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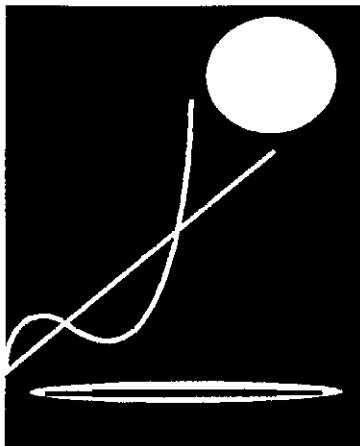
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The Dairy Industry: A Connecticut Perspective

by

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I. Introduction

Dairy farming continues to be a major agricultural activity in the state of Connecticut. Although the number of dairy farms in the state has declined over the past decade, aggregate production has remained stable, and Connecticut farms have, on average, higher production than New York or Vermont farms. State and local land, environmental, and business policies influence the profitability of the Connecticut dairy industry however its future depends most critically upon dairy market forces and policies that are regional and national in scope. This paper briefly describes the organization of the Connecticut dairy industry within the context of the New England (Federal Order 1) milk market and the larger national dairy industry. It provides historical trend data for a number of economic variables including the number of dairy farmers in Connecticut, total annual milk production, and the price of milk. A milk price forecast for 1995 is also included. The paper then identifies the factors contributing to reported secular trends. It concludes with a brief discussion of regional and national policy issues that are important for the future economic fortunes of Connecticut dairy producers.

II. Historical Trends

To no ones's surprise the number of dairy farmers in Connecticut continues a persistent long-term downward decline. In 1989 there were 357 dairy farmers in Connecticut. By 1993 the number had decreased to 304. The decline in the number of Connecticut dairy farmers

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must, however, be placed in perspective of overall trends in the New York/New England dairy industry. As Table 1 illustrates, the number of dairy farmers in Federal Milk Market order one declined during this period from 4,931 to 4,456 farmers. Connecticut dairy farmers as a percent of order one dairy farmers has remained relatively constant through this period at approximately 7 percent of order one dairy farm numbers. This suggests that the factors leading to a decline in the Connecticut dairy farm numbers are not uniquely local factors. Rather, they are more general factors that are affecting all farmers in the New York/New England milk shed.

Table 1 Annual Milk Production and Number of Producers: Federal Order 1 and Connecticut.

Year	Number of Producers			Production ¹		
	Connecticut	Order 1	Percent	Connecticut	Order 1	Percent
1993	304	4456	6.8	504.3	5345.5	9.4
1992	333	4686	7.1	525.7	5477.7	9.6
1991	333	4829	6.9	504.5	5309.2	9.5
1990	346	4893	7.1	494.6	5114.3	9.7
1989	357	4931	7.2	502.7	4974.8	10.1

