
Dairy Policy Brief #8a: Federal Milk Marketing Orders

What are federal milk marketing orders?

Federal milk marketing orders (FMMOs) require regulated milk processors, called handlers, to pay minimum prices for milk and adhere to other specified rules. FMMOs are authorized under the Agricultural Marketing Agreement Act of 1937, as amended. Requests to initiate or amend an order come from producers, who also grant approval of proposals through a referendum. These requests usually come through dairy cooperatives representing producers. Upon producer approval (dairy cooperatives may block vote for their members), the Secretary issues the order, which is then binding on handlers within the affected marketing area; that is, handlers—not dairy producers—are regulated. The marketing area is a specified geographical region within which processors compete with each other for sales of fluid (beverage) milk to various retail and institutional outlets. The marketing area does not necessarily correspond to where producers shipping to these processors are located.

There are 10 federal milk marketing orders, affecting about 60 percent of all milk marketed in the U.S. California's state order, which operates much like federal orders, accounts for another 20 percent. The remainder is priced under other state orders or is not subject to FMMO regulation.

According to the USDA, the three major objectives of FMMOs are to: (1) assure consumers of an adequate supply of wholesome milk at a reasonable price; (2) promote greater producer price stability and orderly marketing; and (3) provide adequate producer prices to ensure an adequate current and future Grade A milk supply.

What are the Issues?

The objectives of FMMOs are achieved through classified pricing, pooling, and setting minimum producer pay prices. There are a number of controversial issues related to how these methods are employed. These are discussed in Dairy Policy Briefs 8b – 8d. Briefly:

- **Classified Pricing.** Classified pricing establishes monthly minimum pay prices for milk and milk components according to the dairy products they are used to produce. Minimum prices for some classes of milk are derived through product price formulas that tie milk prices to market prices for products within the class. Order prices for other classes of milk are not related directly to markets for the products included in the class.
- **Pooling.** Pooling is accomplished under federal orders by obligating each regulated handler in the marketing area to account for milk receipts according to usage by class. Handlers pay into or draw from a *producer settlement fund* depending on the order-determined value of their milk receipts priced at order minimum prices relative to the market-wide average value (uniform price).
- **Minimum Prices.** Federal orders guarantee producers a minimum price for their milk that is an average of the minimum class prices weighted by the proportion of milk used in each class. Within marketing orders, the producer price is the same (for milk of equal quality) regardless of the class of products that are made from the producer's milk. In seven of the ten FMMOs, producers are paid for pounds of milk components (butterfat, protein and other solids), not for pounds of milk. In the other three orders, producers are paid for their deliveries of skim milk and butterfat.

Dairy Policy Brief #8b: Federal Milk Marketing Orders—Classification

What is the Program?

Federal milk marketing orders define classes of milk according to end use and set minimum processor prices for each class. Each of the 10 orders uniformly defines four use classes: Class I consists of all forms of beverage milk; Class II is perishable manufactured products like cottage cheese, yogurt, and ice cream; Class III is hard cheeses; and Class IV is butter and nonfat dry milk. Class prices are announced monthly and apply to milk deliveries for the entire month.

In general, Class I prices are considerably higher than prices for the other three classes. The Class I price is set by adding a differential to manufacturing class prices. This Class I Differential is the same each month, but ranges both within and among FMMO markets from \$1.60 per hundredweight (Upper Midwest order, Grafton, ND) to \$6.00 (Florida order, Miami). Producer prices, which depend on class prices and usage within classes, are positively related to Class I prices and Class I utilization. Class I utilization varies substantially across orders, from less than 20 percent in the Upper Midwest to more than 80 percent in Florida, and also seasonally within orders.

Classified pricing is an application of price discrimination. The price elasticity of demand for dairy products differs among classes. Consequently, producer revenue can be enhanced by shifting milk away from products with a relatively inelastic demand (e.g., fluid milk) into products with a relatively elastic demand (e.g., cheese).

