

TESTIMONY ON FEDERAL MILK MARKETING ORDER POLICY

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by

Andrew M. Novakovic

*The E.V. Baker Professor of Agricultural Economics
Director, Cornell Program on Dairy Markets and Policy
Chair, Department of Agricultural, Resource, and Managerial Economics*

Cornell University

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Introduction

Congressman Gunderson and other members of the Subcommittee on Livestock, Dairy, and Poultry, I am appearing before you to offer my views and expertise on dairy markets and policy in general and federal milk marketing order policy in particular. I especially want to share relevant insights from the research my colleagues and I have done at Cornell. To the extent that my views may suggest specific policy actions, they do not represent an official statement by Cornell University.

The invitation to the hearings being held on May 23 and 25 request testimony on a variety of subjects and questions relative to Federal Milk Marketing Orders. This written testimony should be taken as my response to both hearing invitations. In addition, you already have testimony from me concerning price support and export policy, as well as statements concerning milk marketing orders. I will not repeat what I have previously said before your committee, and I ask you to consider this to be a continuation of the testimony I presented in Syracuse.

Summary

My previous testimony discussed current factors and underlying characteristics that I find to be illuminating and instructive when I ponder dairy policy and the many options presently being discussed. I offered the following five points.

1. Efforts to promote long-term competitiveness in world markets offer the best hope for growth in the dairy sector.
2. Given the current budget environment and prospects for trade liberalization, the time may well have come to eliminate the dairy price support program.
3. Absent their own expressed desire to pay for federal programs, assessments levied on dairy farmers simply for the purpose of helping to balance the budget should be eliminated as price supports are eliminated.
4. Programs to protect dairy farmers from less than perfect conditions of competition continue to be warranted. The chief federal program of this type is the Federal Milk Marketing Order system.
5. Decisions relative to food assistance and environmental programs can and should be made with an eye toward minimizing detrimental impacts on agriculture.

Our GATT obligations combined with budget realities have led me to conclude that it is time to eliminate price supports and producer assessments and to reorient our thinking and policies toward international market competitiveness. The rationale for marketing orders does not hinge on these same factors. In fact, it is my opinion that the underlying economic justification for marketing orders is to mitigate the inherently flawed nature of competition in farm-level milk markets, an economic condition which has not changed fundamentally over the last 50 or 100 years even though

there is much about dairy markets that has changed. Neither those who believe dairy policy should do more for farmers than mimic the outcomes of a perfectly competitive marketplace nor those who believe that only unregulated markets are best will find much common ground with this testimony.

My testimony today expands on these themes. I offer the following primary points:

1. Current federal order provisions may or may not be optimal, but we must clearly articulate what we want to accomplish before we can fruitfully discuss the merits of alternative policies.
2. My thoughts on FMMO classified pricing provisions are guided by a belief that marketing orders should try to create outcomes that would mimic what we would expect to happen if competition in farm level markets were more nearly “perfect” (in the sense that economists speak about perfect competition as a norm),
3. Economic theory can be used to estimate the value of milk (pricing) but it does not provide much help in deciding how to share market returns across producers (pooling).
4. A system of seven regional orders is shown to illustrate how order consolidation might look. Existing orders are consolidated based on similarities in prices, class I utilization, and market characteristics. A simple region-wide pool is assumed with no intra-region prices zones for producer milk. This need not be how a regional order is actually set up.
5. A product formula approach may offer the best alternative to the current M-W price; however USDA should research wholesale market product prices to determine how best to estimate national price levels in key product categories.
6. Decoupling class I prices from monthly movements in prices derived from manufactured product markets is sensible, but some connection to longer term price movements needs to be maintained between class I and manufacturing class prices. Setting class I prices off of a three to twelve month moving average of the class III price would accomplish this.
7. State orders can be included in regional groupings. The commerce clause may permit the pre-emption of state orders, but the issue is more whether state actions are contrary to federal policy. State action, in and of itself, is not bad.

