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**FEDERAL MILK MARKETING ORDER PROVISIONS
REGARDING RECONSTITUTED MILK:**

The Issues and Some Possible Consequences of Change

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Federal Milk Marketing Order Provisions Regarding Reconstituted Milk:
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Introduction

On August 2, 1979, the Community Nutrition Institute (CNI) and four individual petitioners submitted a request to the Secretary of Agriculture asking him to amend federal milk marketing order provisions affecting reconstituted milk. Although CNI's proposal contains recommendations that are neither new nor unexpected, it has fostered much concern and discussion among dairy farmers. The purpose of this paper is to provide farmers and other interested parties with some background information, a description of the current situation and the issues involved, and a synthesis of various estimates of the possible consequences of the proposed changes.

What is Reconstituted Milk?

Reconstituted milk is a fluid milk product made by adding water to concentrated or dried milk solids. Dried skim or whole milk solids are powdered milks from which most of the water has been removed. Whole or skim condensed milks are concentrated liquid milk products from which half or more of the water has been removed.

Reconstituted skim milk can be made by adding water to either dried or condensed skim milk. Reconstituted whole milk can be made by adding water to dried or condensed whole milk. This product also can be made by adding milkfat in various forms such as anhydrous butteroil, butter, or cream to reconstituted skim milk. Reconstituted lowfat milk can be made by adding lesser amounts of butterfat to reconstituted skim milk.

Fresh Milk Products

Fresh whole milk is raw farm milk that has been pasteurized and homogenized, and usually Vitamins A and D are added. The butterfat content of raw farm milk normally is reduced in the production of fresh whole milk. This is accomplished either by removing part of the butterfat or by adding fresh skim milk. Fresh skim milk is fresh raw milk from which most of the butterfat has been removed. Fresh lowfat milk also can be made by removing part of the butterfat in raw farm milk or by adding fresh skim milk.

Fresh skim and lowfat milk are often fortified by the addition of nonfat milk solids. These solids can be added as condensed skim milk or dried skim milk. Fortification improves the taste of fresh lowfat or skim milks, as well as their nutritive values by raising the protein and lactose content.

Legal Fresh Milk Standards

State laws or regulations establish composition standards which fresh milk products must meet, and they specify how the products must be labeled. Standards for fresh whole milk usually specify the minimum butterfat content and the minimum nonfat solids content or total solids content. Standards for lowfat milk normally specify the permissible range in butterfat content as well as the nonfat solids or total solids content. Standards for fresh skim milk normally specify the maximum amount of butterfat that the product may contain and may specify the minimum nonfat solids or total solids content of the product. Standards for fortified fresh milk products normally establish a minimum nonfat solids content or total solids content. A principal purpose of state mandated standards for fresh fluid milk products and for the labeling of such products is to protect consumers from fraud and provide them with information about the composition of fresh milk products. The composition of milk can be significantly altered without changing its appearance and without changing its taste to a degree that is detectable by most consumers. Public concern with milk composition in city milk markets began in the mid-1800's. This concern originated because of widespread problems of adulteration. This is illustrated by the following quote from Mullahy's text on The Milk Trade in New York and Vicinity published in 1853. "We are certain we do not overstate the quantity when we say that of milk used by private families, one fourth is water and a mixture of chalk, flour, molasses and other 'ingredients'." Watering of milk was the principal form of adulteration in the nations fluid milk markets in the 1800's and it was well after the invention of the lactometer in 1876 before the sale of adulterated milk was essentially eliminated.

The earliest legal standards for fresh whole milk prohibited any alteration in raw farm milk as it came from the cow. New York maintained this standard for fluid whole milk until 1966 when it was changed to permit standardization of fresh whole milk by altering its butterfat content. The development and acceptance of fresh lowfat milk and fresh skim milk as beverage products and the fortification of these products have led to the development of additional standards and the broadening of labeling requirements.

How is Reconstituted Milk Regulated?

