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Milking the Sacred Cow
A Case for Eliminating the Federal Dairy Program

by Kevin McNew

Executive Summary

Rich in calcium, protein, and vitamins, milk is one of the most nutritious items in the American diet. Unfortunately, most consumers do not realize when they drink milk or scoop up tasty ice cream that the federal government artificially inflates milk prices. In 1995 American dairy farmers received as much as $8 billion in assistance through various price-distortion mechanisms.

Today's dairy policy is an outdated relic of the original Depression-era legislation. The U.S. Department of Agriculture divides the country into marketing order regions and establishes price differentials between classes of milk used for drinking and for making such products as butter and cheese. Processors must purchase milk at those different prices from farm cooperatives in each region. But those policies actually harm many farmers. The most efficient farmers in some marketing order regions produce more milk than can be sold for high-priced liquid uses, and thus the excess must be sold for lower-priced processed uses. Further, the federal government at various times purchases certain dairy products to help prop up prices.

Pursuant to the 1996 Federal Agricultural Improvement Reform (FAIR) Act, the secretary of agriculture in 1999 proposed to reduce the number of marketing orders, recalculate the price differentials among classes of milk, and create a new way of setting price differentials that would resemble the failed mechanism used in the old Soviet Union. FAIR also created what was supposed to be a temporary Northeast Compact of six New England states that was allowed to set a floor below which the price of fluid milk could not drop. Congress considered letting the compact expand to include Maryland, New Jersey, New York, and Pennsylvania and allowing the creation of a 16-state Southern Compact. Federal courts have been brought into that battle. Further, Congress also considered adopting so-called Option 1-A price differentials that would be worse than the USDA changes. Whether the agriculture secretary's new approach stands or one of the alternatives is adopted, the price of milk will likely remain high, harming consumers, and price distortions in the future could require the federal government to pay out increased subsidies to dairy farmers, harming taxpayers. Instead of pursuing a complex, convoluted, and costly dairy policy, Congress could help consumers and efficient farmers by eliminating the federal dairy program.

Kevin McNew is an assistant professor in the department of agricultural and resource economics at the University of Maryland, College Park.

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Prelude to Regulation

The American dairy industry has a history of regulation dating back to the 1930s. Although a number of different policy mechanisms have been used over the years, the two mainstays of dairy policy have been Federal Milk Marketing Orders and dairy price supports. To provide a context for understanding today's regulations, it is useful to consider the conditions that existed prior to the 1930s.

In the late 1800s, the dairy sector, like other sectors of the American economy, benefited from the expansion of the railroad system and later from the development of roads. Milk is a highly perishable commodity, composed of 85 percent water. Earlier in the country's history, dairy farmers lived close to the cities where their customers lived. Those farmers would provide not only milk for drinking but also such dairy products as butter and would spend a great deal of time marketing those products to urban consumers. Improved transportation meant that milk could be shipped quickly to more distant locations. As a result, dairy farmers began to move farther away from cities and to specialize in the production of milk. More and more firms known as "handlers" took up tasks traditionally performed by the farmers themselves. Those firms specialized in the buying, processing, and distribution of fluid milk. Furthermore, the handlers usually had the capacity to manufacture other dairy products, such as butter and cheese, with surplus milk.

Over time, economies of scale in milk processing and distribution resulted in larger but fewer handlers to whom dairy farmers could sell their milk, and, as a result, farmers began to question the equity and fairness of the prices they received. To try to offset that imbalance of power, many dairy farmers formed milk-marketing cooperatives in order to bargain collectively for better prices on behalf of their members. In turn, the handlers claimed that the cooperatives violated the Sherman Antitrust Act of 1890, which prohibited price fixing. In 1922 the Capper-Volstead Act resolved the dispute by giving dairy cooperatives antitrust immunity, allowing farmers to collude and participate in price-setting behavior.[1]

The cooperatives, however, faced a difficult challenge in pricing their members' milk. First, there was (and still is) a natural imbalance between the seasonal nature of milk supply and demand. Milk supplies tend to be highest in the spring and summer and lowest in the fall and winter, while consumption patterns of fluid milk are the reverse: highest during the fall and winter (when schools are in session) and lowest during the spring and summer. Second, milk is a highly perishable product that could not be stored, which limited the bargaining power of cooperatives, especially in times of surplus. Third, milk used in fluid form had to meet tougher sanitary standards than milk used in processed products, leading to higher production costs for farmers. Under federal regulations, Grade A milk, the highest standard for milk, can be used for drinking or for the manufacture of dairy products; Grade B milk can be used only in manufactured dairy products.

After several different pricing methods were tried, many cooperatives early in the 20th century settled on a classified pricing plan. With classified pricing, a commodity is priced on the basis of what it is used to produce. Therefore, dairy processors had to pay a different price for milk, depending on whether it was used as fluid milk or to make such products as cheese, butter, or dry milk. That system was meant to reflect the additional costs of producing Grade A, as opposed to Grade B, milk. Fluid milk thus received the highest price, while milk used to make other products was priced lower.

Farmers, however, shared collectively in the benefits of each market, since the proceeds from all sales were divided equally among the farmers. All farmers received the same average, or "blend," price, regardless of how their milk was actually used. That blend price was below the price farmers would receive for Grade A fluid milk.

By the 1920s, the classified pricing plan was beginning to break down. Cooperatives did not have monopoly control over all milk, so fluid-milk handlers could negotiate with independent farmers to purchase their milk for slightly above the blend price. Such transactions were worthwhile for independent farmers, because they could receive a higher price than the blend price they received from a cooperative. Further, the fluid-milk handler would be able to pay less than the cooperative-established price for Grade A fluid milk. That situation tended to undermine the monopolistic control that cooperatives were trying to gain and led to instability in prices and availability of milk supplies in parts of the country.[2]

The Great Depression reduced consumer purchasing power and took its toll on milk demand, leading to a severe drop in prices. Farmers who did not belong to a cooperative contributed to the price instability by undercutting existing milk prices in an attempt to sell their product. Furthermore, there were periods when there was not enough milk to meet fluid-consumption needs.

