University of Connecticut Research on Dairy Compacts and Fluid Milk Pricing: Executive Summaries, Fact Sheets, and Price Charts

by

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University of Connecticut
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Testimony on the
The Impact of the Northeast Dairy Compact and
Market Channel Pricing Strategies on the
Performance of the New England Dairy Industry
By
Ronald W. Cotterill
U.S. Senate Judiciary Committee
July 25, 2001

Executive Summary

- Using recently obtained data on cooperative premiums that give us a more direct estimate of the actual prices paid by processors for raw milk in New England, we have recalculated our impact models. The Northeast Dairy Compact’s impact on consumers, computed net of changes in cooperative premiums engendered by Compact implementation, is 2.7 cents per gallon. In our original study it was 4.5 cents per gallon. The difference is due to a reduction of 1.8 cents per gallon in cooperative premiums. This reduction occurred because cooperatives deferred to the Compact, eliminated power premiums, and charged only for the cost of actual services provided to milk processors.
- Using the new cooperative pay price series the impact of market power on supermarket retail prices for all New England is 13 cents per gallon. In our earlier study it was 11 cents.
- The increase in the average retail price for all New England during the 3 years after the Compact compared to our estimate of retail price immediately prior to the Compact remains the same at 29 cents per gallon. As in our earlier work, other non-milk impact costs account for 7 cents, and strong raw milk markets account for 6.5 cents of the 29-cent retail price increase. Combined with the Compact impact and market power impact numbers these add to 29 cents per gallon. Table 2 presents these new impact estimates for all New England and each of the four market areas, Boston, Providence, Hartford/Springfield, and Northern New England.
- The 2.7-cent per gallon impact of the Compact is less than 1 percent of the average price for all New England, $2.78 per gallon, during the 3-year post-Compact period. It is less than 10 percent of the observed retail price increase. Alternatively, more than 90 percent of the increase in supermarket retail prices was due to factors other than the Compact.
- During the 3-year post-Compact period we estimate that supermarket consumers paid $122.8 million more for milk due to the 29 cent per gallon actual price increase. They paid only $11.4 million more due to the Compact; however, they paid $54.2 million more due to the exercise of market power and increases in bottom line net profits. (Table 3)
- The increase in net profits contributed nearly 5 times as much to the increase in retail prices as did the Compact.
- The increase in the market margin (other costs and net profits) contributed nearly 8 times as

This report and related documents can be downloaded, free of charge, from the University of Connecticut Food Marketing Policy Center website: http://www.ate.uconn.edu/fmktc.html.
much to the retail price as did the Compact.

- **Our impact assessment model depends upon no economic model of pricing strategy.** As such it is very general and not due to restrictive assumptions that accompany the specification of a particular model, such as Bailey’s markup model.

- **Our impact assessment model is a before-after impact model.** It measures how consumer prices, raw milk prices, market margins, and net profits changed over time. Therefore, it measures the actual impact of the Compact and market power in New England markets.

- **An alternative impact assessment model, the counterfactual model, analyzes a different question and gives a different answer.** That question is: If the Compact had not been implemented how would retail prices, raw milk prices, margins, and net profits change during the after-Compact period? The Bailey (2000, 2001) and the Lass et al. (2000) studies are counterfactual studies that only analyze raw milk and retail price changes.

- Bailey’s studies are flawed and not credible for several reasons. However, the most basic reason is that they misuse the proportional markup model. According to Bailey’s hypothesized and untested specification of the markup model, retail prices are far more volatile than farm prices when in fact the opposite is true. Observed price conduct rejects his model. Retail prices clearly are not more volatile than farm prices (Figure 1, Figure 4). His estimates of the impact of the Compact, 14 cents per gallon, and in a more recent study, 22.4 cents per gallon are biased, severely overstated, and completely unreliable.

- The International Dairy Foods Association spokespersons are technically correct when they declare that the numbers from the before-after and counterfactual approaches “do not add up.” This, however, is not trenchant criticism of either method. It is a perfect red herring, a bogus issue.