Specific findings of our research on “idealized” class I differentials can be summarized as follows:

1. The basic pattern of low class I differentials in the Upper Midwest and West and differentials rising with distance from the low points is validated by current production and consumption patterns and national marketing costs.
2. Regional differences should be flatter than the current provisions require. This is particularly true in the Northwest and Southwest, but it is also true in the Southeast, particularly Florida and New Orleans.
3. Using this flatter price surface and raising the base differential in Minneapolis from \$1.20 to \$1.80 would result in about the same weighted average, system-wide class I differential.
4. Setting prices relative to a scenario that assumes nonfat dry milk is a perfect substitute for fresh milk in making beverage milk products results in an even flatter price surface. However, the basic pattern of high spots and low spots is unaltered. The Southeast is impacted more than the Northeast, and New Mexico benefits. The assumption of perfect substitution is a very strong one.

Eliminating, Reforming, or Maintaining Marketing Orders

My earlier testimony speaks to the issue of eliminating orders. Obviously, I think an adequate rationale exists for keeping federal regulation of farm level markets and the economic behavior of the buyers of farm milk. Even if one accepts my basic proposition, the hard part is determining what is the optimum form and substance of this regulation. I can at least say that I'm not convinced that marketing orders are horribly broken, but I certainly won't argue that they couldn't be improved. As I said in Syracuse, some changes will no doubt be made relative to social or political criteria about which economic theory can offer little guidance.

Classified Pricing

I have written elsewhere about the evolution of classified pricing and a rationale to explain geographic price differences.¹ There are two major points.

One, pricing of milk according to how it is used or what kind of processor purchased it, i.e., classified pricing, was invented by 19th century cooperatives not 20th century bureaucrats or politicians. Moreover, this system was used extensively around the U.S. well before it was enshrined in the Agricultural Marketing Agreements Act.

Two, the current thinking seems to be that USDA developed a theoretical rationale for setting regional prices, known as base point pricing, and imposed this arbitrarily on national dairy markets. In fact, it was a 1955 study of unregulated milk prices that discovered regional patterns in unregulated milk prices, estimated a fairly robust statistical relationship based on distance for an arbitrarily selected Wisconsin city, and offered an economic explanation for what the market data showed.

Classified pricing with regional prices that more or less conform to an Eau Claire, Wisconsin base point model have been institutionalized to some degree, but I think it is important to keep in mind that this system was based on market practices and patterns that existed without regulation. It is well to ask whether this system is still relevant. Nevertheless, I think the principle of looking to competitive markets and sound economic theory to guide regulatory pricing is one we should not abandon in favor of more *ad hoc* options.

Milk Classification

The number of classes of milk use and their specific definition has varied considerably over time. This was true prior to marketing orders, under marketing orders, and in different countries. One constant is that beverage milk products define a single class representing the highest valued use--class I. Beyond that, any number of systems have been used and could work for manufactured product classes.

The first 20 years of FMMOs saw a wide variety of classes for manufactured milk products. The New York order at one time used eight classes, each with its own pricing formula. The driving concept was that each product market generated a different farm value. Eventually, the competition for milk across plants, some horizontal integration of plants, and a general desire to simplify orders and make them more similar across regions led to a system of two or three classes. Northeastern markets only converted to the more popular three-class system following the 1990 hearing. I suspect few would argue that there is a terribly important difference between a two- and three-class system.

¹ Andrew Novakovic and James Pratt, Geographic Price Relationships Under Federal Milk Marketing Orders, A.E. Res. 91-8, Dept. of Agr. Econ., Cornell University, September 1991.

The primary issue seems to be whether one believes that there is an intermediate class of milk from which a little additional money can be extracted for the benefit of producers.

The current federal order system is a four class system where we have introduced a class for a manufactured product that has been judged to be weaker than the norm. Class IIIa was invented to charge nonfat dry milk processors a price they could afford to pay, recognizing that at the time it was implemented they could not afford the class III price.

Thus, the rationale for how many classes of milk to have and which products should define which classes hinges on the perceived ability of a group of products to generate a similar farm milk value. The application of this simple rule is hardly straightforward. There are those who would use this rule to argue that milk components should have different prices based on each different product use, leading to perhaps dozens of different component values. I find this extreme to be unappealing for the same reason we reduced classes in the 1960s. It strikes me as unnecessarily complex and, more importantly, it imposes an assumption of independence between product markets that I find hard to defend. That is, it suggests that the value of milk used to make cheese is unrelated to the value of milk used to make yogurt or nonfat dry milk.