Federal Milk Marketing Orders

To ameliorate the situation, Congress passed the Agricultural Adjustment Act of 1933 and the Agricultural Marketing Agreement Act of 1937. Those acts authorized the Federal Milk Marketing Order program that exists today. The program divided the country into regions, and within those regions, class milk prices could be set administratively by the federal government. Milk handlers and processors must pay the price that is set in their regions, in effect forcing them to buy only from local farmers. However, two-thirds of milk producers in a given region must vote to place themselves under the marketing order regime. If they do not so vote, the federal system does not apply. Note that it is the milk handlers, or first buyers, not the producers, who are most regulated under an order, although farmers receive the ultimate benefits of regulation.

The objectives of the original legislation were to

- establish orderly marketing conditions,
- ensure an orderly flow of the milk supply to market throughout the year, and
- avoid unreasonable fluctuations in supplies and prices.

Over the years, those objectives have been amended somewhat. For example, a 1962 report by the Federal Milk Order Study Committee, appointed by Secretary of Agriculture Orville Freeman, came up with the following objectives for Federal Milk Marketing Orders:[3]

- to promote orderly marketing and thereby improve farm income in the long run;
- to equalize the market power of buyers and sellers;
- to ensure consumer access to adequate and dependable supplies of high-quality milk;
- to complement farm organizations in maintaining economic order through coordination of prices and marketing practices geographically and among products;
- to secure equitable treatment of all parties throughout the system; and
- to protect established farmers against loss of outlets, while maintaining freedom of choice for buyers and sellers.

Although milk marketing orders are justified as a way to control the power of handlers and to provide market stability, in actuality the orders are a way to administer a price-discrimination policy for dairy farmers. Price discrimination in this context is a monopolistic tactic to extract higher returns by charging identifiable segments of the market different prices. Federal Milk Marketing Orders allowed dairy farmers to impose a monopolistic system that would have been unenforceable in

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the freer market that existed before the Depression.

The Federal Milk Marketing Order system established price differentials between different classes of milk. Class I, which received the highest price, was for milk used in fluid form; Class II milk was used for soft dairy products like yogurt, cream cheese, and ice cream; and Class III, the lowest-priced milk, was for use in the production of cheese, butter, and dry milk. Instead of determining the class price in each federal order independently, the federal order system establishes Class I and Class II differentials for each order. Those differentials are added on to the Class III price to establish regional class prices. Although the Class III price is supposed to be a free-market price, reflecting the value of manufacturing-grade milk, it has been influenced by the dairy price support program (see below).

The federal government uses a complex formula, based in part on the distance of producers from Eau Claire, Wisconsin, the place where milk is supposed to be produced at the lowest cost, to calculate the prices for each milk order. The Appendix, at the end of this paper, provides an economic explanation of price discrimination within the context of the Federal Milk Marketing Order system.

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Areas Not Regulated by the Federal Orders

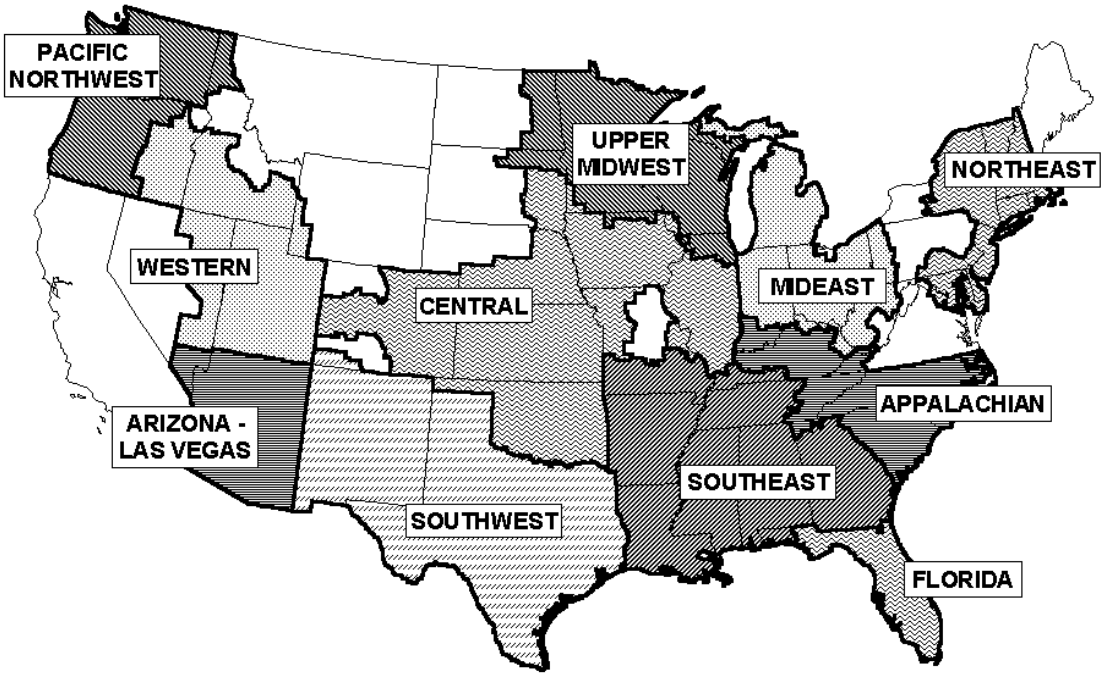
Although Federal Milk Marketing Orders dictate prices for over 60 percent of all milk produced in the United States, there are some parts of the country that are not under that system (see Figure 1). Most notable is California, which is the largest milk-producing state in the country. Although California is not part of the federal system, the state milk-pricing regulations have many similarities to that system, including price discrimination for milk used for different purposes. However, unlike the federal system, California imposes further layers of regulation on milk pricing, which has led to the state's having some of the highest retail milk prices in the country.