Reconstituted milk can be made with the same composition of milkfat, milk solids-not-fat, and total solids as fresh fluid milk products. Reconstituted milk also can be mixed with fresh fluid milk. This improves its flavor, but does not alter the basic composition. Some dairy technologists claim that most consumers can not distinguish the taste of a blend of 50 percent

reconstituted product and 50 percent fresh product from a wholly fresh product.^{1/} There is no commonly accepted name for reconstituted-fresh milk mixtures. Many people in the dairy industry consider a product such as a fresh milk product with added milk solids and water a close cousin of watered milk. Consumers who make reconstituted milk in their homes and mix it with fresh milk look upon the product as a palatable lower cost substitute for fresh milk that is equal in nutritive value. For the purposes of this paper, reconstituted-fresh milk mixtures will be referred to as blended milk.

There is very little commercially reconstituted milk produced and sold in the U.S., either as a straight reconstituted product or as a reconstituted fresh milk blend. Some states prohibit the sale of reconstituted milk as well as reconstituted-fresh milk blends. There is a fine line between reconstituted and watered milk, and State milk regulatory authorities have been reluctant to permit commercial reconstitution and blending because of the difficulties and cost involved in continually monitoring plant operations to verify the classification of milk, the source of ingredients used, and the composition of fluid products. Continual monitoring is not required when raw farm milk is the sole source of ingredients used in producing fluid products.

A study by Hammond, Buxton and Thraen^{2/} reports that in 1977, 15 states directly or indirectly prohibited the manufacture and sale of reconstituted milk. Of the remaining 35 states, reconstituted milk must be clearly labeled as such in 33 states.^{3/} They report that reconstituted milk is sold in 11 states.

There are no federal regulations that directly prohibit the production of reconstituted milk, but federal milk marketing orders have pricing provisions that discourage manufacture of the product. Hammond *et al.* report that eleven states having market order type legislation also have similar pricing policies.^{4/} The pricing provisions affecting reconstituted milk are the down-allocation provision and the "compensatory payments" provision. The down-allocation provisions refers to regulations on the use class to which reconstituted milk is assigned. If a processor buys dehydrated or condensed milk solids to make reconstituted milk, the processor must assign the milk equivalent of those ingredients to Class II.^{5/} That Class II volume is deducted from the processor's total Class II utilization when computing the obligation to the

^{1/} Jerome W. Hammond, Boyd M. Buxton, and Cameron S. Thraen, Potential Impacts of Reconstituted Milk on Regional Prices, Utilization, and Production, Station Bulletin 529, Agr. Exp. Sta., Univ. of Minnesota, 1979, p. 5.

^{2/} Ibid., pp. 19-20.

^{3/} South Dakota and Oklahoma are the only states reported as having no regulations restricting reconstituted milk.

^{4/} op. cit., pp. 19-20.

^{5/} In a three class system, as prevails outside the Northeast, the relevant class is Class III. In other words the milk equivalent of ingredients is assigned to the lowest priced use class.

producer settlement fund (the pool). This results in an equivalent volume of producer receipts being assigned to Class I. In other words, the processor must pay the Class I price for that volume of milk regardless of the origin or composition of the raw product actually used to make that amount of Class I products. This procedure increases the processor's payments to the producer settlement fund.

The compensatory payments provision refers to a processor's additional liability to the pool. If the milk equivalent of ingredients a processor purchased for reconstituted milk exceeds the processor's Class II sales, the remaining milk equivalent is assigned to Class I sales and the processor must pay the Class I differential to the pool on that remainder.

For most fluid milk processors, these provisions require that they must, in essence, pay the Class I price for the milk equivalent of solids purchased for reconstitution. Given the extra processing cost involved in separating, dehydrating, and recombining milk, these price provisions eliminate any cost benefit that could be realized from reconstituting milk.

What are the Advantages of Reconstituting?

In a word, the advantage to deregulating reconstituted milk is its cost, relative to fresh milk. Since milk is mostly water it is much cheaper to ship nonfat dry milk (or even condensed milk) than an equivalent amount of fresh milk. The more water that is removed the lower the transportation cost. Moreover, Class I milk prices throughout the country are based in part on the cost of transporting fresh milk from the Upper Midwest. This area represents the ultimate source of excess supplies for most other areas of the country.