- Consumers who purchase milk through the WIC and school lunch programs are better off under the Compact than they would be if there were no Compact.

- **Our primary conclusions remain the same as in our original study.** The exercise of market power far outweighs the impact of the Dairy Compact on supermarket retail prices and consumers. The supermarket chains, most notably Stop & Shop, and most probably the region’s leading processor, Suiza Foods, have used their power in the market place to raise prices. More egregious in our opinion is the fact that in the public relations and political debate surrounding the Compact, the industry attributes increased prices to the Northeast Dairy Compact while they pocket much of that increase as expanded margin and windfall profit gain.

- Compacts can and should use their investigation powers to monitor the milk-marketing channel, conduct research, and promote effective competition. This could benefit non-dominant processors and retailers as well as farmers and consumers.

- The impact of noncompetitive market channels on retail prices is an issue in other regions of the country as well as New England. For the three year July 1997-July 2000 period when the Northeast Dairy Compact was in effect, supermarket milk prices in Chicago averaged $2.89 per gallon, 10 cents more than average price in Boston for the same period. During that period the cooperative price that fluid processors paid for raw milk in Chicago averaged $1.39 per gallon. In Boston, with the Compact it averaged $1.55 per gallon. Thus market channel firms in Chicago paid 16 cents per gallon less for raw milk and charged 10 cents more per gallon than was the case in Boston.

- Midwestern farm interests who are concerned about the Compact’s minor impact of 2.7 cents per gallon in New England upon the demand for their milk would be well advised to focus more attention on the exercise of margin widening market power in their own Chicago market.
and elsewhere including New England and Seattle. The impact of market power throughout the nation is far larger than the 2.7 cent per gallon impact of the Compact in New England.

- Cooperative over order premiums added 16 cents per gallon to the Class 1 price in Chicago during the July 1997 to July 2000 period. The Northeast Dairy Compact and cooperative premiums combine to provide exactly the same price enhancement to Class 1 prices in New England, 16 cents per gallon. Therefore the Class 1 price differential between the two markets was not affected. When viewed in this light the Compact redresses inequities in producer cooperative bargaining power. Highly concentrated processing markets such as New England where Suiza Foods now accounts for over 85 percent of processing in the Boston Providence market area make producer bargaining more difficult.

- The Northeast Dairy Compact reallocated premiums to low price periods, whereas the Chicago cooperative premium was roughly constant at 16 cents per gallon over the 3-year period. Therefore the Compact reduced the price volatility in the New England market compared to Chicago. Reduced price volatility is a benefit for many farmers.

- The issue at hand is not public power and distortion of otherwise competitive markets. Today many milk marketing channels, including the New England channel, are not effectively competitive. The issue is the public’s interest in an effectively competitive milk marketing channel and a dairy price program that promotes family run dairy farms that are technically efficient, preserve open space, protect the environment, and are not in perpetual economic crisis. These goals are inextricably linked.
The Public Interest and Private Economic Power:  
A Case Study of the Northeast Dairy Compact

Executive Summary

KEY POINTS

• Contrary to the economic theory of a competitive market and prior studies, processor-retailer margins increased when farm level fluid milk prices were stabilized by the Compact.

• Investigation indicates no transmission of farm level price changes to the retail level in the before compact period, creating a serious resource allocation and farm income problem, and invalidating prior studies of the Compact's impact that rely upon farm-to-retail price transmission models.

• Marketing channel firms used Compact implementation to lock in wide margins.

• A dramatic shift in retail pricing strategy occurs at Compact implementation and subsequently.

• Brand level analysis corroborates the earlier finding that Garelick and private label retail prices increased more than Hood retail prices.

• Suiza’s rise to dominance in New England fluid milk processing is related to rising Garelick and private label prices.

• Increasing retail concentration and the dominance of Stop & Shop and Hannaford is related to rising retail milk prices.

• Chain level analysis of branded milk sales establishes that Shaws, DeMoulas, Hood, and Guida were price mavericks for a short period after Compact implementation.

