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History of Milk Marketing Orders and Current Implications to Dairy Producers and Industry

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History of Milk Marketing Orders and Current Implications to Dairy Producers and Industry

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The process of marketing milk has evolved over the past couple of centuries as technologies, production practices, and milk products and use evolved. Fluid milk has been a staple food item in many parts of the world for many years. Fluid milk, as well as other milk products, is highly perishable. Thus, the quantity supplied and demanded in a narrow time period must be closely aligned to maintain a stable price and not disrupt milk production so that consumer demands are met. These concerns are addressed to some degree by milk marketing orders. This publication is intended to provide a history of the formation and evolution of milk marketing orders and to outline implications of marketing orders to dairy producers, industry participants and policymakers.

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History

The Agricultural Adjustment Act of 1933 was the first attempt to use federal legislation to assist dairy farmers with milk pricing. This act established program licenses and required all milk dealers to pay farmers classified pricing and pooling (see example for further explanation). Two years later, the 1935 Agricultural Act set specific terms and provisions and called the programs "marketing orders" instead of licenses. Two years later, the Agricultural Marketing Agreement Act of 1937 refined the marketing order provisions used today. This act provided "enabling legislation," meaning that dairy farmers may request and approve a federal milk marketing order, but orders are not mandatory. To ensure dairy farmer involvement in the provision of milk marketing orders, a marketing order requires dairy farmer/producer approval.

Prior to 1960, different federal milk marketing orders (FMMOs) used different formulas for establishing minimum class prices. However, it was recognized that butter, cheese and dry milk powder were marketed nationally and that beverage milk products had a smaller geographic distribution area. Therefore, uniform class pricing formulas were established. Most of the milk in Minnesota and Wisconsin was used for butter, dry milk powder and cheese, which accounted for a major share of national production. Due to this fact, the Minnesota-Wisconsin Price Series (M-W) was adopted as the base price for Class III in all FMMOs and as the "mover" of Class I and Class II prices.

Class differentials were added to the M-W for the Class II price. A differential varying by FMMO was added to the M-W for the price of Class I. The Class I differential increased with distance from Eau Claire, WI. Class I differential reflects the added cost of producing Grade A over Grade B milk, the transport cost of moving raw Grade A milk to market, and a more inelastic price demand for Class I products.

In 1995, how the base price was determined was changed. The M-W pricing system was changed to the Basic Formula Price (BFP). Grade A milk production was increasing in Minnesota and Wisconsin as well as in the South, Southwest and West. Improved production technologies enabled most regions to produce milk at competitive prices, whereas more efficient transportation allowed Grade A milk to be transported greater distances and thus serve Grade A deficit milk areas.

In the 1996 Farm Bill, the Secretary of Agriculture was directed to consolidate the existing 33 federal orders to 10 to 14. The secretary was authorized to analyze various pricing provisions. Consolidation of orders and pricing changes were to be implemented by April 4, 1999.

The recommendations made by the Secretary of Agriculture were:

1. **Consolidate to 11 FMMOs.**
2. **Replace the BFP with multiple component pricing formulas.**
3. **Establish four classes of milk.**
4. **Flatten the Class I differential pricing surface.**
5. **Establish a separate mover for Class I.**

Congress accepted the consolidation of orders but reversed the flattening of Class I differentials. They also instructed the secretary to review the multiple component pricing formulas.

Dairy cooperatives have as many votes as the total membership of the cooperative. Therefore, the directors of the cooperative may decide on behalf of the membership whether to cast a vote of approval.

Purposes of Federal Milk Marketing Orders

The purpose of FMMOs is primarily to provide orderly markets. The primary benefit of FMMOs is that they "assure dairy farmers a minimum price for their milk throughout the year," and they "assure consumers of an adequate supply of milk to meet their needs throughout the year and help prevent wild fluctuations in price through periods of heavy and light milk production." The establishment of a marketing order, which is approved by producers and the Secretary of Agriculture, results in a binding regulation for the entire industry in a specified geographical region. Thus, the purposes of FMMOs are to:

1. Provide orderly marketing.
2. Assure reasonable prices to both dairy farmers and consumers.
3. Assure an adequate supply of wholesome beverage milk to consumers.

