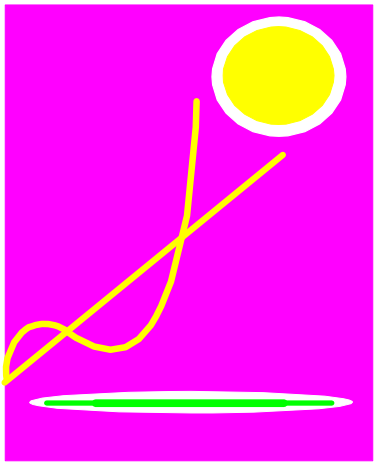

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Milk Pricing Matters for the Sustainability of Dairy Farmers in the Northeast

by

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June 2005

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For dairy farming the core of the sustainability issue is regional differences in cost of production and prices received for raw milk. Consumers are always going to drink milk. The critical question is where is it going to come from? This paper will not address regional cost of production differences.[1] Here the focus is on regional price differences, which are often ignored and assumed to be unimportant for the survival of the Northeast dairy industry. Nothing could be further from the truth. The organization and the performance of the farm to retail milk marketing channel and the role of state and federal policy nationally as well as in regions, are critical determinants of the prices that Northeast farmers receive.

Let's start with the issue of farm level milk prices in different parts of the U.S. As part of the federal market order consolidation process that culminated with the establishment of eleven market orders in January of 2000, Cornell University researchers analyzed the location of milk production and milk processing plants for cheese, butter, cultured products and fluid products throughout the United States (Pratt, et al. 1998).

[1] See Jesse (2003). The focus on pricing does not imply that cost of production differences are unimportant, when addressing dairy policy issues. Clearly they are a major force driving structural change in the location and size of dairy farms. Nonetheless the price that farmers receive for their milk is also important.

Their basic result follows work done by milk marketing economists on pricing in milk sheds before the advent of federal milk market orders (e.g., Cassels, 1937). If there were no federal milk marketing policies and milk were allowed to move in an "open market" throughout the country, farmers would have different prices for raw milk throughout the United States.

This basic result comes from the fact that fluid milk, when compared to cream, butter, and cheese, is bulky and therefore there is an economic advantage to producing it close to its consumption point. Working in 1934, Cassels wrote about the pricing and location of the production of milk for use as fluid, cream, or butter.

> "The cost of shipping a given quantity of milk in fluid form being greater than the cost of shipping its equivalent in the form of cream, it will naturally be shipped from points nearer to the market than those from which cream is shipped. Similarly, since the cost of shipping cream is greater than the cost of shipping its equivalent in the form of butter (or some other manufactured product), it will tend to come from a zone nearer the market than that from which the butter comes. Suppose that the cost per mile of shipping 100 pounds of milk is one cent and the cost of shipping its equivalent in the form of cream is 1/10 of a cent and its equivalent in the form of butter is 1/40 of a cent.…If the prices for the three commodities (in this sense) f.o.b. city were the same, then at all points in the surrounding territory the farmers would obtain their best returns from milk used in the manufacture of butter and none would be available for shipment as either fluid milk or cream. In order that cream may be obtained, its city price must be higher than that being paid for butter, and in order that fluid milk may be obtained, its price must be higher than the price being paid for cream. The differences in the transportation rates will determine the distances from the market at which it will become more profitable to ship cream than milk and at which it will become more profitable to ship butter than cream." (Cassels, M., pgs. 20-21.)

Note that the technical properties of different dairy products and transportation cost differences dictate that fluid milk will be highest priced and produced closest to the consumption point. This result is <u>not</u> the product of federal milk market orders. It would

exist if orders were disbanded. What federal orders do is pool proceeds from the sale of all types of products and pay a blended price to farmers that depends on their distance from a consumption point, e.g., Boston. Orders insure equitable treatment for farmers, i.e., their mailbox price does not depend on how their milk is used (fluid, cream, cheese, butter).[2]

In 1996 Pratt et al., in their base scenario for the U.S. dairy industry, (no market orders) found that milk at the farm gate would be of most value near locations such as Miami and Boston, and it would have lesser value in places such as central Wisconsin and New Mexico. Such low value areas would be the reserve supply areas for fluid milk and primarily focus on the production of butter and cheese. In this spatial competitive market scenario farmers located in the Northeast in fact receive a higher price at the farm gate than farmers in the upper Midwest. This is because farmers in the Northeast would be producing more of the higher value fluid product because they are close to major consumption points. Now not all of the Northeast milk would go to fluid. Some would go to butter and cheese; however, more milk would go to fluid in this area than in the areas of reserve supply.