There are two pervasive state policies that adversely increase milk prices. The first is a law that prohibits the sale of milk not meeting California's various milk standards. This effectively prohibits sales by out-of-state milk suppliers because of the significant costs of processing milk separately, using different packaging, and segregating inventory to meet California's standards. That law was recently challenged by Arizona-based Shamrock Foods Company, which tried to sell milk in California that did not meet the required standards but instead met the federal composition standards for all other states. In August 1999, the California Appellate Court ruled in favor of Shamrock, giving the company (and other out-of-state dairy processors) the right to sell in California milk that meets federal standards, provided it is labeled in accordance with federal law. The issue is not closed, however, as the state of California is asking its supreme court to retry the case.

The second regulation influencing California's retail milk prices prohibits retailers from offering milk at a discounted sale price. Originally intended to help protect independent grocers from large retail chains using milk as a loss leader, the law has instead led to higher milk prices at the retail level, with no competition among retail distributors.

According to Mad About Milk, a California-based consumer advocacy group, the full cost of these state milk regulations to California's consumers has been more than $600 million per year.[4] Indeed, these policies not only cost consumers significantly but also harm the state's dairy farmers. Because retail milk prices in California are among the highest in the country, that state's per capita milk consumption is below the U.S. average and far below consumption in nearby states and regions with lower retail prices. If those policies were eliminated, allowing retail milk prices to come down, this would lead to higher milk sales, increasing revenue for California's dairy farmers.

Figure 1
New Consolidated Federal Milk Marketing Orders



Source: U.S. Department of Agriculture, "Agricultural Marketing Service Dairy Programs," March 1999.

Note: Differences in shading serve merely to differentiate among marketing areas. Areas in white are not under the Federal Milk Marketing Order system.

Winners and Losers

Economists have long recognized that the Federal Milk Marketing Order program increases milk prices for farmers at the expense of consumers. The effects, however, are more complicated than that, because consumers and farmers are affected differently under the program. Consumers who buy fluid milk products for drinking lose the most from price discrimination, while consumers of manufactured dairy products actually pay lower prices. However, the high cost of fluid milk far outweighs any benefits gained by lower prices for cheese, butter, and dry milk. Economists Peter Helmberger and Yu-Hui Chen estimate that in 1990 the Federal Milk Marketing Order system led to 13 percent higher prices for fluid milk and only 6 percent lower prices for manufactured dairy products—as compared with an unregulated milk market. In the aggregate, Helmberger and Chen calculate the losses to fluid-milk consumers at just over $1 billion per year; consumers of cheese, butter, and dry-milk dairy products gain only $600 million, making an annual net loss to consumers of $400 million.[5]

In part, this $400 million is a redistribution from consumers to producers. However, just as consumers are not treated equally in the price-discrimination scheme, farmers do not share equally in the benefits of price discrimination. Indeed, some farmers are worse off as a result of the discrimination, because they are located in excess-supply regions with heavy production of manufactured dairy products. Through the Federal Milk Marketing Order system, farmers within a milk marketing order receive the same blend price, but that price can vary dramatically

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from region to region, depending in part on the class prices established for milk but also on a particular order's use of milk in various classes.

For example, in January 1999, the Upper Midwest Federal Order used only 13 percent of its milk as fluid milk, with the remaining 87 percent going to the production of lower-priced manufactured dairy products. Without federal orders, farmers in the Upper Midwest would have received a higher price on the 87 percent of their milk that was used for manufacturing and a lower price on only the 13 percent of their milk used in fluid form—on net they would be better off without federal orders.

Conversely, for those dairy farmers in the parts of the country with more milk used in fluid form, the benefits of federal orders are positive and quite large. The South and East tend to be the areas of highest fluid-milk use. In January 1999, the Florida Milk Order used nearly 87 percent of all production in fluid form, while the remaining 13 percent went into manufactured dairy products, the exact reverse of the Upper Midwest Order. If federal orders were eliminated, 87 percent of the milk in Florida would be priced lower, thereby reducing farm milk prices in this region. Using the price changes estimated by Helmberger and Chen, elimination of the federal order system would reduce milk prices for dairy farmers in the Florida Marketing Order by 10 percent, but farmers in the Upper Midwest Order would see higher milk prices by nearly 4 percent on average.[6]

Clearly, this has been a divisive result of dairy policies. The federal order system has benefited some dairy farmers and harmed others. It is not surprising that dairy policies come under attack not only from consumers but also from dairy farmers located in areas of the country with heavy production of manufactured dairy products.