Approval Process

FMMOs undergo a hearing process authorized under the Agricultural Marketing Agreement Act. The hearing process provides the dairy industry the opportunity to submit amendment proposals with supporting evidence in order to change federal order provisions. This process ensures dairy industry input into the formation of marketing order provisions as the industry changes. Amendments to an order become effective after approval by producers through a referendum process. The process to form an FMMO is as follows:

1. Dairy farmers (producers) and dairy cooperatives request the Secretary of Agriculture to hold a hearing to provide information for the need for an order.
2. The secretary issues a recommended decision based on evidence submitted at the hearing.
3. Comments may be submitted by producers and milk plants (handlers).
4. Secretary issues a final decision.
5. Producer referendum: if two-thirds of producers vote in approval of the final decision, then the order becomes effective.

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Provisions of Federal Milk Marketing Orders

FMMOs are structured to include a classified price plan, system of minimum prices, terms of the order, and provisions for administering the order. Milk plants handling Grade A milk for fluid (Class I) purposes are called "handlers" and include bottlers, supply plants and dairy cooperatives. Dairy farmers marketing milk to a handler are called "producers." Dairy producers are not regulated, but handlers are regulated. They are regulated through requirements to pay at least the minimum class prices in a pool, which are established by the FMMOs. There were three classes initially:

1. Class I – Beverage milk products.
2. Class II – Soft manufactured dairy products (ice cream, yogurt, evaporated and condensed milk, and cream products).
3. Class III – Cheese, butter and dry milk powder.

Class I is the highest price since the purpose of FMMOs is to assure beverage milk to consumers.

How does classified pricing and pooling work?

A quick example may help. Assuming the following for class prices and milk utilization:

Class Pricing and Pooling				
Class I	$16.00/cwt.	50%	=	$8.00
Class II	$14.00/cwt.	20%	=	$2.80
Class III	$12.00/cwt.	30%	=	$3.60
Weighted average price (blend price)			=	$14.40/cwt.

This example would result in all milk handlers paying producers at least the blend price of $14.40 per hundredweight. This results in all producers receiving the same base blend price regardless of where they market their milk. To continue the example, assume two handlers in the market, Handler A (bottler) and Handler B (cheese plant/supply plant):

Handler A				
Class I	$16.00/cwt.	90%	=	$14.40
Class II	$14.00/cwt.	10%	=	$1.40
Class III	$12.00/cwt.	0%	=	$0.00
Weighted average price (blend price)			=	$15.80/cwt.

Based on class prices and utilization, Handler A pays producers the blend price of $14.40 per hundredweight and then pays $1.40 per hundredweight ($15.80 – $14.40) into the pool on all milk handled.

Handler B				
Class I	$16.00/cwt.	10%	=	$1.60
Class II	$14.00/cwt.	0%	=	$0.00
Class III	$12.00/cwt.	90%	=	$10.80
Weighted average price (blend price)			=	$12.40/cwt.

Based on class prices and utilization, Handler B pays producers the blend price of $14.40 per hundredweight and then draws $2.00 per hundredweight ($14.40 - $12.40) out of the pool on all milk handled.

In relation to dairy cooperatives, cooperatives are obligated to pool prices, but they are not obligated to pay producers the blend price. Dairy cooperatives commonly re-blend when paying members. Cooperatives may manufacture dairy products, market raw milk to handlers in different markets, and divide all milk revenues among producers.

Each FMMO has a defined marketing area. A marketing area is defined as a geographical area where milk is consumed and where handlers compete for packaged fluid milk. It is not necessarily defined by where the milk is produced. The FMMOs are set up so handlers serving the same consumers have the same raw milk cost. The location of the handler and producer does not determine under which FMMO a handler is regulated, but rather where the handler's Class I sales go. Marketing areas started small, geographically speaking. However, with improved technologies for processing, packaging and transporting, FMMOs consolidated and are now geographically larger.

Federal Milk Marketing Order Areas

Figure 1. Federal Milk Marketing Order Areas.
Source: USDA-AMS ams.usda.gov/sites/default/files/media/Federal%20Milk%20Marketing%20Orders%20Map.pdf

