing parity index, they could have a significant effect on the milk support price.

#### MILK SUPPLIES ARE MORE THAN ADEQUATE

The dairy price-support program has promoted more than adequate supplies of milk to meet current needs and to assure future anticipated needs. Over the years, the total supply of all dairy products has exceeded the total demand. Also, in most years, total milk production has exceeded total domestic consumption of dairy products. These conditions have resulted in large Government purchases of

surplus dairy products. These purchases could be reduced by balancing milk supply and demand and milk production and consumption.

Supply and demand have not been successfully balanced. In every year since 1960, the total supply of dairy products, in milk equivalent, has exceeded the total demand. The surplus supply of all dairy products ranged from about 3 percent of total supply in 1975 to about 9 percent in 1962. The supply of dairy products includes commercial and Government beginning stocks, imports, and domestic milk production. The total demand includes exports, milk fed to calves on farms, and domestic consumption.

Similarly, production and consumption have not been successfully balanced. In 17 of the 20 years from 1960 through 1979, domestic milk production exceeded domestic consumption, in milk equivalent, of dairy products. Domestic consumption includes all dairy products donated by USDA for welfare and other purposes, used by the military, used on farms, and used commercially. The surplus production of milk ranged from about 0.2 percent in 1968 and 1969 to about 5.7 percent in 1961.

From 1960 through 1979 per capita civilian consumption of all dairy products in the United States decreased from 653 pounds to 561 pounds (milk equivalent), or about 14 percent. Overall, declining per capita civilian consumption for most dairy products more than offset increases for others, especially cheese. For example, from 1960 through 1979, the per capita civilian consumption of cheese increased about 113 percent (from 8.3 to 17.7 pounds), while it decreased about 18 percent for fluid milk (from 307 to 252 pounds), about 39 percent for butter (from 7.5 to 4.6 pounds), and about 47 percent for nonfat dry milk (from 6.2 to 3.3 pounds).

In fact, in 5 of the 20 years from 1960 through 1979, total milk production actually exceeded the total demand for all dairy products. This overproduction occurred when the 5-year average of beginning commercial and Government stocks of dairy products was about 6 billion pounds in milk equivalent.

Appendix II illustrates the relationships between milk supply and demand and milk production and consumption for 1960-79.

PRODUCER RETURNS ARE MORE THAN ADEQUATE  
TO MAINTAIN PRODUCTIVE CAPACITY

In recent years, producer returns have been more than adequate to maintain productive capacity sufficient to assure an adequate supply of milk. Dairy farmers have received higher milk prices as a result of the price-support program. Dairy farm cash receipts are at a record level, farm dairy prices have increased faster than the average prices for all farm products, and producer returns have increased faster than inflation.

Farm cash receipts from dairy products were about \$14.7 billion in 1979, about 48 percent higher than in 1975, as shown in the following table.

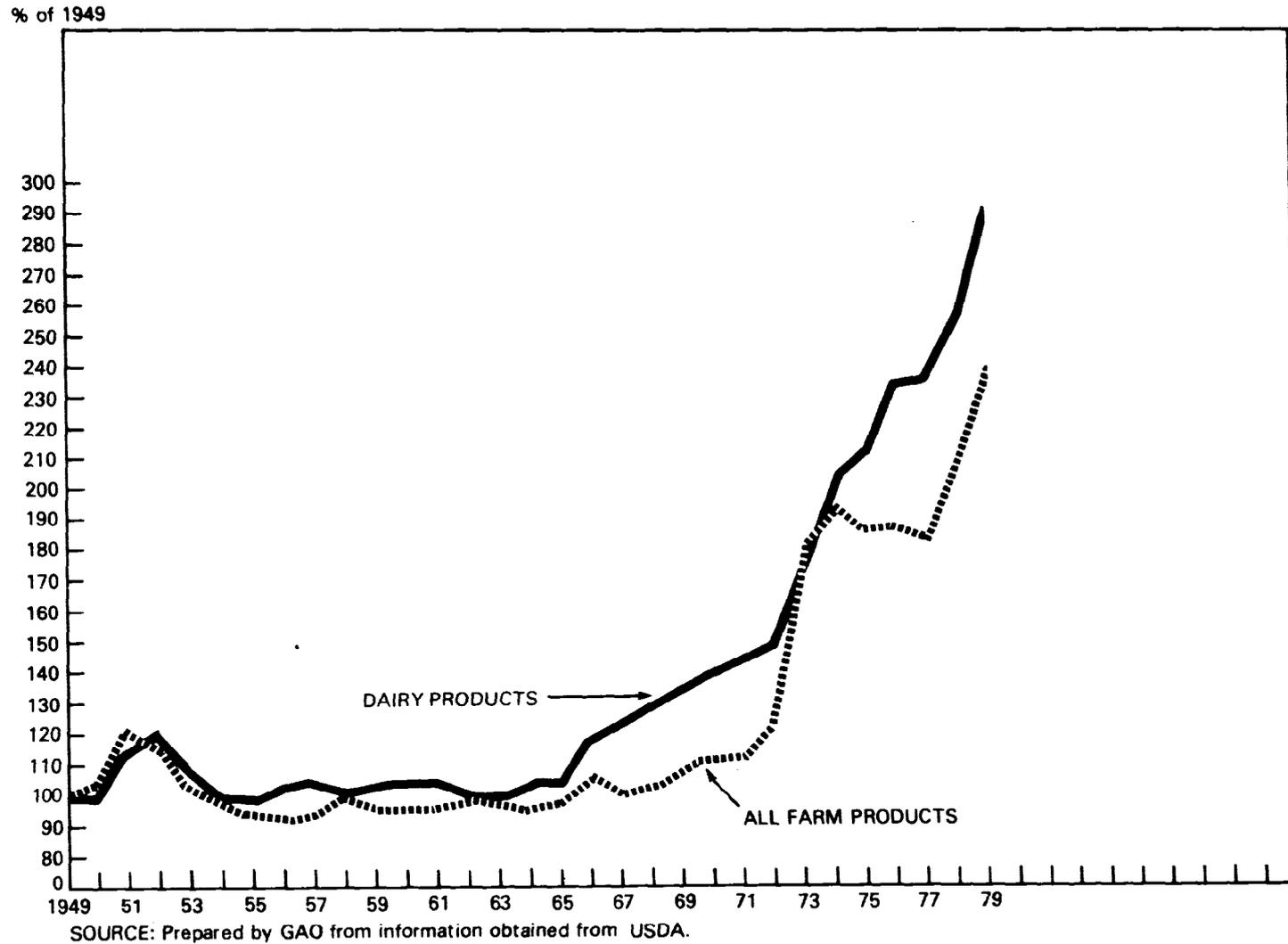
<u>Year</u>	<u>Farm cash receipts from dairy products</u>
	(billions)
1975	\$ 9.9
1976	11.4
1977	11.8
1978	12.7
1979	14.7

From 1975 through 1979, the average price received by farmers for all milk sold to plants increased by 38 percent. This included increases in average prices received of 36 percent for fluid milk and 45 percent for manufacturing-grade milk. For 1979 the average prices per hundredweight received by farmers were at record levels--\$12.23 for fluid milk, \$11.10 for manufacturing-grade milk, and \$12.04 for all milk sold to plants.

In addition, dairy product prices have increased faster than average prices for all farm products. The graph on page 19 of the Index of Prices Received by Farmers (1949 = 100) shows that from 1949 through 1979 the prices received index for dairy products was lower than the prices received index for all farm products in only 3 years, while it was even in 2 years and higher in 26 years.

Although the average prices received for milk have increased, the average cost of producing milk has been relatively stable in recent years, actually decreasing during 1977 and 1978. According to USDA's latest report on milk production costs, the weighted average price received per hundredweight for the production areas covered in the study was \$9.77 in 1977, an estimated \$10.49 in 1978, and

**INDEX OF PRICES RECEIVED BY FARMERS (1949 = 100)  
(1949-1979)**



a projected \$12.10 in 1979. The price per hundredweight exceeded the total production cost by 7 cents in 1977, by an estimated 96 cents in 1978, and by a projected \$1.57 in 1979.

In computing total production costs, the management and operator and family labor charges were computed directly. They averaged \$2.19 per hundredweight in 1977, an estimated \$2.26 in 1978, and a projected \$2.46 in 1979. Alternatively, by subtracting all other types of costs from the milk prices, returns to operator and family labor, management, and risk can be estimated. In 1977 all other costs were \$7.51 per hundredweight, leaving a return of \$2.26 per hundredweight for operator and family labor, management, and risk. This return increased to an estimated \$3.22 per hundredweight in 1978 and was projected to be \$4.03 per hundredweight in 1979.

According to USDA's study, a comparison of returns to labor, management, and risk, based on 1977 dollars, indicated that from 1977 through 1979 milk producers' returns increased more than inflation. The producer return to labor, management, and risk on a per cow basis amounted to \$271 for 1977, an estimated \$389 for 1978, and a projected \$488 for 1979. Using a 50-cow herd as an example, incomes of \$13,550, \$19,450, and \$24,400 would have been generated for 1977, 1978, and 1979, respectively. If these returns were put on a 1977 dollar base to correct for inflation (using the Consumer Price Index), they would be \$13,550 in 1977, \$16,900 in 1978, and \$19,850 in 1979. These inflation-corrected returns to labor, management, and risk show that, for the producer in the example, real farm income and, in turn, farm purchasing power increased \$6,300, or about 46 percent, between 1977 and 1979 (projected).

These figures for dairy farm income do not include income from nonfarm sources such as off-farm earnings, mainly of other family members. Such earnings contributed an average \$2,400 per farm on commercial dairy farms in the United States in 1974.

#### IMPROVEMENTS TO PRICE STANDARD ARE POSSIBLE BUT WOULD NOT SOLVE PROBLEMS

The parity price standard could be improved by updating the prices received and parity index factors and weights, shifting the base period to a more recent period, and giving the Secretary of Agriculture more flexibility to set and adjust the price-support level. These improvements, however, would not solve the basic program weaknesses in that the parity price formula, as a purchasing power concept, would still include factors not related directly to dairying and

would not adequately consider many economic factors affecting milk market conditions. Also, these improvements would not ensure that the price-support program objectives would be effectively accomplished although they would eliminate some of the basic program weaknesses.

#### Updating the prices-received and prices-paid indexes

The parity price formula could be improved by updating the components and weights of both the Index of Prices Received by Farmers and the Index of Prices Paid by Farmers (parity index). The last revision was made in 1976, based on survey data obtained for 1971-73. Since then the economic structure of agriculture has changed and price movements have been more volatile.

For example, the current Index of Prices Received by Farmers includes price series for 44 commodities with weights based on cash expenditures for each commodity during 1971-73. But the price relationships between commodities have since changed. From 1975 through 1979, the average price received for milk increased about 38 percent. Similarly, the current parity index includes price series for items with weights based on farm production expenditures during 1971-73, but it is reasonable to assume that the production items and expenditures have also changed since then, especially for fuels and energy items, such as gasoline and electricity.

The family living component of the parity index measures changes in prices of articles bought by farmers for family living purposes, such as food, clothing, and house furnishings. This component (based on the Bureau of Labor Statistics' Consumer Price Index for all urban consumers) is a significant part--about 30 percent--of the parity index. However, the family living component has no relationship to producing milk or any other commodity. Thus, by including this component in the parity index and using this index to compute the support price, the Government, in effect, guarantees farmers a return for the cost of food, clothes, and shelter for their families.

Although the components and weights of the indexes used to compute parity prices and the support price need to be updated, such a revision in the next several years seems unlikely. One USDA official told us that the components and weights should be revised at least every 10 years, but because of the cost of obtaining survey data, revisions are not always made. For example, before the 1976 revision, the last general revision of the indexes was made January 1, 1959. Also, the decline in the importance of parity in farm

policy may affect any efforts to revise the indexes. The Agriculture and Consumer Protection Act of 1973 and the Food and Agriculture Act of 1977 virtually eliminated parity from current farm policy. Today, parity concepts apply only to dairy products, tobacco, and commodities covered by marketing orders. The substitute for parity in most current farm policies is the U.S. average cost of production.

Shifting the base period  
to a more recent period

The most obvious shortcoming of the parity price standard is the historical base. Today's parity formula assumes that the prices paid and received during the 1910-14 base period were balanced in the best interests of farmers and nonfarmers alike. But originally it was not the fairness or justice of the prevailing price ratios that recommended 1910-14 as a reference point. Rather, the 1910-14 period was adopted probably because it represented the period immediately before World War I and, consequently, the last useful benchmark for which reasonably adequate data was available. In addition, as American agriculture sank into economic depression during the 1920s, the pre-World War I period became a widely popular symbol of farm prosperity. This popularity, more than the actual price ratios, explains why the 1910-14 base period was eventually written into law.

Relying on a reference point that is now almost 70 years old would present problems even if the period had been selected with considerable care. Most obviously, farmers have not continued to purchase exactly the same items during the past seven decades, and the parity calculation has required repeated revisions to take this difference into account. Even when purchased items are basically the same, the quality of a given product may be quite different. The parity formula, however, makes no specific adjustment for changes in quality.

The Department of Commerce's Statistical Policy Group (formerly within the Office of Management and Budget) requires that all Federal Government indexes be published on a 1967 base. USDA publishes the prices-received and prices-paid index numbers on both a 1910-14 = 100 basis and a 1967 = 100 basis but is required by law to use the 1910-14 = 100 base in computing parity. According to one USDA official, a shift to the 1967 base year as a basis for computing parity would provide comparability with other national indexes, such as the Consumer Price Index, and would enable more precise comparisons of agricultural prices to be made.

The effect on the support price of shifting from a 1910-14 base to a 1967 base is demonstrated by the following example. As stated on page 11, the October 1, 1979, support price for manufacturing-grade milk, using the 1910-14 base period, was \$11.49 per hundredweight. If 1967 had been used as the base year, the support price for the same date would have been \$8.36 per hundredweight. Both the index of prices received and the parity index were lower under the 1967 base than under the 1910-14 base.

For the October 1, 1979, support price to be equal under both bases, the Secretary of Agriculture would have had to set the price-support level at either (1) 58 percent of parity under the 1910-14 base to achieve the \$8.36 support price under the 1967 base or (2) 110 percent of parity under the 1967 base to achieve the \$11.49 support price under the 1910-14 base. In either case, the Secretary would have been prohibited from setting the support price at these levels because the law requires the support price to be set between 75 (currently 80) and 90 percent of parity.

#### Providing flexibility to set and adjust the price-support level

Flexibility to lower or raise the support price would help balance producer, consumer, and taxpayer interests, and any adjustment would signal producers when problems existed. Changes in the price-support level involve tradeoffs between farm income on the one hand and costs to the consumer and taxpayer on the other. Under program legislation, the Secretary of Agriculture has little discretion to base support prices on projected market conditions in all situations and make maximum use of USDA's economic intelligence data.

The program legislation requires the Secretary to set the support price for milk at a level between 75 and 90 percent of parity. In addition, the Congress has raised the minimum level from 75 percent to 80 percent of parity several times. 1/

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1/In September 1960 the minimum support price was raised to 80 percent of parity through March 1961. In August 1973 the minimum was raised to 80 percent from August 10, 1973, through March 31, 1975. In September 1977 the minimum was raised to 80 percent from October 1, 1977, through March 31, 1979. On November 28, 1979, the 80-percent minimum was extended through September 1981.

These requirements appear to constrain the Secretary in setting the price-support level. For example, over the past 30 years, the Secretary set the support price at the minimum level--that is, 75 or 80 percent--11 times and at the maximum level--90 percent--twice. Thus, the support price was set at the upper or lower limit of the legislative ranges 13 times.

The Secretary's flexibility to set the support price is also limited by the legislative requirement to adjust at midyear (April 1) the support price established at the beginning of the marketing year (October 1) if the parity index indicates a change is needed. This requirement is due to expire March 31, 1981. The midyear adjustment must reflect the percentage change in the parity index. The parity index, however, is the principal escalator of the milk support price and, as previously indicated, does not adequately reflect milk market conditions.

USDA has expressed concern about the need for additional flexibility to adjust the support price. USDA's Economics, Statistics, and Cooperatives Service, for example, in an April 1978 report entitled "Dairy Price Policy: Setting, Problems, and Alternatives," stated that if Federal dairy policy is to provide stability rather than significant income enhancement for dairy farmers, flexibility must be provided to determine the price-support level in the light of supply and demand conditions. According to the report, if parity is kept as the price standard and stability is the objective, increased productivity may make it necessary in time to reduce the minimum percentage of parity to 70 percent.

One alternative the report suggested would be to relate the Secretary's discretionary price-support range to the level of CCC purchases. According to the report, this method would give the Secretary a narrower range of discretion but would relate that range to supply and demand conditions. For example, if CCC purchases were more than 3 percent of supply, the discretionary range might be 70 to 80 percent of parity. If they were below 3 percent, the range might be 75 to 85 percent of parity.

Also, in testifying before the House Committee on Agriculture's Dairy and Poultry Subcommittee in May 1979, the Secretary commented on the need for more flexibility to adjust the support price. He proposed legislation to authorize him to adjust any scheduled increase in supports for October 1 or April 1, if the 12-month moving total CCC net removals of dairy products exceeded trigger levels.

Under the proposed trigger system, a 12-month running total of CCC's net removals--the most sensitive measure of whether problems in the program exist or are developing--would be used with a double trigger of either 3.5 billion pounds (milk equivalent) of butter/cheese or 350 million pounds of nonfat dry milk. These levels would signal surplus conditions but would provide some leeway above needs before the trigger would be activated. If net removals exceeded the trigger levels, the Secretary would have authority to make a smaller adjustment than the law would otherwise require.

The Secretary would determine the precise adjustment by considering two additional factors. The first factor would be whether the trend in removals is moving up or down. If the removals were increasing, a signal to the industry in the form of a scheduled increase not made would be appropriate. If, on the other hand, the removals were stable or were decreasing, an increase in the support price would be appropriate. The second factor would be the cost of production. If the production cost is above the support level because, for example, the parity index is not responding adequately to cost increases, holding down the support price would not be appropriate, even if removals exceeded the trigger at that point.

According to USDA, if such a trigger system had been in effect over the past 5 years, it would have "triggered" twice. In late 1974 and early 1975 nonfat dry milk removals exceeded the 350-million-pound trigger level. The support price, however, was well below the cost of production, and adjusting support increases probably would not have been prudent at that time. In 1977 both butter/cheese and nonfat dry milk removals exceeded trigger levels. The moving total of net removals for butter/cheese reached 6.9 billion pounds (milk equivalent) and nonfat dry milk reached 439 million pounds, well above program needs in each case.

The subcommittee declined to support the Secretary's proposal because of testimony in the hearings that dairy surpluses were not expected to be a problem during the next 2 years. However, the Government purchase picture may be changing again. During 1979 about 38 percent of the 2.1 billion pounds of dairy products CCC removed occurred during the last 3 months when milk production was at its seasonal low but substantially above year-earlier levels. Government purchases totaled 1.2 billion pounds during the first 2 months of 1980, compared with 1.3 billion pounds removed during the entire first 6 months of 1979. With milk production increasing, continued increases likely, and a recession likely to affect sales in coming months, sharp increases

in CCC purchases from 1979 levels can be expected. While CCC purchases in 1980 are not expected to approach the high levels of 1977, per unit support prices will be higher. Therefore, the increase in costs associated with any increase in purchases will be proportionately greater than the increase in purchases.

We believe the trigger proposal would provide the needed flexibility to adjust the price-support level to help balance producer, consumer, and taxpayer interests. According to the Congressional Budget Office's March 1979 report (see p. 7), historical evidence suggests that most price stability benefits have been attained when CCC price-support purchases fell between 2 and 4 percent of annual milk production. The price-support program, however, was the market for more than 4 percent of U.S. milk fat production in 18 of the 31 years from 1949 through 1979 and of more than 4 percent of other milk solids produced in 22 of those 31 years. As a percentage of marketings, CCC removals during those years (1949-79) averaged 4.2 percent of the milk fat production and 6.3 percent of the solid-not-fat production.