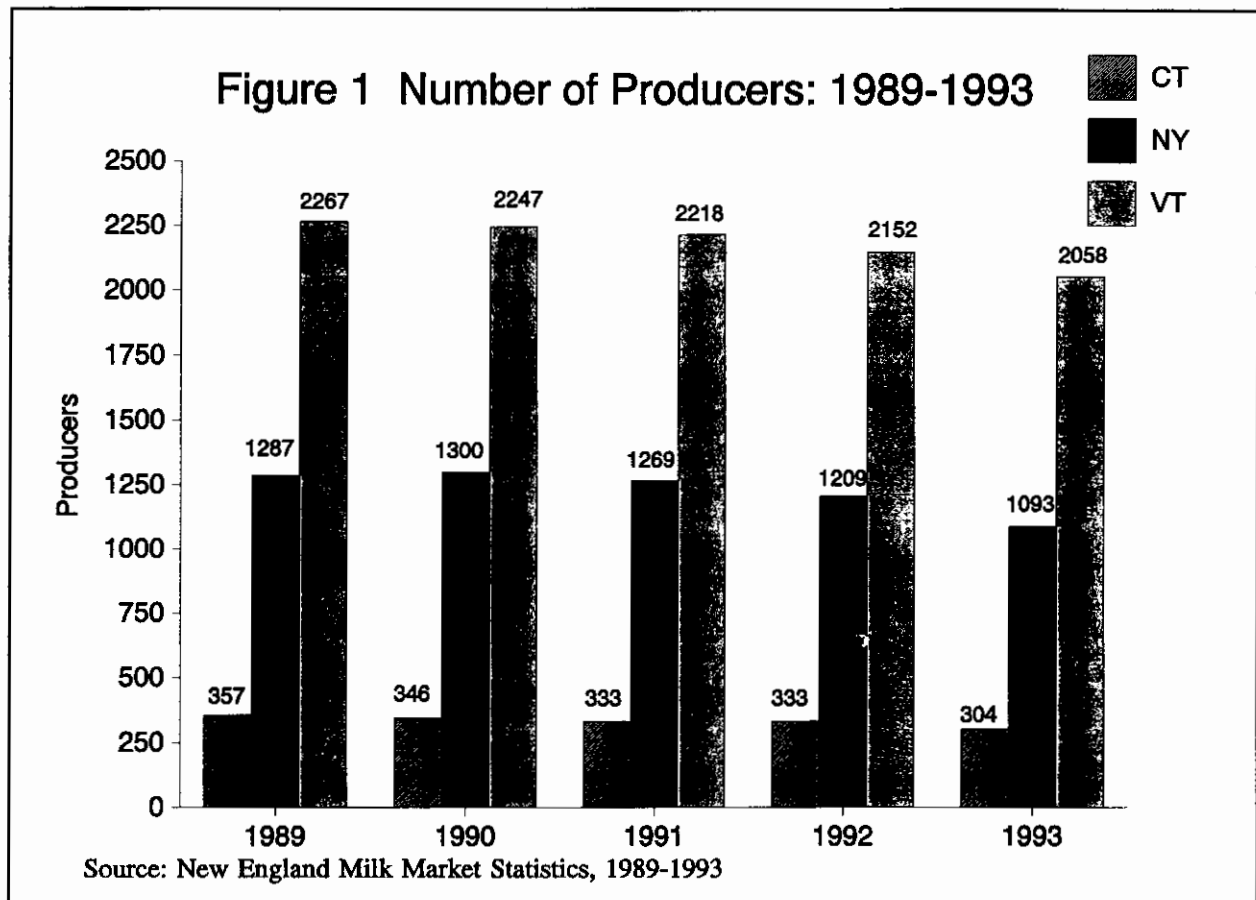
¹ Million Pounds

Source: *New England Milk Market Statistics*, Market Administrator Federal Order No. 1, Boston, MA. 1989-1993.

Table 1 also reports milk production for Connecticut and the total order one milk shed. Milk production by farmers in the state of Connecticut has remained relatively constant at roughly 500 million pounds of milk over the 1989 to 1993 period. Order one production has trended upward slightly over the 1989 to 1993 period and as a result Connecticut production as a percent of order one production has trended down slightly from 10.1 percent in 1989 to 9.4 percent in 1993.

Figure 1 gives a graphical illustration of the decline in the number of producers in the state of Connecticut and two other major competing dairy states — New York and Vermont.