Today, of course, we do not have open, competitive raw milk markets. However, Cassels' classic analyses and the more recent Cornell study serves as a benchmark for measuring the efficiency and regional equity of our public dairy policies. The basic point on regional equity is farmers in different parts of the country <u>should</u> receive different prices, i.e., farmers in the Northeast and Southeast should receive higher prices than

[2] The classified pricing of federal orders is often seen as a government sanctioned cartel that uses price discrimination to exact more money from fluid milk buyers and then pool the proceeds to pay a common "blend" price to all farmers in the order. As this quote from Cassels shows, this is not true if orders are relaxed to a "competitive" setting as they are today. Earlier orders were tightly set to enact price discrimination that benefited fluid producers near large urban markets.

farmers in areas of reserve supply, i.e., the upper Midwest and West. If one examines the mailbox prices received by dairy farmers in the Northeast and compares those to prices received in Wisconsin, for example, during 2002 and 2003 Wisconsin farmers received about the same or ten or fifteen cents per hundredweight more than Northeast dairy farmers.[3] Thus during the 2002-3 low raw milk price era when our farmers were suffering with milk prices at the farm level around $11 a hundredweight, roughly $4 below our region's cost of production for a mid-sized farm (Sciabarassi, 2003), farmers in the upper Midwest who have a lower cost of production were getting the same or a higher price than Northeast dairy farmers. An important conclusion follows: The decline in dairy farming in the Northeast is due to price inequities as well as the commonly acknowledged higher production costs.

In 2004 the situation was different. Raw milk prices peaked at an all time high, but the regional imbalance continued. For example, dairy farmers in New England received a mailbox price in April 2004 of roughly $17.11 a hundredweight, but Wisconsin dairy farmers received a mailbox price of $19.89 for a hundred pounds, $2.78 per hundredweight more than Northeast dairy farmers.

For years the upper Midwest argued that the fluid milk marketing orders kept prices high in the Northeast region thereby encouraging an excess supply of milk, which depressed cheese markets (see, for example, Cropp and Jesse, 2003). However, over the past three years an inequity in the opposite direction has occurred.[4] Today, as I explain below, we have cheese market orders, not fluid milk market orders.

[3] One can do this by going to our website www.fmpc.uconn.edu. Click on "Milk Price Gouging" and then click on the link to Hoard's Dairyman.

[4] Current market performance is inefficient and inequitable when compared to the competitive market norm.

Well, why is this the case? Federal milk market orders, in the first instance, are not the cause of this change in milk pricing. If one reads the material from the University of Wisconsin such as the series whose lead author is Ed Jesse titled, "Rethinking Dairyland" (these are available from the University of Wisconsin, "Understanding Dairy Markets" website, click on "publications") one will see that agricultural economists in the Midwest as well as here and elsewhere pretty much agree that federal milk marketing orders have been relaxed to the point that they do not price discriminate on a regional basis to benefit areas with higher Class 1 fluid use. In fact federal market orders no longer are the primary or finding factor that determines fluid milk prices. Andrew Novakovic essentially states this in recent *Hoard's Dairyman* issues (Novakovic, 2004a, 2004b).

The changing structure of the raw milk assembly, processing, and retailing segments of the milk-marketing channel have replaced the federal orders are the governor of raw fluid milk prices. In the relaxed regulatory environment fluid milk prices are determined by over-order premiums that cooperatives negotiate and the handler premiums paid to independent producers. The bargaining power of large supermarket chains drives these premiums if anything more than the power of processors. Also, cooperatives in various parts of the country on certain occasions extract premiums on cheese market milk.

As I testified before the U.S. Senate Judiciary Committee (October 2003) in this relaxed regulatory environment two of the major determinants of the regional inefficiency and inequity in milk pricing has to be the differential power of cooperatives in different regions of the country, and the differential power of the processors and the

retailers in different regions of the country (Cotterill, et al., 2003). Consequently, the bargaining for milk prices has taken the path that we've observed with inverted regional price differences between the Northeast and reserve supply areas such as the upper Midwest. Such inverted farm level milk prices (that is higher at all points of the price cycle in the upper Midwest than in the Northeast) would not exist in this relaxed federal order market era if regional markets were competitive and all states had uniform policies towards the dairy industry.[5]

During 2004 the milk shortage relative to demand contributed to inverted regional prices. It has caused prices for cheese, the "marginal" storable product when compared to fresh fluid milk, to sky rocket. So farmers in cheese producing areas have benefited. For example, upper Midwest farmers where only approximately 15% of the milk goes for fluid have received a higher mailbox price than Northeast farmers where 40% of the milk goes to the fluid market. Thus in short milk supply periods cheese producing areas benefit, and in long milk supply periods (2002, 2003) farmers in the Northeast receive no commensurate benefit for supplying the fluid market. Cheese producing areas do better at both stages of the pricing cycle.[6] This is why one can say we now have cheese market orders, not fluid milk market orders.