I am equally comfortable with either a two or three class system, and I think that the current situation makes a four class system intriguing. When it was first proposed, I thought class IIIa pricing was a poor idea. It seemed to me that it would perpetuate the disequilibrium between wholesale values of cheese and nonfat dry milk that existed at the time, and I could think of no good reason to do so. I was sympathetic to the arguments presented by cooperative manufacturers that using powder plants to process the seasonal fluctuations in milk available for manufacturing constituted a marketwide service, but I thought that handling that through the order legislation which allows for marketwide service payments was preferable to setting up a new class. Having said this, and I still believe the argument is sound as far as it goes, I have found a reason for keeping the current system or something like it.

Whether the 104th Congress finishes off the DPSP or not, the program will not do much to support prices in the future. I believe the existence of a "surplus" class such as IIIa provides an outlet for distressed milk and enables other markets (notably cheese) to maintain strength it would otherwise lose. This is the same effect that one could accomplish with a class IV, export class. Assuming one wants to moderate down-side price fluctuations for farmers, the "surplus" class concept can be an effective vehicle in the absence of an effective DPSP. Nonfat dry milk is a logical choice for such a class because it is relatively cheap to make, easy to store, fairly convenient to transport and use, and we have plenty of capacity to produce it.

One may also note that if nonfat dry milk prices are allowed to find their own level, unimpeded by a support price and in an open, international market, then class IIIa becomes very like a class IV export class. The important distinction is that the price applies to a single, bulk commodity and does nothing to facilitate or encourage the flow of higher value products.

If we find it appealing to create a situation where we allow one market to be weak (presumably one that has a more price sensitive demand) so that other markets (which have more price insensitive demand) can be strong, then either a class IIIa or class IV system has merit.

Pricing

Prices should be reasonable to both the buyer and the seller. This is easily said, but how one does this when prices are regulated is less than obvious. I find the concept of pegging regulated prices against benchmarks from unregulated but competitive markets to be the most appealing. The logic is to create something that looks like a competitive price in a market that is inherently not well balanced based on a related market that is.

When there were unregulated milk markets that we thought were reasonably competitive, we could survey plant pay prices for a direct price benchmark. This was the logic behind the so-called M-W price, representing prices paid by manufacturers for unregulated milk in Minnesota and Wisconsin. Many examples of similar practices exist in the annals of FMMOs. Today there is very little unregulated milk left and it is not at all clear that what is left is producing a reasonable, competitive price.

Thus, a popular alternative is to look for a farm milk price benchmark from the adjacent wholesale market for manufactured products. This is what federal orders do for class IIIa and what California does for its class 4a and 4b. The logic is that if these wholesale prices are the result of fair and open competition, then farm level prices derived from them will approximate a competitive farm price. The system is not without its problems. Chiefly there are two. First, which wholesale prices should be used? Second, once you have wholesale prices, how do you translate them to farm values?

It is not terribly important to sample a lot of product markets from a lot of geographic locations, just for the sake of it. What is critical is getting a good representation of national market values. If one could do that by a survey of one cheese plant in Wisconsin, this would be fine. Although there is quite a bit of wholesale price information reported, I don't believe anyone has ever tested the extent to which any of the reported prices are an accurate indication of the market average or a national average. I would suggest that USDA not use the prices that are currently reported without doing such a study and making whatever improvements such a study would indicate are needed.

Regarding the calculation of farm prices, I would offer the following principle. If one is in the business of setting minimum prices, the risk is in setting them too high not too low, assuming we hold to our objective of finding prices that approximate fair market competition. A minimum price that is too low based on market conditions can be augmented by competitive bargaining. A minimum price that is too high cannot be corrected by market mechanisms and will eventually lead to trouble. The amount by which the minimum price can be below the desired level is directly proportional to one's faith in the competitive nature of farm milk markets.

There are an unlimited number of other ways to set manufacturing class prices, such as cost of production, economic formula, and so on. In my view, cost-based regulated pricing is a very poor idea and other procedures which I know about are less appealing than product price formulas.