There is a cost to removing water from milk and adding it back. This cost must be compared with the Class I differentials applied in different federal or state order markets to determine whether reconstituted milk would be cheaper than fresh milk. Fresh milk is the lowest cost source of milk in areas close to the major producing areas of Wisconsin and the Midwest. Reconstituted milk made from dried milk would have a cost advantage in consuming areas distant from production centers. Reconstituted milk made from condensed milk, which costs less to produce but more to transport than dried milk, would cost less in areas in between, depending on how much water was removed. Hammond et al. estimate that within about 500 miles of the Upper Midwest fluid milk would be cheaper than dried or condensed milk.^{6/} Detailed information is not available to determine the break points between fresh and condensed milk and between condensed and dried milk. It is assumed that the area in which condensed milk would be profitable is a relatively narrow belt around the fresh milk area. This assumption is based on the short term rationale that condensary capacity is a limiting factor.

^{6/}
op. cit., p. 11.

What do the Proponents of Reconstituted Milk Want?

CNI has emerged as the principal voice for the people who would like to see changes in federal market order regulations applying to reconstituted milk. Specifically, their petition to Secretary Bergland requests:^{7/}

that you amend existing milk marketing orders to remove reconstituted milk products from the definition of 'other source' milk and to eliminate the requirement that manufacturers of such products make a compensatory payment to local fresh milk dairy farmers.

Milk in the "other source" category is subject to the down-allocation and compensatory payments procedures described earlier.

CNI goes on to support their position and states:^{8/}

we maintain that the existing regulations (1) eliminate from commerce an equally nutritious but lower cost alternative to fluid milk, thus aggravating the effects of food price inflation, especially for the poor, by adding millions of dollars to the nation's annual food bill, (2) are unnecessary to protect milk producers, (3) are contrary to the Agricultural Marketing Agreement Act policy to protect against unreasonable fluctuations in supplies and prices, (4) create a barrier to the marketing of nonfat dry milk in violation of Section 8c of the AMAA, and (5) extend beyond the authority of the Secretary to regulate the price of milk substitutes.

The major point is the first one. Although the last three can not be ignored they are technical points intended to support their legal case. The second point has both legal and economic foundations. The economic issue hinges on the long run vitality of the order system, which is discussed later. The proponents of change have swayed opinions primarily by the evidence on the

^{6/} op. cit., p. 11.

^{7/} In a letter to Secretary Bergland from Ellen Haas and Thomas B. Smith, dated August 23, 1979.

^{8/} Ibid.

first point. They cite studies by Roberts^{9/}; Ippolito and Masson^{10/}; and Hammond, Buxton, and Thraen^{11/} as supporting evidence. Roberts estimates that reconstituted milk would be about 20 percent cheaper in the absence of federal regulation. (In 1978, Class I prices averaged about 19 percent higher than manufactured milk prices.) Ippolito and Masson estimate a loss to society of \$125 million per year due to resources being poorly allocated as a result of overly high milk prices. These high prices also result in an income transfer from consumers to producers of \$200-300 million per year. Hammond et al. estimate that market order Class I differentials would be reduced to make fresh milk priced equivalently to reconstituted milk, when reconstituted milk is freed from federal order pricing provisions. Their projections differ regionally but they conclude that Class I prices would drop an average of 67 cents per hundredweight, and manufacturing milk prices would rise 24 cents per hundredweight nationally. This would lead to a 10 cent drop in the average blend price, an imperceptible drop in milk production and consumption of manufactured products, and a slight increase in fluid milk consumption. (The results of the study by Hammond et al. are explored more fully later.)

The Case Against Reconstituted Milk

Until very recently, most people in the dairy industry shared the contention of Hammond et al. that reconstituted milk would not gain a significant share of beverage milk sales, regardless of its price. Relatively little nonfat dry milk is reconstituted in the home now despite its relatively low cost, and there is doubt that commercially reconstituted milk, with less cost advantage, would gain wider acceptance than milk blended in the home. There could be several reasons for the apparent low use of reconstituted milk in the home. It could be due to the inconvenience involved in reconstituting and blending; the cost advantage may not be well known or not perceived to be significant; or consumers may simply not like the taste of reconstituted or blended milk.