Respondents to our questionnaire generally agreed that when CCC removals of surplus dairy products exceed a percentage of total milk production, steps should be taken to reduce overproduction. But they were divided as to the maximum percentage of total milk production that CCC should be allowed to remove from the market before steps are taken. The following table summarizes the responses by each major group.

Respondent group	Steps needed to reduce overproduction when removals exceed production by						No steps needed regardless of removals
	1%	2%	3%	4%	5%	More than 5%	
Academic	-	2	1	3	3	1	1
Cooperatives and producer associations	1	-	1	-	1	2	2
Proprietary firms	1	1	3	-	-	1	-
Other	-	-	-	1	-	-	1
Total	<u>2</u>	<u>3</u>	<u>5</u>	<u>4</u>	<u>4</u>	<u>4</u>	<u>4</u>

We also asked whether the support price should be automatically adjusted when surpluses reach a certain level. Of the 31 who responded to this question, 19 (61 percent) agreed or strongly agreed that automatic adjustments should be made. These respondents generally represented the academic community and proprietary firms. Respondents representing the cooperatives and producer associations generally disagreed with this proposition.

### CONCLUSIONS

Parity price, the standard for the dairy price-support program, has not effectively accomplished the program's objectives. The parity price formula does not adequately consider the costs of producing milk, ignores productivity increases, and includes some cost factors not related to milk production. The price-support levels have promoted more than adequate milk supplies and enhanced producer returns to levels more than adequate to maintain productive capacity.

Government purchases of surplus dairy products could be reduced and the parity price standard's effectiveness could be improved by (1) updating the factors and weights of the indexes used in computing the parity price, including the elimination of the family living component from the parity index, (2) shifting the base period to a more recent period that is comparable with other national indexes, and (3) giving the Secretary of Agriculture more flexibility in setting the price-support level.

These improvements, however, would still not ensure that the price-support program's objectives would be effectively accomplished. Nevertheless, they should be adopted if, after considering the alternative price-support standards discussed in chapter 3, the Congress decides to retain the parity price standard.

### RECOMMENDATIONS TO THE CONGRESS

We recommend that if the Congress, after considering the alternatives discussed in chapter 3, decides to keep the current parity price standard as a basis for establishing the milk support price, it amend the Agricultural Act of 1949 to

- shift the base period from 1910-14 to a more recent period that is comparable with other national indexes;
- authorize the Secretary to eliminate the family living component from the parity index to more accurately reflect the cost of milk production;

- eliminate the requirement to set the milk support price at a level between 75 and 90 percent of parity;
- require the Secretary of Agriculture to set the support price at the level of parity that will balance the interests of producers, consumers, and taxpayers after considering changes in the cost of producing milk, milk product stocks, and demand for milk products; and
- require the Secretary to adjust the price-support level if the 12-month moving total of CCC net removals of dairy products exceeds trigger levels established by the Secretary.

#### RECOMMENDATIONS TO THE SECRETARY OF AGRICULTURE

We recommend that if the Congress decides to keep the current parity price standard as the basis for supporting milk prices and implements our recommendations with appropriate legislation, the Secretary

- exclude the family living component from the parity index and update the factors and weights of the indexes used in computing the parity price for milk;
- develop specific criteria and procedures to ensure that the support price will be set at a level of parity that will balance the interests of producers, consumers, and taxpayers after considering changes in the cost of producing milk, milk product stocks, and demand for milk products; and
- establish the trigger levels, based on a 12-month moving total of CCC net removals of dairy products, needed to adjust the support price.

#### AGENCY COMMENTS AND OUR EVALUATION

USDA said that our conclusions appear to be valid. (See app. VI.) It did not take specific positions on our recommendations, except to state that the Secretary probably would not have authority to implement our recommendation to exclude the family living component from the parity index and update the factors and weights of the indexes used in computing the parity price for milk. According to USDA, such major changes imply a new kind of index, rather than retaining current policy standards.

We believe that section 301(a)(1)(D) of the Agricultural Adjustment Act of 1938, as amended (7 U.S.C. 1301(a)(1)(D)), provides the Secretary sufficient authority to update the factors and weights of the indexes used in milk parity price computations. This section states:

"The [parity] prices and indices provided for herein, and the data used in computing them, shall be determined by the Secretary, whose determination shall be final."

However, as there is some question regarding the Secretary's authority to eliminate the family living component, we are recommending that the Secretary be granted this authority by the Congress.

According to USDA, our report focuses on the income-enhancing aspects of price supports and completely ignores the price-stabilizing effects. USDA said that the report implies that zero purchases should be the objective of the program and that such an assumption ignores the price instability that results in zero-purchase situations. USDA added that there appeared to be a misunderstanding of how the existing program is intended to operate. It said that legislation now requires that the support for milk be provided only through purchases of dairy products; therefore, if the program is to provide any support at all, some purchases are necessary. It also said that such purchases are desirable but that excessive purchases, depending on how "excessive" is defined, are undesirable.

Our report clearly recognizes that the support for milk is provided through purchases of dairy products (see p. 3) and, in contrast to USDA's statement that the report implies that zero purchases should be the program objective, recognizes that some purchases are necessary. This is evidenced by our recommendation to require the Secretary to adjust the milk support price if CCC net removals exceed levels established by the Secretary. In so doing, the Secretary would, in effect, be defining excessive purchases.

Also, our report neither focuses entirely on the income-enhancing aspects of price supports nor ignores completely the price-stabilizing effects. Rather it points out that Government purchases of surpluses have, at times, been burdensome and addresses ways to reduce or minimize these purchases to effectively and equitably accomplish program objectives. With respect to these objectives, while we found that producer returns are more than adequate to maintain productive capacity, we also found that milk supplies are more than adequate to meet demand and that milk production costs are not adequately

considered. Further, the graph on page 12 shows that the support price in recent years has frequently and rapidly increased. These increases, along with our findings, indicate that more emphasis has been given in recent years to income-enhancement aspects than to price stability and that a degree of price instability may be needed to effectively accomplish program objectives.

USDA agreed that the present formula used in calculating the support price probably has created self-escalating increases. It said that the rapid rise in milk prices during the past 5 years probably resulted in part from the method of calculating the support price, but it disagreed that the price increase can be separated into components and attributed to specific parts of the price-support formula. According to USDA, any criticism should be directed at the general parity concept rather than the parity equivalent price for manufacturing-grade milk.

While we made several revisions to the section dealing with self-escalating increases to the support price based on USDA's comments, we believe that these increases are attributable to increases in the parity index as shown on page 16. The revisions did not affect our conclusions and recommendations.

USDA also said that the underlying theme throughout the report is that any measure that reduces prices to producers will solve the problem of surpluses. It said that such an assumption is not appropriate because the programs must function well in other-than-surplus situations. According to USDA, the basic question of how the efficiency and effectiveness of price supports are measured should be treated specifically. Whether or not cost of production should be the working basis for price supports, USDA said, it is still the standard by which price supports will be measured by the industry and the public.

The major theme in this chapter is that the support price should be set at a level that will effectively accomplish program objectives. We point out that parity price, the current program standard, has not effectively done this, either in surplus or other-than-surplus situations, in part because the parity price formula does not adequately reflect production costs. For example, the dramatic increase in feed costs during 1973 and part of 1974 was not adequately reflected in parity computations and the support price increased slowly. In addition, the support price was below the cost of production from 1974 to 1978, although in 1979 the support price was expected to exceed production costs.

We agree that the industry and the public use cost of production as the standard to measure the effectiveness of the support price. However, it is clearly evident that the parity price formula does not adequately reflect production costs and other milk market conditions. While the actions we are recommending in this chapter could reduce Government purchases of surpluses and improve the effectiveness of the parity price standard, they still would not ensure that program objectives are effectively accomplished. Alternative price-support standards that could accomplish program objectives more effectively and equitably are discussed in the next chapter.

CHAPTER 3

ALTERNATIVE PRICE-SUPPORT STANDARDS COULD ACCOMPLISH  
PROGRAM OBJECTIVES MORE EFFECTIVELY AND EQUITABLY

Although the current parity price standard could be improved, several alternative milk-pricing standards more directly related to milk market conditions could accomplish program objectives more effectively and equitably. Each alternative standard has its advantages and disadvantages for producers, consumers, and taxpayers. However, these alternatives can better balance the interests of these groups than the current parity price standard. The following sections examine the consequences of support prices based on a dairy parity price standard; a cost-of-production standard; and a standard based on a comprehensive formula that would systematically and simultaneously consider changes in cost of production, milk product stocks, and demand.

The following table compares the support price as of October 1, 1979, based on the current parity price standard, with the estimated support prices based on two of the alternative standards.

	<u>Current parity price</u>	<u>Dairy parity price</u>	<u>Cost-of- production</u>	<u>Comprehensive formula</u>
	------(per hundredweight)-----			
Support price	a/\$11.49	b/\$10.51	c/\$10.00	Not d/available

a/Effective October 1, 1979, based on 80 percent of parity price with 1910-14 as the base period.

b/Estimated October 1, 1979, based on 100 percent of dairy parity price with 1967 as the base year.

c/Estimated for the 1979-80 milk-marketing year beginning October 1, 1979, based on estimated average cost of producing milk for 1977, 1978, and 1979.

d/Price-support level could not be estimated because not enough research has been done to design and implement a comprehensive formula that would systematically and simultaneously consider changes in cost of production, milk product stocks, and demand.

## DAIRY PARITY PRICE STANDARD

A dairy parity price, if used as the basis for the milk support price, would more closely reflect changes in factors affecting prices of dairy inputs than does the current parity price concept. Under this alternative, support prices would have been substantially lower in 1978 and 1979. While producer returns would probably be reduced, the support price under this alternative should still allow producers a good return over direct production costs as estimated by USDA.

The major differences in computing the dairy parity price and the current parity price for milk are the components and weights used in the prices-received and prices-paid indexes. The indexes used in the current parity formula reflect the prices received for an aggregate of all commodities and the prices paid for an aggregate bundle of inputs purchased by an average farmer. (See p. 10.) The indexes that would be used in the dairy parity formula would reflect only the prices received for dairy products and the prices paid for items used in producing milk. The relative importance of each production item would be weighted based on its importance to the total milk production cost.

We estimated the support prices, as of October 1, 1978, and October 1, 1979, based on the dairy parity standard using both the 1910-14 and 1967 base periods. In computing the support prices, we basically used the current parity price formula. The Index of Prices Received by Farmers, however, reflects only the prices received for dairy products instead of the prices received for all farm products. The Index of Prices Paid by Farmers (dairy parity index) reflects only the prices paid for items used in producing milk; thus, it excludes the family living component as represented in the current parity index. We constructed the dairy parity index as follows.

- The price components of the index represent each cost item estimated in USDA's 1977 U.S. milk production cost study. The price indexes used for these cost components are the prices paid components which are assembled and used by USDA in the current parity index. The index for each cost component is that price index item that most closely approximates the cost component.
- The weights for each component price index were computed according to the proportion of each cost item to the total milk production cost as reported in USDA's 1977 cost-of-production study.

Our comparison of the components and weights used in the parity index and dairy parity index are shown below.

<u>Parity index</u>		<u>Dairy parity index</u>		
<u>Component</u>	<u>Weight</u>	<u>Component</u>	<u>Weight</u>	
			<u>1977</u>	<u>1978</u>
Family living	30.4			
Production items:				
Feed	11.8	Feed	48.1	44.4
Feeder livestock	11.7	Ownership costs-- livestock	6.0	7.8
Seed	1.8			
Fertilizer	4.2			
Agricultural chemicals	1.7			
Fuels and energy	3.5	Fuels and electricity	2.3	2.4
Farm and motor supplies	2.2	Machinery and equipment repairs	1.5	1.7
Autos and trucks	2.5			
Tractors and self-propelled machinery	4.5			
Other machinery	2.7	Ownership costs-- machinery	1.0	1.0
Building and fencing	3.6	Ownership costs-- building and equipment	5.8	6.4
		Overhead	3.4	3.7
Farm services and cash rent	7.4	Milk hauling	2.9	3.0
		Artificial insemi- nation	0.7	0.7
		Veterinary and medicine	1.2	1.2
		Miscellaneous expenses	1.7	1.8
		Management	6.5	6.5
Interest	4.0	Interest on operating capital	0.8	0.7
		Interest on land	1.1	1.3
Taxes	2.8	Land taxes	0.1	0.1
Wage rates	5.2	Hired labor	2.7	2.8
		Operator and family labor	<u>14.2</u>	<u>14.5</u>
Total	<u>100.0</u>		<u>100.0</u>	<u>100.0</u>

We used USDA's price indexes for each component as of September 15, 1978 and 1979, and the above weights to compute the dairy parity index using the 1910-14 and 1967 base periods. The dairy parity index increased more than the current parity index during this 1-year period. The following table compares the parity index and the dairy parity index.

<u>Date</u>	<u>Parity index</u>		<u>Dairy parity index</u>	
	<u>1910-14=100</u>	<u>1967=100</u>	<u>1910-14=100</u>	<u>1967=100</u>
Sept. 15, 1978	757	223	837	214
Sept. 15, 1979	862	254	973	248
Percent increase	13.8	13.9	16.2	15.8

Under a dairy parity standard, milk support prices would have been lower in 1978 and 1979 than under the current parity price standard. For example, the support price at 80 percent of parity (1910-14 = 100) for milk with average milkfat content was \$9.87 per hundredweight effective October 1, 1978, and \$11.49 per hundredweight effective October 1, 1979. For the same level of parity, the support price would have been an estimated \$9.11 per hundredweight on October 1, 1978, and \$10.70 per hundredweight on October 1, 1979, if based on the dairy parity index. Appendix III shows the computations used to estimate support prices as of October 1, 1978 and 1979, based on the dairy parity standard. It also shows the price-support level for manufacturing-grade milk at 75, 80, 85, 90, and 100 percent of parity for both the 1910-14 and 1967 base periods.

For the 1979-80 milk-marketing year, USDA's projected impact of setting the support price at 75 percent of parity (\$10.52) based on the current parity standard would be similar to the impact of setting the support price at 100 percent of parity (\$10.51) based on the dairy parity standard, with 1967 as the base year. If the support price had been set at 75 percent of the current parity price on October 1, 1979, USDA projected that milk production would have decreased by 0.2 percent to about 122 billion pounds and that commercial use of dairy products would have increased by 1.7 percent to about 121.8 billion pounds during the 1979-80 marketing year. The increase in commercial use was expected to result from strong consumer demand and dairy product prices competitive with relatively high meat prices. CCC sales of dairy products during the marketing year were projected to exceed purchases by about 0.2 billion pounds (milk equivalent), resulting in net receipts of about \$110 million. Also, dairy farmers' cash receipts were projected to be about \$15.2 billion.

USDA's projected impacts could vary somewhat because of changing supply and demand relationships. However, in general, a support price based on dairy parity should reduce (1) consumer and taxpayer costs through lower market prices and (2) CCC purchases of surplus dairy products. While producer returns would probably also be reduced, the dairy parity support price should still allow producers a good return over direct production costs. For example, USDA projected that in 1979 the direct costs to produce a hundredweight of milk would be about \$7.20. Thus, a dairy parity support price of \$10.51 (100 percent of parity when 1967 = 100) would have allowed producers a return of about \$3.31 per hundredweight for labor, management, and risks.

A parity formula based on the dairy parity price would more closely reflect changes in factors affecting costs of dairy inputs than does the current parity concept. Input items would represent only those used in milk production, and each item would be weighted in accordance with its importance to the total cost of producing a unit (hundredweight) of milk. One problem that would still exist with a dairy parity computation method is that input weights would have to be adjusted over time to be meaningful in terms of current technology. In addition, a dairy parity price standard is still a purchasing-power concept, which ignores supply and demand factors affecting milk market conditions and productivity changes that have occurred in dairying.

In developing a price-support program based on the dairy parity price, the same improvements needed for the current parity price standard should be made. These improvements are discussed in detail beginning on page 20. The components and weights of the indexes used in computing the dairy parity price should be updated regularly and should reflect the current economic structure and price movements of the industry. Therefore, a more recent period that is comparable with other national indexes should be used as the basis for computing the dairy parity price. Also, a support price based on 100 percent of the dairy parity price would more closely reflect changes in production costs. Further, flexibility to adjust the price-support level, based on CCC purchases of surplus dairy products, would help ensure a better balance between producer, consumer, and taxpayer interests.

#### COST-OF-PRODUCTION STANDARD

Such a standard, if used to set the support price, would represent a major change in dairy policy and programs. It would differ from the current parity standard and the dairy

parity alternative in that an actual average production cost per hundredweight of milk would be the basis for supporting milk prices. Under this alternative, support prices would have been lower in recent years because production costs have increased more slowly than the parity index.

A support price under this approach would consider actual cost factors experienced by milk producers and, therefore, would be comparable to support formulas used for other major commodities. The Agriculture and Consumer Protection Act of 1973 required USDA to study production costs for milk and major field crops. Feed grain and wheat target prices (the basis for deficiency payments to producers) are now based directly on the production costs developed by these studies.

For 1979-81 crops, the target prices for the previous year's wheat and feed grain crops are adjusted to reflect any change in the moving 2-year average of variable, machinery ownership, and general farm overhead costs. For example, the formula for determining 1980 target prices is as follows.

$$\text{Target price 1980} = \text{Target price 1979} + \left[ \frac{\text{Cost 1979} + \text{Cost 1978}}{2} \right] - \left[ \frac{\text{Cost 1978} + \text{Cost 1977}}{2} \right]$$

Average annual milk production costs for 1975 through 1979, as estimated by USDA, are presented in appendix IV. In using these estimates, USDA recognized that production costs vary widely over time, from farm to farm, and across States and regions. Variability among farms is due to many factors, such as differences in production per cow, climate, management skills of individual producers, and herd size. Nevertheless, the estimated averages represent general changes in milk production costs from one year to another and are analogous to cost estimates which influence or determine support levels of the major field crops.

We applied USDA's average annual milk production costs to the cost-of-production formula to estimate dairy support-price levels for 1978, 1979, and 1980. The 1973 act did not specify an established price for milk as it did for wheat and feed grains. Therefore, we used the average of the costs of producing milk for 1975, 1976, and 1977 as the milk price-support level for the 1976-77 marketing year. This was \$9.73 per hundredweight. Applying this amount and the average milk production costs to the cost-of-production formula, we estimated that the support price per hundredweight of milk would have been \$9.84 for the 1977-78 marketing year, \$9.59 for the 1978-79 marketing year, and \$10.00 for the 1979-80 marketing year. The estimated dairy support price for each marketing year was computed as follows.

$$\text{Support price (1977-78)} = \$9.73 + \left[ \frac{\$ 9.70 + \$10.03}{2} \right] - \left[ \frac{\$10.03 + \$ 9.48}{2} \right] = \$ 9.84$$

$$\text{Support price (1978-79)} = \$9.84 + \left[ \frac{\$ 9.53 + \$ 9.70}{2} \right] - \left[ \frac{\$ 9.70 + \$10.03}{2} \right] = \$ 9.59$$

$$\text{Support price (1979-80)} = \$9.59 + \left[ \frac{\$10.53 + \$ 9.53}{2} \right] - \left[ \frac{\$ 9.53 + \$ 9.70}{2} \right] = \$10.00$$

Compared with the actual weighted average milk support price for each marketing year, the support price based on cost of production would have been higher in the 1977-78 marketing year and lower in both the 1978-79 and 1979-80 marketing years. The lower cost of production relative to parity price changes would reflect increases in efficiency associated with such factors as increased productivity per cow. Also, the actual weighted average price received for all milk sold to plants for each marketing year was higher than either the actual weighted average or the cost-of-production support prices. The following table compares the actual weighted average support price, the cost-of-production support price, and the actual weighted average price received for each marketing year.

Marketing year	Actual weighted average support price	Cost-of-production support price	Actual weighted average price received (note a)
1977-78	\$ 9.21	\$ 9.84	\$10.23
1978-79	\$10.31	\$ 9.59	\$11.74
1979-80	\$11.93	\$10.00	b/\$12.78

a/For all milk sold to plants.

b/Prices received for October 1979 through February 1980.