What are the issues?

- ***Determining the right class.*** USDA has a comprehensive system for determining how dairy products are assigned to milk classes. For most dairy products, the classification is straightforward. But classification is not always clear for dairy products that are a complex combination of milk components, sometimes in combination with non-dairy ingredients. For example, some new dairy-based beverages have been configured in a way that puts them in Class II instead of Class I, which covers other fluid milk products. Producers argued that this caused them to lose the higher Class I value to the extent these beverage products compete with other fluid milk. Producers of these new beverages argued that they were expanding total dairy sales to the benefit of producers and that pricing their dairy ingredients at Class I would make the products uncompetitive.
- ***How many classes?*** Are four classes too many? Not enough? Some have argued that there should be more classes to accommodate new products and to promote export sales. Others have argued that —fine-tuning” classification in response to new products is a lost cause, and that the system should be simplified by having only two classes—fluid milk products and all manufactured dairy products.
- ***Changing price elasticities.*** Enhancing producer revenue through price discrimination/classified pricing requires knowledge of relative elasticities. Past research has consistently shown that the price elasticity of demand at retail for fluid milk is smaller in absolute value (more inelastic) than demand for manufactured products. This supports a relatively high price for milk used in fluid products. But the rapid growth in cheese consumption, especially in food ingredient and flavoring uses has made cheese demand more inelastic over time. At the same time, fluid milk is facing more substitutes today and there are more and more varied fluid products, causing demand to become more elastic. This raises the question of whether class prices are properly aligned.

Dairy Policy Brief #8c: Federal Milk Marketing Orders—Pricing

What is the Program?

Federal orders set minimum class prices using a set of formulas. For Class III and Class IV prices, formulas link milk component values directly to wholesale prices for the major dairy products within the classes. For example, the Class III (and Class IV) butterfat formula derives a butterfat price by subtracting a make allowance (assumed manufacturing margin) from the wholesale price of butter and multiplying the difference by the assumed yield of butter per pound of butterfat. Protein, nonfat solids, and other solids prices are derived in a similar manner, with the values of these components linked to wholesale prices for cheese/butter, nonfat dry milk, and dry whey, respectively. The Class III and Class IV prices per hundredweight are calculated by multiplying component prices by the pounds of component assumed to be contained in a “standard” hundredweight of milk. Class I and Class II federal order milk prices are not tied to the wholesale prices of Class I and Class II dairy products. Rather, these prices are set by adding a differential to Class III and Class IV prices. Consequently, prices for all classes of milk are related directly to wholesale prices for butter, cheese, dry whey, and nonfat dry milk.

What are the issues?

- **Product price formulas.** The product price formulas for Class III and Class IV contain values for manufacturing costs and yields that are based on industry experience. Costs and yields vary among plants, raising the question of where to draw the line—should the values assure profitability for all plants? Only the most efficient plants? The formula values can become outdated over time, leading to abnormally high or low plant operating revenue. This is a particularly serious problem for make allowances. For example, rapidly rising fuel and energy prices in 2005 and 2006 elevated manufacturing costs increasingly above the formula make allowances. But raising product prices in an attempt to offset higher manufacturing costs translates directly into higher milk costs through the Class III and Class IV formulas, leaving manufacturers no better off. And altering make allowances requires a lengthy administrative process during which conditions could change radically. Product price formulas rely on wholesale prices for dairy products that are collected and reported by USDA’s National Agricultural Statistics Service (NASS). While reporting is mandatory, NASS only requires reporting of prices for “spot market” sales, which represent less than 20 percent of butter production and less than 40 percent of cheese production. Moreover, because prices for most butter and cheese transactions are pegged to the thinly-traded Chicago Mercantile Exchange markets, even spot market sales prices may not consistently reflect broad supply and demand conditions.
- **Class I prices.** Minimum Class II, III and IV prices are the same across all orders. But while the base is the same, minimum Class I prices differ because Class I differentials vary across markets. The spread in Class I differentials is from \$1.60 to \$6.00 per hundredweight. Class I differentials are positively correlated with Class I utilization and, for markets east of the Rocky Mountains, distance from the Upper Midwest. The logic for these differences was to encourage local self-sufficiency in fluid milk to avoid costly shipments of inferior milk to meet deficit needs. But with rapid transportation and modern packaging technologies, packaged milk can economically move long distances with little or no deterioration in quality. This has reduced the need for widely-varying Class I prices which some currently suggest contributes to the inefficient location of milk production. Another issue is the advance pricing of Class I. Class I prices are announced before the month to which they apply while Class III and IV prices are announced after the month to which they apply. This can result in “price inversion” with Class I priced under Class III and IV, disrupting incentives for plants to meet fluid milk needs.