In a recent article in Woman's Day, blending milk in the home was recommended as one of five ways to save money on food costs; Woman's Day states:^{12/}

Assuming that your family drinks 1 gallon of milk a week for \$2.12 (1 quart = 53¢), you can have practically the same thing by mixing 2 quarts reconstituted nonfat dry milk (at 37¢ per quart) with 2 quarts whole milk for only \$1.80. This makes a weekly saving of 32¢, which by the end of the year will have added up to \$16.64.

^{9/} Tanya Roberts, Federal Price Regulation of Close Substitutes for Fresh Drinking Milk: History, Economic Analysis, and Welfare Implications, unpublished dissertation, University of Washington, 1979.

^{10/} Richard A. Ippolito and Robert T. Masson, The Social Cost of Government Regulation of Milk, unpublished paper, 1976.

^{11/} op. cit.

^{12/} "How to Save \$1,980 for 1980," Woman's Day, January 15, 1980, p. 28.

This article suggests two things. First, Woman's Day, at least, believes that there are a sufficiently large number of families unaware of the potential savings that could result from blending milk in the home to make this a news-worthy item in a story about 25 ways to save money in 1980. Second, the potential savings is hardly spectacular. If they had assumed that the family drinks a gallon a day, their estimate of annual saving would have been \$116.48. This may not be an insignificant sum to a large, low income family, but the range of savings for an average milk consuming household does not seem as large as the proponents of reconstituted milk might have us believe.

Whatever the degree of consumer acceptance, many in the dairy sector are more concerned about previously unforeseen consequences of deregulating reconstituted milk. Since the CNI proposal was introduced, dairy producers and cooperative leaders, regulatory officials, and dairy economists have tried to trace the consequences of deregulation more thoroughly, and many are alarmed by what they speculate could happen. The predictions are varied, but many feel that previous studies overlook important points or are based, partially, on innaccurate premises. The more moderate view suggests that some substitution would occur, and a few consumers would enjoy a lower priced product, but regional differences would be marked, with producers in the Northeast and South taking a reduction in price and income. An intermediate hypothesis might be that consumer acceptance would be strong and there would be significant fluid milk price drops in the Northeast and South with more or less stable prices elsewhere. The most pregnant speculation is that it would be impossible to maintain the integrity of processor audits under milk marketing orders; therefore, the federal order system would collapse. Moreover, cooperatives would lose their bargaining power and equity in bargaining and pricing would vanish. In all cases, it is assumed that state regulation would not limit the use of reconstituted milk. Unfortunately there is insufficient research to substantiate any of these or other possible scenarios. The seriousness of the predicted consequences varies with the assumptions that are made. So far, it has been difficult to verify the plausibility of the assumptions.

Three Possible Scenarios

Assumptions must be made about three major issues, in order to derive estimates of the consequences of deregulating reconstituted milk. There issues are:

1. what products would be deregulated
2. how will consumers accept lower cost, deregulated products
3. will the remaining regulations be viable

Three possible sets of assumptions and their projected implications are discussed below.

Scenario One

The first scenario involves the least change. It is assumed that the combination of state and federal regulations are changed to permit only 100 percent reconstituted skim, low fat, and whole milk, which must be labelled as reconstituted milk. Furthermore it is assumed that consumers can taste a difference between reconstituted and fresh milk and that most consumers prefer fresh milk to reconstituted milk, at the relevant prices. Finally, it is assumed that the use of fresh and reconstituted milk in fluid products can be verified by auditing procedures currently used in marketing orders. Under such conditions, the following general impacts could be expected. Reconstituted milk would represent a small share of total beverage milk sales; however, its average price in the U.S. would be about 3 cents per half gallon less than fresh milk (most estimated cost savings to consumers range from 2 to 5¢ per half gallon). In the Northeast, the differences in prices could be as high as 5¢ per half gallon. There would be pressure on Class I prices to drop to a level consistent with reconstituted milk. Manufacturing milk or Class II (or III) prices may increase slightly as the demand for nonfat dry milk increases. The impact on average farm prices is uncertain, but it seems most likely that they would decrease slightly. Prices would decline most in the Northeast and South and least in the Upper Midwest. The impacts and price changes would be less than those predicted by Hammond et al.; their assumptions are more like those in the following scenario.