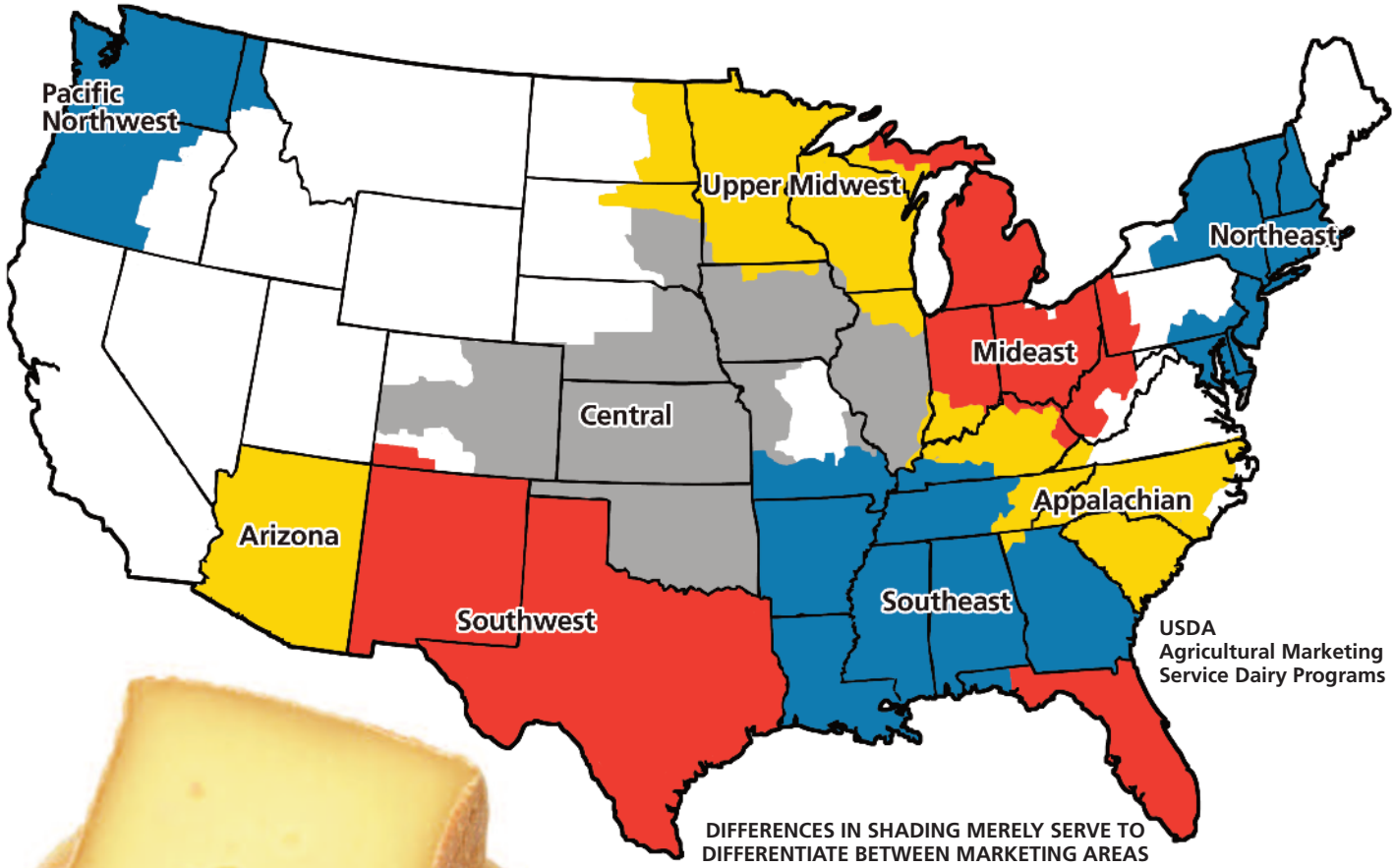

Table 1. Measures of Growth in Federal Milk Orders, USDA-AMS

Year	Number of Orders	Number of Handlers	Number of Producers	Population of FMMO	Receipts of Producer Milk	Used as Class I
	----------Number----------			Thousands	Million Pounds	Percent
1950	39	1,101	156,584	*	18,660	58.9
1960	80	2,259	189,816	88,818	44,812	64.2
1970	62	1,588	143,411	125,721	65,104	61.5
1980	47	1,091	117,490	164,908	83,998	48.9
1990	42	753	100,397	195,841	102,396	42.8
2000	11	346	69,590	228,899	116,920	39.3
2010	10	251	45,918	247,031	126,909	35.4
2014	10	223	38,391	255,184	129,420	32.0

Source: USDA-AMS ams.usda.gov/sites/default/files/media/FMMO%20Measures%20of%20Growth%201950%20-%202014.pdf

New System for Classes of Milk

Based on the 1996 Farm Bill, the Secretary of Agriculture was charged with consolidating the number of FMMOs, which was accompanied by other previously mentioned recommendations.
One of those recommendations was to establish four classes of milk, which also restructured the pricing system. In January 2000, the new class of milk system was established:

1. **Class I:** Milk used for beverage milk products.
2. **Class II:** Milk used for soft manufactured products, ice cream, cream products, yogurt and condensed milk.
3. **Class III:** Milk used for cheese.
4. **Class IV:** Milk used for butter and dry milk products.

