FUTURE OF DAIRY MARKETING ORDERS

by

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for

National Institute for Cooperative Education
American Institute of Cooperation

at

Indianapolis, Indiana

July 26, 1989
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Looking Back

Federal milk marketing orders have been with us for over 50 years. Regulation has expanded to the point that about 80 percent of fluid grade milk and 71 percent of all milk is now regulated. Two high level commissions that were appointed to review orders gave them excellent marks. Most cooperatives and processors regulated by orders are supportive of regulation. There have been numerous studies of specific aspects of federal orders by those in government and academia. These evaluations of performance of orders are mixed, but on balance have been positive (Babb, Boynton, Dobson and Novakovic; Dobson and Buxton; Economic Research Service; Gardner; Manchester). The classified pricing provisions of orders have some price enhancement effects, but resulting consumer losses may be offset by the stabilizing effects which reduce risks and increase supply (Whipple, 1986).

Why have milk orders achieved such an impressive record? First and foremost, they have satisfied an economic need. They could not have survived for over 50 years otherwise. Second, they have adjusted to changes in the industry. Critics often claim that regulation does not change as rapidly as it should, and they may be right, but orders have undergone substantial change in response to new technology and changes in marketing. Third, the administration of orders has been judged to be fair and impartial. Those regulated respect the integrity of administrators.

In spite of this record, orders have gone through a period of some neglect during the past 10 to 15 years. Cooperatives have focused on national dairy policies which have the potential to alter price levels and farm income. In contrast, orders have limited impacts on price level and income and do not contain supply management mechanisms which would be needed for income enhancement. They are designed to provide orderly marketing and stability. During much of the period since World War II, order regulation has been dominated by national support price policies. Some of the poor performance attributed to orders, such as low Class I utilization, is largely the consequence of support prices rather than order provisions. The performance of orders is probably best when support prices are near market clearing levels.
Looking Forward

The interest in orders will expand in the coming years. For various reasons, price enhancement, using the support price program, has become less feasible. We are now near market clearing prices. With reduced prospects for increasing the size of the pie, interest will turn to dividing the pie. Regionalism is already running strong and federal milk marketing orders are almost the only policy mechanism through which regional objectives can be addressed. For those of us who can remember the East-West debates of the late 1950's, the current debates are a bit of *deja vu*. As in the past, the issues in the debate hinge on regional shares of milk production, share of product markets and regional differences in price and income.

The leading candidates for changes in federal milk marketing orders to deal with regional issues, fall in five categories:

1. reconstituted milk,
2. multiple base points,
3. single order with single and multiple base points,
4. Class I differentials, and
5. standby pool.

An assessment of the impacts of these five changes in order provisions is developed below on the basis of past research findings. These assessments should be viewed as approximations because differences in methods used in the various studies may produce results that are not strictly comparable.

It should be noted that dairy programs and regulation are not the only forces that have regional impacts. Technology may produce even greater regional changes in competitive position. Weersink and Tauer have estimated significant changes in regional milk production shares and in regional changes in net income as a result of using bovine Somatotropin (bST). The use of bST was found to have differential impacts on production, survival probabilities and net worth for dairy farmers in different regions (Yonkers, Knutson and Richardson). As discussed below, new processes for concentrating milk can alter the competitive position of regions, as well as developments in production and management practices, processing and transportation. Environmental regulations,
urbanization and a host of other factors can have regional impacts on the dairy industry. By focusing on only dairy programs and regulations, a region could win the dairy battle and lose the war.

**Reconstituted Milk**

The distinction between reconstituted milk (RCN) and milk concentrated by the reverse osmosis process (RO) needs to be made. RCN involves mixing water with manufactured products such as butter and powder to produce fluid milk. RO uses a membrane technology which removes water from milk that is later added back to produce fluid milk. For a variety of reasons, it is expected that RO would dominate RCN milk or be adopted for use if raw milk cost were comparable.

Prior studies (Whipple, 1983; Hammond, Buxton and Thraen) found large cost savings using RCN that had major negative impacts on milk prices, particularly in the Southeast. Hammond, Buxton and Thraen found that RCN would result in Class I price declines of over $1.50 if Class I differentials were adjusted to be competitive with RCN priced as Class III, and about 75 cents if Class I differentials were reduced to be competitive with RCN priced as Class I. Producer prices would decline by over $1.00 in the first case and by over 50 cents in the other. Whipple projected even larger declines in milk prices.