Clearly this scenario is not very alarming to producers, nor does it offer much advantage to consumers. It is also not given much chance of being likely to happen. The principle doubt rests on the assumption that only 100 percent reconstituted milk would be deregulated. The CNI proposal unmistakably calls for total deregulation or reconstituted milk, whether in a blended product or otherwise. There is also a question whether continuing regulations against blended products could be enforced, even if only the regulations regarding 100 percent reconstituted milk are removed. This argument is developed further in the third scenario.

Scenario Two

The second scenario goes a small step beyond the first, but it is the step that opens wide the doors of controversy. Instead of limiting the change to 100 percent reconstituted milk, it is now assumed that blended milk products are deregulated, and processors are permitted to blend fresh milk and reconstituted milk in any proportion they desire. They would pay the Class I price only for the fresh milk component. There would probably be some state labeling regulations to help consumers distinguish blends from strictly fresh milk but any other state regulation impeding the sale of blends would be discontinued. It is further assumed that consumers would find blends to be a good substitute for fresh milk and that remaining market order regulations would be viable.

This scenario is basically what Hammond et al. envision. They assume that milk would be blended at a 50-50 mix and state:^{13/}

Dairy technologists whom we consulted stated that a blended fluid whole milk or low fat product with up to 50 percent reconstituted milk would be indistinguishable in taste from a totally fresh milk product.

They corroborate this by citing a report by Herreid and Wilson, saying:^{14/}

Beverage milk of acceptable palatability can be prepared from sterilized cream, low-heat powder of good quality, and potable water...without the use of any expensive equipment.

Note that Herreid and Wilson seem to be writing of reconstituted milk, not just blends. It is not clear what Herreid and Wilson meant by "acceptable," although any decrease in the price of reconstituted milk relative to the price of fresh milk increases the acceptability of reconstituted milk. At any rate, it is assumed that a blended product will be consumed, given the expected relevant prices.

Hammond et al. assume that Class I prices would decrease to equal the cost of reconstituted milk ingredients to processors plus recombining costs, and Class I prices would apply only to the fresh milk component of a blend. If a 50-50 blend is sold, processors would pay the Class I price for the milk equivalent of only 50 percent of their beverage milk sales. Hammond et al. expect that market orders would otherwise continue to function as they now do. The consequences of deregulation estimated by them are based solely on a reduction in Class I differentials for fresh fluid milk sales.

Hammond et al. use a model of dairy supply to estimate the consequences of reduced differentials in nine regions of the U.S. They delineate regions as follows:

Northeast - states northeast of and including Ohio, West Virginia and Maryland.

Corn Belt - Indiana, Illinois, Iowa, Missouri, Kentucky and Michigan.

Lake States - Minnesota and Wisconsin

^{13/} op. cit., p. 5.

^{14/} E.D. Herreid and H.K. Wilson, "Milk Fortification and Reconstitution with Solids-Not-Fat," The Industrial Revolution in the Dairy Industry, Bulletin 14, Department of Agricultural Economics, University of Illinois, September 1967, pp. 24-28.

Table 1. Regional Impacts of Deregulating Reconstituted Milk

	North- east	Corn Belt	Lake States	South- east	South Central	Plains	Mountain	South west	North west	United States
Fluid Milk Price (\$/cwt.)										
actual 1976	11.63	10.73	10.28	12.18	11.40	10.70	11.21	10.03	10.85	11.18 ^{1/}
new	10.55	10.47	10.42	10.61	10.57	10.48	10.62	10.27	10.66	10.51
change	- 1.08	- .26	.14	- 1.57	- .83	- .22	- .59	.24	- .19	- .67
Blend price (\$/cwt)										
actual 1976	10.19	9.48	9.01	11.15	10.34	9.10	9.97	9.30	9.54	9.67 ^{2/}
new	9.77	9.51	9.23	10.08	9.93	9.20	9.80	9.53	9.62	9.57
change	- .42	.03	.22	- 1.07	- .41	.10	- .17	.23	.08	- .10
Fluid Milk Use (million lbs.)										
actual 1976	19377	10075	2731	4823	7413	1271	1872	6045	1804	55411
new	19679	10116	2726	4975	7529	1276	1889	6022	1809	56021
change	302	41	- 5	152	116	5	17	- 23	5	610
Milk Production (million lbs)										
actual 1976	30909	19079	29599	5438	9778	5277	2778	12464	5035	120357
new	30631	19084	29658	5351	9724	5279	2769	12580	5050	120126
change	- 278	5	59	- 87	- 54	2	- 9	116	15	- 231
Farm Cash Receipts (million \$)										
actual	3191	1823	2552	630	1030	473	283	1138	466	11586
new	2988	1829	2624	550	971	480	273	1177	471	11363
change	- 201	6	72	- 80	- 59	7	- 10	39	5	- 223