Milk price formulas for Class I, Class II, Class III and Class IV milk at time of publication are presented here, but updated formulas can be found at ams.usda.gov/resources/current-price-formulas.

1. Class I:

- Class I Price = (Class I skim milk price x 0.965) + (Class I butterfat price x 3.5)
- Class I Skim Milk Price = Higher of advanced Class III or IV skim milk pricing factors + applicable Class I differential
- Class I Butterfat Price = Advanced butterfat pricing factor + (applicable Class I differential ÷ 100)
- Advanced pricing factors are computed using applicable price formulas, except that product price averages are for two weeks.

2. Class II:

- Class II Price = (Class II skim milk price × 0.965) + (Class II butterfat price × 3.5)
- Class II Skim Milk Price = Advanced Class IV skim milk pricing factor + $0.70
- Class II Butterfat Price = Butterfat price + $0.007
- Class II Nonfat Solids Price = Class II skim milk price ÷ 9

3. Class III:

- Class III Price = (Class III skim milk price × 0.965) + (Butterfat price × 3.5)
- Class III Skim Milk Price = (Protein price × 3.1) + (Other solids price × 5.9)
- Protein Price = ((Cheese price – 0.2003) × 1.383) + ((((Cheese price – 0.2003) × 1.572) – Butterfat price × 0.9) × 1.17)
- Other Solids Price = (Dry whey price – 0.1991) × 1.03
- Butterfat Price = (Butter price – 0.1715) × 1.211

4. Class IV:

- Class IV Price = (Class IV skim milk price × 0.965) + (Butterfat price × 3.5)
- Class IV Skim Milk Price = Nonfat solids price × 9
- Nonfat Solids Price = (Nonfat dry milk price – 0.1678) × 0.99
- Butterfat Price = (Butter price – 0.1715) × 1.211

5. Somatic Cell Adjustment Rate

- Somatic Cell Adjustment Rate = Cheese price × 0.0005 rounded to the fifth decimal place. Rate is per 1,000 somatic cell count difference from 350,000.

The Class I differential is added to the base price. The differential varies for each county in the U.S. and ranges from $1.60 to $4.30 per hundredweight. The differential is dependent on where the milk plant is located. The differential by county can be found at ams.usda.gov/sites/default/files/media/FOR%20Class%20I%20Differentials.pdf.

Six of the 10 orders pay producers based on a milk component basis, whereas the other four orders are primarily Class I markets that pay producers under a butterfat and skim milk basis. These include the Southeast, Appalachian, Florida and Arizona orders.

The formation of dairy cooperatives was the first attempt to improve milk prices for dairy farmers.