With regard to milk production and use and Government sales and purchases, the impacts of support prices based on production costs would approximate the impacts of support prices based on 100 percent of dairy parity prices. For the 1979-80 marketing year, these alternatives yielded similar results--\$10.51 using dairy parity and \$10.00 using production costs. Thus, the projected impacts would generally be the same--that is, a decrease in production and an increase in commercial use of dairy products. Also, CCC sales would exceed purchases, resulting in a reduced surplus. These impacts are discussed in more detail on page 35.

A recent study by agricultural economists from Cornell and Purdue Universities projected the consequences of basing the support price on cost of production as opposed to

traditional parity price concepts. These projections suggested the feasibility of basing the milk support price on production costs. While not advocating cost of production as the basis for establishing the support price, the study showed that this approach has some attractive features compared with the continued use of the parity concept.

The study projected support prices for four price policies--free market prices, 75 percent of parity, 80 percent of parity, and cost of production. The cost-of-production policy supports the average price at total cost of production as estimated by USDA. Projections for all four policies were made for the 5-year period ending 1981. Support prices for manufacturing-grade milk for the four policies in 1981 were projected as follows.

<u>Price policy</u>	<u>Support price</u>
Free market	\$10.80
75 percent of parity	11.67
80 percent of parity	12.45
Cost of production	10.35

According to the study, the support price based on full cost of production is expected to increase less than the prices based on the other policies for two reasons. First, feed costs make up about 50 percent of the total milk production cost but are given much less weight in the parity formula. Feed costs were expected to go up less than other costs during the period. Therefore, the support price would go up less when based on cost of production. Second, the parity approach makes no adjustment for changes in productivity. Improved productivity in dairying would be reflected in the cost-of-production approach and would result in a slower rise in the support price.

According to the study, if cost of production was the basis of the support price, prices during the 1980s would be determined by market forces rather than by Government action. Market prices were projected to be above the support level in the 1980s. One reason for this anticipated increase is that CCC sales were expected to exceed its purchases in 1980 and 1981 under the cost-of-production approach. For example, CCC net sales in 1981 were projected to be 1.4 percent of production, which would essentially reduce Government stocks to zero. In effect, CCC would be out of the dairy market, except for purchases it might wish to make for specific programs or uses.

The cost-of-production projections in the study and in our own analysis are subject to error. It is impossible to forecast weather, exports, and many other factors that will affect both parity prices and production costs. However, while the projections may not be precise, they do provide a basis for comparing consequences of alternative support policies.

As a guide for setting the support price, the cost-of-production standard would overcome many limitations of the parity price standard, but problems would still exist. A major limitation of the parity standard is that it reflects only prices and price changes, not productivity increases due to technological changes. Cost of production, however, reflects changes in both input prices and in output per unit of input. Thus, a cost-of-production standard should overcome this limitation. Also, it would more adequately reflect the cost of producing milk than does parity and would be comparable to the standard used to establish supports for other commodities.

Production costs, however, vary considerably among farmers, and determining the average cost of production involves many decisions as to what specific costs and input combinations are to be used. The most arbitrary decision involves the financial return attributable to the investment in land. Traditionally, agricultural economists have estimated land allocations on the basis of (1) net share rent, (2) cash rent, or (3) an annual interest rate applied to some specified value of the land, such as acquisition cost or current market value. The alternative chosen can have a substantial impact on production costs and, in turn, the support price. Using land costs based on current market value, for example, could further increase land prices and thus further increase the support price.

The procedure USDA followed in its studies on the costs of producing milk was to charge all feed at prices received by farmers; therefore, costs were based on market prices, and no separate land charge was included in the feed component. However, there was a small land allocation charge which included only the dairy lot and pasture acreage. The land allocation was divided into land taxes and interest on the land's current market value for agricultural purposes.

Another problem with the cost-of-production standard is that it would not consider economic factors affecting the supply and demand for milk. Such a standard, like parity and dairy parity, would emphasize the costs incurred by farmers in producing milk. It would not reflect stocks of dairy products, either in Government storage or the private

sector, and other economic factors, such as consumer income and prices of substitute products, affecting demand. Also, producers would have a powerful incentive to inflate their reported costs.

COMPREHENSIVE FORMULA THAT WOULD CONSIDER  
COSTS, STOCKS, AND DEMAND

A standard could be developed based on a comprehensive formula to relate the milk support price to economic factors affecting the supply and demand for milk. Such factors might include (1) the costs of feed, labor, and other inputs affecting supply and (2) consumer income, population, and prices of substitute products affecting demand. Our consultant (see p. 7) contributed extensively to the concepts discussed in this section on a price-support level that would be based on a comprehensive formula.

Like parity, dairy parity, or cost-of-production concepts, a comprehensive formula would use economic indicators to systematically adjust the price-support level. The factors included in such a formula would, however, be more comprehensive. That is, the formula would try to simultaneously consider changes in cost of production, milk product stocks, and demand. The parity, dairy parity, and cost-of-production concepts place primary emphasis on costs incurred by farmers in producing milk. As such, they do not consider economic factors affecting either the demand for milk products or the current supply/demand balance as reflected in stocks of dairy products held in either Government storage or the private sector.

Comprehensive formulas are not new. In fact, they were used as adjustors of class I prices in some areas operating under Federal milk-marketing orders during the late 1940s and early 1950s. These formulas varied in complexity from the New York formula, which tied the price of milk directly to the Wholesale Price Index, to the five-factor Philadelphia formula, which tried to reflect both supply and demand factors. All formulas contained a supply/demand adjustor which lowered prices when the percentage of milk used for manufacturing purposes increased. Such an increase was interpreted as an indicator of surplus production. The factors and weights included in these formulas are summarized in appendix V.

Weights were arbitrarily assigned to the factors included in these formulas, although informed industry judgment obviously was involved. Differences in formulas and weights resulted in different prices and thus created different

levels of production and consumption incentives in different markets. As long as markets were geographically isolated, such intermarket differences could be tolerated.

However, improvements in transportation in the 1950s and early 1960s required that Federal order class prices move uniformly across the order system. Thus, in the late 1960s the comprehensive formulas that existed were replaced by the Minnesota-Wisconsin price series.

In 1970 the National Milk Producers Federation proposed that a comprehensive formula be adopted to replace the Minnesota-Wisconsin price series as the basis for class I milk prices in all Federal order markets. The Federation formula contained 10 factors. Nine of these had equal weights of 8.33 percent. These factors were the Wholesale Price Index, Consumer Price Index, farm wage rate, feed-cost index, price received for all farm products, price paid by farmers, price received for beef cattle, percent of unemployment, and per capita disposable income. The remaining factor, representing the price of manufactured dairy products, had a weight of 25 percent.

USDA rejected the Federation formula proposal on grounds that the evidence that the Federation presented did not establish that the proposed comprehensive formula would (1) accurately reflect needed changes in fluid milk prices, (2) maintain appropriate price relationships between markets and uses of milk, and (3) be compatible with the Secretary's other program responsibilities.

USDA has consistently expressed substantial concern about comprehensive formulas resulting in inconsistent pricing action on the part of the Secretary between the Federal order and price-support programs. Inconsistency would exist, for example, if a comprehensive formula generated an increase in class I milk prices while the support price was reduced, or vice versa. Such inconsistent action would not exist if the same formula were used to adjust both the support and Federal order class I prices.

To be economically and politically acceptable, a comprehensive formula must accurately reflect changes in industry supply and demand conditions in a timely manner and in the interests of producers, processors, and consumers. To do so, both the factors and weights included in the formula must be carefully and objectively selected. In addition, the formula must be simple enough for people to understand.

These requirements have not traditionally been satisfied. For example, to gain simplicity and political acceptability, factors and weights included in comprehensive formulas have generally, as noted before, been arbitrarily selected. In 1973 a Milk Pricing Advisory Committee report, "Milk Pricing Policies and Procedures, Part II, Alternative Pricing Procedures," found that such formulas have not been developed which can be relied on as automatic movers of milk prices. The committee did not, however, dismiss the potential for a future role for comprehensive formulas in pricing milk if additional research is conducted to objectively assign factors and weights used in formula pricing.

Recent research <sup>1/</sup> on comprehensive formula pricing of class I milk under Federal milk-marketing orders provides the potential for objective selection of factors and assignment of weights. It also provides a method by which proposed formulas may be more objectively evaluated. The formulas developed in this research contained only three factors--consumer disposable income, milk production input costs, and total manufactured dairy product stocks.

These factors were found to have statistically significant influences on the supply and demand for milk and the class I Federal order prices. Each \$100 increase or decrease in per capita disposable income caused a corresponding change of 12 cents per hundredweight in the class I Federal order price. Each \$1 increase or decrease in milk production input costs caused a corresponding change of 48 cents per hundredweight in the class I price. A change in manufactured dairy product stocks caused an opposite change in the class I price. That is, a 1-billion-pound decrease in such stocks caused an increase of 24 cents per hundredweight in the class I price, while a 1-billion-pound increase in such stocks caused a decrease of 24 cents per hundredweight in the class I price. This last factor would automatically prevent undue buildup of stocks by adjusting prices downward as stocks accumulate. The following table shows the comprehensive formula factors and weights for setting class I Federal order prices.

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<sup>1/</sup>Art Smith, "Economic Formula Pricing in Federal Milk Marketing Orders," Texas Agricultural Experiment Station Research Report MRC 78-2, College Station, Texas, June 1978.

<u>Factor</u>	<u>Class I price changes in cents per hundredweight</u>	
	<u>Increase</u>	<u>Decrease</u>
\$100 change in consumer disposable income:		
Increase	\$0.12	
Decrease		\$0.12
\$1 change in milk production costs:		
Increase	0.48	
Decrease		0.48
1-billion-pound change in stocks:		
Increase		0.24
Decrease	0.24	

This formula was developed to adjust only class I milk prices to changing industry conditions assuming the support price was set at 75 percent of parity. However, the methods used to develop it could also be used to devise a comprehensive formula for adjusting the milk support price. In fact, ideally such a formula could be developed to adjust both the milk support price and the class I price.

A comprehensive formula holds the potential for developing a price-support adjustor that would consider both supply and demand factors affecting the dairy industry. If properly developed, a comprehensive formula would represent a distinct improvement over the current parity, dairy parity, or cost-of-production approaches to establishing the milk support price in that both supply and demand factors would be considered.

The key to developing and implementing a comprehensive formula is a willingness to select factors and assign weights by statistical means and to allow the formula to operate once it is adopted, even when it calls for price reductions in the face of building stocks. However, when prices decline, or in producers' eyes rise too slowly, political pressures build to suspend price adjustments. It is critical that such pressures be resisted if the pricing system and the long-term interest of dairy programs are to be carried out. Increases in price supports, where there is no long-term economic justification, inevitably lead to large surpluses and an eventual need to reduce prices to restore a supply/demand balance and reduce Government costs.

As industry conditions change over time, the comprehensive formula must also be adjusted. Such adjustments can,

however, be more or less automatic. That is, periodic studies can be conducted to reconfirm or refine the weights being used in the formula. Such studies may be repeated every 3 to 5 years or at such times as questions arise regarding order performance.

QUESTIONNAIRE RESPONSES INDICATE A CHANGE  
IN PRICE-SUPPORT STANDARD PREFERRED

Questionnaire respondents generally preferred calculating the support price by methods other than the current parity price method. The following table summarizes how respondents ranked each method.

<u>Method</u>	<u>Preferred or strongly preferred</u>	<u>Indifferent</u>	<u>Opposed or strongly opposed</u>	<u>No response</u>	<u>Total</u>
Parity	9	5	17	1	32
Dairy parity	15	3	13	1	32
Cost-of-production	14	2	14	2	32
Comprehensive formula	17	6	8	1	32
Other	6	-	-	26	32

Only 9 of the 32 respondents preferred or strongly preferred calculating the support price by the current parity concept; 5 were indifferent and 17 were opposed or strongly opposed. One participant did not respond to this question. The respondents were generally divided in their preferences for the other methods for calculating the support price. For example, 14 preferred or strongly preferred the cost-of-production method, 15 preferred or strongly preferred the dairy parity method, and 17 preferred or strongly preferred the comprehensive formula method. Six preferred or strongly preferred other methods, such as competitive returns to producers to include risk assumption, index of prices paid by producers for inputs, direct payments to producers, moving index of dairy prices received, congressional action or review, and an economic formula based on a cost-of-production index with or without a prices-received index.

Although respondents were divided as to which methods they preferred, a general trend is indicated when they are grouped according to their fields of expertise. For example, six of the nine respondents that preferred or strongly preferred the current parity method represented the cooperatives and producer associations. In general, the academic group preferred the dairy parity and comprehensive formula methods,

and the proprietary firms preferred or strongly preferred the cost-of-production and comprehensive formula methods. The following table shows the methods preferred or strongly preferred by respondent groups.

<u>Method</u>	<u>Academic</u>	<u>Coopera- tives and producer associa- tions</u>	<u>Proprietary firms</u>	<u>Other</u>	<u>Total pre- ferred</u>
Parity	2	6	-	1	9
Dairy parity	4	3	5	3	15
Cost-of- production	1	1	8	4	14
Comprehensive formula	4	2	8	3	17
Other	3	1	1	1	6

The Agricultural Marketing Service's consolidated reply (see p. 7) said that there are obvious drawbacks to the parity approach but that these are minimized in the case of dairy because of the fact that the standard in law essentially is an adequate supply standard and the price may be set at a range of prices relative to parity. More importantly, according to the Service, the present system has worked reasonably well over a period of years.

The Service said that altering the parity calculation to include only dairy inputs does not seem essential, although the pros and cons of this action can be argued. It also said that a cost-of-production standard or a comprehensive formula on the surface would not give the needed flexibility to relate support levels to supply/demand conditions that the present method does. According to the Service, these methods have been suggested in the past, but little support seems to exist for them among dairy farmers.

The Service added that calculating the cost of production involves difficult questions, such as whose costs of production to use--those of average producers, inefficient producers, or efficient producers. Also, it said that there are problems associated with accounting procedures used, which can have a considerable influence on costs calculated. The Service, however, recognized that the cost-of-production method is being applied to other agricultural commodities and that it can be argued that the same approach should be applied to milk.

On the other hand, the Service said that it believed that comprehensive formulas have potential as a means of establishing support prices, particularly when all milk is grade A. As discussed previously, comprehensive formulas have been used in the past in class I pricing in some Federal milk orders but have created problems because at times they have not adequately reflected supply/demand conditions. Their present state of development is such that, in the Service's judgment, they do not provide as satisfactory a basis for establishing support prices as the present system, which itself has many elements of a comprehensive formula, but more flexibility.

## CONCLUSIONS

Several alternative dairy price-support standards more directly related to milk market conditions could be used to set the milk support price. Each has certain advantages and disadvantages. A dairy parity price standard would more closely reflect changes in factors affecting prices of dairy inputs but would ignore productivity increases and supply and demand factors. A cost-of-production standard would reflect the costs of producing milk and productivity increases but would not consider supply and demand factors. A standard could be developed based on a comprehensive formula which would systematically and simultaneously consider changes in cost of production, milk product stocks, and demand, but the necessary research has not been done on the factors and weights that should be included in the formula.

A comprehensive formula that considers supply and demand could eventually be used to systematically adjust the dairy price-support level. Such a formula could automatically adjust the support price without subjective influences. However, before such a formula can be properly developed and implemented, further research would be needed to select factors and assign weights that will balance the interests of producers, consumers, and taxpayers.

Until a comprehensive formula is properly developed and implemented, the basis for setting the support price could be changed to either a dairy parity price standard or a cost-of-production standard. The dairy parity price standard would be the least disruptive to the industry.

A support price based on 100 percent of the dairy parity price would more closely reflect changes in factors affecting costs of dairy inputs than does the current parity price standard because the factors and weights assigned to each component would be based on milk production costs. These costs vary from one region of the country to another; however,

our analysis was based on the national weighted average cost of producing milk, and we did not evaluate the economic and social impacts of the regional differences. Overall, a dairy parity price standard would assure a better balance between production and consumption, thereby reducing consumer and taxpayer costs while still allowing producers a good return on their investment.

In computing a dairy parity price, a more recent base period should be used for average prices received and paid by dairy farmers. Updating the base period should provide comparability with other national indexes, such as the Consumer Price Index, and would enable more precise comparisons of agricultural prices to be made.

The price-support level should initially be set at 100 percent of the dairy parity price. However, the Secretary of Agriculture should have the flexibility to adjust it when CCC purchases exceed trigger levels. This flexibility would help balance producer, consumer, and taxpayer interests, and adjustments made would signal producers when problems existed.

#### RECOMMENDATIONS TO THE CONGRESS

Whether to adopt a dairy parity price standard for the short term and, if appropriate, a standard based on a more comprehensive formula for the long term is a matter to be determined by the Congress. However, if the Congress decides to adopt this approach, we recommend that legislation be enacted

--directing the Secretary of Agriculture, in conjunction with milk producer and consumer groups and with input from the Congress, to perform the research to select factors and assign weights needed to develop a comprehensive formula that will balance the interests of producers, consumers, and taxpayers and then, if appropriate, implement the formula and

--authorizing the Secretary, until such a comprehensive formula can be developed and implemented, to (1) base the support price on 100 percent of the dairy parity price using a base period comparable with other national indexes and (2) adjust the price-support level when CCC purchases of dairy products exceed trigger levels established by the Secretary.

#### RECOMMENDATIONS TO THE SECRETARY OF AGRICULTURE

We recommend that if so authorized by the Congress, the Secretary

- in conjunction with producer and consumer groups and with input from the Congress, perform research to select factors and assign weights needed to develop a comprehensive formula that will balance the interests of producers, consumers, and taxpayers and then, if appropriate, implement the formula;
- identify the dairy input factors and weights needed to base the support price on 100 percent of the dairy parity price, using a base period comparable with other national indexes; and
- establish trigger levels, based on a 12-month moving total of CCC net removals of dairy products, needed to adjust the support price.

#### AGENCY COMMENTS AND OUR EVALUATION

USDA said that our conclusions heavily stress the advantages of a comprehensive formula standard. (See app. VI.) It believes the importance of flexibility is underemphasized and the potential benefits of a mechanistic procedure are overemphasized. It said that any standard for price or income support should give proper and early signals to producers and policymakers but that there will be pressure to ignore these signals, especially if they indicate lower milk prices. According to USDA, this is where responsibility for flexibility and program management must be assumed, regardless of the pricing standard used.

We agree that management flexibility is very important and we recognize this in the report. In chapter 2 we discuss the need for giving the Secretary more flexibility to set and adjust the support price. In our conclusions and recommendations to improve the effectiveness of the current parity price standard (see ch. 2) and, in this chapter, to use a dairy parity price standard until a comprehensive formula can be developed and implemented, we state that the Secretary should have the flexibility to adjust the support price when Government purchases exceed specific trigger levels. We believe this flexibility would help balance the interests of producers, consumers, and taxpayers and adjustments made would signal producers when problems existed.

Also, in developing a comprehensive formula, which we believe should eventually be used to adjust the support price, the Secretary could provide the needed flexibility. For example, the formula could include a factor to adjust the support price relative to the level of Government purchases or stocks on hand. Such a formula could automatically adjust the

support price, thus removing some of the subjectivity inherent in the current program, and reduce industry pressures to ignore signals, especially if they indicate lower milk prices.

USDA said that our discussion on the comprehensive formula relates to "formula pricing" of class I milk and the 1970 proposal for a comprehensive formula to replace the Minnesota-Wisconsin price series. It said that the problems of pricing class I milk are quite different from the problems of either establishing a support level or pricing all milk. It contended that class I pricing has little or no relevance to our discussions and that we come close to going on record as recommending formula pricing for milk without any supporting explanation of how formula pricing might work.

We believe the relationship between class I formula pricing and a formula to establish the support price is not as remote as USDA indicates. In fact, the current parity price standard is, in a sense, a formula pricing concept in that the support price, based on parity price, is (1) used as the basis to establish the purchase prices for surplus dairy products and (2) reflected in the minimum class prices established for each marketing order. While our report does not specifically examine how a comprehensive formula might work, it shows that such a formula could be developed with additional research to select the factors and assign weights that will balance the interests of producers, consumers, and taxpayers. Recent research on comprehensive formula pricing of class I milk provides the potential for objective selection of factors and weights, and the methods used to develop the formula for class I milk could be used to devise a comprehensive formula for adjusting the support price. For these reasons, we believe our recommendation to perform the research needed to develop a comprehensive formula to adjust the support price is valid. We revised our recommendation to specify that the comprehensive formula be implemented only if appropriate.