It should be noted that a major part of the cost savings associated with RCN was the result of a Class III raw product price versus a Class I price for whole milk. That is, the major cost savings was from avoiding regulation. The inefficiency of converting whole milk to manufactured products and then back to fluid form to achieve this purpose is readily apparent. Reducing Class I differentials to be competitive with RCN milk was proposed to avoid inefficient conversions and to obtain potential RCN cost savings for consumers.

The adoption of RO milk was analyzed by McDowell, Fleming and Fallert. Blend prices in the Southeast were projected to decline $1.13 and Class I differentials to decline 68 cents. The impacts of RO milk in this study are probably overstated because RO processing costs appear to be low and imputed marketing cost for transporting RO milk was below actual transportation cost. It was assumed that only part of the milk at a plant processing RO milk would be transported. A study by Schiek and Babb suggested that RO milk priced as Class I would not have major impacts in the Southeast, or even in Florida, which represents an extreme case. Class I price reductions which
averaged 35 cents (from 15 to 55 cents among quarters) restricted shipments of RO milk to that needed for Class I purposes. Producers and consumers realized savings from lower transportation cost on RO milk which is needed to meet Class I needs. The producer blend price was 11 cents lower when RO milk was used and the Class I price reduced, but there may be additional savings in disposal of excess milk that would result in the net farm price being reduced less than 11 cents. This analysis assumed that the raw milk cost for RO milk was the same as the Class I price plus over-order payments in the order where the RO plant was pooled. If RO milk were priced at Class III, the impacts on the Southeast would be severe. There is no economic basis for pricing milk for fluid use at the Class I price if used in the order where pooled and as Class III if shipped to a plant regulated under another order.

Multiple Base Points

The theory of spatial pricing is well developed and specifies that competitive prices in spatially separated markets will differ by no more than transfer costs. It is important to note that any specification of spatial prices where competitive equilibrium does not exist is arbitrary and has no economic foundation. In other words, if supply and demand are not in balance or if there is not market clearing at prevailing prices there is no basis for saying one set of prices has more validity than another. A particular set of prices may be preferred by some party based on criteria that are felt to be important and agreement on such prices may be reached through negotiation with other parties. The fact that a set of prices is acceptable or agreed upon by interested parties does not mean it is based on economic principles.

There have been several studies of multiple base points. Some studies simply examine the consequences of an ad hoc price structure. This gives some insights into the effects of different price structures, but provides no economic basis for their acceptance. Other studies used spatial equilibrium models to determine the geographic structure of prices one would expect under competitive conditions and the impacts of such a structure. These studies used reactive programming, quadratic programming or other such approaches to solve for equilibrium conditions. Studies using competitive equilibrium models are discussed first.
Hallberg, et al, found, that under 1975 conditions, blend prices in the Southeast would decline by $1.33 compared to 29 cents for the U.S. For both short and long run equilibriums, base points were found in Minnesota, Wisconsin, Michigan, Iowa, Missouri, Kentucky, Pennsylvania, New York and Vermont. Based on model results, the authors suggested three base points: Vermont, Wisconsin and Kentucky. Babb and Litzenberg found, that under 1976 conditions, price levels would be substantially less under competitive equilibrium, but that price differences among federal orders would not be greatly different than the Class I differentials then in use. Only 6 of the 36 orders east of the Rocky Mountains had Class I differentials less than the equilibrium price differences, and only 6 had differences greater than 15 cents. Base points identified in this study were in the Upper Midwest order, the New York-New Jersey order, the New England order and the Nebraska-W. Iowa orders. In this study, prices in the Southeast would not be much changed relative to other orders, but prices in all orders would be lower. Pratt, Keniston and Novakovic found, that under 1985 conditions, prices which would minimize raw product costs when national markets were in balance closely correspond to minimum Class I prices in orders. Increases in projected prices in an easterly direction from the Upper Midwest toward New England and in a southwesterly direction toward Texas tended to be less than the current Class I differentials.