• Estimation of market and brand level elasticities documents that the exercise of market power is a source of wider margins and higher retail prices in the post-Compact period.

• In the supermarket channel in New England, estimated loss to consumers due to the Dairy Compact are 19 million dollars, and consumer loss due to the exercise of market power are 49.4 million dollars.

• The Dairy Compact increased farm income 128.5 million dollars; but only 51.5 million came from the supermarket channel and of that only 19 million dollars came from consumers with the rest coming from the Compact’s price support feature.

• Decomposing retail prices into payments for factors of production and profits documents how meager the Compact’s contribution to higher prices is in comparison to the increase in profit by channel firms. In a before and after model centered on Compact Implementation in July 1997 for all New England, retail prices increase 29 cents per gallon to $2.78 per gallon. The Compact accounts for only 4.5 cents of this increase. Increased profits by channel firms accounts for 11 cents. The remaining 13.5 cents is due to increases in costs other than milk and increases in the farm price above the Compact minimum due to fleeting strength in the raw milk market.

• The exercise of market power by channel firms shifts the industry to a more elastic region of the fluid milk market demand curve thereby reducing the effectiveness of the Federal Milk Market Order system and Compacts.

This report and related documents can be downloaded, free of charge, from the University of Connecticut Food Marketing Policy Center website: http://www.are.uconn.edu/fmktc.html.
The Impact of the Northeast Dairy Compact:
A Comparative Evaluation of Two Studies
by
Ronald W. Cotterill
and
Andrew W. Franklin
July 23, 2001

Executive Summary

- Revised consumer impact estimates that take into consideration reductions in cooperative premiums indicate that the Dairy Compact elevated supermarket prices 2.7 cents per gallon, less than 1 percent of the $2.78 per gallon price of paid by the consumers in all New England. These are average figures for the July 1997 through July 2000 period. To measure price elevation, we compare them to the price paid immediately prior to Compact implementation in July 1997. The addition to the consumer’s supermarket milk bill is $11.4 million.
- The exercise of market power increased supermarket milk prices in New England 13 cents per gallon. The addition to consumers supermarket milk bill is $54.2 million for all New England.
- The increase in supermarket prices due to strong milk markets, raw fluid prices above the $1.46 per gallon Compact minimum, was 6.5 cents per gallon and totaled $27.5 million. The increase due to increases in non-milk costs was 7.0 cents per gallon and totaled $29.6 million.
- Professor Bailey’s evaluation of the Compact’s impact is flawed. It is a misuse of the proportional markup concept that attributes increases in other costs and market channel firm profits to the Compact program and farmers. His estimates of the impact of the Compact on consumers, at 14 cents per gallon (Bailey 2000) and 22 cents per gallon (Bailey 2001) are not credible.
- The International Dairy Foods Association “numbers don’t add up” criticism of our report is a perfect red herring. They confuse before-after and counterfactual impact analysis. These approaches ask different questions. The first asks what was the actual impact of the Compact over time. The second asks what would the impact be if the Compact did not exist. As we show, these are different questions and one obtains different answers for each. The impact numbers from one cannot be added to the numbers of the other.
- Our report is an analysis over time. It does not do a counterfactual impact analysis. If one accepts the long-run farm-to-retail price transmission analysis that Lass et al. have done, then the counterfactual impact on consumers is as follows: If the Compact did not exist, consumers would have paid approximately 5.3 cents per gallon less for milk in supermarkets during the July 1997 to July 2000 period. This constitutes less than a 2 percent reduction in the $2.78 per gallon price paid.

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Retail Milk Prices in New England: What would have happened if there had been no Compact?

During the same three-year period (July 1997-July 2000)

FACT: The raw milk price paid by processors would have declined 10.1 cents.

FACT: The best estimate of how much of this raw milk price drop would be passed on to consumers is 5.3 cents per gallon. This is less than a 2 percent reduction in the average $2.78 per gallon price during the three-year period.

Downloadable from http://www.are.uconn.edu/FMktC.html
Retail Milk Prices in New England: What actually happened?