Source: Hammond et al. Table 4, p. 16.

^{1/} U.S. price is the average of regional prices weighted by fluid milk use.

^{2/} U.S. price is the average of regional prices weighted by total milk production.

South Central - Alabama, Mississippi, Louisiana, Arkansas, Tennessee, Texas, and Oklahoma.

Plains - North Dakota, South Dakota, Nebraska and Kansas

Southeast - Florida, Georgia, North Carolina, and South Carolina

Mountain - Utah, Colorado, New Mexico, Nevada, Wyoming, and Montana

Southwest - Arizona and California

Northwest - Washington, Oregon and Idaho

Their results are summarized in Table 1. If reconstituted milk had been deregulated in 1976, they estimate that the blend price received by farmers in the U.S. would have averaged \$.10 per cwt. less than their observed 1976 price. The largest decline is estimated for the Southeast, with significant drops in the Northeast and South Central regions also. Five regions show a small increase in the blend price. These changes in regional blend prices are the result of two things, i.e., changes in class prices and class utilization. The manufacturing milk price, which is assumed equal in all regions, is assumed to increase \$.24, from \$8.68 to \$8.92. This is due to the increased demand for nonfat dry milk. Fluid milk prices at the farm level decline in all regions except the Lake States and the Southwest.

Fluid prices drop the most in the Southeast, Northeast, and South Central regions. The drop in fluid prices in most regions increases Class I sales, and the rise in the manufacturing price tends to decrease Class II (and III) sales. The increase in the manufacturing price ameliorates declines in blend prices in regions having a large drop in fluid prices. Because the Northeast has a lower Class I utilization in either case, blend prices are less adversely affected than in the South. Farm cash receipts from milk are estimated to decrease \$223 million. This could mean a decrease of \$1175 for the average dairy farmer in the U.S.^{15/} The average drop in farm receipts on New York dairy farms would be approximately \$2242.^{16/}

Although dairy farmers outside the Lake States and Southwest have little to gain from deregulating reconstituted milk, the results of Hammond *et al.* suggest that such a change would be in the consumer interest. Fluid milk prices would drop 3 cents per half gallon on the average. In the Northeast the price of a half gallon of milk would drop about 5 cents and in the Southeast it would drop about 7 cents. Although prices for manufactured products would rise, the

^{15/} This calculation assumes that the 122,675 producers regulated under federal orders in 1976 represents about 65 percent of all the dairy farmers in the U.S.

^{16/} This calculation is based on total marketings by New York farmers and the number of New York dairy farmers in 1976 and the estimated 42 cents per cwt. drop in the blend price in the Northeast.

increase would be modest. Given the estimates of farm level prices and sales for fluid and manufactured products, expenditures on fluid products decrease \$307 million, and expenditures on manufactured products increase \$82 million. Given a population of about 215 million in 1976, this translates into annual per capita expenditure changes of $-\$1.43$ for fluid products and $\$.38$ for manufactured products, which is $-\$1.05$ for total expenditures.

Hammond et al. also point out that government purchases under the price support program would be reduced as manufacturing milk consumption increases and total production decreases. They conclude:^{17/}

. . . that relaxing all restrictions on use of reconstituted milk would not lead to its being a significant part of total fluid milk supply for any region of the U.S. . . . Nevertheless, it is a technology that can enable some consumers to obtain milk at lower costs, and it does not have economic consequences.