USDA also commented that the dairy parity price concept discussed in our report is a cost rather than a purchasing power concept and that USDA's cost-of-production study used to develop the dairy parity price estimates considers technology changes. We agree that USDA's study considers technology changes and this point is reflected in the section on the cost-of-production standard. We disagree, however, that the dairy parity price standard is not a purchasing-power concept. USDA's comment implies that because we used its cost-of-production study in developing the dairy parity price standard, the standard itself is a cost concept. We used USDA's study only to identify the components and weights for each component to use in estimating the support price based

on the dairy parity price. In computing this support price, we used the current parity price formula, except that the indexes which USDA currently assembles and uses to compute the parity price were adjusted to reflect only the prices received for dairy products and the prices paid for items used in producing milk. The methodology we used in estimating the support price based on a dairy parity price standard is explained more fully on page 33.

Finally, USDA said that our failure to recognize in early sections of the report that the best of pricing standards or program modifications would not automatically ensure that program objectives are effectively accomplished reduces the report's effectiveness and credibility. It should be noted that in chapter 2 we concluded that improvements to the current parity price standard would still not ensure that program objectives would be effectively accomplished. We did not state in our report, however, that even the best of pricing standards would not ensure that program objectives would be effectively accomplished. In fact, this chapter emphasizes that several alternative milk-pricing standards more directly related to market conditions could accomplish the program objectives more effectively and equitably than the current parity price standard.

## CHAPTER 4

### PRODUCTION CONTROLS MAY BE NECESSARY

As discussed in the previous chapter, options such as alternative dairy price-support standards could be used to reduce Government surpluses. Another option is production controls. When the milk support price is high, producers tend to produce too much, resulting in increased Government surpluses. If the support price is kept at these high levels, production controls may be necessary.

Effective production control programs curb milk production using various quantity control mechanisms, such as quotas. Some dairy programs in the United States have included production control features, but they have not been effective. An effective program, however, has been administered in Canada.

Federally imposed, nationwide production controls would require more Government regulation than current programs and, if implemented, could result in increased costs to producers and consumers.

#### U.S. PROGRAMS HAVE NOT BEEN EFFECTIVE

Dairy programs with production control features have been implemented in some areas of the Nation. These programs include various types of base plans operated under Federal milk orders and by producer cooperatives and State milk control agencies. A 1972 USDA report <sup>1/</sup> concluded that these programs did not effectively control production and, in some cases, may have increased supplies.

#### Base plans

Base plans generally permit each producer to establish a production base determined by the quantity of milk delivered during a specified period. This base establishes a producer's market right to supply the fluid portion of the milk market during some subsequent period.

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<sup>1/</sup>"Base Plans in U.S. Milk Market: Development, Status, and Potential," Marketing Research Report No. 957, U.S. Department of Agriculture, Economic Research Service, June 1972.

Base plans can range between the extremes of open base plans and closed base plans. Open base plans permit easy expansion of bases by established producers and entry of outside producers into the fluid market. One type of open base plan, the base-excess seasonal plan, is intended to encourage more uniform milk deliveries during the year. However, the 1972 USDA report concluded that base-excess plans may actually stimulate supplies due to producers' increasing their bases during the low production months to gain or retain their shares of the fluid market.

Closed base plans are designed to foreclose the fluid market to outside producers and to control the annual level of milk deliveries. The same bases are generally carried from year to year. One type of closed base plan, called the class I base plan, was first authorized in Federal order markets by the Food and Agriculture Act of 1965 (Public Law 89-321, Nov. 3, 1965; 79 Stat. 1187). Although the objective of the initial legislation was to control production, a 1970 amendment (84 Stat. 1359) liberalized the base restrictions. The USDA report concluded that class I base plans could not curb production largely because the price of surplus milk could not be set below the marginal cost of production.

Cooperative base plans preceded both the Federal order system and State milk control laws. Cooperatives may have closed base plans and can set surplus milk prices at extremely low levels to discourage excess production. The USDA report cited as major deterrents to the effectiveness of cooperative base plans (1) the potential advantage non-members might gain outside the plans if controls become too restrictive and (2) the possibility of producers-handlers circumventing the plans. The report suggested that, given the legal constraints both on methods of gaining control and on ways in which powers associated with this control are exercised, voluntary cooperative programs to control milk supply have longrun limitations.

#### California program

Base or quota plans established and administered by States offer yet another supply management alternative. For example, California administers a milk control program based on quotas and bases to control producers' financial returns. Under the program, producers obtain production bases, composed of quotas and bases, in proportion to their previous milk delivery quantities.

These controls are not effectively limiting milk production in California. For example, production in the State increased about 34 percent for the period 1969-77 compared with only about 6 percent for all the States.

The program uses formulas to establish minimum producer prices for the State's four classes of milk. The State's minimum class I price is based on a formula weighted as follows: current production cost per hundredweight--43 percent; current class IV (butter, cheese, and nonfat dry milk) price--42 percent; and current real net spendable earnings of the Los Angeles-Long Beach area--15 percent. Butter, cheese, and nonfat dry milk are sold on the open California market. The national market consists of commercial sales and Federal support purchases by CCC.

California Department of Food and Agriculture officials said the Federal price-support level is too high and, consequently, has encouraged overproduction. They said the price-support program should provide a base price high enough to keep the market from becoming chaotic but not so high that producers make excess profits. They said also that some large-scale operations in California can profitably produce milk at the class IV market price. Since CCC purchases California's class IV dairy products at the support price, when market prices become depressed, producers can deliver unlimited quantities of milk for an assured market. They said further that the price-support level is too high when more than 50 percent of California's class IV products go into sales to CCC, which they said was the case for about the last 2 years.

CCC purchases of surplus butter and nonfat dry milk from California were quite large compared with the State's share of total U.S. milk production. For example, California produced about 10 percent of the total U.S. production during the October 1, 1977-September 30, 1978, marketing year. Of CCC's total butter and nonfat dry milk purchases for this period, about 17 percent of the butter and about 26 percent of the nonfat dry milk came from California. Also significant is that CCC purchased about 17 percent of the butter and about 52 percent of the nonfat dry milk produced in California for this period.

This California experience shows that the high Federal support price obviously renders the State's production control program ineffective. Apparently, the price-support level is substantially above some producers' cost of production.

CANADIAN DAIRY SUPPLY MANAGEMENT  
PROGRAM HAS HAD SOME SUCCESS

Canada has a supply management program operated by Federal and Provincial authorities to achieve the following objectives:

- Ensure maximum use of Canadian milk for processed dairy products and avoid accumulation of large surpluses.
- Obtain industrial milk price stability with a reasonable return to the producer.
- Provide Canadian consumers with adequate and continuous supplies of dairy products at stable and reasonable prices.

The program has had some success in avoiding accumulation of large surpluses.

Program operations

In Canada milk is divided between two markets--fluid milk for drinking and industrial milk for manufacturing into butter, cheese, nonfat dry milk, and other products.

The sequence of actions taken in operating the program is as follows:

- A combination of support prices and direct subsidy levels is set to provide satisfactory producer returns to maintain a viable dairy industry.
- Domestic market requirements for milk are estimated in relation to the price-support levels.
- A combination of producer quota levels and various levies are selected to induce sufficient supplies for domestic requirements.
- The aggregate quota is allocated among the Provinces by the Canadian Milk Supply Management Committee and then by the Provinces to individual producers.
- Significant deviations between the volume of milk demanded and supplied are rectified by adjusting supply management instruments or using international trade instruments to dispose of surpluses or permit imports.

Canada has various production controls for fluid and industrial milk.

### Fluid milk

Provincial governments set fluid milk prices and determine fluid milk requirements within their boundaries. In setting producer prices for fluid milk, most Provinces use some method of indexing prices to cost of production and other factors to ensure adequate producer returns.

Fluid milk quotas are set by milk boards according to expected fluid usage. Producers are allocated quotas which represent their shares of the total area market. Fluid milk quotas may be sold or transferred to other producers. If demand for fluid milk increases, free quotas may be issued to existing producers or, in some Provinces, to industrial milk producers integrating into the fluid market.

Fluid milk producers are subject to skim-off levies (for surplus cream from skim milk, etc.) on fluid milk shipments. These levies are used for disposing of the surplus. A certain amount of surplus cream in the processing of partly skimmed fluid milk is diverted to industrial uses.

### Industrial milk

The Canadian Government, in cooperation with Provincial authorities, regulates gross returns and supplies of industrial milk. It uses support prices and direct subsidies to establish target returns to industrial milk producers. When the Canadian Government, through the Canadian Dairy Commission, decides on a particular target return level, the Commission selects some combination of direct subsidy and processed product price-support levels to achieve the target return. Most of the target return is paid to producers by dairy manufacturers. The Canadian Government pays part of the cost of producing industrial milk by a direct subsidy to the producers.

The Canadian Milk Supply Management Committee, composed of representatives from the Provincial governments, the Provincial milk boards, and the Canadian Dairy Commission, develops policy and advises the Commission on the administration of the supply management program for industrial milk. Program features include:

- Market share quotas: These quotas consist of the estimated quantity of industrial milk required to meet demand (subsidy eligible quotas) and a 5- to 10-percent tolerance (sleeve) to cover possible

increased requirements. The estimated quantity and the tolerance are allocated among the producers as market share quotas. Although subsidies are usually not paid on quantities shipped within the sleeve, the tolerance lessens the risk of the producer incurring levies for over-quota shipments. The market share quota is the principal policy instrument used to achieve necessary adjustment of supplies to requirements.

- Subsidy eligible quotas: These quotas on the estimated required quantity of industrial milk entitle producers to direct subsidy payments to maintain the guaranteed price level.
- Over-quota levies: These levies are imposed on all shipments exceeding a producer's market share quota. In addition to deterring overproduction, they also provide some of the revenues for disposing of surplus dairy products. In the 1978-79 dairy year, the over-quota levy was \$7.50 per hundredweight.
- Special contingency levies: These levies, on industrial milk within the quota, are used to fund export disposal of surplus skim milk powder shipped within the sleeve. Levies are refundable to all producers not shipping into the sleeve.
- In-quota holdback: These special levies, on all industrial milk shipped within the market share quota, are used to fund export disposal of surpluses.

According to Agriculture Canada's Commodity Markets Analysis Division, the industrial milk levy structure provides for a decreasing marginal revenue to producers for milk produced in excess of quota.

The following example illustrates the effectiveness of the market share quota operating in conjunction with the over-quota levy to balance supply with demand.

In 1975 Canadian industrial milk shipments exceeded requirements by 12.8 percent. The surplus was made into butter and skim milk powder. To compensate for the overproduction and storage costs, the 1976 production market share quotas for industrial milk were cut by an average of 18 percent. The over-quota levy was established at \$8.60 per hundredweight of production over the market share quota. The levy was about equal to the market price at the plant. Farmers responded by reducing their herds. As a result, milk production was reduced to approximate demand.

## Consequences

Consequences of the milk supply management program in Canada include the following:

- Producers have a known share of the market at a fixed price.
- Producers know in advance the consequences of over-quota marketing.
- Producers can adjust the size of their enterprises relative to their financial situations.
- Supply is balanced with demand.
- Cost of quotas adds to the cost of production and the cost of dairy products.
- Quotas constrain marketing activities of processing and manufacturing firms because very little quota moves between Provinces, and fluid milk quotas are given preference over industrial milk quotas.

## QUESTIONNAIRE RESPONSES DO NOT FAVOR PRODUCTION CONTROLS

The following table summarizes responses to a question about production controls.

In general, to what extent do you agree or disagree that additional direct production control programs should be implemented?

<u>Respondent group</u>	<u>Number of responses</u>		
	<u>Agree</u>	<u>Indifferent</u>	<u>Disagree</u>
Academic	3	1	7
Cooperatives and producer associations	-	1	8
Proprietary firms	-	1	7
Other	<u>1</u>	-	<u>3</u>
Total	<u>4</u>	<u>3</u>	<u>25</u>

Of the 32 respondents, 25 opposed additional supply management controls.

## CONCLUSIONS

If support prices are set and kept at such levels that milk supplies and price-support costs are excessive, production controls may be necessary. Effective control programs could be designed to include features similar to those in Canada.

- The programs should be national. The Government could set policy and determine fluid and manufacturing-milk production requirements, or quotas, on a national basis.
- Marketing boards consisting of local, State, or regional organizations could administer the programs on a marketing-area basis and could perform such functions as maintaining production bases and allocating quotas to individual producers within marketing areas.
- Bases could be transferable between producers.
- To limit unnecessary supplies, levies could be imposed or penalties exacted on milk delivered in excess of the producers' quotas.

The impact of such a program on U.S. dairy farmers, the industry, and consumers could be more adverse than existing dairy price-support and marketing-order programs. Impacts would probably include

- more Government regulation due to allocating and administering a quota system and
- increased cost to producers because of the cost of milk quotas.

Ultimately, the costs for the above would be passed on to consumers and taxpayers.

## AGENCY COMMENTS AND CUR EVALUATION

USDA agreed with our conclusion that the consequences of instituting production controls could be more adverse than the current dairy programs. (See app. VI.) USDA also said that in addition to the adverse impacts discussed in our report, another serious consequence could be a restricted ability to adjust resources. Quotas assigned to individual dairy farmers would tend to hold resources in production when they were not needed. The necessity of having a quota to cover production and the cost of obtaining quotas would

deter resources from entering dairying when needed and impede the expansion of current production units into more efficient ones. Efficiency in the dairy industry would decrease over time.

We agree with USDA's comment that production controls could result in a misallocation of resources. We believe that production controls may ultimately be necessary if support prices are established and maintained at such levels that milk supplies and price-support costs are excessive. However, we are not recommending a program of production controls at this time.

## CHAPTER 5

### PRODUCER PARTICIPATION IN

#### PROMOTION PROGRAMS SHOULD BE INCREASED

As discussed previously, the dairy industry has generally produced more products than have been consumed. The Government has had to buy the surplus. The need to buy surpluses could be minimized by reduced production, increased consumption, or a combination of both. Experience has shown that consumption can be increased by effective dairy promotion programs. If the Government continues to support the price of milk to producers, the producers should be expected to finance the promotion of their products and thus reduce Government costs. Currently not all producers are financing such promotion.

Some major producing regions have poorly financed promotion programs with low producer participation. These programs are usually voluntary or give producers the right to request and receive a refund of the money deducted from their milk checks for promotion purposes. The better financed programs are usually mandatory with no right to refunds.

#### CURRENT PROMOTION PROGRAMS

Funds collected under Federal, State, cooperative, and voluntary promotion programs are spent by dairy industry organizations such as the United Dairy Industry Association (UDIA) or, in the case of States not affiliated with UDIA, by other promotional organizations. The largest non-UDIA organization is the California Milk Advisory Board.

UDIA is the national industry organization for promoting milk and dairy products. It consists of 20 member units representing 39 States. These States produce about 70 percent of U.S.-produced milk. UDIA was formed in 1971 to eliminate duplication of promotional programs and to concentrate dollars to achieve the greatest market impact. UDIA coordinates the activities of its three member organizations--the American Dairy Association (ADA); Dairy Research, Inc. (DRINC); and the National Dairy Council (NDC).

UDIA receives funds from Federal, State, cooperative, and voluntary contribution programs. In 1978 a total of \$36.8 million was used to support national and local programs of UDIA, ADA, DRINC, and NDC. About \$9 million of this money came from Federal orders and about \$27.8 million came from State, cooperative, and voluntary programs. Program budgets were:

- \$12.5 million, or 34 percent, for local consumer advertising promotion.
- \$8.6 million, or 23 percent, for local nutrition education programs through affiliated dairy councils.
- \$8.1 million, or 22 percent, kept by member organizations for local and regional program implementation and administrative expenses.
- \$7.6 million, or 21 percent, to UDIA for ADA, DRINC, and NDC promotional, educational, research, and grant-in-aid programs.

ADA promotes milk and dairy products on a nonbrand (generic) basis through consumer advertising and sales promotion events. In addition, ADA does in-store sales promotion and conducts dairy department management seminars for food chain executives and retail store personnel.

DRINC funds product and process research projects in universities throughout the country and at USDA research laboratories. DRINC's product and process research and development division works with dairy cooperatives, major commercial food processors, and equipment manufacturers to develop new products using dairy ingredients.

NDC promotes dairy products through nutrition education. Nutrition education and communication programs disseminate nutrition information on dairy products to consumer, educational, and scientific interests. Nutrition information is used to promote good eating habits, including the use of dairy foods to achieve good health. Through its nutrition education program in schools, NDC instructs teachers, who in turn teach children, about nutrition. Other programs give leaders in governmental, professional, educational, and consumer fields nutrition information on dairy foods.

Promotion programs could create self-escalating increases to the milk support price when such price is based on past milk prices, such as under the parity price and dairy parity price standards. For example, if advertising increased consumer demand in times of reduced supply, then milk prices might be higher than they would have been had the advertising not occurred. If these higher prices are used for calculating the support price, then the support price would eventually increase. In such a case, however, a higher support price may be necessary to increase supply to meet additional demand.

## PROMOTION IS NEEDED

The importance of dairy products to the American diet underlies the need for dairy promotion programs. Dairy products are the most important source of calcium and provide significant amounts of other important nutrients, including protein.

Dairy products face strong competition. Margarine competes with butter; imitation cheese competes with natural cheese; soft drinks, coffee, beer, and other beverages compete with milk.

Research has shown that consumers believe all brands of fluid milk are the same. Dairy industry organizations recognize this condition and promote dairy products, primarily fluid milk, on a generic basis. However, fluid milk producers spend a lot less on promotion than do their competitors, and over the years milk has lost some of its market share.

In 1978 about \$53 million was spent for milk generic promotion. In 1978 about \$311 million was spent for promoting soft drinks and fruit juices--beverages considered by the dairy industry as direct competitors of milk. Also, in 1978 about \$174 million was spent for promoting tea and cocoa derivatives, and about \$618 million was spent promoting alcoholic beverages--considered by the dairy industry as indirect competitors of milk.

From 1975 through 1978, per capita consumption of carbonated soft drinks increased 20 percent, and consumption of powdered soft drinks increased 29 percent. Per capita consumption of milk remained stable during the same 4-year period. Considering these economic and market conditions, the need for stronger milk promotion becomes quite obvious.

## INCREASED PRODUCER PARTICIPATION AND FINANCING ARE NEEDED

Dairy promotion programs are funded by contributions authorized under Federal milk-marketing orders, State laws, cooperative plans, and voluntary programs. In 1978 producers contributed about \$53 million, a small amount compared with that spent by competitors. Many producers contributed little, and sometimes nothing, to promotion programs. Funding levels and producer participation are higher where mandatory rather than voluntary programs are in effect. Also, some better financed programs require contributions based on a percentage of sales instead of a fixed rate per hundredweight of milk.

Promotion programs under  
Federal milk-marketing orders

A 1971 amendment to the Agricultural Marketing Agreement Act of 1937 authorized promotional, educational, and research programs on a market-by-market basis when approved by producers. These programs are financed by deductions from payments on all milk marketed under a marketing order. Refunds are made when requested by any producer. The law requires that such funds be paid to an agency organized by milk producers and that a separate referendum be held on promotion provisions of the orders. Other parts of an order are not affected if promotion deductions are disapproved by producers. Adjustments or credits may be made for contributions required by a State law for advertising or marketing research. As of April 1978, Iowa, Kentucky, Minnesota, New York, and South Dakota had such laws.

Producer participation in promotion programs under Federal milk-marketing orders is small. As of December 1979 only 16 of the 47 orders, as shown below, authorized the collection of funds for promotion, education, and research.