During the three-year period after the Compact (July 1997-July 2000).

FACTS:

- The retail price went up 29 cents from $2.49 to $2.78 per gallon.
- The raw milk price paid by processors went up 9 cents per gallon. Only 2.7 cents of this increase is due to the Compact’s price floor. The rest was due to strong raw milk markets above the Compact minimum.
- Increase in non-milk costs accounted for 7 cents of the 29 cent increase.
- Increases in market channel firms profits accounted for 13 cents of the retail price increase.

CONCLUSION: Over 90 percent of the actual increase in retail prices during the 3 years after the Compact are due to factors other than the Compact.

CONCLUSION: The Compact’s 2.7 cents per gallon increase is less than 1 percent of the retail price, $2.78 per gallon.

Kenneth Bailey’s Bogus Consumer Impact Numbers for the Compact


- Compact Raises Consumer Prices 20 Cents per gallon.

Deroy Murdock Op-Ed Piece in several newspapers including the Hartford Courant (6/19/2001). (This man was most probably hired by the industry lobby, International Dairy Foods Association)

- Compact adds up to 14 cents per gallon.

FACT: Both of these bogus Estimates come from Kenneth Bailey, Pennsylvania State University. His first study said the consumer impact was 14 cents. A year later in a second study (July 2001) he concludes the consumer impact is 22.4 cents per gallon. Both are wrong.

FACT: Both estimates are severely inflated because Bailey assumes processors and retailers use a mark-up pricing strategy. They do not.

A Simple Proof: Since retail prices in New England are 70% above the raw milk price, Bailey would have us believe that any increase in the farm price automatically leads to a 170 percent increase in the retail price. This is not true. If it were true, retail prices would fluctuate much more that farm prices. They actually fluctuate less.

FACT: Bailey could, with equanimity, have assumed other pricing strategies that predict pass through rates as low as 25 percent.

CONCLUSION: One cannot assume a particular pricing strategy holds, one must examine actual price conduct and test different models to determine what actually explains observed conduct. Bailey did not do this. He loaded the dice with an extremely high pass through rate. Others have empirically measured and found roughly a 50% pass through rate.
FACT: Bailey asserts that farmers who benefit from an increase in the raw milk price are also responsible for the additional 70% increase that his approach allows firms to tack on to cover other non-milk costs and their profits. This is preposterous. Increasing the price of raw milk logically has no impact on the prices of other inputs. Moreover, why should farmers be held accountable for proportional profit increases when raw milk prices increase? Channel firms have no inalienable right to profits or monies for non-milk costs in proportion to farm prices levels.

GAO Study, Senator Feingold’s Response, the Long-Run Vulnerability of the Market Order System and Inadequate Antitrust: A Certain Recipe for Damage to Farmers and Consumers

GAO report finds that dairy farmers receive only 43 percent of retail price of fluid milk (Associated Press).

GAO finds rising farm-retail milk price spread, greater concentration (Cheese Reporter, 6/20/01).

In response, Senator Russ Feingold, D-Wis., plans to introduce legislation aimed at getting farmers a bigger share. In a press release dated 7/30/01 he states,

“I write to bring your attention to a recent General Accounting Office report on the dairy farmers’ share of the retail dollar, and urge you to include provisions in the upcoming farm bill that will help dairy farmers get a larger share of the retail milk dollar,” Feingold wrote. “We must actively support programs to improve viability of dairy operations through improved research, development, on-farm extension and education concerning low-cost production facilities and best management practices.”

FACT: The problem won’t be solved by more efficient on farm production and interregional competition among dairy farmers.

FACT: The problem is an increasing lack of competition in the fluid milk processing and retailing markets in many parts of the U.S. including Chicago, the Pacific Northwest and New England.

CRITICAL ISSUE: What legislation would promote a more competitive dairy marketing channel thereby increasing the farmers share of the retail dollar?

FACT: Dairy Compact Commissions can address the competition issue by monitoring prices and margins, jawboning in private and public forums, and assisting antitrust enforcement agencies.