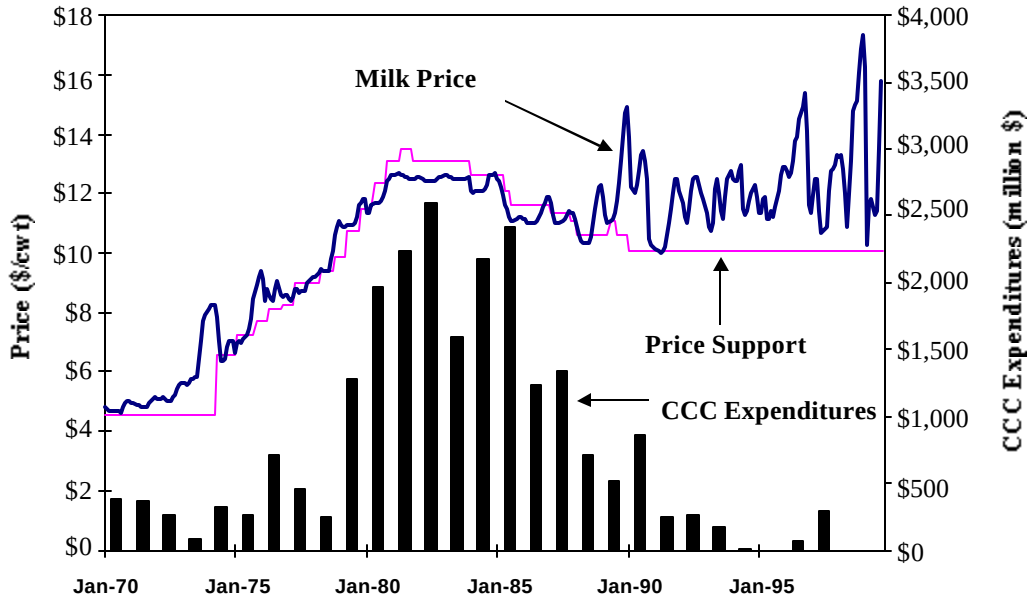
Dairy Price Support Policies

In addition to the Federal Milk Marketing Order system, the dairy price support program has been costly for consumers and, ultimately, a benefit for producers. In 1949 the Agricultural Adjustment Act was passed in an attempt to provide price supports to the dairy industry. The price support program, which is handled by the Commodity Credit Corporation of USDA, establishes support prices for butter, cheese, and nonfat dry milk. To support the market, the government becomes a willing buyer of any dairy products at the prevailing support prices. The government, through CCC operations, stores dairy commodities during periods when prices are at or near the price support level and eventually disposes of the products through food-assistance programs or by selling the products on the open market if prices move above the support level. By supporting the prices of dairy products, the government supports the price of milk used in manufacturing and, ultimately, the price paid to all dairy farmers for all classes of milk.

Like the Federal Milk Marketing Order system, the dairy price support program has had multiple objectives that have changed over time. But the two basic reasons usually given in support of the program have been to provide an adequate supply of high-quality milk and to foster price stability. While it has certainly met those goals (though a free market would have done so more efficiently), the price support program has likely done more to enhance producer incomes, since overly high price supports have at times led to burdensome expenditures by the CCC.

In the early years of the dairy price supports and into the 1970s, the direct cost of the program to taxpayers ranged annually from $69 million to $612 million, with an average of $325 million. The 1970s brought higher inflation and strong pressure from dairy lobbyists to increase milk price supports. Although that policy may have seemed like a rather sensible prescription to help dairy farmers at the time, higher milk price supports would eventually lead to excessive costs to the government, as illustrated in Figure 2. By the 1980s, high price supports

Figure 2
Milk Price Support, Manufactured Milk Price, and CCC Expenditures



Source: U.S. Department of Agriculture, "USDA-FSA Commodity Fact Sheet Dairy Price Support Program," various issues.

resulted in the CCC's spending $1 billion per year to support dairy prices. In 1983 the CCC spent a record $2.6 billion to purchase 16.8 billion pounds of milk products—more than 12 percent of total U.S. milk production.

By the mid-1980s, dairy price supports were lowered, but even that was not enough to overcome the excessive stocks of dairy products and the oversupply of milk. As a result, the Milk Diversion Program, enacted in 1983, offered direct payments of $10 per hundredweight to dairy farmers to reduce their milk production. Later the Food Security Act of 1985 authorized the Dairy Termination Program, which paid dairy farmers not to produce milk for five years. By 1990 the federal government had set an invariable price-support level and disposed of surplus dairy products. Further, production leveled off, and the market was able to clear with a price above the support price, leading to the virtual elimination of the CCC payments.

Unlike the Federal Milk Marketing Order program, the dairy price support program has produced clear winners and losers. Consumers and taxpayers are clearly losers under price supports, because all dairy and milk prices are kept high and do not fall during periods of excess supplies. All dairy farmers are clear winners under price supports. Helmberger and Chen estimate that in 1990 the dairy price support program cost consumers about $660 million as a result of higher prices for milk and dairy products.[7] That is in addition to the costs and wealth transfers that resulted from the Federal Milk Marketing Orders. To get an idea of the magnitude of the total costs of the government milk-regulatory regime, Frederick J. Nelson, of the USDA, estimated in a World Trade Organization briefing paper that in 1995 American dairy farmers received $8 billion in assistance through various price-distortion mechanisms, including trade barriers, that are usually not factored into estimates of the effects of the federal dairy program on American consumers.[8]

Often overlooked in the milk-policy debate

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is the effect price regulation has on nutrition. Milk is an important source of calcium, which can prevent osteoporosis and help maintain optimal blood pressure levels. Milk and milk products provide about 75 percent of the calcium in the American food supply, and the federal government identifies low calcium intake as a major nutritional priority. The USDA dietary guidelines encourage most Americans to increase their daily calcium intake and recommend two to three servings a day of milk, yogurt, and cheese. Yet USDA's food intake survey data indicate that the average consumption level of dairy foods was only 1.5 servings per day in 1994–96.[9] Because higher milk prices discourage consumption and therefore limit important sources of calcium, price regulations are in part responsible for the inadequate calcium intake of American consumers. In an article in the *Journal of Consumer Affairs*, Dale Heien and Cathy Wessells find that if the dairy price support program and the Federal Milk Marketing Order program were eliminated, thereby lowering the price of milk, milk consumption and calcium intake would increase above the recommended dietary allowances.[10] Ironically, the federal government attempted to offset the high prices caused by its own policies by giving lower-income people food stamps and surplus dairy products.

The dairy price support policies of the past 30 years have been extremely costly. The lesson of those policies is that it is unrealistic to expect government regulations and prices to send the appropriate market signals to the dynamically changing dairy industry. The government has ineffectively managed this balance through the use of price supports and other programs, ultimately imposing stiff price tags on consumers and taxpayers.

The 1999 Reform: Trying to Patch Broken Policies

In 1996 Congress passed the Federal Agricultural Improvement Reform (FAIR) Act, which directed the secretary of agriculture to make changes to existing milk policies. At a minimum, the act required a consolidation of the number of milk marketing orders, but it also left open the option for further reforms or even complete elimination of the program. Three years after the passage of that legislation, the secretary announced his Final Rule on federal order reform (also referred to as Option 1-B), which would make only superficial changes to the system that had been in place for the past 60 years. The basic changes would include the following:

1. consolidating the 31 orders of the Federal Milk Marketing Order program into 11 orders,
2. changing the price differentials for Class I milk (used for fluid consumption),
3. creating a new milk class for butter and dry milk (Class IV), and
4. developing new methods for computing class prices.