[5] Major dairy states clearly take care of their farms. Increasingly "fringe area" states such as in New England and the Southeast are moving to do so as well. Go to the Maine Milk Commission website.

[6] Depooling of milk has occurred during the recent cheese price run up. Depooling in a market order such as the Northeast or upper Midwest does not affect the total average price received for raw milk sales. It does, however, benefit farmers that supply cheese milk at the expense of farmers that supply fluid milk and remain in the pool. For example, Bob Wellington explained at the recent Litchfield County annual picnic that Agri-Mark depooled cheese milk and blended it over its members to raise their price 20 cents per hundredweight. Agri-Mark's action decreased the blend price 5 cents per hundredweight. DMS/Dairylea/St. Albans also depooled milk and depressed the orders blend price. Independent farmers not in those cooperatives could not depool and thus received only the depressed blend price. Depooling has even greater equity consequences in cheese milk areas of the country.

When cheese milk prices increase, one would think that over-order premiums for fluid milk would also increase thereby preserving the normal pricing relationship, i.e., higher prices for milk used as fluid. Alternatively, farmers or their cooperatives would divert fluid milk to the cheese market until processors and retailers paid a higher price for fluid. The fact that this has not happened again indicates the bargaining power of retailers and fluid processors in the current market channel structure.

During 2004, dairy farmers in the Northeast and elsewhere in the United States enjoyed very high prices and earned a positive return on their investment. So why worry about regional pricing imbalances that are caused by differential bargaining power? Here is why. This regional imbalance in pricing in combination with the regional differences in cost of production does not auger well for New England and Northeast dairy farmers. Farmers in other regions of the country recovered more quickly from the low price era, and in fact although suffering losses during the low price era they were in a better economic position than farmers in the Northeast.

In the future when milk prices go down Midwestern farmers will have staying power for the long haul relative to Northeast farmers. This means that Northeast farmers have had a brief respite from economic stress but in fact will be the first farmers to exit this industry during the next down turn. See *Dairy Market News*, April 2005 Issue, Table I, for cow production numbers for 2004 and 2003. California, and other major dairy states that are oriented towards cheese, continue to expand relative to fluid milk areas such as the Southeast and the New England area. Yes, they have lower cost of production, but we also have a regional imbalance in milk pricing.

Well, what can one do about this? First, an observation about federal policy, such as the Milk Income Loss Contract, and cooperative policy such as the CWT Program. These national programs, in fact, do shore up the price; however, they do nothing to redress the regional imbalance in pricing. In fact, the Milk Income Loss Contract Program covered more of Wisconsin's smaller dairy farms than our larger dairy farmers in New York and New England. Of course one could expand the cap to cover larger farms. Yet both of these programs will not address the regional inequity.

Look at it this way. If those programs were benchmarked to cover the cost of production in New England and applied equally across the entire country, New England farmers would be making money, but farmers elsewhere would be making huge amounts of money and would expand supply in such a fashion as to totally blow those programs away. The CWT Program and the Milk Income Loss Program as currently applied really do not address the long-term health of the Northeast dairy industry. Any national policy that encourages the same raw milk price for all farmers ignores the economic need for different price levels in different regions of the nation.

Now let's consider the National Dairy Equity Act. If indeed that kind of program were passed it could address regional inequities in pricing. It could, in essence, reestablish more favorable treatment of fluid milk producers close to urban consumption areas. However, the passage of this proposed policy is not currently a reasonable possibility. The nation's milk processors through their trade association the International Dairy Foods Association strongly oppose this program, and the nation's largest dairy cooperative, Dairy Farmers of America, came out in opposition to this program. Thus at

this juncture the National Dairy Equity Act is an extremely slim read to hang one's hope for milk marketing reform.

A less visible fashion to perhaps provide some redress to the Northeast would be to revise the Class I differentials in the federal milk market orders to put some teeth in the orders and restore regional equity. This option, however, faces a host of opponents, somewhat similar to the ones that are opposed to the National Dairy Equity Act.

Some observers, including the International Dairy Foods Association, the trade association for dairy manufacturers, would do away with federal milk market orders. This would further weaken the bargaining position of farmers and increase the occurrence of "hold ups" at the farm gate and other forms of monopsonistic exploitation. The only way forward that I can see for milk pricing reform in the Northeast is to renew a focus on state level policies that combine to form a coordinated regional policy. State level bargaining or mandated over-order premiums in the Northeast have been tried in the past. The approach was not successful for a number of economic and legal reasons. From the economic standpoint if one assembles 90% of the Northeast farmers into a bargaining unit and bargains for an over-order price, processors can defeat these over-order premiums movement by shifting their business to the 10% that don't participate. This free rider problem exists because of the difference between the Class I price that a processor pays for the milk, which includes the over-order premium, and the blend price that all farmers receive when such premiums are blended back across manufacturing as well as fluid milk. The processor can split the difference with someone outside the pool. Both are better are off. Ultimately, the pool collapses.