FACT: In dollars and cents, the impact of private market power far
outweighs the impact of public interest raw milk pricing via a Compact. Promoting competition and reducing private economic power can benefit farmers in other regions by ensuring lower retail prices and more milk consumption.

FACT: Private market power seeks to maximize profits not sales of “low-priced” milk. Consequently in the near future without public interest milk pricing, we may have retail prices much higher than we observe today and significantly less fluid milk sold.

- Milk market orders will become less effective because demand becomes more elastic at higher prices.
- They are totally ineffective when prices are so high that market demand becomes elastic (elasticity below –1).
- This scenario will not benefit farmers in any part of the country because with dominant market power exercised by processors and retailers, farmers will sell less milk at a lower price. The antitrust laws are not strong enough nor is enforcement sufficient to protect farmers and consumers.
A Tale of Two Cities on Interregional Impacts: Chicago and Boston

A Compact sets a price floor for raw fluid milk.

• A price floor stabilizes prices, and as such is an alternative to hedging by farmers in a milk futures market. Dairy farmers, especially small farmers, have difficulty hedging effectively.
• A price floor elevates raw milk prices.
• A Compact is a public alternative to private (co-op) price elevation.

An example: July 1997-July 2000

• The New England Compact and Cooperatives added 16 cents to the raw fluid milk price in New England.
• In Chicago, private cooperative premiums also added 16 cents to the raw fluid milk price.

FACT: Both the Chicago and the New England raw fluid milk price increases provide incentives for farmers to expand production.

FACT: Both the Chicago and the New England increase in raw fluid milk price increase the spread between the prices that farmers receive for fluid and manufacturing milk.

QUERY: So why do mid westerners focus only on the impact of Compacts in the northeast or the south on midwestern farms? What about Chicago? Although opposed to the public setting of over-order premiums elsewhere, Midwest interests voice no opposition to continued private setting of over-order premiums in Chicago.

CONCLUSION: This concern is a repackaging of this traditional concern over how to set the “class 1” raw fluid milk price in federal milk market orders.
On Pooling and Over-Order Premiums and Inter Regional Impacts of Compacts

- Some think that doing away with the entire market order system would benefit farmers who produce only milk for manufacturing because it would drop the fluid milk price and increase drinking of milk. Thus it would reduce the “spill over” of milk into manufacturing, reduce supply to manufacturing and increase manufacturing milk price.
- But Wait! This cannot be true. The current milk pooling policy pays a blended price (a combination of the manufacturing and fluid milk price) back to all farmers. The very reason for establishing the orders was to increase the price received by the farmer that supplies only manufacturing milk.
- The goal of the pool is to share premiums on drinking milk (class 1 milk) equitably with all farmers.
- Without the pool and a milk market order that requires all processors to participate, fluid processors can take advantage of “free riders.”
- Free riders are farmers who would sell them milk below the premium level but above the pool’s blend price. This action breaks the pool and all farmers ultimately are worse off because they receive lower prices for all their milk.
- This is a very real phenomenon. When Northeast farmers, even with the open help of all the state departments of agriculture attempted to bargain for an over-order premium through the Regional Cooperative Market Agency (RCMA) in the late 1980’s, one maverick processor—Mark Goldman and Farmland Dairies— was able to defeat the effort. Goldman went to the Hershey Chocolate Corporation in central Pennsylvania and got them to free up Amish milk supplies that came into the fluid milk market at prices below the premium price, thereby breaking RCMA. The Compact was the regions next move to ensure the ability to bargain—now within the Compact Commission with processors and consumers—for an over-order premium.
- Therefore, within a milk market or compact region, pooling and
premium pricing of fluid milk benefits all farmers.
• The question of equity between regions, each with its own pool, can be addressed as it always has when Congress sets the Class 1 differentials for each region and possibly a similar review of Compact pricing.
The Dairy Compact is not Dairy Socialism, Lactose Leninism, nor is it a Cartel