To dairy farmers, the most contentious issue concerns the changes in Class I price differentials, which are established on a regional basis. As mentioned earlier, farmers do not share equally in the benefits of price discrimination, and herein lies the source of discontent between farmers in low Class I use areas as compared with those in high Class I use areas. Table 1 shows the 11 consolidated orders and the respective Class I differentials prior to the 1999 reform as well as USDA's Final Rule (denoted as USDA-F in Table 1). Also shown in the table is Option 1-A, an alternative that USDA considered prior to its Final Rule. Option 1-A was passed by the House of Representatives but so far has failed to pass the Senate.

Not surprisingly, many dairy farmers disliked the lower prices under the USDA's Final Rule. For example, the new average Class I differential is only $2.21 as compared to $2.46 prior to the reform. However, it should be noted that this masks some of the regional shifts in Class I differentials. Dairy farmers in the East and South face lower Class I milk prices, while farm-

Table 1
Summary of Class I Milk Price Differentials: Pre-1999 Reform, USDA Final Rule, and Option 1-A

Federal Orders	Class I Use (% of milk production)	Class I Differentials ($/cwt)		
		Prereform	USDA-F	Option 1-A
Northeast	48.6	$3.00	$2.38	$2.93
Appalachian	85.0	$2.65	$2.25	$2.70
Florida	90.6	$3.88	$4.25	$4.00
Southeast	85.6	$3.08	$2.90	$3.10
Mideast	58.9	$1.83	$1.87	$1.92
Upper Midwest	24.1	$1.30	$1.78	$1.75
Central	50.1	$1.97	$1.92	$2.04
Southwest	53.4	$2.76	$1.93	$2.55
Arizona–Las Vegas	46.3	$1.70	$1.43	$1.75
Western	32.5	$2.52	$1.55	$2.35
Pacific Northwest	35.6	$1.90	$1.45	$1.90
Average*		$2.46	$2.21	$2.50

Source: U.S. Department of Agriculture, "Final Regulatory Impact Analysis of Federal Milk Marketing Order Consolidation and Reform," Agricultural Marketing Service, March 1999.

*The average Class I differentials are weighted averages using each order's Class I milk supply (not reported here) as a weight.

ers in the Upper Midwest receive higher prices. As a result, many dairy supporters backed the Option 1-A alternative, which would have left Class I differentials virtually the same as they were before the reform. However, Option 1-A drew significant criticism from representatives from Upper Midwest dairy states.

On the surface, it may seem that Upper Midwest dairy farmers would find equally acceptable Option 1-A and USDA's Final Rule, since both policies lead to similar Class I differentials ($1.78 versus $1.75). However, what Upper Midwest dairy farmers recognize is that Option 1-A would lead to significantly higher Class I prices in other regions of the country, which would result in higher production in those regions, with more milk flowing into the production of manufactured dairy products. The outcome would be lower prices for Class III milk, the dominant form of milk producted in the Upper Midwest.

The reformed Federal Milk Marketing Order system, like its predecessor, attempts to emulate what a free-market system would provide—higher prices in milk-deficit regions and lower prices in surplus regions so that surplus milk could be shipped to deficit areas. But that system still creates market distortions. If there were no federal orders and prices were free to respond to market signals, milk would still move from surplus to deficit regions of the country, just like any other commodity in the United States. Because milk production and consumption exhibit strong seasonal patterns and because transportation costs can change markedly in a short time period, it seems likely that a federally regulated price base will fail to meet the efficient outcome of a market.

The 1999 USDA reforms also institute a new method for calculating class milk prices. Historically, the price of milk used in the production of butter, cheese, and dry milk was

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based on the price for Grade B milk. Since Grade B milk can be used only for the production of those products and does not fall under the federal order regulations, that price was supposed to represent a free-market approach to pricing (although it is influenced by dairy price supports). Specifically, the government used the price that Grade B milk producers received in the Minnesota-Wisconsin region to establish the federal order price for Class III, the price on which the price differential for other classes was based. In 1960 Grade B milk production accounted for 33 percent of total U.S. milk production, but by 1998 Grade B production was a negligible 3 percent of total U.S. milk output.[11] (This was attributable to the fact that the costs of meeting Grade A standards have come down so much in past decades that most milk now falls into that category.) Thus, there was a concern that the survey price for Grade B milk was too small a part of the market on which to base the prices of the classes of milk.

In 1995 USDA began to use the Basic Formula Price to determine the value of Class III milk. Although that price was based in part on the Grade B survey price, it also depended on the prices of butter, cheese, and dry milk. This too drew criticism; dairy farmers argued that large-scale dairy manufacturers, especially manufacturers of cheese, manipulate product prices. Willard Mueller et al. contended that at the National Cheese Exchange Kraft General Foods manipulated cheese prices that were used in the computation of the Basic Formula Price.[12] Bruce Gardner questioned that analysis, however, finding little evidence that this in fact happened.[13] In any case, this debate accentuates the problems with the federal order system, which must, with price discrimination, rely on the prices of processed products, such as cheese, to determine the value of raw milk.

The 1999 reform brings about several changes in this regard. First, while keeping Class I for fluid milk and Class II for soft dairy products, the reform Class III was kept for cheese, and a new Class IV was created for butter and dry milk. Second, the Class III and Class IV prices will be based on a survey of wholesale prices for butter, cheese, and dry milk instead of on a survey of Grade B prices. Doing so requires a formulation of how the prices of the dairy products will be converted into the prices of raw milk. Such a conversion must factor in the amount of milk it will take to make the various products, as well as the cost of processing. This is problematic because the amount of milk required to make a specific amount of dairy product can vary, as can the cost of processing the product. The approach looks like the one used in communist countries to price goods and services by using some sort of calculation—for example, the amount of coal, electricity, iron, and man-hours needed for making a certain quantity of steel. Worse, the USDA will be working backward, attempting to set the price for the raw product, fluid milk, on the basis of the supposed market price of the products derived from it. Thus, under this system—unlike under a market system—the government is regulating profit margins for dairy processors.