Class I Pricing Relative to Manufactured Product Classes

Although it was not always this way, for the last three decades or so, class I prices have been set relative to the same basic formula price that determines the class III price (i.e., the M-W price). This means that changes in the price determined primarily by supply and demand in manufactured product markets are exactly mirrored in class I price changes. It has been observed that this can result in upward or downward movements in class I prices that are totally at odds with class I market conditions. I think there is considerable merit to decoupling monthly class I prices from monthly changes in the basic formula price; however I think some kind of link needs to be maintained to ensure that the two prices move in the same direction over the longer term. There is certainly more than one way to do this. I lean in the direction of setting class I prices relative to a three to twelve month moving average of the basic formula price, but other approaches are equally valid.

Class I Pricing Across Regions

How class I prices are set from one order area to the next has been the hub of a lot of controversy. As I mentioned earlier, I have elsewhere described how the current system evolved.

What I would like to do here is share with you the results of our latest research on the economic justification for regional differences in class I prices.

Our research on this question involves the use of a model of dairy markets which is uniquely suited to this task. The model utilizes estimates of farm milk production and the consumption of five categories of milk products. The model simulates the cost minimizing behavior characteristic of a perfectly competitive market and incorporates costs of assembly (moving milk from farms to plants), processing, interplant transfers (moving milk or intermediate dairy products between plants), and distribution (moving products from plants to population centers). The highly disaggregated model represents the US dairy sector with 240 supply areas, 507 processing locations, and 234 consumption areas.

For those who are familiar with our 1990 study, I perhaps should say that this update reflects two basic changes related to the base data and the model. Our earlier study was based on 1985 data; this has been updated to 1993. To the extent the regional supply-demand balances have changed over time, our price estimates will be affected by the new base year. In addition, the old model was formulated assuming that all milk movements to plants occurred in the form of whole, farm milk and there were no interplant transfers. The new model specifies milk supplies and demands in terms of milk components and allows for the balancing of milk on a component basis through the transfer of cream and skim milk or nonfat dry milk.

The two changes make a difference. The change in the model results in a flatter price surface than we had previously estimated. The updated data better reflect the dramatic changes that have occurred in local supply and demand balances around the country.

1993 Estimated Base vs. Actual Class I Differentials

Table 1 shows actual class I differentials for federal order markets in comparison to what we estimate to be the marginal value of class I milk at corresponding city centers, under the assumption of perfect competition and other parameters of the model. The accompanying maps (Figures 1 and 2) help to illustrate the estimated class I price contours.

The current pricing system can be generally characterized as having two areas of lower prices. One is in the Upper Midwest; the other is in the West. In addition, class I prices tend to increase with distance from the low points. The pattern is more systematic east of the Rockies, but even there it is far from a perfect relationship of concentric circles.

The model generates differences between regions, but it does not generate a base value. To approximate the average level of class I prices that presently exists, we added a base differential of \$1.67 per cwt. This results in a \$1.80 differential in Minneapolis and a \$3.76 differential in Miami. This compares to current values of \$1.20 and \$4.18. Again, the national average for the base scenario is constructed to approximate the current average of about \$2.57.

I hasten to make clear that this price surface is not calculated from a strict base zone model. The estimated class I prices follow a similar pattern, but there are differences. The price incline from Midwest to South or East is less steep. The boundaries of the price isoclines also appear to run in a more southwest to northeast line; whereas the boundaries on actual differentials seems to run more east and west. Another way to describe this might be to say that the higher valued areas have rotated away from Arizona and New Mexico, which is very consistent with the rapid growth in milk supplies in that area.

1993 Estimated "Reconstituted" Class I Differentials

The base model does not permit class I plants to use nonfat dry milk to make a class I product. A scenario was run which allowed nonfat dry milk plants to satisfy the requirements of class I

processors for skim solids. This approach does not require plants to use nonfat dry milk; rather it allows the model to choose nonfat dry milk instead of fresh milk when it contributes to a lower national marketing cost. Moreover, we make no assumption nor impose a requirement that nonfat dry milk is cheaper than fresh milk. When we do this, a mix of nonfat dry milk and fresh milk is used at class I plants, with some plants relying on nonfat dry milk much more than others.