Federal Milk Marketing Order
Class I Price Structure

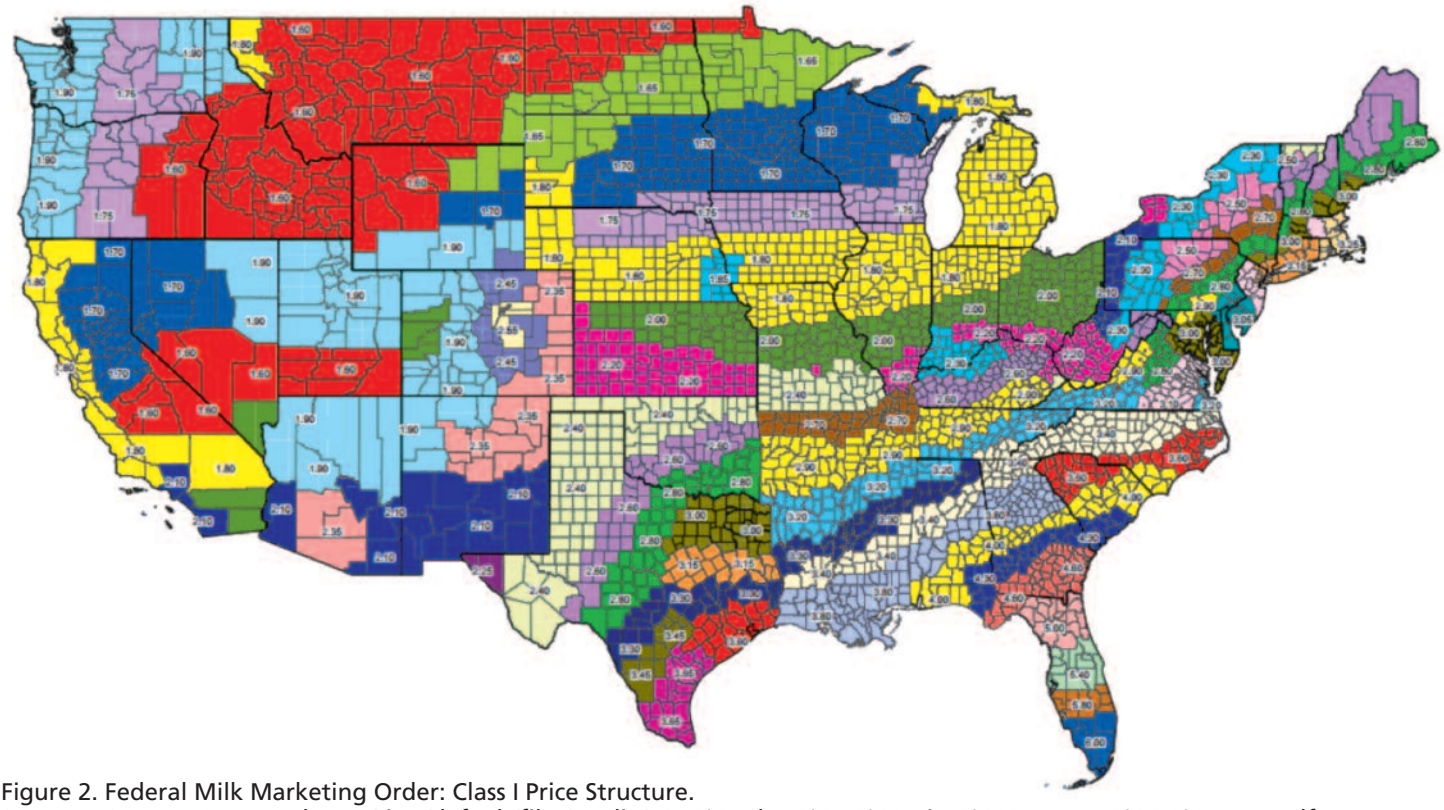

Figure 2. Federal Milk Marketing Order: Class I Price Structure.
Source: USDA-AMS ams.usda.gov/sites/default/files/media/FOR%20Class%20I%20Price%20Structure%20-%20Map.pdf

Conclusion and Future Considerations

The formation of dairy cooperatives was the first attempt to improve milk prices for dairy farmers. The first U.S. dairy cooperative was established in 1810. By 1822, dairy cooperatives were involved in wholesale milk distribution, retail fluid milk distribution and bargaining. Due to milk buyers refusing to pay a single high flat price for all milk and especially for milk in excess of fluid needs, dairy cooperatives tried to replace "flat pricing" with "classified pricing" and "pooling" in 1920. However, the classified pricing and pooling system was met with limited success due to its voluntary nature. The downfall was that 100 percent of fluid milk buyers could pay a farmer a higher price directly than the pooled average price and still purchase the milk cheaper.

By 1935, 2,270 dairy cooperatives were in existence. These cooperatives represented 16 percent of dairy farmers but represented 45 percent of the milk marketed by farmers. There were 110 cooperatives bottling a total of 5 percent of fluid sales, whereas 87 bargaining cooperatives and a few cooperatives were making butter and cheese. This eventually led to the development of FMMOs in 1935 and refined rules in 1937 that are the base of FMMOs today.

The fluid milk market remains a regional market to some degree, though those regions are continually growing as transportation and production technologies improve. However, the dairy industry is very much impacted by dairy exports and international markets, which influences local dairy production and marketing implications. It is difficult to predict what the implications are for dairy producers and industry participants as the market changes over time, but it is evident that producers need the ability to change production while also having the fluidity to adjust to markets within FMMO provisions.

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