In August 1999, two-thirds of dairy farmers in the 11 new marketing order regions accepted USDA's Final Rule by a referendum vote, thereby continuing the process of regulation and price discrimination. Whether or not Congress adopts the Option 1-A alternative, what is clear is that the government's role in milk pricing has become more, not less, important. In addition to establishing regional prices for fluid milk, the government now finds itself establishing profit margins in the dairy-processing sector. Just as dairy price supports in the 1980s created serious market distortions, one suspects that a small misalignment in profit margins for dairy manufacturing could lead to similar calamities in the future.

Dairy Compacts: Wrong Policies at the Wrong Time

In addition to the fight over the USDA's

new pricing system and Option 1-A, a new problem threatens to make milk markets even worse for consumers and many farmers: the expansion of dairy compacts.

With the end of high dairy price supports in the 1980s, there was a painful adjustment in the dairy sector. Those high price supports had encouraged overproduction of milk and led to large government stocks of dairy products. As price supports were lowered in the late 1980s and early 1990s, dairy farmers began to feel the pain of that adjustment. Low prices persisted for several years as the large government stocks of dairy products moved into the marketplace. The result was that a significant portion of dairy farmers exited the industry. By the mid-1990s, the excess capacity had been eliminated in the dairy industry, setting the stage for record-high dairy prices in 1996 and again in 1998.

In the 1996 FAIR Act, Congress allowed for the creation of the Northeast Dairy Compact. That compact was formed by the six New England states, Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont, whose farmers were particularly hard hit during the transition and who had seen their costs, especially of land values, rise significantly. (Many smaller-scale milk producers in New England and elsewhere took advantage of high land prices to sell their farms to other producers or for other uses such as housing developments. Other farmers, however, wanted to hang on to their farms and subsidies to have the higher costs offset through another price-distortion program.) The usual excuses were given as the purpose of the compact: to ensure the viability of dairy farming in New England and to provide an adequate supply of reasonably priced milk to consumers. The enabling legislation intended for the compact to be a temporary measure that would be eliminated after the federal order reform was completed in 1999.

Compacts establish a minimum price for Class I milk in their regions. That price is usually above the one in effect under the Federal Milk Marketing Orders. Since its inception in July 1997, the Northeast Dairy Compact has maintained the minimum Class I price at $16.94 per hundredweight. In other marketing order areas, the price of Class I milk is tied to prices for other classes and, thus, can rise and fall. The minimum guaranteed price in the Northeast Compact holds Class I prices high no matter what fluctuations occur in market demand.

Although this policy is clearly a way to inflate the price paid to dairy farmers, supporters of dairy compacts contend that this is a policy that will benefit consumers. For example, the Northeast Dairy Compact Commission states that "stable farm milk prices for Class I fluid milk will result in price stability—and potential price decreases—in Class I milk at the retail level for consumers."[14] The commission further contends that this regulation was likely to have a "downward pressure on retail prices." Therefore, the commission suggests that consumers will be better off with the compact regulation because it will assure them lower and more stable milk prices.

Unfortunately, the Northeast Dairy Compact Commission was wrong on both counts. First, retail milk prices have increased, not decreased, as a result of the compact's regulation. Table 2 provides retail whole-milk prices from Boston and Hartford, which are regulated by the Northeast Dairy Compact. The regulated price from the compact went into effect in July 1997 and clearly led to an increase of almost 20 cents per gallon. Although the Boston price has dipped somewhat lower, both prices are clearly well above where they were before the regulation. Thus, stable prices have not meant lower prices, as was suggested by the compact commission.

The second argument made by the compact commission was that consumers would fare better with stable prices. Unfortunately, economic theory provides little evidence about how consumers would respond to stable, versus unstable, prices. However, if consumers value stable prices, they should be willing to buy a greater quantity of milk at

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Table 2
Retail Whole-Milk Prices, January 1996 to May 1998 (in cents per gallon)

Month-Year	Boston	Hartford
Jan. 1996	237	238
Feb. 1996	238	240
Mar. 1996	241	241
Apr.1996	240	240
May 1996	239	240
June 1996	241	242
July 1996	243	244
Aug. 1996	238	246
Sept. 1996	239	245
Oct. 1996	243	246
Nov. 1996	245	250
Dec. 1996	241	250
Jan. 1997	242	251
Feb. 1997	245	249
Mar. 1997	245	249
Apr. 1997	245	249
May 1997	245	249
June 1997	244	249
July 1997*	264	268
Aug. 1997*	263	268
Sept. 1997*	263	268
Oct. 1997*	262	268
Nov. 1997*	263	268
Dec. 1997*	263	268
Jan. 1998*	260	268
Feb. 1998*	259	268
Mar. 1998*	260	268
Apr. 1998*	260	268
May 1998*	260	268

Source: U.S. Department of Agriculture, Agricultural Marketing Service, unpublished data

*Compact regulations in effect.

Retail milk prices have increased, not decreased, as a result of the compact's regulation.

any given price during periods when prices are stable. Leigh Maynard tested that proposition using retail-scanner data from household purchases of milk between 1996 and 1998.[15] Although the results do suggest that price volatility can affect fluid-milk demand, the fluctuation was not in the direction suggested by the commission. Instead, Maynard found that consumers tended to buy more, not less, milk during times of volatile prices. One reason for that behavior might be that consumers, believing they are getting a bargain, purchase more milk when prices fall. Thus, the argument that consumers would be better off with stable prices seems to have no support from empirical data.