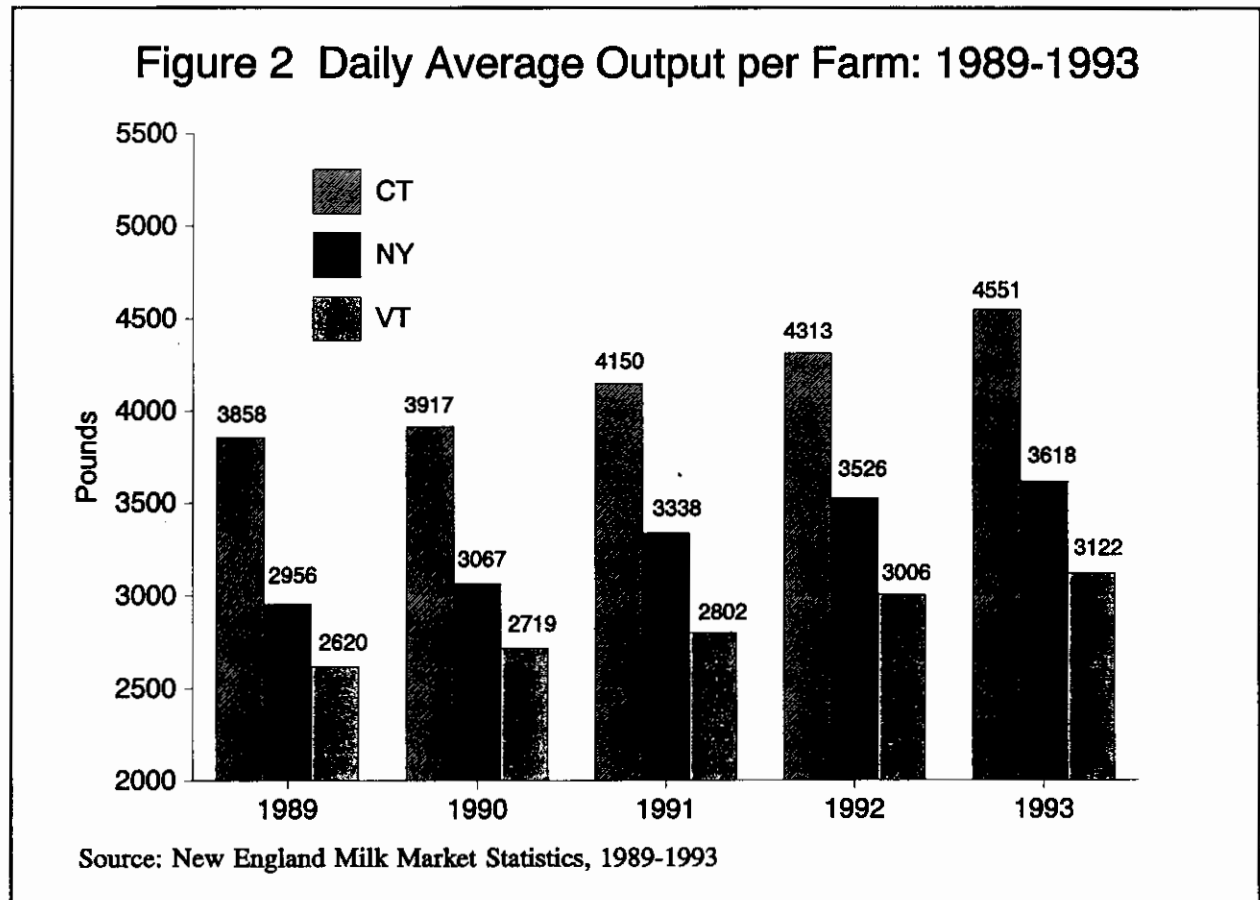
The absolute decline in the number of farmers is much larger for Vermont and New York than it is in Connecticut. In fact, between 1989 and 1993 the federal order one milk shed in Vermont and New York lost more farmers (403) than are in operation in the state of Connecticut. One



must be careful not to draw the conclusion that Connecticut dairy production is marginal and could easily be replaced by Vermont and New York production. Connecticut dairy farmers are closer to urban markets and the Connecticut dairy farmers are larger and more efficient producers than the average Vermont or New York farm.

Figure 2 provides evidence on this second point. It graphs the daily average output per farm over the 1989 to 1993 period for Connecticut, New York, and Vermont farmers. As one

can see, output per farm in Connecticut is significantly higher than it is in New York or Vermont. For example, in 1993 output per farm in Connecticut was approximately 4,551 pounds



per day whereas it was 3,618 pounds in New York and 3,122 pounds per day in Vermont. Figure 2 also illustrates that output per farm over the five year 1989 to 1993 period has increased more rapidly in Connecticut (693 lbs.) than it has in New York (662 lbs.) and Vermont (502 lbs.).