The results are also illustrated in Table 1. As expected, this further flattens the regional price surface, although it does not change the basic areas of high prices and low prices. What we did not have the foresight to expect is that the national average estimated value of fresh milk for class I did not change; rather it juggled regional price differences around the same mean.

The purpose of the “reconstituted” scenario was not to say this is the way regional prices should be but to show the potential impact of reconstitution. In practice, the industry has yet to be convinced that reconstituted beverages are a perfect substitute for fresh beverages. Our results implicitly assume that they are.

Estimated State Average Farm Milk Values

The model also provides an estimate of the marginal value of farm milk at each of the 240 supply locations. The value at a given location is determined by where the milk is shipped, which could be to a single processing sector or split among two or more. There is no marketwide pooling in this model. We can however calculate state average milk values and have done so in the attached tables and maps which compare the Base and Reconstitution scenarios. In both cases, we use any regional differences estimates for any class of milk usage, and we have a base class I differential of \$1.67 and a base class II differential of \$0.30. The basic formula price (M-W) is set at \$11.00, and there is no class IIIa. This results in a national average milk value of \$12.20 under either scenario.

As can be seen from Table 2 and Figure 3, farm milk values are estimated to range from a low of \$11.36 in South Dakota to a high of \$14.39 in Rhode Island (Florida is \$14.22). The high Rhode Island price reflects the high class I price estimated for coastal New England but also reflects that fact that we do not get a realistic picture of blending when we look at such a small state. In general, as the map illustrates, the low price areas are in the Upper Midwest (Wisconsin and west), Idaho, California, and New Mexico. The high priced areas are in the Southeast and southern New England.

The Reconstituted scenario results in a range of state values from a low of \$11.50 in Idaho to a high of \$14.45 in Rhode Island (Florida drops to \$13.66). As illustrated in Figure 3, the highest priced states are in New England plus New Jersey, with Southeastern states being relatively high but further from the top. The low priced states are still in the Upper Midwest plus Idaho and California in the West. New Mexico prices are relatively low but further above the bottom. Five states see average price values decline by more than 50¢. Fifteen more states have declines of 10¢ to 50¢. One state has an increase of more than 50¢, and 11 more states have increases of 10¢ to 50¢. Sixteen states stay within a dime of their Base values. What these price changes appear to be reflecting is the use of dry milk from the Southwest to make beverage milk in the Southeast, thereby improving prices in New Mexico and lowering them in the Southeast.

Federal Order Impacts

The class I and all milk values estimated above provide insights into what a regional price surface would look like if we began with current market conditions and operated in a perfectly competitive market. We combined the estimates of class I values with another model to get another perspective of what might happen if these values were imposed as differentials on the current federal order system. This second model, known as the Dairy Market Policy Simulator (DAMPS) is

a model that tries to estimate milk flows between orders which are consistent with cost minimizing behavior. Federal orders are explicitly modeled, unlike the model used earlier.

Federal order markets are simulated using 1993 actual order minimum prices and with class I prices suggested by the Base and Reconstitution scenarios. In addition, I show the potential implications of a regional merger strategy that combines orders into seven regions under the Base scenario prices. Markets are simulated on a quarterly basis through 1998 and selected annual values for that year are reported in Tables 3 to 5. The average federal order price is designed to be nearly equal across scenarios, but there can be significant price differences for individual orders.

Criteria for Consolidating FMMOs and Revisions in Pooling

Before we begin talking about pooling and order consolidation, I'd like to review the logic that has guided pooling criteria in the past. The typical map of federal order areas (see Figure 4) is often misunderstood to imply that farmers who live in a shaded area are all pooled in the same order. The areas we generally look at as "order areas" define sales areas for class I milk products. Processors who sell beverage milk products in these geographic areas will be subject to the provisions of the corresponding order. It makes no difference where the processing plant is located or where the farm milk that goes to that plant comes from.