By

Ronald W. Cotterill

July 26, 2001

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The Dairy Compact is not Dairy Socialism, Lactose Leninism, nor is it a Cartel

We have read with dismay the op-ed pieces and political pundit pieces that openly mislabel the Dairy Compact program as the “dairy cartel” and “lactose Leninism” (Murdock, *Hartford Courant*, 6/10/01 p. C3) and “dairy socialism” (Chait, *New Republic*, June 11, 2001, p. 23). This, pure and simple, is red baiting. Free speech is guaranteed by the Bill of Rights. Can clear thinking Americans remain silent when dairy farmers and others who support the Compact are labeled socialists and communists? The Compact is not socialism, the public ownership and operation of industrial firms. It is not Leninism, which is socialism plus dictatorship rather than democratic socialism such as has existed in Western Europe. The International Dairy Foods Association, the trade association of the dairy processors is the prime source of this campaign of distortion and defamation. Is this the best that they can offer the public? They should be ashamed for abusing free speech in this fashion. Senator McCain was correct when he called organizations such as IDFA, the “K street bullies.”

The cartel moniker is equally perverse. By definition, a cartel is a combination of sellers such as OPEC that seek to control price. The Compact is a public agricultural price program directed by a commission that includes processors, retailers, and consumer representatives as well as farmers. As such, it is not a cartel. Government involvement in agricultural pricing since the 1930’s is not cartelization.

A careful reading of economic history shows that the public agricultural pricing programs of the 20th century were instituted as an alternative to cartelization with its exercise of private economic power to stabilize inherently unstable agricultural markets. In the depths of the great depression Franklin Delano Roosevelt observed that his economists were resisting agricultural policies that would elevate farm income because those policies would give private firms, in that case farmer cooperatives, the power to set market prices. President Roosevelt’s response essentially was the following statement. We will sanction price
elevation but we will have the government do it. The public interest not private economic power will serve as the governor of the agricultural economy (Schlesinger, 1957).

Today we face the same issue of private economic power; however, we face it in triplicate. Private power exists at the farmer cooperative, processor, and retailer level. Based on our economic research we think Franklin Delano Roosevelt’s solution is more timely and appropriate than ever. The public interest should supercede private cartels including tacit collusion of the sort observed in this industry.
### Table 1. Retail vs. Farm Level Milk Prices

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<td>Average Farm Price ($/gal)</td>
<td>Average Retail Price ($/gal)</td>
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<td>Average Retail Price ($/gal)</td>
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<td>1.13</td>
<td>3.20</td>
</tr>
</tbody>
</table>

3/3/96- 8/16/98
8/17/98- 7/16/00

* Compact period calculated from 6/23/97 to 7/16/00, January to July 2000 calculated from 1/3/00 to 7/16/00.

** Farm price reflects local Co-op price

Source: Calculated from University of Connecticut Food Marketing Policy Center IRI Database, California Department of Food and Agriculture, and Agricultural Marketing Service, USDA
Boston Market Level Retail and Farm Fluid Milk Price March 1996-July 2000

Source: Calculated from Food Marketing Policy Center IRI Database, Federal Order #1 Administrator, NE Dairy Compact Commission
Figure 2.

Hartford
Stop & Shop vs All Other Supermarkets
Market Level Milk Price
March 1996 - July 2000

Source: Calculated from Food Marketing Policy Center IRI database.
Figure 3. Retail vs Farm Level Milk Price, Chicago
March 1993 - July 2000

Dollars per Gallon

Source: Calculated from Food Marketing Policy Center IRI Database, and Agricultural Marketing Service, USDA
Figure 4.
Chicago Jewel
Average Milk Price Series
March 1996 - July 2000
Figure 5.

Retail vs Farm Level Milk Price, Seattle
March 1996 - July 2000

Source: Calculated from Food Marketing Policy Center IRI Database, and Agricultural Marketing Service, USDA
Figure 6.

Seattle/Tacoma
Safeway
Retail and Farm Level Milk Price

Price per Gallon

- All Safeway
- Seattle Class 1