Therefore, one can conclude that Connecticut dairy farmers are not only close to market, they also tend to operate larger farms that are growing as fast or faster than others in the milk shed.

Table 2 Connecticut County Level Dairy Production: 1993

County	Number of Producers	Annual Output (Million Pounds)	Average Daily Output (lbs)
Fairfield	5	3.045	1668
Hartford	26	30.920	3258
Litchfield	69	93.028	3676
Middlesex	12	12.964	3066
New Haven	14	20.967	4103
New London	69	105.910	4210
Tolland	38	100.495	7326
Windham	68	136.609	5531

Source: New England Milk Market Statistics, Market Administrator Federal Order No. 1, Boston, MA., 1993.

Recently, the Federal Milk Market Administrator in Boston provided a detailed breakdown of production in Connecticut by county. Essential information is reproduced as Table 2. As one might expect, Fairfield County has very few dairy farms, only five, and the average daily output is relatively small at 1,668 pounds per day. Litchfield, New London, and Windham Counties have either 68 or 69 producers each. These three counties account for more average daily output is relatively small at 1,668 pounds per day. Litchfield, New London, and Windham Counties have either 68 or 69 producers each. These three counties account for more than half of the dairy farms in the state. Output per farm among these three counties, however, differs significantly. Litchfield County average daily output per farm is 3,676 pounds, in New London County output per farm increases to 4,210 pounds, and in Windham Country output per farm is 5,531 pounds per day. Tolland County with 38 farms actually has the highest average daily output at 7,326 pounds. These daily production figures indicate that the Connecticut dairy industry is anything but homogeneous when it comes to on-farm size and production practices. It appears that some farmers in the eastern part of the state have addressed the issue of get big or get out by opting for the first.

Additional perspective on the size of Connecticut dairy farms in the county is provided by comparing these numbers to the daily average output of New York and Vermont farms as reported in Figure 2. Except for Fairfield County, all counties in Connecticut have higher average daily output than the average Vermont farm. Also, Litchfield, New Haven, New London, Tolland, and Windham Counties have higher average daily output than the average Vermont or New York farm. Thus, variation among Connecticut counties in output per farm occurs at the very top of the size distribution in the order one milk shed.

Although milk production in the state of Connecticut has remained roughly constant at 500 million pounds since 1989, there is considerable seasonal variation in the output of Connecticut dairy farms. Figure 3 charts monthly Connecticut milk production for 1989 through 1993. Top producing months come in at roughly 45 million pounds, whereas low producing months log in at below 40 million pounds. This range in milk production seems fairly constant over the 1989 to 1993 period with peaks and valleys occurring each year. Peak production occurs during the spring months and trough production tends to occur in the summer and fall.

Since seasonality of production is similar in other parts of the Northeast, one would expect to see cyclical prices moving in the opposite direction of production. Table 3 provides monthly milk prices for zone one for the period beginning January 1989 and continuing through December 1995. Prices for December 1994 and all of 1995 are forecast prices. These prices moreover are for the price of milk in zone one of the Boston milk market order and they are the blend price. Explaining each of these in order, zone one is a geographical area that includes Connecticut east of the Connecticut River. That portion of the state that is west of the Connecticut River is in zone 5 which means that one should subtract a dime from the prices reported in Table 3. The federal market order zone pricing system is designed to pay lower

The graph displays monthly precipitation data over a five-year period. The vertical axis (y-axis) is labeled 'Million Pounds' and ranges from 35 to 50 in increments of 2.5. The horizontal axis (x-axis) shows the years 1989, 1990, 1991, 1992, and 1993. The data is represented by a jagged line that fluctuates significantly throughout the period. Notable features include a peak near 46 million pounds in late 1989, a low point around 38.5 million pounds in early 1990, and another peak near 46.5 million pounds in late 1991. The precipitation generally shows a seasonal pattern, with higher values often occurring in the latter half of each year.

prices for milk more distant from Boston in order to compensate for the additional cost of transportation. The blend price represents the weighted average price paid to producers for different classes of milk delivered. In federal order one there are three classes of milk. Class I includes milk that is used for fluid consumption. Class II is milk used for the production of soft dairy products such as cottage cheese, sour cream, and ice cream. Class III milk is used for the production of hard dairy products such as cheese and Class IIIA milk is used for butter, and milk powder. Under the federal order system, Class I fluid use milk receives a higher price per hundred weight than does Class II and Class III milk. The Federal Milk Market

Table 3 Monthly Milk Prices, Zone 1 (Blend Price), 1989-1994.