The blank spot on the map in northern New York certainly does not mean that farmers in that area are not getting a federal order blend price. Virtually all farmers living there do. Likewise, the shaded area in southwestern New York does not mean that all farmers who live there receive the blend price under the New York-New Jersey milk marketing order. Indeed, this part of New York contributes a great deal of the milk that is pooled under the New England order. The New York-New Jersey order, which regulates the system's second largest market, has a sales area covering southeastern New York and northern New Jersey, but the farmers who supply milk to that market range from Ohio to New England and northern New York to Maryland. Theoretically, a farmer from New Mexico could be pooled under the New York-New Jersey order if his milk were sold to a plant that served New York City consumers.

Thus, before we discuss consolidating marketing areas, we should understand two things. One, marketing areas have been defined by where class I milk products are sold, not where farm milk is produced. Two, the geographic area from which farm milk is procured--the so-called milkshed--is generally much larger than the marketing area, and milksheds typically have a considerable amount of overlap.

It should also be understood that federal orders do not, *per se*, prohibit the movement of farm milk across marketing areas. They do ensure that all farmers and processors play by the same rules if their milk serves the same consumer market.

Having said this, I would also note that the strict rules which determined whose milk got pooled on which market when the system was in its infancy have long since given way to a *de facto* practice of allowing any farmer to get his milk pooled in one place or another through one means or another. These rules, known as qualification criteria, could be rewritten to make access more difficult, but the trend has been in the other direction. In fact, it has reached the point where many industry members and analysts are now suggesting that pooling should no longer be based on markets defined by distribution areas and qualification criteria; rather they suggest that pools should be defined around milk production areas. This would mean that all farmers in a certain geographic region would get the same basic price, regardless of whether their milk travelled north, south, east, or west.

Making order pools national obviously makes any such distinction totally moot. Increasing the geographic size of market order pools has a similar effect. It is possible to talk about large regional markets in the context of the historical standard of an area in which fluid processors compete for

product sales, but in actuality I think we are talking about pooling based on milk production areas not product distribution areas when we do this. There is nothing wrong about this, but it may be helpful to understand that this is a departure from what has guided the definition of federal order areas in the past when we try to understand the arguments that are presented for or against regional or national orders.

My earlier testimony illustrated the kind of price changes that would occur across the country if market returns were pooled on a national basis. I also pointed out the obvious pitfall of that approach. Prices tend to be low in areas that have abundant milk supplies, including areas where milk supplies have been growing very rapidly. It is counter-intuitive that we would want to require that even higher prices be paid in such areas. A national pool could be designed to have farm milk pricing zones which permit regional farm price differences, but that more or less puts us back in the realm of regional orders.

If our objective is simplification, it is possible to define market pools based on any of a number of more or less reasonable criteria. Following a discussion below about regional class pricing, I will offer an example of a regional pooling that is based on areas of fairly homogeneous production and pricing characteristics.

State Orders

Both federal and state law have been used to authorize the regulation of dairy markets, including farm price regulation. In and of themselves, there is nothing inherently superior about either form, nor does it necessarily follow that state regulation need be different from federal regulation. Although states were very active in the early formation of marketing orders during the 1930s, state price regulation fairly rapidly gave way as it became clear that dairy markets often involve interstate commerce. Today a handful of states maintain some forms of price regulation, usually under conditions in which interstate commerce is not a big issue. The form of this regulation ranges from being nearly identical to federal orders, such as exists in the Western New York state order, to forms of regulation that use tools very different from federal orders, such as exists in Maine, Pennsylvania, and Virginia. In many of these cases, including the last three states, the state regulation exists in conjunction with or on top of federal orders. One very important state--California--uses a marketing order approach that is quite similar to what is done in federal orders but by no means is it identical.

The extent to which state regulation poses a problem to a federal system that wants to achieve national objectives probably has to be judged on a case-by-case basis. It probably goes without saying that national objectives will likely be best served by a national system. This does seem to contrast with the current thinking in the Congress to move programs back to states, but the issues for commerce are somewhat different than for social programs.

I do not have a strong opinion about state orders as a generic option. I do think that Congress does have the right to judge whether a state program is taking unfair advantage of a federal program or is operating in a way which is counter to the objectives of a national policy. In light of the current thinking that states can be incubators of policy creativity, it is perhaps noteworthy that many industry members have been commenting that federal policy might want to borrow ideas from California's state program.