<u>Federal order</u>	<u>Assessment per hundredweight</u>	<u>Percentage of producer participation</u>
Central Arkansas	\$0.05	88
Eastern Ohio-Western Pennsylvania	0.05	80
Fort Smith	0.05	90
Indiana	0.05	87
Greater Kansas City	0.05	91
Lubbock-Plainview	0.05	88
Memphis	0.05	89
Middle Atlantic	0.07	89
Nebraska-Western Iowa	0.05	82
Oklahoma Metropolitan	0.05	86
Red River Valley	0.05	88
Rio Grande Valley	0.05	95
St. Louis-Ozarks	0.05	85
Texas	0.05	72
Texas Panhandle	0.05	91
Wichita	0.05	92

Producers in 10 of the above markets decided to terminate their advertising and promotion programs at the end of 1979. There are now only six markets--Eastern Ohio-Western Pennsylvania, Indiana, Greater Kansas City, Middle Atlantic, Nebraska-Western Iowa, and St. Louis-Ozarks--with advertising and promotion programs.

In 1978 about \$9 million was available for advertising and promotion and expenses of the Federal milk market administrators, down from about \$9.5 million in 1977. These were the amounts remaining after refunds were made to (1) producers who had elected not to participate and (2) producers from whom deductions for advertising and promotion are required by State law.

State, cooperative, and  
voluntary promotion programs

The dairy industry in some States has advocated legislation authorizing contributions from producer sales receipts for milk to increase promotion program contributions.

In 1978, 23 States had authority to establish milk promotion plans. In 17 of the 23 States, promotion was financed by producer and/or handler assessments. Producers in several States, including Wisconsin, the leading milk production State, have disapproved such State-administered promotion programs which require producer contributions. New Jersey and Pennsylvania were not using their promotion authority. New Hampshire, Texas, West Virginia, and Wisconsin use some appropriated funds for dairy promotion. Wisconsin, for example, spent an estimated \$50,000 of appropriated funds for promotion in 1978.

In most States without legislative authority to establish promotion programs, cooperative or voluntary contribution programs exist. Such programs vary widely in the levels of both contributions and participation.

Producer participation in the  
five leading dairy States

The following table shows the approximate milk production, number of producers, total dollars contributed, types of programs, and approximate percentages of producer participation for the five leading milk-producing States.

<u>State</u>	<u>1978 milk production</u> (billion pounds)	<u>Number of producers</u>	<u>Total dollars contributed</u> (millions)	<u>Type of program</u>	<u>Percent of producer participation</u>
Wisconsin	21.3	45,000	\$ 1.1	Voluntary	25
California	11.9	3,400	12.7	State order-- no refund	100
New York	10.5	15,000	5.0	State order-- no refund	100
Minnesota	9.1	26,900	3.3	State law-- refund pro- vision	75
Pennsylvania (note a)	7.9	15,500	2.5	Federal order Federal order Voluntary	74 89 10

a/There are two Federal orders and a voluntary program in Pennsylvania.

Producer participation is much higher in areas covered by mandatory programs than in areas where contributions are voluntary.

The two leading milk-producing States--Wisconsin and California--have contrasting promotion programs in both funding and producer participation.

In 1978 Wisconsin's 45,000 producers, with a production of 21.3 billion pounds, contributed about \$1.1 million for promotion programs. The Wisconsin program is voluntary at a rate of one-third of 1 percent of the sales price per hundredweight. About 25 percent of Wisconsin's producers contributed.

In 1978 California's 3,400 producers, with a production of about 11.9 billion pounds, contributed about \$12.7 million for promotion programs. The grade A producers contributed 1 percent of their gross sales, or about \$11.4 million. The grade B producers contributed one-half of 1 percent of their gross sales, or about \$236,000. In addition, handlers and producers contributed about \$1 million to the Dairy Council of California. The California program is mandatory with no refunds available to producers.

Dairy industry officials told us that a percentage-of-sales assessment is preferable to an assessment based on a fixed number of cents per hundredweight because it acts as a built-in hedge against inflation. The assessment increases as prices increase. Some States, such as California, Washington, and Oregon, currently use percentage-of-sales assessments.

#### GENERIC PROMOTION CAN INCREASE SALES

Generic advertising is aimed at developing demand for a product category, such as milk or cheese, rather than a specific brand. Brand advertising stimulates demand for a specific product, such as Kraft cheese, within a product category. Experience has shown that generic promotion can increase the sales of fluid milk and dairy products.

- A 1965 USDA study, conducted in cooperation with ADA over a 2-year period in one State and five Federal milk order markets, found positive relationships between promotional expenditures and fluid milk sales. Increased promotional expenditures increased fluid milk sales 4.5 percent with a medium level of expenditure and 5.9 percent with heavy expenditures.
- A 1976 USDA report showed increased butter and cheese sales associated with higher promotion levels. Butter and cheese sales with three levels of promotion investment were compared with sales with no promotion. For cheese, annual investments of 6 and 9 cents per capita produced sales gains of 15 to 18 percent in the test markets. Butter sales rose about 4.5 percent at the 9-cent promotion level but showed no gains at lower levels.
- A 1978 report by Stanley R. Thompson of Michigan State University concluded that in three New York State locations the effect of generic milk promotion on sales was positive and statistically significant. Per capita annual fluid milk sales increased 4.9 percent in New York City, 1.3 percent in Albany, and 1.9 percent in Syracuse.

Dairy industry promotion organizations report increased sales and returns on investment to illustrate the effectiveness of generic promotion. For example:

--The Oregon Dairy Products Commission reported that between 1971, the first year the 1-percent assessment became effective, and 1978, fluid milk sales in the Oregon-Washington Federal order market increased from 319 to 351 pounds per capita.

--The California Milk Advisory Board reported in 1977 that its promotion program had stopped a long-term decline in per capita fluid milk consumption in that State. In 1957 per capita consumption was 148 quarts. By 1971, when producers approved a one-half-of-1-percent contribution, consumption had fallen to 124 quarts. In 1977 officials reported that they had increased per capita consumption to 129 quarts. California producers now have a 1-percent contribution for market milk and a one-half-of-1-percent contribution for manufacturing-grade milk.

QUESTIONNAIRE RESPONSES SUPPORT  
PROMOTION PROGRAMS

The following tables summarize the questionnaire responses relating to promotion programs.

In your opinion to what extent do each of the following programs increase demand for dairy products?

<u>Program</u>	<u>Number of responses</u>				
	<u>Little</u>	<u>Some</u>	<u>Moderate</u>	<u>Great</u>	<u>No opinion</u>
Media advertising	2	13	8	5	1
In-store promotion	2	10	10	6	1
Nutrition education	2	11	10	6	1
Marketing research	<u>1</u>	<u>13</u>	<u>10</u>	<u>3</u>	<u>3</u>
Total	<u>7</u>	<u>47</u>	<u>38</u>	<u>20</u>	<u>6</u>

Most respondents felt that promotion programs increase demand to "some" or a "moderate" extent.

What should be done about expenditures for dairy promotion programs?

<u>Response</u>	<u>Number of responses</u>
Increase	22
Keep about the same	4
Decrease	<u>1</u>
Total	<u>27</u>

Most respondents felt that such expenditures should be increased.

To what extent do you agree or disagree that refunds should be allowed for producer contribution programs?

<u>Response</u>	<u>Number of responses</u>
Agree	8
Uncertain	8
Disagree	<u>13</u>
Total	<u>29</u>

More respondents felt that refunds should not be allowed than favored them. Respondents favoring refunds often cited freedom of choice as their primary rationale. Respondents opposing refunds often cited equity in funding promotion programs that benefit all producers. Producers who do not contribute were sometimes referred to as "free riders."

FEDERAL PROMOTION PROGRAMS  
COULD INCREASE FINANCING

Producer participation in financing dairy promotion programs could be increased by changing the current Federal milk-marketing order program or by establishing a Federal nationwide milk producer promotion program. Either option, however, would require increased Government regulation of the dairy industry.

Changes in the current Federal order program would help increase producer financing of promotion programs but, because orders do not cover all markets, would not completely resolve the free rider problem. Eliminating the refund provision in Federal milk orders would require that those producers who now request refunds contribute to the program. A credit could continue to be given, however, to producers for contributions under mandatory State or cooperative programs. Also, making mandatory promotion provisions a part of all Federal milk orders would increase the number of Federal markets with promotion programs from 6 to all 47 markets.

At the current funding rate of 5 cents per hundred-weight, without refunds, these changes would have increased contributions under Federal orders in 1978 from about \$9 million to about \$39 million. In 1979 they would have been about \$40 million. If the funding level had been at one-half of 1 percent of sales, an estimated \$41 million and \$47.5 million would have been contributed by producers under Federal orders in 1978 and 1979, respectively. At 1 percent of sales, about \$82 million and \$95 million, respectively, would have been contributed.

On the other hand, a Federal nationwide milk producer promotion program, with contribution rates set as a percentage of sales and no provision for refunds, would equitably increase financing of promotion programs and solve the free rider problem. Producers contributing under mandatory State or cooperative programs could be exempted from the Federal program. Also, contribution rates as a percentage of sales would help promotion programs keep pace with inflation.

If all producers had contributed one-half of 1 percent of their sales in 1978 and 1979, an estimated \$63.5 million and \$73.5 million, respectively, would have been obtained. If all producers had contributed 1 percent, as those in west coast States are doing for fluid milk, about \$127 million in 1978 and \$147 million in 1979 would have been obtained. We are not suggesting, however, that the contribution rate be 1 percent of sales. Contributions would be substantially increased over current contributions if the rates were set at even one-half of 1 percent of sales. The rate would have to be based on the funds necessary for an effective national program.

#### CONCLUSIONS

If the Government continues to support the price of milk and guarantee a market for surplus dairy products, producers should help promote demand. However, not all producers help finance dairy promotion programs. As a result, noncontributors are benefiting from investments by others, and the overall program suffers from lack of financing.

Producer participation in financing dairy promotion programs could be increased by eliminating the refund provision and making promotion provisions a part of all Federal milk-marketing orders or by establishing a Federal nationwide milk producer promotion program requiring all producers to contribute. Mandatory programs without refund provisions have been most effective in obtaining funds, and contribution rates set as a percentage of sales are more effective than a fixed rate per hundredweight of milk.

More uniform producer participation in funding promotion programs would remove inequities as well as generate increased contributions. Increased contributions should help the industry promote consumption, thereby reducing Government purchases of surpluses.

## RECOMMENDATIONS TO THE CONGRESS

We recommend that the Congress

- establish a Federal nationwide milk producer promotion program and
- set the contribution rate as a percentage of sales.

We also recommend that if the Congress, after considering these recommendations, decides to retain promotion programs under current Federal milk-marketing orders, it amend the Agricultural Marketing Agreement Act of 1937 to

- eliminate the refund provision in Federal orders,
- make mandatory promotion provisions a part of all Federal orders, and
- set the contribution rate as a percentage of sales.

## AGENCY COMMENTS AND OUR EVALUATION

USDA agreed that the need to purchase surpluses could be minimized by reduced production, increased consumption, or a combination of both. (See app. VI.) It also agreed that it is inequitable that free riders benefit from promotion programs without sharing costs. However, as a general policy, USDA does not support mandatory advertising and promotion programs for any commodity for two reasons. First, the value of generic advertising is controversial since its results cannot adequately be measured. USDA said that a cost should not be imposed on producers unless there is assurance that they will receive some value. Second, USDA believes that producers should maintain the freedom to make all business decisions, including whether or not to invest in advertising their product. USDA agreed that dairy products face strong competition; however, it questioned whether this condition warrants Government endorsement of a compulsory promotion program.

USDA's comment that results of generic advertising cannot be adequately measured is questionable. Because free riders benefit from promotion programs, as USDA agreed, it is logical to assume that such programs benefit all producers. As discussed on pages 67 and 68, two USDA studies and studies by a university and two State organizations showed that generic promotion of dairy products can be effective. Also, most of our questionnaire respondents felt that promotion programs increase the demand for dairy products to "some" or a "moderate" extent and that expenditures for dairy promotion programs should be increased.

We would agree with USDA's position that producers should maintain the freedom to make all business decisions, including whether or not to invest in promotion programs, if the Federal Government were not supporting the price of milk and guaranteeing a market for surplus dairy products. We are not advocating mandatory promotion programs simply because dairy products face strong competition. We believe that if the Government continues to support milk prices and guarantee a market for surplus dairy products, the producers should be expected to finance the promotion of their products and thus reduce Government costs. A better financed program could help dairy products compete more effectively in the market place. A Federal nationwide milk producer promotion program, with the contribution rate set as a percentage of sales, would equitably increase financing of promotion programs and solve the free rider problem.

## CHAPTER 6

### NEW DAIRY PROGRAM CONCEPTS

Changes in the dairy industry as well as in general farm program philosophy may be sufficient to suggest that the present dairy program structure may need to be modified. Consideration of fundamental changes in dairy programs would then be in order. This chapter explains and tentatively explores the consequences of three alternative new dairy program concepts--target prices, a national milk-marketing order program, and deregulation. The principal author of this chapter was Dr. Ronald D. Knutson, dairy economist and consultant to our Office.

#### WHY CONSIDER A NEW DAIRY PROGRAM?

The Federal milk-marketing order program legislation was first enacted in 1933, and reenacted in 1937. The price-support program legislation was enacted in 1949. Since then the industry has changed, farm program philosophy has changed, and substantial challenges to existing programs in the contemporary political-economic setting have been made.

#### Dairy industry changes

Although the objective of the milk price-support program is to support the price of all milk, it is generally conceded that its principal purpose is to support the price of manufacturing-grade (grade B) milk. This is apparently based on the notion that since the 1930s, Federal and State milk-marketing orders had provided income protection for grade A producers. Grade B producers, on the other hand, had no income protection. In fact, it can be argued that grade B producer returns were depressed by increased production called forth by higher and more stable grade A prices prescribed by the marketing orders. The existence of a price- or income-enhancing objective associated with Federal orders has frequently been denied by Federal order officials. However, the very concept of classified pricing with a more inelastic demand for fluid products implies a raising of returns to producers above competitive levels.

Over time, grade A production has increased as a proportion of total milk production to the point that it now constitutes over 80 percent of the milk supply. In 1977 about two-thirds of the milk used to make manufactured dairy products was grade A milk. In the process of this change, recognition of the price-support program's role in supporting the price of all milk has become apparent.

Under current dairy policy, a direct pricing link exists between the price-support program and Federal milk orders. This link results from the fact that when the Secretary of Agriculture raises the support price, the Federal order price for manufacturing-grade milk also normally increases. Since the price for grade A milk includes a fixed differential over the price of manufacturing-grade milk, all Federal order prices normally change when the support price changes. The only exception occurs when the market price for manufacturing-grade milk is sufficiently above the support price that support-price increases have no effect on the market price.

### Dairy program challenges

Challenges to existing dairy programs are by no means limited to questions of the extent to which they have adapted to industry change. During the 1970s substantial challenges to the whole concept of dairy regulation were made by the Justice Department's antitrust division and by consumer interests. The thrust of these challenges was that while milk orders may have been justified in the 1930s and 1940s, major changes are now needed. The major contentions of a 1977 Justice Department report on milk marketing were as follows.

- Milk orders have created surpluses.
- Consumers pay unjustifiably high prices for milk.
- Milk orders are manipulated by cooperatives.
- Milk orders have maintained local markets for milk while the true market is regional or national in scope.
- Classified pricing is at the root of the ills of the milk order system.
- Cooperatives have excessive market power.

In responding to these charges, the Secretary of Agriculture questioned the antitrust division's premises and conclusions. While we do not take sides in this dispute, the reports of the Justice Department and USDA emphasize the need for evaluating both current dairy programs and new program concepts.

Also, about one-third of our questionnaire respondents viewed two aspects of the milk-marketing order program--class I differentials and over-order premiums--as causes of

dairy surpluses. The class I differential is the difference in price between milk used for drinking and milk used for manufacturing. An over-order premium is the amount over the class I differential charged processors by cooperatives.

To what extent do you think class I differentials cause dairy surpluses?

<u>Respondent group</u>	<u>Number of responses</u>			
	<u>Great</u>	<u>Moderate</u>	<u>Some</u>	<u>Little</u>
Academic	1	3	2	5
Cooperatives and producer asso- ciations	-	1	1	6
Proprietary firms	1	2	1	4
Other	<u>1</u>	-	<u>2</u>	<u>1</u>
Total	<u>3</u>	<u>6</u>	<u>6</u>	<u>16</u>

In its consolidated reply (see p. 7), the Agricultural Marketing Service said that Federal milk orders have not significantly affected consumer prices, Government inventories, or milk consumption. It also believed that prices would fluctuate in the absence of Federal milk orders.

To what extent do you think over-order premiums cause dairy surpluses?

<u>Respondent group</u>	<u>Number of responses</u>			
	<u>Great</u>	<u>Moderate</u>	<u>Some</u>	<u>Little</u>
Academic	-	1	4	6
Cooperatives and producer asso- ciations	-	-	2	5
Proprietary firms	3	2	2	1
Other	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
Total	<u>4</u>	<u>4</u>	<u>9</u>	<u>13</u>

Cooperatives, as a group, generally felt that class I differentials and over-order premiums are not significant causes of dairy surpluses. Such matters concerning their market powers are a sensitive issue with cooperatives. Allegations have been made that some cooperatives have enhanced the price of milk and subsequently their own incomes contrary to the Capper-Volstead Act of 1922 (7 U.S.C. 291).

Proprietary firms, as a group, viewed over-order premiums as causing surpluses. Their opposition to over-order

premiums is not surprising since premiums increase the cost of milk to processors and therefore affect their competitive status.

### Farm program philosophy

Changes in agriculture over the last two decades have brought about a substantial change in farm program philosophy. The major changes include the following:

- Less reliance is placed on parity concepts in setting support prices. The major farm program emphasis since 1973 has been on cost of production. Dairy programs are a major exception to the trend away from parity price as a pricing and policy standard.
- Greater reliance is placed on competition as opposed to Government determination of prices. When price supports are high, little or no latitude exists within which the market can determine supply and demand. Thus, in the 1950s and 1960s, price supports based on parity price drove U.S. products out of world markets and resulted in overproduction. Current farm program concepts of target prices and loan rates allow prices to seek their own market-clearing levels. Market prices may at times fall below acceptable levels. When this occurs, current farm programs for major grains and cotton provide for direct payments from Government to producers. This policy contrasts directly to those of the 1950s and 1960s when higher price supports without direct Government payments were the basis for income support in agriculture.
- Increased discretion is provided the Secretary of Agriculture in setting prices consistent with economic conditions on major food grains, coarse grains, and cotton.

Dairy programs have not been adjusted to these changes in philosophy. Specifically:

- Primary reliance still rests on the parity price method for setting price- and income-support levels.
- Government programs, as opposed to market forces, play the major role in determining prices.
- Price supports, as opposed to Government deficiency payments, continue to serve as the basis for income support.

--Secretarial flexibility on pricing has been reduced--  
particularly by the 80-percent-of-parity minimum.

### PROGRAM ALTERNATIVES

In contrast to the alternatives to the parity price concept, the following new concepts--target prices, a national milk-marketing order, and deregulation of the industry--represent a major departure from past dairy policies and programs. However, many of the same program tools, such as price supports, classified pricing, and cost of production, could be used as aspects of the new programs. The major changes thus become those of program consolidation, philosophy, and specific approach for implementation.

#### Target prices

A target price program could directly align dairy programs with those of other major agricultural commodities, including wheat, rice, coarse grains, and cotton. That is, it could provide for direct Government payments to producers whenever the target price exceeded the higher of the average market price received by farmers or the support price. The direct Government payment is referred to as a deficiency payment. The term "deficiency" describes the Government's obligation to make up the difference between the target price and the average market price or support price.

A target price program could be applied to all milk or only to milk used for manufacturing. Each of these two approaches will be discussed separately.

#### Target price applied to all milk

Under this approach, a deficiency payment would be made to all producers regardless of either grade or use of milk produced. A target price program could operate with or without the Federal milk order program.