Setting minimum wholesale or retail prices can prevent price wars, but the problem at the consumer end of the channel is high, not low prices. Moreover minimum wholesale or retail prices do not guarantee that raw fluid prices paid farmers will be higher. Such policies are akin to pushing on a rope.

There needs to be a new way to redistribute revenue in the milk-marketing channel to farmers. Elsewhere we have researched and suggested that a price collar approach to channel pricing could do this (Tian and Cotterill, 2004). Here I will only discuss a second alternative, the fair share approach.[7] The fair share approach has the distinct advantage that it leaves milk processors entirely out of the regulatory loop. Under the price collar approach they are an integral part of it and it affects their day-to-day operations. The fair share approach leaves them out because it only addresses the size of the retailer's market margin, which in fact is a major source of pricing inefficiency in New England. Retailer's net profit margins on fluid milk are far above a competitive rate of return. In fact during the price trough in 2003 supermarket retailer's net profits, that is after subtracting all costs from revenues, were over $1 per gallon. These monopolistic profits are more than the price that farmers were receiving for the raw milk that went into the jugs!

Under a fair share approach one could set the following policy parameters. Retailers would be permitted to mark fluid milk up 20%, and after that half of any additional mark up would be shared with the farmer. This money would be paid back into a pool that would include all the farmers that supply the milk to that particular retailer. Note that there is no free rider problem in this milk pricing policy. All retailers

[7] The price collar approach is explained in many of the documents that are available on our web site (www.fmpc.uconn.edu, click on "milk price gouging").

pay. They cannot avoid paying by switching to a different fluid milk processor or a different set of farmers that supply that processor.

The Connecticut Attorney General has ruled that the price collar, and by inference this fair share approach, do not violate the interstate commerce clause. They are legal milk pricing policies that a state can implement. This is the case because they do not discriminate between milk supplied by farmers from instate and out of state.

Again note that the fair share has no impact on the fluid milk processing industry. A fluid milk processor continues to pay a price for milk as determined currently and continues to market to supermarkets based upon market conditions as they do now. The only difference is that a retailer must share part of any markup over 20% with farmers.

How would this effect consumers? Well, the share ratio can then be manipulated in such a fashion that one can determine a distribution to farmers, a residual amount remaining to retailers, a certain benefit to consumers as well. In other words this milk pricing regulatory policy could benefit farmers, processors and consumers with a more equitable distribution of the proceeds from the milk production and distribution activity. It could be managed by a regulatory board that represents all parties.

What if we don't do some sort of regional milk policy along these lines? Would consumers, in fact, benefit from lower priced milk from the Midwest and the far West? This is an excellent question, however, the answer is clearly they would not. Yes, the cost of production in the Northeast is higher than those more distant areas; however, we estimate that it costs approximately 36 cents to transport a hundredweight of milk a hundred miles. This means that transporting fluid milk from very distant areas tends to generate very expensive milk. Also, under the existing policies as we have seen the mail

box prices are not lower in the upper Midwest, they are higher or at best roughly equal to the Northeast over the dairy pricing cycle. The disappearance of production and processing here would only put them in a stronger supply situation, i.e., elevate price. Then adding transportation costs to either fluid or processed products for shipping East creates higher consumer prices in the Northeast.

This analysis suggests that there is a need for reform of milk pricing in the Northeast. Such reform can seek to benefit not only farmers but also consumers and to keep the dairy processing industry that we have in our region intact.

The fair share policy could very well be implemented even if there were competitive pricing in the retail milk-marketing channel in our region. The cold hard fact, however, is that we do not have competitive retail milk pricing in New England. University of Connecticut research over the past two years has shown that through high and low raw milk prices, retail margins have remained excessive–as much as a dollar a gallon above what a competitive market would produce.[8] Thus the milk policy that I have outlined "kills two birds with one stone." It not only addresses the regional raw milk pricing issue where farmers need relief, it also reforms the pricing of milk at retail by limiting and redistributing excessive margins. Clearly the economic viability of Connecticut and other Northeast dairy farms depends importantly on milk pricing reform.

[8] See "Milk Price Gouging" on our website (www.fmpc.uconn.edu) and also the set of research articles forthcoming in *Agribusiness*, Vol. 21, No. 4, Autumn 2005.

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