The impacts of price structures were examined by McDowell, Fleming and Fallert using differentials which were not computed by spatial equilibrium models. This study provides insights about the consequences of assumed base points, but there is no economic foundation for adoption of the base points they used. It was assumed that the Class I differential in all seven base points would be $1.12, the same as in the Upper Midwest order. This is clearly inconsistent with economic theory and the findings of all known spatial equilibrium studies. In short the selection of base points (which depended on the extent of surplus milk in the federal order system) and the base point prices were arbitrary. Given the seven base points and assumed prices, they found that Class I differentials would be $1.15 lower in the Southeast, and blend prices would decline 6 percent.

**Single Milk Order**

This is a difficult alternative to analyze because the consequences depend mainly on the specific provisions of such an order. The changes produced by a single order could be anything from
almost imperceptible to radical.

McDowell, Fleming and Fallert examined the effects of a single order which continued current Class I differentials but which used a common pool. Blend prices in regions would be equal, net of transportation charges for milk moved between regions. Blend prices in the Southeast were projected to decline 11 percent and Class I prices were unchanged. Hallberg, et al., examined the effects of a national order based on equal sharing of Class I sales. They concluded this was not a desirable alternative because greater total production and consumer expenditures were required. Fluid prices were 7 percent higher and blend prices were 12 percent lower in the South Atlantic region. Babb and Pratt examined the effects of a single order with a common blend price adjusted by four location differentials (0, 1.0, 1.5, 2.0) and eight Class price alternatives. They found a single pool resulted in slightly higher retail prices, but produced little change in the aggregate. The 0 location differential resulted in a $2.00 decline in blend prices in Florida while a 2.0 location differential on the blend resulted in only a decline of 23 cents.

Class I Differentials

Transfer costs set an upper limit on Class I differentials, but Class I differentials could be set below this upper limit. Class I differentials for two orders would differ by as much as transfer cost if milk were moving between them. As explained in the section on base points, Class I differentials for two orders would be less than transfer cost if there were a base point between them.

The impacts of various Class I differential policies have been analyzed. The results reported are for uniform application of some implied transfer cost to all orders, i.e., the Class I differential increases 15 cents per 100 miles from a Wisconsin (single) base point. Hallberg, et al., analyzed the impacts of reducing the Class I differential at the base point where such differentials in other orders were determined by a competitive equilibrium model. Reduced Class I differentials at the base point reduced consumer milk expenditures, but the reductions in producer gross receipts were very small. The geographic structure of Class I and blend prices was little changed from the base solution. Fallert and Buxton found that a 45 cent increase in Class I differentials across all regions after eight years would result in a 1.8 percent increase in Class I prices and a 0.5 percent increase in blend prices. A 75 cent decrease in Class I differentials under similar conditions produced a 2.8 percent
decline in Class I prices and a 1.4 percent decline in blend prices.

Standby Pool

The performance of the Associated Reserve Standby Pool Cooperative (ARSPC) during 1970-72 has been analyzed in detail (Strain, et al). In 1972 members were assessed 2 1/4 cents on their Class I sales to support reserve supplies of Grade A milk on a year-around basis. ARSPC in turn provided reserve supplies of milk to members when needed at prices approximating federal order prices plus transportation from the reserve supply area. In November 1972, ARSPC had about 125 million pounds of milk under contract in 23 plants. Plants under contract received payments that averaged about 26 cents per hundredweight and for reserve supply milk actually shipped, they received the M-W price plus 50 cents.

The performance of ARSPC during 1971-72 was good, but the study projected some problems ahead which in fact materialized. Milk supplies nationally expanded so there was less need for ARSPC milk. Supplies in the reserve area expanded so that the cost of supporting ARSPC grew. Some regions, such as the Northeast, were never involved in ARSPC and membership declined as the need for ARSPC diminished. The Upper Midwest order became effective in June, 1976 and was designed to perform some of the ARSPC functions. The volume of milk under option with ARSPC began to decline in the 1980's and ARSPC became inactive in 1982.