Although it seems clear that consumers will bear the burden of the compact regulation, what about the effect on dairy farmers? One of the motivating factors in establishing dairy compacts was to save small, family-run dairy farms. Table 3 provides information on how dairy farmers have responded as a result of the 1997 compact regulation. This table looks at dairy farms in Vermont, the largest dairy-producing state in the Northeast Compact, and in Pennsylvania, a state with economic circumstances similar to Vermont's but not part of the Northeast Compact. Prior to the compact's formation in 1997, there were 2,100 dairy farms in Vermont, each farm having an average herd size of 74 cows. By 1998 the number of farms had fallen to 1,900 (a loss of nearly 10 percent), but the average herd size had increased to 85 cows per farm, a 15 percent increase. By comparison, over that same time period, the number of dairy farms in Pennsylvania fell by 3 percent, from 11,300 to 10, 900, but the average herd size increased only slightly, from 56 cows per farm in 1996 to 57 cows per farm in 1998.

The Northeast Dairy Compact has done little to keep small-scale dairy farmers in business, but it has provided financial incentives for the remaining dairy farms to get bigger. Although 1999 data on the number of dairy farms are not available, the number of cows in each state suggests that the trend will continue. Vermont had 1,000 more cows in June 1999 than in 1998, while Pennsylvania had 9,000 fewer cows over the same time period. Since farm numbers in 1999 will likely be lower or about the same as they were in 1998, Vermont farms are likely to continue to get larger.

The Northeast Compact was mandated in

Table 3
Dairy Farms, Cows, and Cows per Farm: Vermont and Pennsylvania

	Vermont			Pennsylvania		
Year	Cows (1,000 head)	Dairy Farms	Cows per Farm	Cows (1,000 head)	Dairy Farms	Cows per Farm
1992	167	2,500	67	652	13,300	49
1993	162	2,500	65	640	12,300	52
1994	158	2,300	69	639	12,200	52
1995	157	2,100	75	636	11,800	54
1996	156	2,100	74	634	11,300	56
1997*	160	2,000	80	629	11,300	56
1998*	161	1,900	85	623	10,900	57
1999* (June)	162	NA	NA	614	NA	NA

Source: U.S. Department of Agriculture, National Agricultural Statistics Service, *Milk Production*, various issues.

*Compact regulations in effect.

the FAIR Act to end when the new USDA federal order reform takes effect. Yet Congress considered not only extending the life of that compact but also adding to its membership Maryland, New Jersey, New York, and Pennsylvania. Worse, Congress considered the creation of a Southern Dairy Compact modeled on its Northeast neighbor. The Southern Compact would include Alabama, Arkansas, Florida, Georgia, Kansas, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. That would put 26 states under the umbrella of compact regulations, accounting for one-third of the milk production in the United States. Furthermore, a federal court recently delayed the date when the Northeast Compact was due to expire.

What can be expected if the dairy compacts persist in the future, with more states included? In addition to the associated costs of high milk prices for more consumers, the existence of artificially high prices in those states will lead to greater milk production. Because of higher retail milk prices, there will be less consumption of fluid milk at a time when farmers will be producing more milk. This excess milk production will be used to produce lower-valued manufactured products like cheese, butter, and dry milk, leading to lower prices for those products. Moreover, the farmers not in a compact state will see lower milk prices because of the excess production of dairy products. In a briefing paper published by the University of Wisconsin, Tom Cox, Bob Cropp, and Will Hughes find that the combined Northeast and Southern Compacts would likely reduce farm milk prices by $0.20 per hundredweight in areas that are not included in the compacts.[16] Even more problematic is the fact that with higher production of dairy products, expanded compacts will likely significantly increase CCC expenditures at considerable cost to the U.S. government and taxpayers.

In short, dairy compacts further exacerbate interregional price distortions for the benefit of a few dairy farmers at the expense of other farmers and consumers. In all likelihood, the compacts will do little to stem the tide of dairy farmers' choosing to exit the industry. Instead, through higher prices, dairy compacts have encouraged remaining dairy farmers to increase the sizes of their farms. Finally, with more states joining compacts, it seems clear that the entire American dairy industry is head-

The Northeast Dairy Compact has done little to keep small-scale dairy farmers in business, but it has provided financial incentives for the remaining dairy farms to get bigger.

Dairy compacts further exacerbate interregional price distortions for the benefit of a few dairy farmers at the expense of other farmers and consumers.

ing for a return to the 1980s of excess milk production, with ballooning stocks of dairy products and persistently high CCC expenditures to support dairy prices. Those dairy farmers who are not part of a compact will face persistently lower milk prices, leading to an accelerated exit of smaller, family-operated farms in the future.

Why Dairy Farm Policies Are Not Needed

American agricultural commodities, including milk, have been regulated, supported, and subsidized by the federal government since the Depression. However, the past decade has seen a trend of less government intervention in agriculture. Most recently, the 1996 FAIR Act began to phase out many of the supply-management programs for many farm commodities. Unfortunately, the Federal Milk Marketing Order system in place today is virtually identical with the one created in the 1930s. Supporters of the system contend that milk's perishable nature warrants government intervention. But federal orders do little to enhance or change the efficient flow of milk from farmers to consumers. Technology has significantly changed the production, transportation, refrigeration, and processing of milk during the past 60 years—without the aid of the federal orders. Federal orders are a way for dairy farmers to capture the benefits of price discrimination. If that system were elminated, the free-market system would function just as smoothly—but without price distortions.

Many supporters of federal dairy policy still argue that large-scale milk handlers have the ability to manipulate farm milk prices to their advantage without the aid of the Federal Milk Marketing Orders. However, in the 1930s, just less than 50 percent of farm milk was marketed through 2,270 cooperatives of dairy farmers. Today, fewer than 240 cooperatives market more than 85 percent of the nation's milk supply, giving farmers significantly greater bargaining power.[17] It is unlikely that removal of the federal order system would lead to undue influence of the milk handlers over the farmers. The power struggle between farmers and processors is no different from the struggles in other unregulated agricultural commodities and is not a good premise for regulation.