	1989	1990	1991	1992	1993	1994	1995
Jan	14.09	16.44	12.19	14.03	13.23	14.41	13.12
Feb	13.80	15.74	12.03	13.58	13.04	14.13	13.13
Mar	13.25	14.92	11.95	12.92	12.82	14.22	13.25
Apr	12.73	13.85	11.94	13.24	12.99	14.16	13.19
May	12.55	13.86	11.84	13.24	13.38	14.05	13.27
Jun	12.74	14.25	11.95	13.81	13.91	13.80	12.84
Jul	13.41	15.01	12.54	14.10	13.84	12.83	12.83
Aug	14.25	15.62	13.00	14.31	13.32	13.27	13.60*
Sep	14.96	15.52	13.39	14.50	13.39	13.69	13.68*
Oct	15.57	14.61	13.96	14.35	13.60	13.67	13.87*
Nov	16.19	13.94	14.33	13.92	14.28	13.86	14.03*
Dec	16.44	12.28	14.33	13.64	14.35	13.74	13.92*

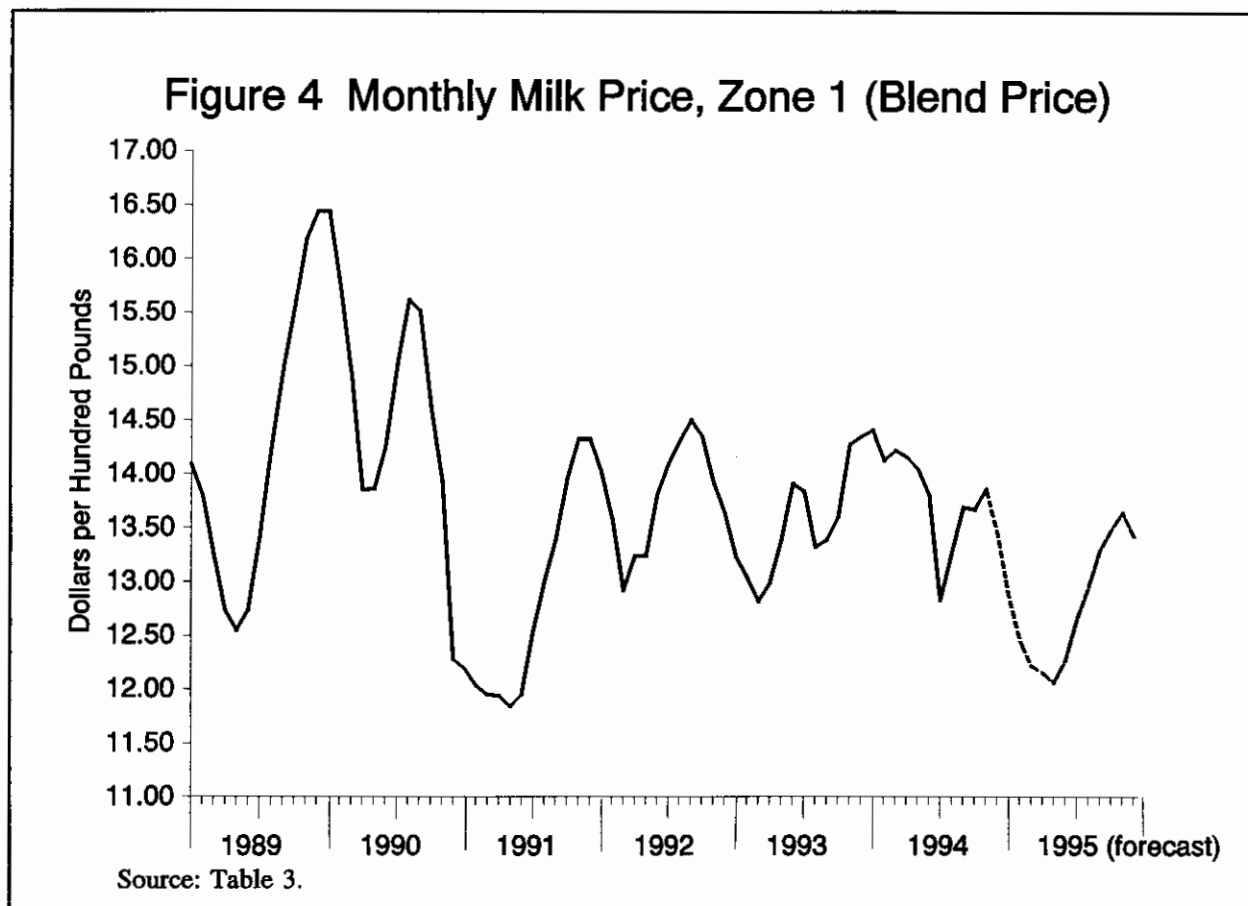
All prices in dollars per hundred pounds, 3.5% Butterfat.

