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FEDERAL MILK MARKETING ORDERS

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FEDERAL MILK MARKETING ORDERS*

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Federal milk orders establish minimum prices to be paid by processors for milk purchased from producers and regulate other terms under which Grade A milk is marketed. The orders do not establish milk prices at the retail or wholesale levels. Federal orders are issued under the Agricultural Marketing Agreement Act of 1937.

Classified pricing is a key provision of milk orders. Under the orders, milk which processors purchase from producers for fluid (bottling) purposes, is priced in Class I while the milk which the processor uses for making products such as ice cream, butter, and cheese is priced in manufacturing milk classes (Class II and Class III). Farmers who supply federal order markets receive a blend price which is a weighted average of the Class I and manufacturing class prices. Federal milk orders price and pool only milk which meets Grade A sanitary requirements. The orders, which were first used in the 1930s to raise depressed farm milk prices, were employed in 1977 to price about 63 percent of all milk sold to plants and dealers in the United States. Milk priced under the orders in 1977 was valued at \$7.7 billion.

Conflicting views exist concerning the benefits and costs produced by federal orders. The Justice Department Task Group on Antitrust Immunities argues that compared to the situation under an unregulated market the federal milk orders: (a) create an overproduction of Grade A milk because they set prices above an unregulated equilibrium level; (b) reduce the amount of fluid milk consumed by raising the price of raw Grade A milk used for fluid purposes; (c) create an overproduction of

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manufactured dairy products produced from excess Grade A milk (d) result in fluid milk consumers subsidizing the consumer of manufactured dairy products; (e) operate to the detriment of Grade B (manufacturing grade) milk producers; (f) impede the mobility of raw fluid grade milk once it has been produced; and (g) in conjunction with the price support program, elevate the general price level for dairy products to consumers (p. 16).

Some officials of the USDA and others such as the Interagency Task Force disagree with many of the conclusions of the Justice Department Task Group on Antitrust Immunities and add that federal milk orders produce benefits by: (a) ensuring that producers are paid on the basis of accurate weights and butterfat tests; (b) give market participants accurate market information; (c) increase market stability and reduce seasonality of milk production.

The record on these various points is voluminous, complex, and often conflicting. Because I have been unable to digest thoroughly this record, I chose to limit my examination mainly to: (1) the apparent price-output effects of milk marketing orders and the resulting social losses; and (2) the magnitude of the indicated distortions relative to those in the rest of our imperfectly competitive economy.

As in many areas of economics, views differ among those researching the effects of milk marketing orders. There is general agreement, however, as to the direction of the effects of federal orders; differences concerning the size of these effects are due to the models used and the assumptions underlying them.

Milk marketing orders result in higher Class I prices and lower Class II prices than would exist without them. This, of course, is

their purpose. The relative prices depend upon the assumed elasticities of demand and supply, among other things. I shall use the estimates by Ippolito and Masson^{1/} for purposes of exposition, although not all researchers agree with the results.

Ippolito and Masson (I-M) estimate that at the farm level Class I prices are raised by 9.3 percent and Class II prices decreased by 5.6 percent, resulting in an average increase in the blend price of 3.7 percent. They estimate total regulated output (covered by both federal and state orders) increases by 2.2 percent and nonregulated output falls by 3.6 percent (Ibid., p. 54).

Under I-M's assumptions, the federal and state regulatory schemes result in the following income transfers and social losses. Regulated producers (Class I and II) receive a subsidy of \$211 million while the rents of unregulated producers are reduced by \$105 million. The estimated social loss (the so-called deadweight loss) resulting from the misallocation among regulated and unregulated producers are estimated at \$5.9 to \$12.1 million annually, with I-M's "best estimate...at roughly 9 million dollars annually) (I-M, p. 55). These authors add an additional social cost of \$34 million for administering the programs (Ibid., p. 59). Based on these various estimates, Ippolito and Masson conclude that the total social cost of milk regulation is somewhere between \$58 million to \$64 million.

^{1/} R.A. Ippolito and R.T. Masson, "The Social Cost of Government Regulation of Milk," Journal of Law and Economics, April 1978. The Justice Department Report on Milk Marketing to the Task Group on Antitrust Immunities, January 1977, relied primarily on an earlier unpublished study by Ippolito and Masson. Masson had the primary responsibility for the economic content of the report. The more recent study of Ippolito and Masson includes estimates for state milk marketing orders as well as federal orders.