The following procedures adapted to milk could be followed if the target price concept were applied to all milk:

- The target price would be set on the basis of the average cost of production. Since the average cost of production for grade A and grade B milk no longer appears significantly different, the same target price would be established.
- The support price would be set at a minimum level to provide for price stability; ease in spreading

marketings of manufactured products throughout the year; and, to a lesser extent than currently, a procurement device for Government programs such as the National School Lunch Program.

--The Government would buy dairy products on an as-needed basis. If enough products were not obtained through support operations, products would be bought through normal competitive bidding procedures.

--At the end of the marketing year, the difference between the target price and the higher of the support price or the average market price received by producers would be calculated. If the higher of the average market price or the support price is less than the target price, a deficiency payment for the difference would be made.

Consequences--The principal effect of this target price program would be to allow the market mechanism to operate more fully in the pricing of milk to consumers. Through reduction of the support price, all milk prices would initially tend to fall. Over time, there would be more price variation as market forces operated. Producer income would be protected from the price reduction by deficiency payments. The level of protection would depend on the criteria used to set the target price. If set on the basis of cost of production, producer income would initially fall.

If the Federal order program remained in operation in essentially its present form, with class I and II milk prices being a fixed differential over the market prices for manufacturing milk, increased variation in manufacturing-milk prices would be reflected in prices paid by milk and ice cream processors associated with orders.

The level of Government expenditures required for deficiency payments would depend on the mechanism used to establish the target price and support-price levels. A Milk Industry Foundation-sponsored study done at Purdue University in 1979 indicated that if the target price was set at 75 or 80 percent of parity, Government costs in deficiency payments could run as high as \$3.2 billion or \$4.9 billion, respectively, in 1981. On the other hand, if the target price was based on the average cost of production or dairy parity, no deficiency payments would be needed in 1981.

The study assumed that the Federal order program would operate in its present form, that deficiency payments would be made to all producers, and that there would be no effective support price throughout the period. As a result, under

a deficiency payment program, inventories of dairy products would be held by the private sector. Government purchases would be limited to needs under programs such as the National School Lunch Program.

Substantially lower consumer expenditures on milk and increased consumption would result from the program change. For example, compared with the present price-support program at 80 percent of parity, a target price program at 80 percent of parity would result in \$4.25 billion less consumer expenditures and a 6.3-billion-pound increase in milk product consumption. Thus, increased Government costs would largely be offset by reduced consumer expenditures on milk. This effect of shifting costs from the consumer to Government is one that has occurred under target price programs set up for other commodities.

Under a target price program, the amount of the deficiency payment would provide a clear indication of the public cost to maintain an income-support program. In the present price-support program, this cost is hidden. This cost would be paid by Government through tax revenues, and such expenditures could tend to act as a more automatic restraint on the target price level.

Target price applied only to  
milk used for manufacturing

Under this approach a deficiency payment would be made only on that portion of producers' milk that was used in manufacturing. The rationale for such an approach would involve a recognition that with Federal milk orders, producers in high-utilization markets are already rewarded through the higher price paid by processors for milk used in higher use classes--particularly class I milk. As a result, the producers who find themselves in the greatest need of income support are those who do not have access to high-utilization class I markets.

The procedures for applying the target price only to milk used for manufacturing would be the same as if they were applied to all milk, except that producers' milk associated with an exclusively manufacturing market would receive the full deficiency payment. Producers associated with a Federal or State marketing order would receive payments in proportion to the quantity of milk used in the surplus class. For example, in a market where 50 percent of the milk was used for manufacturing, all producers would receive 50 percent of the deficiency payment.

Consequences--The principal effect of applying the deficiency payment only to milk used for manufacturing would be to cut Government costs. Since about 50 percent of the milk produced is used for manufacturing, Government costs would fall by roughly 50 percent from the estimates based on the Purdue model discussed previously where deficiency payments were made on all milk. As a consequence of reduced deficiency payments in high-utilization markets, producer returns would fall. All other consequences would be essentially the same as if deficiency payments were applied to all milk.

Questionnaire responses to target price concept

Over 55 percent of the respondents would not recommend a target price and deficiency payment program. The following table summarizes the responses to the question by respondent groups.

Would you recommend a target price and deficiency payment program for the dairy industry?

Respondent group	Number of responses			
	<u>Recommend</u>	<u>Uncertain</u>	<u>Not recommended</u>	<u>Not able to judge</u>
Academic	3	2	6	-
Cooperatives and producer associations	-	1	7	1
Proprietary firms	4	1	2	1
Other	<u>1</u>	<u>-</u>	<u>3</u>	<u>-</u>
Total	<u>8</u>	<u>4</u>	<u>18</u>	<u>2</u>

Cooperatives and producer associations expressed the greatest opposition; none recommended the target price concept. The main weaknesses were considered to be high Government expenditures and the possibility that deficiency payments would look like a welfare plan.

Academic economists were divided in their responses to target prices with three recommending, six not recommending, and two uncertain. The primary strengths of the concept were considered to be the market-clearing nature of the program, compatibility with other major commodity programs, and lower consumer prices. High taxpayer cost was considered to be the primary weakness.

Proprietary firms were the most favorable toward the target price concept; 50 percent of the respondents recommended it. Proprietary respondents saw the program as allowing the market to operate and reducing Government purchases.

#### National marketing order program

Such a program would expand the present Federal milk-marketing order concept to encompass all milk produced in all markets. If this were done, the milk price-support program would be reduced because all milk prices in all markets would be established under the order system. Such action would be based on the explicit recognition that, with diminishing grade B production and insignificant production cost differences between grade A and grade B milk, justification would no longer exist for two dairy programs.

A national milk-marketing order program as presented here would not satisfy the consumer and Justice Department critics who contend that classified pricing is the root of the dairy regulation problem. Neither would it satisfy those who advocate complete deregulation. Rather it would try to strike a middle ground by providing a competitive pricing base through the formation of a manufacturing-milk order while giving the Secretary flexibility to set class prices in accordance with economic conditions in the industry as a whole. A national milk-marketing order program, without a price-support program, is a step toward less Government regulation.

A national milk-marketing order program could have the following characteristics:

--Both grade A and grade B milk would be regulated by orders.

--A separate order for manufacturing milk would be established. The need for such an order was discussed by Jacobson, Hammond, and Graf <sup>1/</sup> in a 1978 report on pricing grade A milk used in manufactured products. This order would be located in the upper Midwest where a large proportion of the manufactured products are produced. The manufacturing order would

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<sup>1/</sup>Robert E. Jacobson, Jerome W. Hammond, and Truman F. Graf, "Pricing Grade A Milk Used in Manufactured Dairy Products," Ohio Agricultural Research and Development Center Research Bulletin 1105, Dec. 1978.

determine a competitive pay price for milk used for manufacturing purposes. To date, as indicated previously, the Minnesota-Wisconsin price paid for grade B milk has been used as the basis for establishing the class III price in all orders and as an adjustor of class I and class II prices.

- According to a 1973 Milk Pricing Advisory Committee report, declining grade B production, caused largely by conversion from grade B to grade A, has raised questions about the reliability of the Minnesota-Wisconsin price series. Much of the milk converted from grade B to grade A has become associated with a Federal order for the purpose of obtaining the benefits of higher class prices.
- With a properly run manufacturing-milk order, both grade B milk and grade A milk not needed in Federal orders in the upper Midwest would be associated with the manufacturing order. Prices paid by processors in this order would be competitively determined.
- To make the manufacturing-milk order attractive to grade A producers, class I producers in all Federal order markets would have to contribute a fee per hundredweight. This fee would be distributed among producers associated with the manufacturing order. It would be paid in return for the right to draw milk from the manufacturing order when it was needed. As such, the manufacturing order would be explicitly recognized as a reserve supply of milk to fluid markets.
- The milk price-support program would be reduced. Government purchases for programs such as the National School Lunch Program would be on an as-needed basis.
- To at least partially compensate for the loss of the price-support program, consideration could be given to creating a separate price class for cheese. Cheese has traditionally been in the same price class as butter and nonfat dry milk. A University of Minnesota study <sup>1/</sup> of household consumption of dairy products disclosed that increasing demand for cheese accompanied by changes in tastes and preferences appears to have

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<sup>1/</sup>C.S. Traen, J.W. Hammond, and B.M. Buxton, "An Analysis of Household Consumption of Dairy Products," University of Minnesota, Experimental Station, Bulletin 515, 1976.

made the demand for cheese more inelastic, creating the potential for increasing producer returns through applying the classified pricing concept.

--State orders would continue to operate as long as they conformed to Federal order requirements.

### Consequences

A national milk order program would explicitly recognize the changes in the structure of the milk industry over the last two decades. Specifically, it would recognize the increased importance of grade A production, the deterioration of the grade B pricing base for milk in the Minnesota-Wisconsin region, and the importance of that region as a reserve grade A source of milk supply for the Nation as a whole.

The level of producer returns under a national milk order program would depend on the level of class prices established. Returns could be supported by a higher class I price and a price for the new cheese class that is above the butter/powder price. Raising the class prices would, however, result in reduced consumption of these products.

All costs of the national order program would be borne by consumers. As a result, Government purchases under the price-support program would be limited to needs. Government inventories and costs would thus be reduced.

A well-operated national order program would assure adequate supplies of milk--although prices could be more variable.

### Questionnaire responses to national order program

Only 16 percent of the respondents would recommend a national milk-marketing order program to replace the current price-support and Federal order programs. The following table summarizes the responses to the question.

Would you recommend a national  
milk-marketing order as a replacement for the  
current price-support and Federal order programs?

<u>Respondent group</u>	<u>Number of responses</u>			
	<u>Recommend</u>	<u>Uncertain</u>	<u>Not recommended</u>	<u>Not able to judge</u>
Academic	1	5	5	-
Cooperatives and producer associations	2	2	4	1
Proprietary firms	2	-	4	1
Other	-	<u>1</u>	<u>3</u>	-
Total	<u>5</u>	<u>8</u>	<u>16</u>	<u>2</u>

Academic economists expressed a high degree of opposition and uncertainty with respect to a national order program. The main weaknesses cited included the higher degree of Government regulation and problems of establishing equitable price relationships. A few economists indicated that a strength would be more equitable treatment of all producers.

Cooperative and producer association respondents expressed less opposition to a national order program than to the target price/deficiency payment concept. Yet only two of the nine respondents in this group would recommend a national order program. The main strength seen by these respondents was increased uniformity of regulations. However, they recognized increased regulation as the principal weakness.

Four proprietary firms did not favor a national order program. Lack of recognition of local conditions was emphasized as a weakness. Strengths mentioned included more equitable treatment of grade B producers.

Deregulation of the dairy industry

In recent years an increasing number of suggestions have been made that consideration be given to eliminating both the price-support and Federal order programs. Most of these suggestions have come from antitrust regulatory agencies and consumer interests. Favorable experience with

deregulation of the airline industry has increased interest in deregulation as a general concept.

As discussed here, deregulation refers to terminating the Federal order and price-support programs. Milk prices would then be determined by competitive market forces. Each processor would be responsible for securing its own milk supply at whatever price supply/demand forces dictated. Also, producers would have to find an outlet for their milk.

### Consequences

During a conference on milk marketing sponsored by the Community Nutrition Institute in 1976, discussions of the consequences of eliminating the Federal order and price-support programs indicated less disagreement on the direction of the effect than on the intensity. In general, those identified more closely with the industry and producer interests saw more adverse consequences than others. The following list is designed to reflect a reasonable middle ground perspective on the consequences of eliminating the Federal order and price-support programs in terms of the objectives used to evaluate current programs and their alternatives.

- Producer prices and incomes would fall. This income reduction would probably be substantial in the short run, particularly if large Government stocks existed. As industry capacity adjusted to demand, prices would return to a level approximating the cost of production.
- Fluctuation in milk prices would increase at all industry levels. Price fluctuations would probably follow a general cyclical pattern comparable to that in the beef industry. The peaks in such cycles could be higher than the present support and Federal order prices while the valleys would be lower.
- Consumer prices under a free market would be the market prices. In general, consumer prices would be lower than they are now, but at times they could be higher.
- An absence of programs would result in no Government inventories and no Government expenditures.
- Less assurance of an adequate supply of high-quality dairy products would exist. However, the likelihood of shortages would be considerably less than when the Federal order and price-support legislation was enacted.

We anticipate that beyond these effects substantial incentives would exist for increased producer organization through cooperatives. Increased cooperative activity would provide the basis for bargaining with processors on prices and other terms of trade currently provided for in the Federal order program. Cooperatives would also be likely to assume increased responsibility for managing inventories of manufactured dairy products--a function now shared with the price-support program and proprietary processors of manufactured products.

Questionnaire responses to level-of-regulation concept

The questionnaire sought responses to the general issue of reducing the level of regulation. It also tried to establish the specific areas where the level of regulation could be changed. The following tables summarize the responses to two questions about regulation, analyzed by respondent group.

Would you recommend less regulation of the dairy industry?

<u>Respondent group</u>	<u>Number of responses</u>			
	<u>Recommend</u>	<u>Uncertain</u>	<u>Not recommended</u>	<u>Not able to judge</u>
Academic	7	2	1	-
Cooperatives and producer associations	4	-	4	1
Proprietary firms	8	-	-	-
Other	<u>2</u>	<u>1</u>	<u>-</u>	<u>1</u>
Total	<u>21</u>	<u>3</u>	<u>5</u>	<u>2</u>

Summary of questionnaire responses to questions  
about the level of Government regulations

<u>Aspect of regulatory program</u>	<u>Level of regulation desired</u>		
	<u>Increased</u>	<u>Same</u>	<u>Decreased</u>
(Number of responses)			
<b>Academic economists:</b>			
Producer income	1	5	4
Producer prices	-	4	6
Over-order premiums	1	8	1
Production controls	2	6	2
Cooperative pay prices	<u>1</u>	<u>8</u>	<u>1</u>
Total	<u>5</u>	<u>31</u>	<u>14</u>
<b>Cooperatives and producer associations:</b>			
Producer income	-	7	1
Producer prices	-	7	-
Over-order premiums	2	4	1
Production controls	-	5	2
Cooperative pay prices	<u>1</u>	<u>7</u>	<u>-</u>
Total	<u>3</u>	<u>30</u>	<u>4</u>
<b>Proprietary firms:</b>			
Producer income	1	2	3
Producer prices	-	2	4
Over-order premiums	3	-	3
Production controls	2	2	2
Cooperative pay prices	<u>4</u>	<u>-</u>	<u>1</u>
Total	<u>10</u>	<u>6</u>	<u>13</u>

Academic economists indicated general support for reduced regulation; 7 of 10 favored less regulation. (See table on p. 86.) In terms of specific areas, the most support for reduced regulation was in the areas of producer income and prices--relating directly to the price-support and Federal order programs. (See table above.) Most of the academic economists supported the same level of regulation in the areas of over-order premiums, production controls, and the prices cooperatives pay producers for milk.

Cooperative and producer association responses on the issue of less regulation were split. (See table on p. 86.) However, when it came to identifying specific areas for changing the level of regulation, they strongly supported the current level. (See table on p. 87.)

Proprietary firms indicated unanimous support for less regulation. (See table on p. 86.) However, a majority favored reduced regulation only for producer prices. (See table on p. 87.) More regulation was favored for cooperative pay prices. Current regulations provide that orders establish only minimum prices. While proprietary firms have to pay producers the Federal order blend price, cooperatives do not.

### CONCLUSIONS

In the past 10 years, Government policy toward agriculture has become considerably more market oriented. That is, more reliance has been placed on market-determined prices as opposed to Government-determined prices. In the process, support prices for grains and cotton that frequently had been above world market prices were replaced with target prices adjusted to reflect changes in the cost of production and support prices set sufficiently low to allow U.S. agricultural products to compete in the world market.

Dairy programs have not followed this trend. If anything, the setting of the minimum support at 80 percent of parity has been a step in the opposite direction.

New dairy program concepts include (1) target prices and support prices as used for other major commodity programs, (2) a national milk-marketing order program, and (3) deregulation of the industry. The new concepts recognize that the dairy industry is rapidly moving toward a single grade of milk, consumer tastes and preferences are moving in the direction of lowfat milk and cheese, and milk markets are becoming more geographically interdependent. Such changes increase the need for a single approach to dairy policy.

Neither the target price nor the national milk order concepts would require a change in program objectives of adequate milk supplies, prices based on production costs, and maintenance of the longrun productive capacity of the dairy industry. Either concept could use cost-of-production and supply/demand balancing standards as the criteria for setting prices and determining producer income levels.

The target price or national milk order concepts obviously represent a major change in dairy industry policy and cannot necessarily be implemented immediately. A significant step in this direction would be an initial move from the parity price standard to dairy parity. Subsequently, a comprehensive supply/demand balancing formula might serve as a guide for adjusting both Federal order and support prices. A final step to either target prices or a national order system might then be politically and economically feasible.

Complete deregulation in a single step would increase uncertainties in the industry and could ultimately result in a reduction in productive capacity as producers left the dairy business for less risky endeavors. Larger farms with increased market domination would remain.

#### AGENCY COMMENTS AND OUR EVALUATION

In commenting on this chapter (see app. VI), USDA said that it could not support a suggestion in our draft report that the present dairy program structure may be obsolete. It said that the price-support program had adapted to changes in the industry and continues to provide needed stability to milk and dairy product prices. Regarding milk orders, it said that a formal procedure exists for modifying them and for taking into account the full views of all interested parties and that the orders are frequently modified as circumstances change. USDA said that for these reasons and because the basic elements of disorder and instability which the programs were devised to alleviate still exist today, the present dairy programs are far from obsolete. It added that discarding these programs or their basic elements would not seem to be a viable option.

We revised our statement to say that changes in the dairy industry as well as in general farm program philosophy may be sufficient to suggest that the present dairy program structure may need to be modified. (See p. 73.) As indicated in the earlier chapters, however, we do not agree that the current programs have sufficiently adapted to industry changes. We recognize that the existing programs have strong support in both the industry and the Congress. However, the dairy surplus problem at times has been burdensome and, according to recent estimates, will result in net Government expenditures of \$560 million in the 1980 marketing year.

This report discusses a range of alternatives available for reducing the dairy surplus and balancing the interests of producers, consumers, and taxpayers. The preceding chapters of this report include recommendations directed toward current programs. However, such changes are not the

only alternatives available. The purpose of this chapter is to explain and explore the consequences of alternative dairy program concepts. As pointed out on page 77, many of the existing program tools, such as price supports, classified pricing, and cost of production, could be used as aspects of the new programs.

USDA agreed that conceptually a national milk-marketing order could be implemented, but it would be difficult to implement and administer. According to USDA, a major drawback to this approach is that the Government would be placed in the almost impossible role of having to equitably allocate proceeds from classified pricing to dairy farmers throughout the country.

In our judgment, developing a method of allocating proceeds should not be a major drawback. USDA is in the process of consolidating several market orders in Oklahoma and Texas; under the new orders, it will make equity decisions, such as raising prices to producers in certain areas and reducing prices in others.

USDA also said we had implied that the milk price-support program's original purpose was to aid producers of manufacturing milk because fluid grade producers were already benefiting from Federal milk orders. It also said we had expressed the idea that a milk support program need not be based on manufacturing-milk values and that Federal order prices do not necessarily have to be based on manufacturing-milk values.

We did not mean to imply that the milk price-support program's original purpose was to aid producers of manufacturing-grade milk. The milk support price is not now based on manufacturing-milk values. The standard for the support price is now 80 percent of parity. This standard has been interpreted as applying to manufacturing-grade milk, and manufacturing-milk values do provide an indication of whether the price-support objective has been achieved.

Conversion from grade B to grade A production has, over time, made manufacturing-milk values a less reliable indicator of producer returns. That is, with 80 percent of the milk produced being grade A, 80 percent of the producers' returns are at prices higher than the manufacturing-milk price. As grade B conversion to grade A continues, the use of manufacturing-milk values as a guide against which to measure achievement of the price-support objective becomes more questionable from a policy viewpoint. A better guide might be the all-milk wholesale price or the price received by farmers for all milk.

USDA agreed that when the quantity of manufacturing-grade milk disappears or declines to such an extent that its market prices no longer reflect the true market situation, some other price-support objective would need to be used. USDA said that whatever objective is used, it believes that the proven method of support with the least Government involvement is through purchases of dairy products. It said, however, that the key to a successful program is for the support price to be set at levels that call forth neither an insufficient nor excessive supply of milk. It added that to do this, a proper standard, as well as enough flexibility for decisions by policymakers, is essential.