Source: *New England Milk Market Statistics*, Market Administrator Federal Order No. 1, Boston, MA., 1989-1993; New England Milk Market Administrator, 1994.

* June and later 1995 prices are calculated from forecasts provided by Robert W. Wellington, Chief Economist, Agrimark, on 1/4/95.

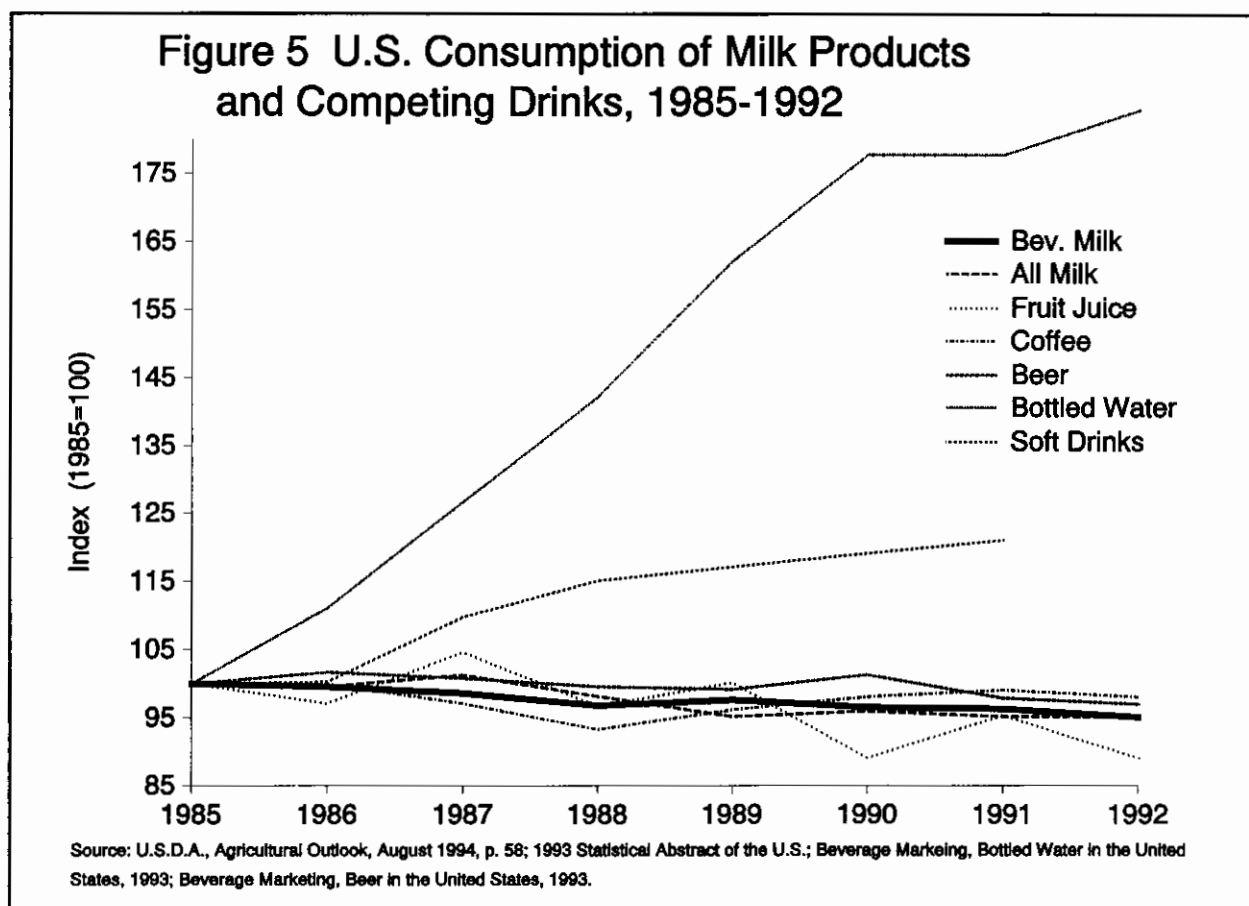
Administrator essentially pools the receipts for the different classes of milk and insures that dairy farmers receive a blend price based upon the total utilization in the milk shed and their location in the milk shed (NOVAKOVIC).