Shortly afterwards they add that reconstituted milk has the added advantage of representing a storable beverage milk product. When the beverage milk market is restricted to fresh milk, milk production must be such that it is sufficient to meet fluid milk consumption in periods of low production and high consumption. There is a significant seasonal problem in matching production and consumption. Fluid consumption peaks in the fall, a time when production is near its' seasonal low. With reconstituted milk, the short months in the fall could be supplemented by dried milk solids produced in the flush spring months. This means that less milk production is needed on average or for a year, which implies that prices can be lower. This is good news for the consumers, but bad news for the dairy farmers who can not find a market for their milk.

The above discussion attempts to faithfully relate and interpret the results of Hammond et al. A few caveats may be in order, though. Hammond et al. assume that the price of all milk products would equate at the cost of nonfat dry milk in the Upper Midwest plus shipping and recombining costs in the consumption area. That is, fresh milk, blended milk, and reconstituted milk would sell at the same price, in a given location. This is based in part on their assumption that Class I prices would fall until they equated with reconstitution cost and also on their assumption that reconstituted or blended milk would essentially be a perfect substitute for fresh milk. Both assumptions could be changed. For example, one could assume that Class I prices would remain as they now are. The cost of reconstituted milk would be approximately the number estimated by Hammond et al., but fresh milk prices would remain at current levels. The price of a blend would fall in between the two in proportion to the amount of fresh and reconstituted milk in the blend. For example, the price of a 50-50 blend would be about half way between the price of fresh and the price of reconstituted milk. This would be most likely to occur if consumers could perceive differences in taste between these products. Under this assumption the full benefits of

^{17/} op cit. p. 25.

of reconstituting accrue only to those who wish to purchase reconstituted milk, with partial benefits going to those who buy blends.

The most controversial assumption of the second scenario is the one regarding the viability of remaining market order regulations. This assumption is relaxed in the third scenario.

Scenario Three

As in the second scenario, it is assumed that blended products are deregulated and viewed favorably by consumers. The vital difference is that it is no longer assumed that marketing orders would be viable after reconstituted milk is deregulated. Policy changes that result in a break down or elimination of market order regulation is likely to affect producers adversely and, in the longer run, may not be favorable to consumers and processors either. Deregulation could significantly alter the structure of dairy farming and lead to greater concentration in production and processing sectors. It is precisely the fear of this outcome that has made previously disinterested individuals more bellicose about changing regulations regarding reconstituted milk.

The arguments that have been made vary in their intensity and scope, but their general direction is as follows. Consumer acceptance of 100 percent reconstituted milk is poor. Because of that and CNI's philosophical position for a deregulated marketplace, it is unlikely that CNI, or like minded petitioners, will stop short of deregulating blended products.^{18/} If the reconstituted component of blended milk is priced differently than the fresh component, it will be more difficult to verify the use of fresh and reconstituted milk. Failure to do so would undermine the integrity of market orders. The inability to accurately classify products based on use could eventually lead to the total disintegration of the milk marketing order system. This may in turn lead to the erosion of the bargaining power of dairy farmers cooperatives and finally lead to anarchy in the marketplace for dairy products. This bleak outlook for the dairy industry might not come to pass, but certain elements may. In fact, some would not describe it as bleak at all. They feel that the much maligned consumer would benefit greatly from the lower prices that would result from total deregulation.

Of course, producer opposition to reduced prices and income that they believe would be associated with deregulation of reconstituted milk is equally strong. The possibility of large regional shifts in the distribution of dairy income among producers has numerous political implications.

^{18/} It is interesting to note that the possibility of blending was not really recognized in the CNI proposal. This possibility was foreseen by the dairy industry and dairy economists and subsequently brought to the attention of CNI.

Federal order administrators and some economists believe there would be an incentive for processors to report their use of fluid and reconstituted milk inaccurately and that it would be difficult to avoid errors in classification under these conditions. Currently, auditing provisions are fairly easy to administer; because only plant receipts and sales need to be monitored. Auditors do not need to know how products are made; they need know only how much of a particular item was sold and how much raw product was purchased. It is not difficult to verify processor reports; because beverage milk is priced the same whether it is fresh, blended or reconstituted. If the reconstituted component of a Class I product is priced differently than the fresh component, than auditors will need to know how much of each component is used. There is no reliable way to accurately determine the ingredient source of a fluid milk product. This would require constant monitoring of plant operations. The cost of such a plan is prohibitive.