We agree that a proper standard with appropriate flexibility is necessary to balance milk supply and demand. If such a goal were reached, the Government would need to purchase only enough dairy products for Government food donation programs. The alternative and new program concepts discussed in this report are directed toward that goal.

INDIVIDUALS RESPONDING TO QUESTIONNAIRE

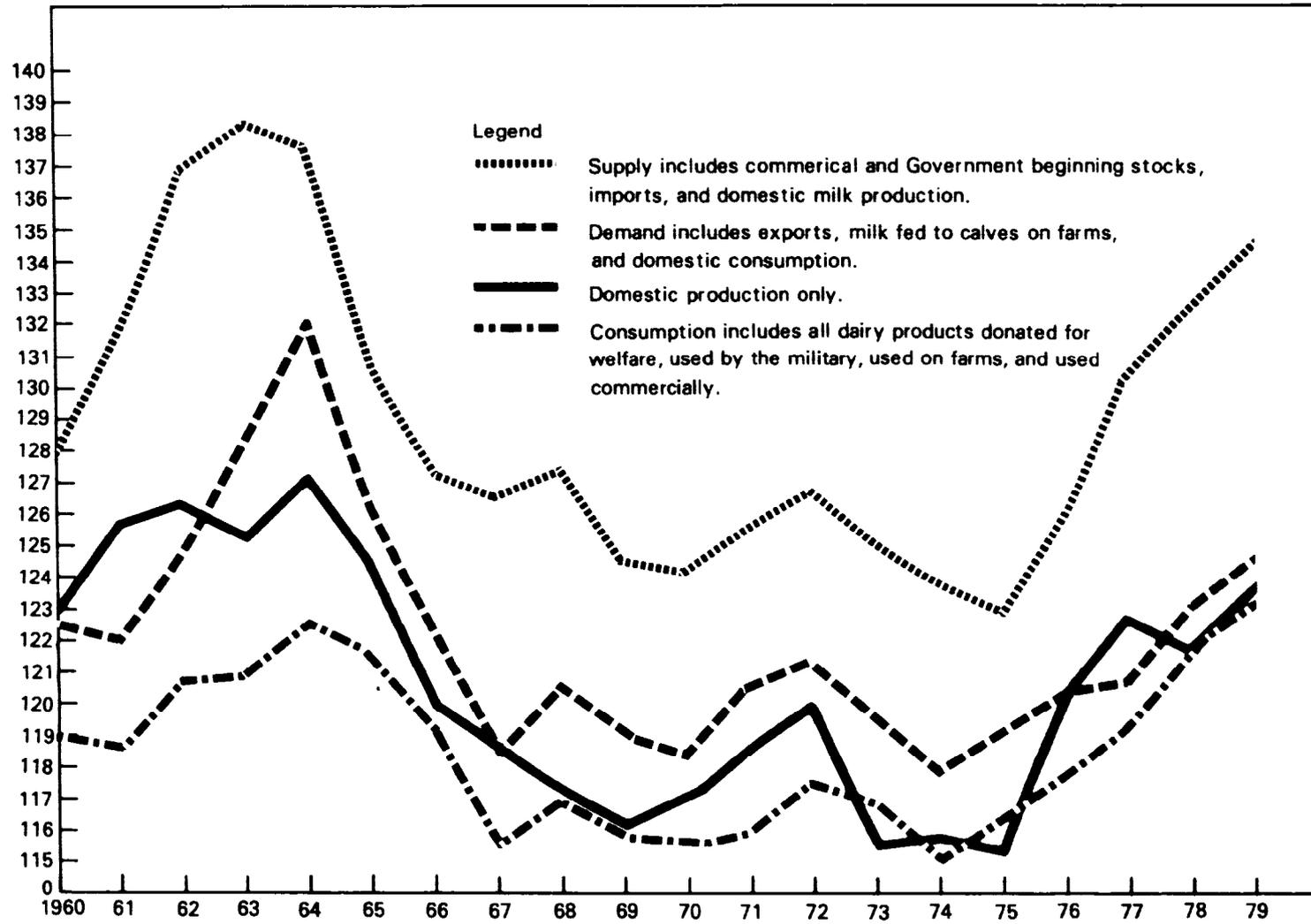
<u>Name</u>	<u>Organization</u>
Academic:	
Dr. Leo V. Elakley	Oklahoma State University
Dr. William D. Dobson	University of Wisconsin
Dr. Truman F. Graf	University of Wisconsin
Dr. Milton C. Hallberg	Pennsylvania State University
Dr. Jerome W. Hammond	University of Minnesota
Dr. Harold M. Harris, Jr.	Clemson University
Dr. Robert E. Jacobson	Ohio State University
Dr. Allen Luke	Western Washington Research and Extension Center
Dr. Rob Masson	Cornell University
Dr. Glen McEride	Michigan State University
Industry--Cooperatives and producer associations:	
Mr. James E. Click	Maryland and Virginia Milk Producers Association
Mr. Lynn Elrod	American Milk Producer Institute
Dr. James W. Gruebele	Dairymen's Coop Creamery Association
Mr. Gary D. Hanman	Mid-America Dairymen, Inc.
Mr. Art Jepsen	Land O' Lakes
Mr. Judson Mason	National Milk Producers Federation
Mr. George W. O'Brien	Dairylea Cooperative

<u>Name</u>	<u>Organization</u>
Dr. Albert J. Ortego, Jr.	Dairymen, Inc.
Mr. R.L. Strock	Maryland Coop Milk Producers, Inc.
Mr. Carl E. Zurborg	Mississippi Valley Milk Producers Association
Industry--Proprietary firms:	
Mr. Russell T. Dethlefsen	Southland Corporation
Mr. W. Rittmueller	Dean Foods
Mr. E. Linwood Tipton	Milk Industry Foundation
Mr. Keith Tuttle	Fairmont Foods
Mr. Harry Wildasin	H.P. Hood, Inc.
Mr. Harold W. Wilder	Kinnett Dairy, Inc.
Government:	
Mr. Jed Adams	Division of Marketing Services, California Department of Food and Agriculture
Mr. H.L. Forest	Director, Dairy Division, Agricultural Marketing Service, U.S. Department of Agriculture
Mr. Anthony Fraga	California Milk Advisory Board
Consumer:	
Ms. Ellen Haas	Consumer Division, Community Nutrition Institute

Four responses were received from persons who asked not to be identified.

# MILK SUPPLY AND DEMAND AND MILK PRODUCTION AND CONSUMPTION (1960-1979)

Billion pounds



SOURCE: Prepared by GAO from information obtained from USDA.

ESTIMATED MILK SUPPORT PRICE BASED ON DAIRY PARITY STANDARD

	October 1, 1978		October 1, 1979	
	<u>1910-14=100</u>	<u>1967=100</u>	<u>1910-14=100</u>	<u>1967=100</u>
10-year average price received (per hundred-weight)	\$ 7.22	\$ 7.22	\$ 7.75	\$ 7.75
divided by				
10-year average of Index of Prices Received for Dairy Products	<u>453</u>	<u>147</u>	<u>490</u>	<u>159</u>
equals				
Adjusted base price	\$ 1.59	\$ 4.91	\$ 1.58	\$ 4.87
multiplied by				
Dairy parity index (9-15-78 & 79)	<u>837</u>	<u>214</u>	<u>973</u>	<u>248</u>
equals				
Parity price for all milk sold	\$13.31	\$10.51	\$15.37	\$12.08
multiplied by				
Parity equivalent factor	<u>.856</u>	<u>.856</u>	<u>.870</u>	<u>.870</u>
equals				
Parity price for manufacturing-grade milk	<u>\$11.39</u>	<u>\$ 9.00</u>	<u>\$13.37</u>	<u>\$10.51</u>
Support-price level for manufacturing-grade milk at				
75 percent of parity	\$ 8.54	\$ 6.75	\$10.03	\$ 7.88
80 percent of parity	\$ 9.11	\$ 7.20	\$10.70	\$ 8.41
85 percent of parity	\$ 9.68	\$ 7.65	\$11.36	\$ 8.93
90 percent of parity	\$10.25	\$ 8.10	\$12.03	\$ 9.46
100 percent of parity	\$11.39	\$ 9.00	\$13.37	\$10.51

AVERAGE ANNUAL MILK PRODUCTION COST FOR 1975-79

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u> (note a)	<u>1979</u> (note b)
	---(cost per hundredweight (note c))---				
Direct costs:					
Feed	\$4.55	\$5.01	\$5.07	\$4.78	\$5.12
Hired labor	.22	.24	.29	.30	.32
Interest on operating capital	.08	.08	.08	.08	.09
Overhead	.21	.23	.36	.40	.43
Other production items	<u>.99</u>	<u>.98</u>	<u>1.09</u>	<u>1.15</u>	<u>1.24</u>
Total direct costs	<u>6.05</u>	<u>6.54</u>	<u>6.89</u>	<u>6.71</u>	<u>7.20</u>
Indirect costs:					
Operator and family labor	1.26	1.28	1.50	1.56	1.66
Ownership costs (note d)	1.44	1.44	1.34	1.64	2.36
Management	.62	.66	.69	.70	.80
Land allocation (note e)	<u>.11</u>	<u>.11</u>	<u>.13</u>	<u>.15</u>	<u>.17</u>
Total indirect costs	<u>3.43</u>	<u>3.49</u>	<u>3.66</u>	<u>4.05</u>	<u>4.99</u>
Total production costs	9.48	10.03	10.55	10.76	12.19
Adjustment for income from cull cows and calves (note f)	-	-	.85	1.23	1.66
Total net production costs	<u>\$9.48</u>	<u>\$10.03</u>	<u>\$ 9.70</u>	<u>\$ 9.53</u>	<u>\$10.53</u>

a/Estimated.

b/Projected.

c/Represents all milk sold and consumed on the farm.

d/Ownership cost for machinery, building and equipment, and livestock, including replacement reserve, interest, taxes, and insurance.

e/At current value for agricultural purposes (dairy lot and pasture-land only).

f/For 1975 and 1976, meat values were converted into milk equivalents and reported in each cost component; thus, the components for 1977, 1978, and 1979 are higher. To retain comparability, however, USDA reported the income received from the sale of cull cows and calves separately as a downward adjustment in total costs.

Source: USDA.

WEIGHTS ASSIGNED TO VARIOUS FACTORS USED  
IN ACTUAL ECONOMIC INDEX FORMULAS FOR PRICING  
CLASS I MILK IN INDICATED FEDERAL ORDER MARKETS

<u>Factors included</u>	<u>Federal milk-marketing orders</u>				
	<u>Boston</u>	<u>New Orleans</u>	<u>New York</u>	<u>Philadelphia</u>	<u>San Antonio</u>
	----- (factor weight) -----				
General economic conditions:					
Wholesale price index	0.3333	0.3333	1.0000	0.2000	0.3333
Supply conditions:					
Farm wage rates	0.1667	0.1333	-	-	-
Feed cost index	0.1667	0.2000	-	0.2000	0.1000
Prices received for all farm products	-	-	-	0.2000	0.2333
Demand conditions:					
Department store sales	0.3333	0.3333	-	-	0.3333
Class I sales	-	-	-	0.2000	-
Prices paid by condenseries	-	-	-	0.2000	-
Total all economic conditions	<u>1.0000</u>	<u>1.0000</u>	<u>1.0000</u>	<u>1.0000</u>	<u>1.0000</u>
Supply/demand adjustor	Yes	Yes	Yes	Yes	Yes

Source: "Economic Formula Pricing of Milk," Texas Agricultural Experiment Station Research Report MRC 79-1, June 1979, p. 3.



UNITED STATES DEPARTMENT OF AGRICULTURE  
 AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE  
 P. O. BOX 2415 . . . WASHINGTON, D. C. 20013

MAY 7 1980

SUBJECT: Draft Report Entitled: "How to Reduce Dairy Surpluses and  
 Balance the Interests of Producers, Consumers and Taxpayers"

TO : Director, Community and Economic Development Division,  
 General Accounting Office  
 THROUGH: *Will for* Under Secretary for International Affairs and  
 Commodity Programs

The report is comprehensive in that it covers the many alternatives to the present program that have been discussed in recent years, and is most timely because there now is a consensus that the milk support price program is not performing as it should, as is evidenced by this year's heavy price support purchases and the excessive government costs. A dialogue on dairy policy has already begun among representatives of producers, industry, consumers, and the Administration. This report should make an important contribution to the ongoing discussion.

Most of the alternatives discussed in the report were dealt within the Department of Agriculture's Agricultural Economic Report No. 402, entitled "Dairy Price Policy: Setting, Problems, Alternatives," issued April 1978. They also were discussed in the publication prepared for the Milk Industry Foundation and International Association of Ice Cream Manufacturers and issued September 1979. These, and other publications are cited by the report.

The report focuses on the income enhancing aspects of price supports and completely ignores the price stabilizing effects. It is implied throughout the report that zero purchases should be the objective of the program. Such an assumption ignores the price instability that results in the zero purchase situations. Furthermore, there appears to be a misunderstanding of how the existing program is intended to operate. The legislation now requires that the support for milk be provided only through purchases of dairy products. Therefore, if the program is to provide any support at all, some purchases are necessary. Clearly, purchases as such are not undesirable. Excessive purchases, depending on how that is defined, are undesirable.

Director, Community and Economic Development Division

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There is an underlying theme throughout the report that any new measure that reduces prices to producers will solve the problem of surpluses. Such an assumption is not appropriate because the programs must function well in other than surplus situations. The basic question of how the efficiency and effectiveness of price supports are measured should be treated specifically. Whether or not cost-of-production should be the basis for price supports, it is still the standard by which price supports will be measured by the industry and by the public.

The report indicates that Federal dairy policies and programs are designed, in part, to assure an adequate supply of milk. The problem, the report states, is that the dairy industry has continually produced more milk than can be marketed commercially. The report indicates that the dairy price support program, which uses parity price as the standard for determining the support level, is the principal cause of dairy surpluses. It has enhanced milk producer incomes to levels more than adequate to maintain productive capacity.

The report emphasizes that the parity price standard is the main problem, and that there are alternative milk pricing standards which could help solve or reduce the dairy surplus problem and more effectively and equitably accomplish program objectives. These include a dairy parity price standard, a cost of production standard, and a standard based on a comprehensive formula that would systematically and simultaneously consider changes in cost of production, milk product stocks on hand, and demand for milk products.

It is important that any standard for price or income support give the proper, and early, signals to producers and policymakers. There will still be pressure to ignore these signals, especially if they indicate lower milk prices. This is where responsibility for flexibility and program management must be assumed, regardless of the pricing standard used. The first part of the report puts full blame for dairy surpluses on the current price support standard. Later chapters in the report recognize, however, that even the best of pricing standards or program modifications would not automatically insure that the dairy price support objectives are effectively accomplished. Failure to recognize this in early sections of the report reduces its effectiveness and credibility.

The criticism of the parity equivalent price for manufacturing milk is due to a misunderstanding. A "parity price" for manufacturing milk can be directly calculated in the usual manner (without any reference to the parity price for all milk) and the parity price and the parity equivalent price would be identical. Therefore, any criticism should be directed at the general parity concept now being used, rather than the parity equivalent price. The computations are shown in the enclosure.

Director, Community and Economic Development Division

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The report contains the following recommendations with regard to advertising and promotion in Federal milk orders:

- "eliminate the refund provision in Federal orders,
- make mandatory promotion provisions a part of all Federal orders, and
- set the contribution rates as a percentage of sales."

As a general policy, this Department does not support mandatory advertising and promotion programs for any commodity. There are two reasons. First, the value of generic advertising is controversial since its results cannot adequately be measured. A cost should not be imposed upon producers unless we are sure that some value will be received by them. Second, we feel that producers should maintain the freedom to make all business decisions, including whether or not to invest in advertising their product.

In the Congressional debate on the bill which provided for advertising and promotion provisions in Federal milk orders, the view was expressed that it should be the individual producer's decision as to whether to participate or not. We supported that position which led to the voluntary type program that we have in milk orders today.

Currently, only six Federal orders contain promotion programs. Each of the six already has or has under consideration a deduction rate at a specified percentage of the price paid to producers.

At one point (page 73) the report suggests that the present dairy program structure may be obsolete. We cannot support such a suggestion. The price support program has adapted to changes in the industry and continues to provide needed stability to milk and dairy product prices. There is a formal procedure for modifying milk orders, and for taking into account the full views of all interested parties. The orders are frequently modified as circumstances change. For these reasons, and because the basic elements of disorder and instability which the programs were devised to alleviate are still with us today, the present dairy programs are far from obsolete. To discard these programs or their basic elements then would not seem to be a viable option.

A national milk order (pages 81-84) has been discussed by some persons in the dairy industry, but only in very general terms. The concept is that as more and more milk is converted from manufacturing grade to Grade A, and the market for milk becomes more national in character, it is conceivable that it might be possible to include all milk in a national milk pool or several regional pools. If this were done, classified pricing might be relied upon to generate more of the dollars needed to achieve an adequate milk supply and less reliance placed upon the price support program. In a sense,

GAO note: Page references have been changed to correspond to the final report.

Director, Community and Economic Development Division

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consumers through classified pricing would pay more of the cost directly of assuring an adequate milk supply, and less reliance would be placed upon the Federal Treasury through the price support program. In discussing this approach, it has generally been assumed it would be essential to continue the dairy price support program, but that support levels could be established at somewhat lower levels. A key ingredient of this concept is that the proceeds from the classified pricing scheme would be pooled and distributed equitably among all dairy farmers.

While conceptually this approach could be taken, as a practical matter, it poses a host of difficulties in terms of implementation and administration. A major drawback to this approach is that the Government would be placed in an almost impossible role of having to develop means of allocating proceeds from classified pricing among dairy farmers throughout the country in an equitable manner. Under the existing Federal order program and price support program, market forces play a much greater role in this respect.

The study by Jacobson, Hammond and Graff referred to on page 81 relates to a possible means of maintaining a competitive pay price when all milk is Grade A. It is not a basic part of the national milk order concept, and we feel it is confusing to present this idea as part of the national order concept.

We concur with the conclusion of the report that the consequences of instituting supply controls would be more adverse than the current dairy programs. In addition to the adverse impacts noted which included more regulation and increased producer costs, another serious consequence would be the restricted ability to adjust resources. Quotas assigned to individual dairy farmers would tend to hold resources in production when they were not needed. The necessity of having a quota to cover production and the cost of obtaining quotas would deter resources from entering dairying when needed and impede the expansion of current production units into more efficient production units. Efficiency in the dairy industry would decrease over time. Dairy farmers have not supported supply control in the past. Given the choice between higher prices with production controls and lower prices with unlimited production, U.S. dairy farmers appear to favor the latter.

From the inception of the milk price support program in 1949, it has generally been recognized that by limiting the support objective to manufacturing grade milk, the prices for milk in all uses were strengthened.

In arriving at a decision as to the advisable level of support the Secretary has always taken into account the likely effect on the production and consumption of all milk, not just manufacturing milk.

Director, Community and Economic Development Division

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The advantage of limiting the support to manufacturing grade milk is that the average price of manufacturing grade milk clearly represents the operation of a freely operating competitive market. Any surplus of milk is manifested in the form of excess stocks of dairy products which can be removed from the market through CCC purchases of dairy products.

In the report the idea is expressed that a milk support program need not be based on manufacturing milk values, and also that Federal order prices do not necessarily have to be based on manufacturing milk values. The notion is expressed that originally the milk price support program's purpose was to aid producers of manufacturing milk because fluid grade producers were already benefiting from the Federal milk orders. However, there was already some experience with government purchases of dairy products from time to time during periods of depressed milk prices. The products were used in domestic school lunch and welfare programs. The effects of the purchases on market prices of dairy products and, in turn, on all milk prices were easily observable.