As we can see in Table 3, milk prices do tend to be highest in the Fall when school demand is high and supply is relatively short. Figure 4 provides a quick and reasonably accurate visualization of the price trends for zone 1 milk for 1989 to 1995. The first thing that is immediately obvious from Figure 4 is that there is considerable variability from season to season in milk price. Second, and perhaps most important is that the farm level milk price has not increased over this period. There is a slight but persistent downward trend in the price of milk through this period.



III. Factors Influencing Long-Term Change

■ Increasing production per cow and farm size. The decline in the number of dairy farmers nationally has been the result first and foremost of the dramatic increase in production per cow and farm size during the recent past. In the 1960s a herd average of 15,000 lbs per cow was considered excellent. Today excellent herds average 20,000 - 25,000 lbs per cow. Recombinant bovine somatotrophin (LBST) became commercially available in early 1994. As farmers adopt it production per cow will increase above current levels further depressing market prices and accelerating the trend towards increased herd size (Shoeffling *et al.* 1991).



■ Unabated increase in western states milk production. National milk surpluses that depress prices continue because California, Idaho, Arizona, and New Mexico are expanding milk output at double digit rates. California recently overtook Wisconsin as the top milk producing state (Wellington, p. 11). New York and Pennsylvania are number 3 and 4.

■ Slow growing domestic demand. Although dairy farmers have launched an aggressive generic milk promotion campaign, the per capita consumption of dairy products has declined slightly from 1985. Figure 5 reports indexed per capita consumption trends (1985=100) for several different drinks. Beverage milk and all milk products trend persistently downward towards an index value of 95 in 1992. Coffee, beer, and fruit juices also tend to follow a

similar downward trend. Soft drinks and bottled water, however, have dramatically increased in per capita consumption over the period. Absence in major breakthrough in consumer acceptance of milk products, one has to assume that per capita consumption will continue to decline slightly or at best remain stagnant through the near future.

■ **Export Possibilities.** Given stable domestic consumption the dairy industry has vigorously pursued export opportunities for dairy products. The Federal Dairy Export Improvement Program has helped. At this point in time, however, trade in dairy products on world markets is not open and the dairy policies of the various major producing regions of the world have tended to produce excess supplies of dairy products.

■ **Low income/human capital exit.** The afore mentioned factors have combined to produce a chronic situation of excess supply in the U.S. dairy industry that has resulted in relatively unattractive income levels in the industry and human capital exit. Very few young people are becoming dairy farmers and young or middle age farmers with substantial education (human capital) often have more attractive income opportunities outside dairy. This contributes to the slow but persistent decline in the number of dairy farmers.