Except for the generally discredited study by Kwoka,^{2/} other studies do not drastically differ from those of Ippolito and Masson on most points. However, no other study to my knowledge has estimated the alleged losses due to transportation inefficiencies and enforcement costs. But Buxton,^{3/} for example, agrees with I-M that the main impact of marketing orders are the income transfer effects, not the social loss.

The public policy significance of the estimated losses depends, of course, on one's standard of comparison. I suspect that many persons will be surprised, at least I was, with the relatively small magnitude of estimated social losses compared to estimates of other studies of individual industries or of the economy as a whole.

I-M's "best estimate" of the social loss of the federal and state regulatory scheme is "roughly" \$9 million.^{4/} This is an extremely modest welfare loss, in the order of .1 percent of total raw milk revenues, which is far below Scherer's estimate of a deadweight loss due

^{2/} J.E. Kwoka, "Pricing Under Federal Milk Marketing Regulations," Economic Inquiry, July 1977; see comments of DOJ staff on Kwoka study.

^{3/} Boyd Buxton, "Welfare Implications of Alternative Classified Price Policies of Milk," American Journal of Agricultural Economics, August 1977, p. 529.

^{4/} Ippolito and Masson, op. cit., p. 55.

to monopolistic resource misallocation of 1.5 percent of GNP for the entire economy.^{5/}

I-M raise their social loss estimates by including administrative costs and transportation inefficiencies caused by the programs. I-M apparently assume that all administrative costs are for functions related solely to the pricing scheme and therefore would not have to be borne in the absence of the order programs. This assumption is questionable because it is generally acknowledged the programs result in nonprice benefits.^{6/}

^{5/} F.M. Scherer, Industrial Market Structure and Economic Performance, 1971, p. 408. Scherer's estimate included a loss of .9 percent of GNP in the unregulated sectors and .6 percent in the regulated sectors.

I-M and the DOJ assume no benefits--only costs--flow from the federal order programs. Specifically, they reject the argument of the Department of Agriculture and some economists that the orders reduce instability in milk production and prices, which by reducing risk would shift to the right the dairy farmers' supply function. The evidence on this question is mixed, and those arguing that the program reduces instability apparently have not quantified the alleged benefits. It should be acknowledged, however, that if those supporting this view are correct, even slight shifts in the supply of milk could result in substantial benefits to society. Clearly milk prices have been more stable than most other agricultural products and have risen less rapidly. Between 1967 and 1976 the CPI for milk rose 61 percent, compared to 81 percent for all food items and 71 percent for the overall CPI. USDA, Comments on DOJ Report on Milk Marketing, May 26, 1977, p. 6.

^{6/} Federal milk orders are generally credited with ensuring that producers are paid on the basis of accurate weights and butterfat tests and receive accurate and detailed market information. The cases where producers were shorted on weights and butterfat tests prior to the federal orders are numerous; a few such cases have been documented in research studies. There appears to be widespread support in the dairy industry and among consumers for continuation of these services which the administrators of the federal orders appear to perform well. Even those who favor eliminating federal orders suggest that there is a need for continuing checks on weights and butterfat tests and distribution of market information.

If I-M's total estimated social losses are accepted as appropriate and not offset by any social gains, the total losses amount to about 0.6 percent of the total farm value of milk. This is a very modest figure. For example, Scherer estimates that the exercise of market power in the economy as a whole results in a deadweight loss and transportation inefficiencies of 1.7 percent of gross national product; other efficiency losses not included in I-M's estimates raise Scherer's total estimate to 6.2 percent of gross national product.^{7/}

The relative magnitude of I-M's estimates may be further placed in perspective by comparing them with estimates of monopoly losses in the food manufacturing industries. Parker and Connor estimate total "monopoly loss" in the food manufacturing industries at about \$12 billion, or about 7 percent of sales and over 20 percent of value added.^{8/} It may be instructive to compare with milk some features of the performance of another beverage industry, beer. In this industry the leading brewers have spent over \$100 million in three years persuading consumers to switch to "light" beer, with a single brewer, Miller, spending far more annually promoting its Lite brand than the total social loss of the milk order programs. Such advertising has

^{7/} F.M. Scherer, *op. cit.*, p. 408. Ippolito and Masson's published estimates do not include the alleged losses discussed below resulting from prohibitions on the sale of reconstituted milk.