The 1996 FAIR Act, instead of improving dairy policy, has set the stage for potentially harmful policy changes. First, by maintaining the current federal order system, the federal government must not only carry out a regionalized price-discrimination policy, but, starting with the 1999 federal order reform, it must also begin to establish the appropriate processing costs for the dairy sector. If those costs are set improperly, as will likely be the case, the result will be over- or underproduction of dairy products. It seems highly unlikely that the government can adequately mimic the free-market conditions that would ensure efficient regional milk prices, as well as the proper incentives for processing dairy products. Now, some 60 years into dairy price regulation, the government finds itself getting deeper into the business of pricing milk and dairy products when it should be letting the free market work efficiently.

Second, the creation of the Northeast Compact by the FAIR Act has created a monster that could now sprawl into more states, as well as spawn a southern sibling. The increased production that is likely to result will lead to lower prices—incentives for other states to seek compacts to maintain high dairy prices and rising CCC expenditures.

Dairy policies represent a classic case of government regulations that serve special interests but harm the public interest. Eliminating the Federal Milk Marketing Order system would level the playing field for dairy farmers and likely put an end to the regional divisions that have ultimately led to dairy compacts. Until then, however, it seems that American consumers will be forced to live with the legacy of Depression-era dairy policies guiding their milk prices.

Appendix: Federal Milk Marketing Orders as a Price-Discrimination Device

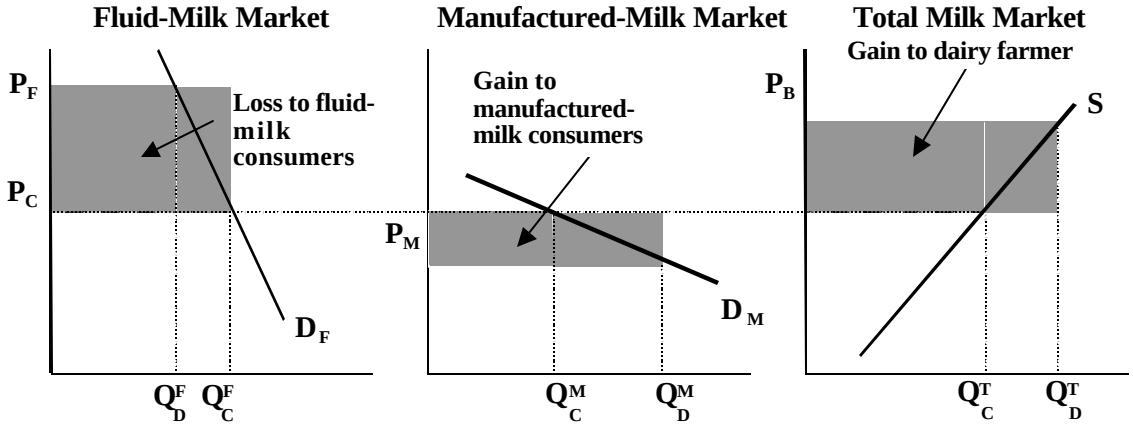
The Federal Milk Marketing Orders program establishes a higher price for milk that is used in fluid form and a lower price for milk that is used in the production of manufactured dairy products. This strategy plays on the different consumer demand for fluid milk and manufactured dairy products. Because there are few if any good substitutes for fluid milk, the demand for fluid milk is very inelastic, implying that with higher prices consumers tend to drop their consumption only modestly. Conversely, manufactured dairy products, such as butter, cheese, and dry milk, have more elastic demand, implying that any price increases will lead consumers to cut back consumption levels rather sharply.

The effect of a price-discrimination policy is illustrated in Figure 3. This shows the demand for fluid milk (D_F) in the left panel, the demand for manufactured milk (D_M) in the middle panel, and the total supply of farm milk (S) in the right panel. The price is represented on the y-axis, and the quantity on the x-axis. Consider first the case in which there is no price discrimination, implying that milk, regardless of its use in either fluid or manufactured form, is charged the same price, which is denoted as PC for the price in a competitive setting. At that price, dairy farmers would supply a total quantity (Q^T_C), of which (Q^M_C) is used in the production of manufactured milk products and Q^F_C is used for fluid milk. Note that $Q^T_C = (Q^M_C + Q^F_C)$.

With a price-discrimination policy, a higher price is charged for milk used in the fluid market (P_F), while a lower price is charged for milk used in the manufacturing market (P_M). Because the fluid market is very inelastic (i.e., the demand schedule is steeper), a significantly higher fluid-milk price will lead to only a small decline in fluid-milk consumption (from Q^F_C to Q^F_D). At the same time, a marginally lower manufactured-milk price can lead to a sizable increase in manufactured-milk consumption (from Q^M_C to Q^M_D); at the aggregate level, total milk supply

Because the fluid market is very inelastic, a significantly higher fluid-milk price will lead to only a small decline in fluid-milk consumption.

Figure 3
Effects of Discriminatory Pricing



The net cost for consumers is greater than the net gain of farmers.

increases. Farmers are paid the blend price (P_B), which is a use-weighted average of the fluid price and the manufactured price for milk and is higher than the competitive price.

The shaded areas show the effect of the price-discrimination policy on each market group. Fluid-milk consumers will lose as a result of higher prices and lower consumption. That loss can be fairly sizable because of the inelastic nature of their demand and of the large price increase. However, consumers of manufactured dairy products (such as cheese, butter, and dry milk) do benefit from price discrimination because of lower prices. This benefit could be relatively small, however, since under a discrimination policy the manufactured-milk price is only marginally lower than the competitive market price. Farmers gain because they are able to sell more milk at the higher blend price than they could sell at the competitive price. The net transfer from consumers to producers, however, is not perfect because of the distortions created by price discrimination. Economists refer to this as a dead-weight loss, which means that the net cost for consumers is greater than the net gain of farmers. Stated another way, consumers lose more than farmers gain from policy intervention.

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