Those who fear this possibility hasten to point out that processors would have an incentive to inaccurately report the composition of their Class I products. Even if Class I differentials are lowered to the point where processors are indifferent between fresh milk and (deregulated) reconstituted milk, they could minimize their producer settlement fund (pool) obligations by reporting that fresh milk was used to produce Class II and III products. In other words regardless of how any products are actually made, if a processor buys fresh milk and dried ingredients for reconstituted milk and processes Class I and Class II or III products, the reconstituted milk ingredients could be reported as used in Class I and the fresh milk received from producers could be reported as used in Class II or III. By doing so, the processor's cost will be reduced and a greater leverage in dealing with individual farmers or cooperatives would be gained. This would give the processor an advantage even though the Class I price is lowered to equate with the cost of reconstituted milk; the processors gains because of his manufacturing or "by-product" operations. If the source of ingredients for dairy products can not be verified this raises the possibility that beverage milk would continue to be made primarily from fresh milk, but it would be reported and paid for as reconstituted milk, thereby reducing the processor's pool obligations. To the extent that fresh milk is preferred by consumers, processors would probably prefer to sell fresh milk and just report it as blended or reconstituted.

This should not be construed as implying that processors are dishonest. It is a virtual certainty that processors as a group would not like to see the above situation develop. Nevertheless, processors who reported inaccurately would have a cost advantage over competitors who reported accurately, other things being equal. Competition in the "free" market could proliferate inaccurate reporting, even among processors reluctant to do so. This would represent a serious breakdown in the orderly marketing conditions now fostered by market orders.

Under such a scenario, producers clearly lose. Their foremost problem is a hefty short run decline in prices and income. Even without a breakdown of federal orders, Class I prices would be expected to drop. They might drop only so far as to equilibrate with the costs of deregulated reconstituted milk. Some venture that they might drop to the level of current blend prices or even manufacturing prices. In other words, a "flat" pricing system would evolve.

If the current marketing order system breaks down altogether the consensus is that producers would suffer from the resultant uncertainty and price instability.

Processors as a group would not gain from the demise of the order system. Although they would surely welcome reduced costs, elimination of equal costs among handlers (equity) and the orderliness of having the terms of purchase well defined in advance and understood by buyers and sellers would be a heavy penalty.

Consumers are touted as the ones who would benefit from deregulation, but this is far from certain if the third scenario is true. Most would agree that consumers would enjoy lower prices in the short run, but the long run impact is in doubt. Those who have a strong faith in the free market seem to think prices would remain lower. There are others who fear that, as processors became more concentrated, producers lost their bargaining power, and the economic environment became more unstable, it would take a higher price to bring forth an equal supply of milk and margins would also tend to increase.

Unfortunately the effects of eliminating milk marketing orders has not been studied thoroughly enough to validate either argument.

So What Does It All Mean?

At this point there is still a lot of uncertainty about what specific policy changes, if any, are forthcoming. It is likely that Congress and the courts will become involved before the issue is settled. At this stage, most comments require a heavy dose of speculation. Nevertheless, we will venture to make the following conclusions:

1. If any deregulation occurs at the federal level, it will be difficult to prevent blended products from being marketed and consumers will find a blend that suits them. States will be under pressure to permit reconstituted or blended products, if they have laws restricting such products.
2. Under any of the policy alternatives, home reconstitution will be less expensive than reconstituting milk commercially. Even so, few consumers will want to reconstitute and blend their own milk.
3. Blending milk will present very serious difficulties to auditors; which may or may not be insurmountable.
4. The status quo is preferable to the total disintegration of the federal order system.
5. If consumers gain at all, it will be a case of many consumers gaining little from relatively fewer processors who lose a lot.
6. If any semblance of market order can be maintained, processors will have little to gain from deregulation. If any processors gain at all, it will be large, diversified ones.

7. The majority of those in Congress and the USDA will not support deregulation if the third scenario emerges as a real possibility.

8. The small but vocal group that has been critical of federal dairy policies will persist. Unless the dairy industry acts to persuade the general public otherwise, the criticisms will grow. At some point, it may be necessary to hammer out a compromise, and that could very well be good.