^{8/} R.C. Parker and J.M. Connor, "Estimates of Consumer Loss Due to Monopoly in the U.S. Food Manufacturing Industries," paper presented at the Allied Social Science Association meetings, Chicago, August 30, 1978. Parker and Connor define "consumer" or "monopoly" loss as those losses due to allocative inefficiency (deadweight loss), X-inefficiency, and monopoly profit. The three measures of these costs place total monopoly loss in a range of \$11.6 billion and \$13.0 billion in 1975. Their estimate of allocative loss is about 0.2 percent and X-inefficiency is about 4.8 percent of shipments.

allowed a product that costs less to make to be sold at a premium price. The "light" story in beer is an interesting contrast to that in milk, where "light" milk (skim milk or 2%) has (almost)^{9/} always sold at discounts. While many consumers prefer light milk and would pay a premium for it, they need not because competition is working effectively enough (at the processor and retail level) to ensure that cost differences are reflected in price differences. The light beer story is only a play within a larger play, the consistent theme of which is to persuade consumers to live in worlds of illusion and to switch up to premium and superpremium beer brands. I estimate that the leading brewers' success in increasing the share of premium and superpremium beers from about 30 percent of the market in 1970 to 60 percent in 1978 will cost beer drinkers \$400 million in 1978. This is a conservative estimate, because I used the price of Pabst (the premium of the nonpremium beers) to estimate the cost of the increased share of consumption going to premium and superpremium beers. There is no evidence that consumers can detect in blind tests real taste differences among beers. As Scherer has said, "American consumers pay their premium price mainly for the label rather than for the quality of the contents."^{10/} In 1978 the leading brewers will spend over \$250 million on advertising to differentiate their products; this amount exceeds the DOJ's maximum (and twice its minimum) estimated total social costs of

^{9/} Efforts were made by some processors to persuade consumers through advertising to pay as much or more for light milk ("Light and Lively") as regular milk. These efforts were successful for a time in some markets.

^{10/} F.M. Scherer, "The Posnerian Harvest: Separating Wheat from Chaff," The Yale Law Journal, April 1977, pp. 997-998.

federal milk marketing orders, "cooperative monopolization," state milk regulations, and prohibitions on reconstituted milk.^{11/}

Based on my interpretation of performance in much of the real world subject to antitrust, the social losses of the federal order program in milk seem quite trivial.

As with market imperfections in other industries, the main effects of federal order programs are distributive, resulting in transfers of income among farmers and between farmers and consumers. The latter apparently are not very great. I-M estimate that the blend prices for Class I and Class II producers are increased by 3.7 percent at the farm level, or an average increase of less than 2 percent at retail. Since manufactured product prices of Grade B producers are reduced by the program, the net price increase to consumers is quite modest. The subsidization of consumers of manufactured products, referred to by the Justice Department Task Force, do not appear great.^{12/}

Distribution effects among different groups of producers are potentially quite significant, however, with the income of regulated

^{11/} Milk Report, p. 433.

^{12/} The amount of the subsidy varies depending upon the consumers' purchasing habits. Data from a 1972 national consumer panel shows that substrates of U.S. households who are heavy (light) consumers of fluid milk relative to the U.S. average tend to be heavy (light) consumers of manufactured dairy products. This result implies that the increase in fluid milk prices which results from price discrimination under federal orders does not greatly disadvantage one group relative to any other group within the U.S. population. Rather, the typical consumer finds that the subsidy he receives on manufactured milk products tends to offset the higher prices he pays for fluid milk. However, certain families, especially those with many small children of fluid milk drinking age, are disadvantaged to a greater extent by classified pricing and the associated subsidy for manufactured milk product consumers which arises under federal milk orders. Buxton, op. cit., p. 529.

producers enhanced by \$211 million and Grade B producers depressed by \$105 million. The extent to which Grade B prices are actually depressed by classified pricing depends on the level of price supports.^{13/}

One reason the "distortions" created by federal milk orders are not greater is that USDA has not exploited the inelastic demand for fluid milk to the point where returns to producers are maximized. Although in their view such orders raise prices substantially, Masson, Masson, and Harris conclude: "the USDA has elected to hold prices below the rent maximizing level."^{14/}

Finally, the milk regulatory programs are only part of a broader public policy of protecting or enhancing farm income. As such, judgment of them requires consideration of criteria in addition to resource allocation. By their very nature, such programs are designed to transfer income from consumers to producers. On the record, it is difficult

^{13/} Grade B prices have been supported since the late 1940s and current law requires indefinite support at a minimum of 75 percent of parity after October 1, 1979, and 80 percent until then.