Realistically, there is support and need for an institution like ARSPC only during periods in which supply and demand are in reasonable balance and at least seasonal shipments of milk need to be made to some fairly large regions, i.e., Florida shipments alone are not large enough to justify ARSPC. Having assurance of Grade A milk at predetermined prices is a valuable service for those orders that have an expectation that some supplemental milk will be needed during the year or for most years. Terms can be negotiated based on conditions projected for the year ahead or some longer period.

The Southeast is the region that could benefit most from an operation like ARSPC, if there is a reasonable balance of production and consumption in the federal order system. If current dairy policies are successful in achieving an overall balance of milk supply and demand, something like ARSPC could provide a valuable service. As Strain, et al, pointed out, this service could be provided
through a federal order or a cooperative such as ARSPC.

Other

In addition to the regional issues discussed, consolidation of orders into a smaller number of regional orders needs considerations. There are "small orders" that have been around for years but we now have "large orders" with insufficient numbers of processors to report pool statistics. Class I prices for processors could be based on plant location with respect to the upper midwest or other base points and packaged milk sales could accrue to the pool in which plants are continuously regulated. This could eliminate shifts of plants among orders as sales patterns change and assist in equalizing raw product costs among competing processors.

The purpose of regulating supply plants needs to be reexamined. If supply plants were excluded from the pool and treated as producers and received the blend price in all sales made to distributing plants, the incentive to service fluid markets would be improved. These and other options designed to move milk for fluid use need to be examined in light of current and prospective marketing conditions. Orders like business firms have to answer the strategic management question of what business they should be in; cheese or fluid milk.

The long time interest in appropriate sharing of Class I sales is both a local and regional issue. It is debated on equity grounds. An equally important equity question involves sharing of marketing costs which include disposal of milk in excess of Class I use, procurement of needed milk from out-of-market sources, and market balancing.

Classified pricing (level of Class I differentials) continues to be questioned and thus deserves analysis. If Class I differentials were reduced by a fixed amount in all orders, over-order payments would likely increase. Actual prices would be shaped by market forces to a greater extent. Consumers may feel that they have greater assurance of reasonable prices with increased discipline by market forces.

Discussion

All the above five types of changes in milk orders have regional implications. RO milk and a standby pool may change the position of regions relatively but not absolutely. They could thus be implemented with less dispute. When markets are not in balance, there is no good economic basis
for decisions about the other three types of provisions. This makes agreement about a course of action difficult to resolve and life more interesting for those in the Dairy Division, USDA. Congress is likely to be asked to intervene in these regulatory matters on behalf of their constituents and this will enrich the decision process. There are also other issues that need to be addressed which affect the efficiency and equity of milk orders.

The Crystal Ball

Marketing orders have played an important role in the past because they performed well relative to alternative institutions. I expect this will be the case in the future. If marketing orders are not effective in improving dairy marketing by enhancing stability, efficiency and equity, they will suffer atrophy. They can only be vigorous with the active involvement of cooperatives, processors and academic and government economists. As noted earlier, interest in orders by these groups has diminished in recent years.

The consequences of five alternative levels of regulation have been explored (Babb, Boynton, Dobson and Novakovic). These levels varied from deregulation to greater intervention that would reduce equity problems. It is not likely that the level of public intervention in dairy markets will increase. The contributions of milk orders would not necessarily diminish if the level of intervention were reduced, as would be the case if the level of Class I differentials were reduced.

Some critics of federal orders seem to think that there would be a "free market" price determination if orders were eliminated. One does not need a crystal ball to predict that milk prices will not be determined by farmers bringing their milk to Jackson Boulevard, Chicago for a daily auction. If the Act establishing orders were repealed, orders would quickly be replaced by other institutions that perform the same functions. Long term contracting would be a leading candidate. Cooperatives might take greater responsibility for coordination through contracts with producers and processors. Processors might contract directly with producers and assume a greater role in coordination. Cooperatives may become more involved in processing, i.e., integrate forward. States may try to fill the void through marketing boards or compacts.

I do not think federal milk orders will be replaced by the emergence of a better institution, but there is need to tend the vineyard. Performance of orders will be impaired if people are not
willing to make the effort required for analysis and amendment. The future of federal milk orders depends on their ability to adapt to changing technology, to improve performance in the dairy industry, and to serve the public interest.
References