Dairy Policy Brief #8d: Federal Milk Marketing Orders—Pooling

What is the Program?

Under federal milk marketing orders, producer milk value is determined through *pooling*. Simplifying what is a complex process, total pool value is calculated by applying minimum class prices to the volume of milk used in each of the four classes, I through IV. Producers affiliated with handlers regulated under the order are paid a common price for milk that is equivalent to total pool value divided by total pool volume, regardless of how their milk is used.

The terms, pool and pooled, are also used in federal order language to refer to plants that either must or may be part of the overall pooling process and to producers eligible to share in the pool distribution. Class I handlers within an order marketing area are called *pool distributing plants*. These plants are required to be pooled, that is, they are obligated to pay minimum Class I prices for the milk they receive. For manufacturing plants, called *pool supply plants*, pooling is optional. But there is usually an economic incentive for doing so because they receive producer settlement fund payments to pay producers.

Producers may ship their milk to any handler and share in the marketing order pool under which the receiving handler is regulated. Dairy cooperatives sometimes “pool” some of their affiliated producers on distant markets to take advantage of higher producer pay prices.

What are the issues?

- **Distant pooling.** In most federal order markets, producers receive Class III milk component prices for their butterfat, protein and other solids plus a producer price differential (PPD) per hundredweight of milk. The PPD represents the market-wide combined marginal value of other classes of milk relative to Class III, and varies positively across markets with Class I prices and utilization. When cooperatives pool producers' milk outside the producers' marketing area, all of the pooled milk receives the PPD for the receiving market. But not all the milk that is pooled has to be shipped to receive the PPD—the shipper need only demonstrate the capability of providing the pooled milk as defined by the receiving market's order qualification standards. Consequently, there has been a strong incentive to pool milk on markets with a relatively high PPD, which increases the volume of pooled milk and decreases the average pool value in the receiving order. Several orders have recently amended operating rules to tighten qualification standards in order to reduce economic incentives for distant pooling.
- **Depooling.** Because Class I prices are announced six weeks before Class III prices, the monthly Class III price has infrequently ended up higher than the Class I price during periods of rapidly rising prices. This *price inversion* means that the PPD becomes negative and that pooled Class III handlers, who normally draw money from an order's producer settlement fund, would have to pay into the fund. To avoid this payment, Class III handlers often depool—disassociate from the order—when there is a price inversion. The effect of depooling is to remove higher-priced milk from the pool, further reducing the PPD. Some orders have been and are being amended to make it more difficult for plants to depool.
- **Producer-handlers.** Dairy farmers who package and sell fluid milk exclusively from their own herds are exempt from federal order regulations. There are only a few producer-handlers and most have small herds and limited fluid milk sales. But some exempt producer-handlers have grown large enough to materially reduce Class I sales of regulated handlers. This reduces marketing order pool dollars and average milk value to producers shipping milk to pool plants. In March 2010, USDA issued a final rule amending orders so that only farms with bottled milk sales of three million pounds or less per month remain exempt from the pooling provisions of federal orders.