^{14/} A. Masson, R.T. Masson, and B.C. Harris, "Cooperatives and Marketing Orders," paper presented at NC-117 sponsored workshop on Agricultural Cooperatives and the Public Interest, St. Louis, June 6-8, 1977 (forthcoming), p. 16.

to make a case that the milk programs, including the price support programs, have enriched dairy farmers.^{15/}

Alleged Deadweight Loss from Prohibitions
on the Sale of Reconstituted Milk

The Justice Department Task Force Report states that deadweight loss from prohibitions on the sale of reconstituted milk in federal order markets could be as high as \$125 million per year.^{16/} On the face of it, this estimate seems to involve double counting of welfare losses, since if Class I price differentials were eliminated, or substantially reduced, reconstituted milk likely would be of little more importance than it is today. Dr. Alden Manchester of USDA makes a persuasive case that the savings alleged by DOJ are largely illusory:

It is sometimes said that the classified pricing system as administered under Federal orders imposes a cost on consumers through the restriction on the reconstruction of powder and

^{15/} Cost of Producing Milk in the United States--Final 1976, Estimated 1977, and Projections for 1978, prepared by the Economics, Statistics, and Cooperative Service, USDA, for the Committee on Agriculture, Nutrition, and Forestry, U.S. Senate, Committee Print, April 21, 1978.

Average incomes for typical dairy farm operations in Wisconsin and New York have averaged about 10-15 percent higher than for average urban family income in the last five years. However, most of this income is attributable to these farmers' net investment in their dairy operations of about \$150,000. If an 8 percent return is assumed, return on investment represents about 80 percent of these dairy farmers' income. A.C. Manchester, Dairy Price Policy: Setting, Problems, Alternatives, Ag. Econ. Report No. 202, USDA, April 1978, pp. 28-30. These income estimates exclude off-farm income and capital gains from the increase in value of farm real estate. In recent years capital gains (most unrealized) have been substantial for those farmers owning their own land.

^{16/} See Milk Report, op. cit., p. 433. The report acknowledges that "the figures on reconstituted milk are highly speculative and may represent a 'best guess' of maximum possible effect." Ibid., Table 5.4, note e (emphasis added).

butterfat in commercial processing plants. This is because a handler who reconstituted milk in this fashion would have to pay the equivalent of Class I prices for the ingredients. But much of the alleged advantage of reconstituted milk would disappear without a classified pricing system. As a matter of fact, reconstituted milk would usually be more expensive than fluid milk if the raw product from which both were made were priced at the same rates, except in markets quite distant from the Upper Midwest. Although shipping costs for powder and butterfat are lower than for fluid milk, the processing cost to remove the water and then put it back could be more than the saving in transportation costs.^{17/}

Dr. Robert Masson, the principal economist coauthor of the DOJ Milk Report believes Manchester overestimated the cost of reconstitution. Frankly, I don't know which of these two competent economists is nearer the truth on this matter.

The question of permitting reconstitution of milk in federal order markets goes to the heart of the classified price system. The USDA response to the DOJ asserts that "unrestricted" reconstitution "would create economic pressure to reduce the Class I price differential" (USDA Reply, p. 13). The DOJ agrees, arguing that such a reduction would be in the public interest.^{18/} If this is indeed the objective of public policy, it would seem preferable to reduce the differentials directly rather than through the indirect route of relying on reconstituted milk to do the job.

Conclusions

My examination of the evidence has focused largely on the question of the costs of federal milk marketing orders. The welfare losses

^{17/} A.C. Manchester, Issues in Milk Pricing and Marketing, Agricultural Economic Report No. 393, USDA, December 1977, pp. 13-14.

^{18/} Milk Report, pp. 504ff.

appear quite modest compared to the average for all regulated and unregulated industries. Nonetheless, I am not suggesting that this warrants indifference to a regulatory scheme that may result in needless inefficiencies. Moreover, the available evidence indicates that milk order programs result in potentially significant redistribution of income among producers and between producers and consumers.

I therefore agree with the Commission staff's recommendation that a special Congressional or Executive Commission be created to examine the costs and benefits of federal marketing orders and agreements. I do not agree with the staff recommendation that such a Commission be mandated to examine both cooperatives and federal orders. Although the two issues are sometimes related, I think that a mandate to cover both areas is excessively broad. This would not, of course, prevent the examination by such a Commission of the role cooperatives play in federal and state order programs.