Manufacturing grade milk prices are not regulated under Federal orders or through any other type of program whereby minimum prices are set which manufacturers are required to pay farmers. Instead the prices paid farmers for manufacturing grade milk are arrived at through competitive forces, except as influenced by the milk price support program. Thus, the manufacturing grade milk price series is a reliable indicator of the supply and demand situation for milk for manufacturing. The prices that plants can pay for manufacturing grade milk are directly related to the market prices of the dairy products they make. The dairy product prices, in turn, are arrived at competitively. Whenever market prices of the products are close to CCC purchase prices they reflect the fact that commercial supplies are in excess of the quantities demanded for commercial use. When market prices are above CCC purchase prices, commercial supply and demand may be said to be equated. Thus, changes in milk prices reflect the changing market conditions and market prices for dairy products.

Should manufacturing milk (grade B) disappear or decline to such an extent that its market prices no longer reflect the true market situation, some other support price objective would need to be used. Whatever objective is used, the proven method of support with the least government involvement is through purchases of dairy products. However, the key to a successful program is for the support price to be set at levels that call forth neither an insufficient nor excessive milk supply. To do this, a proper standard as well as enough flexibility for decisionmaking by policymakers is essential.



Administrator

Enclosures

ATTACHMENT 1/

More specific comments relative to the text of the draft report are:

p. 1; 6th line -- ... more milk than can be marketed commercially at established prices.

[GAO note: Sentence revised.]

p. 1; 2d para; 7th line --strike "largely disappeared."  
Insert: "declined substantially."

(In the 1978-79 marketing year CCC sold or donated 117 million pounds of butter and 333 million pounds of nonfat dry milk. All the cheese available (41 million pounds) was utilized--there was no inventory on Sept. 30, 1979. At least 100 million pounds of cheese can be used in school lunch and other domestic programs).

[GAO note: Sentence revised.]

p. 1; 2nd para; 4th line -- ... as much milk as they choose, but ...

[GAO note: Sentence revised.]

p. 1; 3rd para -- This paragraph really gives the socially desirable basis for a milk promotion program, but no mention of it is made in the sections on promotion.

[GAO note: Mentioned on p. 63.]

p. 1; 4th para; 9th line -- Strike the word "gradually".

[GAO note: Sentence revised.]

p. 2; 3rd para; 6th line -- Price supports really don't guarantee a minimum average price ... they help to assure dairy farmers a minimum average price. In periods of heavy surplus there may be several months when market prices do not reach support levels. This could be listed as a shortcoming of the price support program as compared to a direct payment program.

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1/This portion of the Department's letter was retyped to facilitate showing our comments. The page numbers were changed to reflect those in the final report.

[GAO note: Sentence revised.]

Page 2, 3rd para under DAIRY PROGRAMS: Strike:

-- "Marketing orders allow the dairy industry to market milk used for fluid consumption or for manufacturing at regulated minimum prices."

Insert:

-- Marketing orders establish minimum prices that fluid milk handlers are required to pay Grade A dairy farmers for milk in specified marketing areas according to the use made of the milk.

[GAO note: Sentence revised.]

p. 3; Add to 2d para: The base period prices for the various commodities are adjusted each year to reflect their relationship to each other in the most recent 10 years.

[GAO note: This relationship is explained on p. 10.]

Page 3, para 3 - revise as follows:

U.S. Department of Agriculture's (USDA's) Agricultural Stabilization and Conservation Service is responsible for administering the price-support program. In carrying out the program, supports the price of milk used in manufactured dairy products. To maintain minimum prices, through USDA's Commodity Credit Corporation (CCC), purchases any quantity meeting specifications of nonfat dry milk, cheese, and butter that is offered. Such purchases, at prices based on the support price for milk plus an allowance for processing costs, reduce supplies of dairy products on the commercial market to the quantities that can be sold at prices equivalent to the support price. Increases in the support price of milk require higher CCC purchase prices for dairy products. For example, the following table shows the increase in purchase prices for butter, cheese, and nonfat dry milk from 1974 to 1979.

[GAO note: Paragraph revised.]

p. 3, Bottom para, 1st sent: Higher purchase prices result in higher market prices for dairy products received by manufacturers and....

[GAO note: Sentence revised.]

p. 4; 2d para. Add to end of para: when market prices are at or near the support price.

[GAO note: Sentence revised.]

p. 5; 3rd para; insert after 1st sentence -- The 105 percent sellback provision is also a price governor to help stabilize prices by moderating price increases.

[GAO note: Sentence revised.]

p. 5, 4th para: Add: However, when adjusted to changes in the purchase price level this proportion would be considerably less.

[GAO note: Paragraph revised to eliminate need for this addition]

Page 6, first para under table. While the first sentence may be correct, the percentage comparisons do not support it. A given percentage increase at retail is almost twice as high, in absolute terms, as the same percentage increase at the farm level--because of the difference in the base used to calculate the percentage increase.

[GAO note: Paragraph deleted.]

Page 8: A definition of "dairy surpluses" is needed. Since the legislation prescribes that the support be carried out through purchases of dairy products, clearly Congress intended that there be surpluses at times. Purchases of larger quantities than can be constructively used or that cause CCC stocks to mount rapidly are undesirable. Purchases, CCC stocks and program costs can be excessive and undesirable. Small or moderate purchases and costs may not be undesirable. They would be evidence that the program is working. If there were never any purchases or surpluses, that would be a clear indication that the support level was set so low as to be meaningless.

[GAO note: See our evaluation on p. 29.]

p. 8 -- The draft is not clear as to whether the dairy surplus problem is a result of the parity price standard or the overall operation of the price-support program. To what extent is the problem brought about by the price-support level not corresponding to supply-demand conditions?

[GAO note: No change made. We believe the report makes it clear that the standard is the cause.]

p. 8; 1st para; last line -- ... does not adequately consider the cost of producing milk or changes in demand.

[GAO note: Sentence revised.]

p. 9, Last para, 2nd sent: Strike "Therefore" (for reason indicated elsewhere).

[GAO note: Sentence revised.]

p. 11; 2nd para -- The authors correctly state that in setting support prices within the legislative range, the Secretary of Agriculture, who has final determination of the price-support level, considers such economic factors as the farm price of milk, productivity, estimated cost of production, and estimated consumer demand. Then on page 11, 4th paragraph, the authors state that most of the recent increase in milk price supports was the result of the method of computing the parity price. Only passing mention is made of the problems associated with Congress raising the legislative price support minimum from 75 percent to 80 percent of parity and initiation of the mandatory semi-annual adjustment. (Later in the report these aspects are explored more thoroughly.)

[GAO note: No change made.]

p. 11, 3rd para -- How are these prices weighted? Is this the CCC expenditures divided by quantity purchased--or does it use the actual support price in some manner? This should be explained to the reader.

[GAO note: Revised paragraph on p. 11 and graph on p. 12 to show actual rather than weighted average prices.]

p. 11; 4th para -- The report is correct in stating that the parity formula does not adequately consider many economic factors known to affect milk market conditions, such as cost of production and productivity. (The statement would be more correct to also include "net returns" and "estimated consumer demand" as factors not adequately considered.) It is also correctly stated that the parity formula includes some factors which have little to do with the cost of producing milk.

[GAO note: No change made.]

p. 11; 5th para. -- True. In recent years, costs of producing milk have not increased as rapidly as support prices.

p. 13; 4th para -- It is true that the dramatic increase in feed costs during 1973 and part of 1974 was not adequately reflected in parity computations and dairy price supports increased slowly. A pricing formula based on cost of production automatically would have indicated a more rapid upward movement in support prices. But as indicated in the 2nd paragraph on page 11, the Secretary makes the final determination of the price-support level and it is speculation to assume that the support price would have been set differently. There was substantial concern about inflation at the time and the Council on Wage and Price Control put a lid on commodity retail prices. Temporary import licenses were granted for the stated purpose of checking price increases. In fact, the support level was set at 85 percent of parity in 1970 and 1971, 79 percent in 1972, and 75 percent on March 15, 1973. It was then raised to 80 percent on August 10, 1973.

It was in response to this series of decisions by the President and Secretary that in August 1973, Congress raised the minimum percent of parity from 75 to 80 percent, thereby removing part of the flexibility from the Secretary's kit of tools. It was at this time also that the program's objective was expanded to "assure a level of farm income adequate to maintain productive capacity to meet anticipated future needs." This increased the government's responsibility for assuring adequate domestic milk supplies and implies even less reliance on market forces to determine appropriate milk prices.

[GAO note: No change made.]

p. 14 -- heading of third column in table should be "Percent change".

[GAO note: Column heading revised.]

p. 14; last sentence -- Not sure what this sentence says.

[GAO note: Sentence revised.]

p. 14; 4th para -- Much of the increased output per cow is due to higher rates of concentrate feeding. It would be more appropriate to strike "better dairy breeds" and insert "improved breeding".

[GAO note: Sentence revised.]

p. 16; 2nd para. -- True. Feed and other costs of producing milk are not adequately reflected in the parity index.

Page 17; 3rd para -- There is a misunderstanding of the price support computation. Increases in the manufacturing milk price relative to the price of all milk have no effect on the support price level because the all-milk price enters both the numerator and the denominator so that its effect cancels out in computing the parity price for manufacturing grade milk. Computing a parity price directly for manufacturing grade milk without considering its relationship to the all-milk price would yield identical results. The rising price of manufacturing grade milk does increase the parity equivalent, but the draft doesn't say that.

The present formula used in calculating the milk support price probably has created self-escalating increases--but not for the reasons explained here. The key steps in calculating the parity all-milk and the parity equivalent manufacturing prices are presented below in the sequence currently being used and discussed on page 10 of the report.

Step 1. Calculate adjusted base price.

$$\text{Adjusted base price} = \frac{\text{10-year average all-milk price}}{\text{10-year average index of prices received}}$$

Step 2. Calculate parity all-milk price

$$\text{Parity all-milk price} = \text{Adjusted base price} \times \text{Current index of prices paid}$$

Step 3. Calculate parity equivalent manufacturing milk price

$$\text{Parity manufacturing milk price} = \frac{\text{10-year average mfg. milk price}}{\text{10-year average all-milk price}} \times \text{All-milk parity prices}$$

These three steps can be reformulated into a single algebraic equation:

$$\text{Parity manufacturing milk price} = \frac{\text{All-milk price}}{\text{Index of prices received}} \times \text{Index of prices paid} \times \frac{\text{Manufacturing milk price}}{\text{All-milk price}}$$

The first two terms of this equation produce the parity price for all milk, as required by legislation, and this price multiplied by the third term produces parity equivalent price for manufacturing milk. The Milk Industry Foundation argues that the method of calculating the first term of this equation increased price supports 54 cents during the last five years and calculation of the third term has added another 50 cents to price supports.

If we stopped at this point, we would have to agree with the Foundation. However, examination of the equation shows that the all-milk price appears in the numerator of the first term and in the denominator of the third term--thus the all-milk price cancels out and has no effect on the calculation of the parity equivalent price for manufactured milk.

We can strike out the all-milk price and simplify the equation as follows:

$$(2) \quad \begin{array}{l} \text{Parity} \\ \text{manufacturing} \\ \text{price} \end{array} = \frac{\text{Index of} \\ \text{prices paid}}{\text{Index of} \\ \text{prices received}} \times \begin{array}{l} \text{10-year average} \\ \text{manufacturing} \\ \text{price} \end{array}$$

When you calculate a series of values from this equation it is seen that the downward pressure of using 10-year average manufacturing prices is more than offset by the increase in the ratio of prices paid to prices received--thus, dividing the current index of prices paid by a 10-year average index of prices received has introduced an adjustment factor that has increased from 1.9 in 1975 to 2.1 in 1979.

Use of a 10-year average manufacturing price and 10-year average prices received index assures price stability and maintains a relationship between prices received for milk and prices received for all other farm products. To illustrate this relationship we can rearrange the formula as follows:

$$(3) \quad \begin{array}{l} \text{Parity} \\ \text{manufacturing} \\ \text{price} \end{array} = \frac{\text{Index of} \\ \text{prices paid}}{\text{Index of} \\ \text{prices received}} \times \frac{\text{Manufacturing} \\ \text{prices}}{\text{Index of} \\ \text{prices received}}$$

The second term in this equation shows that milk prices have increased more rapidly than the prices of all other farm products. The ratio increased from 1.50 in 1975 to 1.66 in 1979.

There has been a rapid rise in milk prices during the past five years that probably resulted in part from the method of calculating the support price. However, we cannot agree that the price increase can be separated into components and attributed to specific parts of the price support formula. The basic problem relates to using any price index (that does not reflect technological change) as a basis for setting support prices.

[GAO note: See our evaluation on p. 30.]

p. 18; 4th para -- The mid-part of the paragraph is talking about the "indices of prices", not "prices". This is a very arbitrary interpretation of the graph on page 19. If either of the years 1967 through 1972 had been chosen as the base for comparison, milk prices have increased less rapidly than prices for all farm products. It appears that milk increased more rapidly than other products only from 1967 to 1971 and then again from 1974 to 1977.

[GAO note: Revised to show price indexes.]

p. 20; last para -- Very true; a good statement.

p. 21; 4th para -- What is said may be true in reference to farm programs, but is an overstatement in reference to other segments of society and the indexing trends in the rest of the economy.

[GAO note: Sentence deleted.]

p. 23; new topic -- Yes, providing flexibility is important.

p. 24; 2nd para -- True. The mid-year adjustment is a mandatory one-way adjustment, whether needed or not. .

p. 26; 2nd para -- A good statement on flexibility in program management. Yet, the draft prior to this point places emphasis on mechanics and automation rather than on management flexibility. Perhaps there would be benefit in making the system more "automatic" and thus reduce the political and judgmental decisionmaking process, but the authors never mention this aspect.

[GAO note: See our conclusions on p. 47.]

p. 27 -- The conclusions appear to be valid.

p. 28 -- Recommendations to the Secretary: If, as the report indicates on page 27, Congress "decides to retain the current parity standards"--the Secretary most likely would not have authority to "exclude the family living component from the parity index and update the factors and weights" as recommended on page 28. Such major changes imply a new kind of index, rather than "retaining current policy standards".

[GAO note: See our evaluation on p. 28.]

p. 35; last para -- This section should be updated to use the Department's current projections.

[GAO note: No change made. The projections used are needed for consistency in comparing this standard with others.]

Page 36; 2nd para: Two points. First, the ESCS cost of production does take changes in technology into consideration. Second, the dairy parity index illustrated on page 34 does not reflect a purchasing power concept--it is a cost concept.

[GAO note: See our evaluation on p. 50.]

p. 38; 2nd para -- How could there be an increase in farmers' cash receipts if milk production and prices are lower?

[GAO note: Reference to farmers' cash receipts deleted.]

p. 39; 3rd para -- If the price support objectives remain the same and the legislative parameters are broad enough, support prices probably would be set at identical levels regardless of the pricing standard used.

[GAO note: No change made. We are citing statements made in the study.]

p. 39; last para -- One could also rather safely say that if the price support were set at 70 percent of parity under current pricing standards, prices during the 1980's would be determined by market forces rather than by Government action.

[GAO note: No change made. We are citing statements made in the study.]

p. 40; -- Another important problem in using cost of production directly--if producers know that the support price will be based on COP, they will have a powerful incentive to inflate reports of cost.

[GAO note: Sentence added on p. 41.]

Page 41 -- If this section is going to include a discussion of "formula pricing" of milk, an important reference was overlooked. The Jacobson, Hammond, Graf bulletin "Pricing Grade A Milk Used in Manufactured Dairy Products" should have also been cited. However, there is a substantial difference between "a formula" to establish the price support level and "formula pricing" of milk. The sections prior to page 41 focused on alternative methods of establishing the price support level, but in this section much of the discussion relates to "formula pricing" of Class 1 milk and the 1970 proposal for a comprehensive formula to replace the Minnesota-Wisconsin price series.

The problems of pricing Class I milk are quite different for either (a) the problems of establishing a support level, or (b) the problem of pricing all milk. A discussion of Class I pricing has little or no relevance in this section. And, the discussion in this section and the recommendations on pages 48 and 49 come close to putting GAO on record as recommending "formula pricing" for milk without any supporting explanation of how "formula pricing" might work.

[GAO note: See our evaluation on p. 49.]

p. 44; 3rd para -- True. Willingness of industry and producer interests to accept price reductions in the face of rising stocks is a key element in the workability of any pricing system.

We agree with the general premise that price formulas should be allowed to operate when price reductions are called for. We do not agree with the example given in the last sentence. In the Northeast Federal order markets where economic (comprehensive) formulas were used to set Class I prices for about 20 years beginning in the late 1940's, pressures to suspend supply-demand adjustors existed in varying degrees when price reductions were called for. Such pressures, however, did not often result in suspensions because during periods when national supplies were burdensome, prices generated by the economic formulas tended to widen substantially the amount that Class I prices in the Northeast exceeded those in the Midwest. Suspensions did occur in these markets in the mid and late 1960's, but these were periods when supplies were tight and economic formula prices failed to keep pace with sharp and continuing increases in manufacturing milk values used to move Class I prices in other markets. Those suspension actions were not to keep Class I prices from falling, rather they were to allow them to rise in response to the national supply-demand situation for milk.

[GAO note: Example deleted and paragraph revised.]

Pages 47 and 48: The conclusions of this section on support price standards stress very heavily the advantages of a comprehensive formula as a standard for establishing the support price for milk. Although the necessity for flexibility to alter the price level generated by a mechanistic approach is noted, we feel the importance of flexibility is underemphasized and the potential benefits of a mechanistic procedure are overemphasized.

[GAO note: See our evaluation on p. 49.]

p. 52; 2nd para -- Effective production control programs have been administered in Canada, but will they be effective and workable in the long run? What will be the impact on producers, the industry, and consumers?

[GAO note: No change made. The long-term impacts cannot be evaluated at this time.]

p. 52; 3rd para -- Yes, production controls would lead to more government intervention, increased costs to producers and consumers, and misallocation of resources.

p. 54; 2nd para -- Price support prices now are above all estimates of cost of production at the present time. However, the rapid increase in California production is a result of a number of factors in addition to high price supports. California producers are responding to a combination of California "fluid prices" and Federal "product prices." To evaluate what is happening in California, an examination of California fluid prices is also required.

[GAO note: No change made. We are reporting what California officials told us.]

p. 59; -- Other impacts that might be cited:

-- Would likely continue present regional production patterns and prevent resource adjustments to changing economic conditions.

--the regulatory agency would likely come under industry pressure to use the quotas to enhance fluid milk prices.

[GAO note: Similar comments on p. 4 of Department's letter (see p. 101) are incorporated on pp. 59 and 60.]

Page 61; Chapter 5: "Producer Participation in Dairy Promotion Programs Should Be Increased." This is more of a value judgment than a recommendation supported with evidence. It is true, however, that the need to purchase surpluses could be minimized by reduced production, increased consumption, or a combination of both. It is inequitable that "freeloaders" benefit without sharing costs. Yet, there are many who philosophically disagree with advertising--especially mandatory advertising. Note the earlier comment on advertising.

[GAO note: See our evaluation on p. 71.]

Page 63: It is true that dairy products face strong competition in the marketplace, but does this warrant Government endorsement of a compulsory advertising program?

[GAO note: See our evaluation on p. 71.]

p. 79; 3rd para -- Some good points are made in comparing a target price program with the present price-support program.

p. 81; 2nd para -- It is stated that a national milk marketing order would eliminate the need for a milk price-support program. "Reduce the need for a milk price-support program" might be more appropriate if one assumes that a national order would, like present orders, have no effective supply control mechanism or provisions to purchase dairy products. Therefore, milk prices would be expected to fluctuate widely just as would be expected now if the price-support program were removed.

[GAO note: Paragraph revised.]

p. 82; 6th para; 1st sentence -- Considering the inroads of cheese substitutes there is some question as to how much additional revenue a national order could generate by creation of a separate price class for cheese to partially compensate for the loss of the price-support program. This could be inviting a rerun of the butter-margarine scenario.

p. 83; 4th para -- Yes, raising the class prices would result in reduced consumption of these products.

p. 83; 6th para -- True.

p. 84; last para -- Yes, a key question is the extent of regulation needed in the dairy industry and the likely consequences of alternative degrees of regulation.



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