IV. Outlook for the Future

The situation seems bleak, however, these conditions have existed in one form or another in the industry for much of this century. Dairy farmers are very adept at managing in an industry with rapid technical progress, stable demand, and substantial government regulation. Over the next five to ten years, the number of dairy farmers in the state of Connecticut will decline. However, the decline will not be any more pronounced than in other areas of the northeast milk shed. The volume of production in Connecticut may remain relatively stable at

the 500 million lb. level or increase. Assuming no change in the federal order milk pricing system, the blend price will continue to fluctuate in a seasonal fashion and trend downward over the next five to ten years. Remaining dairy farmers may, however, sustain acceptable, if not excellent, income and profit levels, if they move to rapidly adopt new production technology that will allow them to more efficiently produce milk at a lower price.

The current policy environment, however, introduces major uncertainties into the organization and future size of the northeast dairy industry. Over the past five years we have seen a series of state level milk price initiatives in Massachusetts, Maine, New York, and Connecticut that were designed to elevate prices to producers (Wellington p. 9, Cotterill *et al.*). These have systematically been declared unconstitutional or in violation of various state laws. Last year producers introduced a proposal for a Northeast Interstate Milk Pricing Compact to the U.S. Congress. The Compact would establish a Northeast price over and above the federal order price. This was not successful in the last congress and probably has even less chance of success in the current Republican congress. The current congress may also take a very hard look at the federal market order program as part of the 1995 farm bill. Class I price differentials (higher prices in the Northeast relative to the Midwest) may change. Short of eliminating the entire federal milk marketing order system, however relatively small changes will most likely be made via the 1995 Farm Bill. A move to open market pricing would clearly disadvantage Connecticut and New England dairy farmers. An intermediate move may be the merging of order 1 (Boston) and order 2 (New York) and order 4 (Philadelphia). In June 1995 the leading northeast dairy cooperatives with the cooperation of the market administrators of the three orders established a study committee to evaluate a merger. Since the milk sheds and to

a lesser but significant extent the class I sales was of the orders overlap, a merger might reduce inefficient assembly and marketing practices that are a direct result of the regulations.

On the international trade scene dairy farmers have generally opposed the implementation of the NAFTA and GATT Trade Treaties because open trade will undermine national price support programs and possibly lower dairy farm incomes. One possible silver lining in the storm cloud is that open trade may result in an increase in demand for Northeast dairy products because they are more advantageously positioned relative to Quebec and maritime Canada producers. All Canadian producers are currently heavily subsidized by Canadian policies that will be swept aside if NAFTA is fully implemented. In conclusion one must stress that there is currently more uncertainty as to the future of the Connecticut and northeast dairy industry than there has been at any time since the 1930s. We indeed are going through an historic transition period.

References

Beverage Marketing. 1993. Bottled Water in the United States.

Beverage Marketing. 1993. Beer in the United States.

Cotterill, Ronald W., Don C. Pinkerton, and Lawrence E. Haller. 1990. Economic Analysis of the Proposed Dairy Income Enhancement Program. Food Marketing Policy Center Research Report No. 10, University of Connecticut, Storrs, CT.

Novakovic, Andrew. 1994. "Lessons and Questions from Fifty Years of Milk Marketing Orders." Food and Agricultural Marketing Consortium FAMC 94-1, Re-Engineering Marketing Policies for Food and Agriculture, January 13-15 in Washington, DC.

Statistical Abstract of the United States, 1993. Washington, DC: U.S. Government Printing Office.

USDA. 1994. Agricultural Outlook, August issue.

USDA Market Administrator Federal Order No. 1, 1993. New England Milk Market Statistics.

Wellington, Robert. 1995. Economics, Communications, and Legislative Affairs Report, *Agri-Mark Journal* Vol. 15, No. 3, Winter.

Wellington, Robert. 1995. Forecast Milk Prices for 1995, (Provided by FAX to author).