

# **An Analysis of the Cotterill Proposal**

**A report prepared for  
Massachusetts Food Association**

August 2003

John Schnittker  
240 Glen Avenue  
Vienna, VA 22180

# An Analysis of the Cotterill Proposal

A report prepared for  
Massachusetts Food Association

---

---

## CONTENTS

<b>EXECUTIVE SUMMARY</b>	<b>1</b>
<b>SECTION 1: THE ISSUE</b>	<b>4</b>
<b>SECTION 2: THE FLAWED COTTERILL ANALYSIS</b>	<b>7</b>
2.1 Retail prices more likely to increase than decrease	7
2.2 Loss of the low-priced milk option	9
2.3 Processing Cost	11
2.4 Price Markup and Margins	14
<b>SECTION 3: THE DAIRY PROBLEM IS A NATIONAL PROBLEM</b>	<b>17</b>
3.1 The number of dairy farms declines every year	17
3.2 National production surplus to blame	19
3.3 Federal government provides direct payments	19
<b>SECTION 4: MILK PRICING IS NOT A PROBLEM</b>	<b>21</b>
4.1 Good data on Northeast consumer prices are lacking	21
4.2 Farm share of retail prices is broadly declining	21
4.3 Grocery retailing is competitive	24
4.4 GAO describes why retail prices do not directly track farm prices	25

This report was prepared with research, analytical, and production support from Promar International in Alexandria, Virginia.

## EXECUTIVE SUMMARY

The specifics of this report address the proposals and analysis of Dr. Ron Cotterill and others at the Food Marketing Policy Center, Department of Agricultural and Resource Economics, at the University of Connecticut. There are significant differences between the proposals put forth in Connecticut and the Massachusetts proposal. The Connecticut proposal limits wholesale and retail markups to 140% and 130% respectively, while the Massachusetts proposal is a one step process that calls for a finding of “unconscionably excessive” pricing and possible legal action by the State if the retail price equals or exceeds 200% of the farm price.

However from a practical standpoint the two proposals are very similar, as they attempt to artificially create a situation in which the processor or retailer cannot cover the cost of acquiring, processing, transporting and merchandising fluid milk. Processors and retailers are then placed in the untenable situation of either not covering their costs and losing money or increasing the price paid for fluid milk in an attempt to widen the allowable farm – retail spread.

The analysis and findings of this report regarding Cotteril’s Connecticut proposal apply directly to the Massachusetts proposal. The overall costs of producing, processing, and merchandising fluid milk would increase, and consumers would be at risk that grocery store milk prices would increase. There is little doubt under either proposal that the low-priced, discount milk now available at many non-grocery store locations would see significant price increases, eliminating the discount milk option now available to low income consumers.

The Massachusetts proposal, **H. 801** is actually even more restrictive than the Connecticut proposal analyzed in the main body of this report. **H.801** identifies retail milk prices that exceed 200% of the farm price as being open to a finding of “unconscionably excessive” by the Massachusetts Commissioner of Agricultural Resources. While the actual definition of “unconscionably excessive” is a question of law that ultimately will be determined by the courts, the legislation if enacted unfairly leaves milk processors and milk retailers open to unwarranted criticism and possibly legal action by the State.

At face value, retail prices that equal or exceed 200% of the farm price sound excessive and unjustified. But this approach to milk pricing is mistaken and simplistic as well as arbitrary and capricious. It omits any recognition of the cost

involved in processing, transporting and merchandising fluid milk in its journey from the farm to the grocery store. It also ignores the fact that processors pay a premium over and above the Class I price for fluid milk and that dairy farmers also receive government payments to compensate them for the presently low fluid milk price.

For example if the farm price for fluid milk is \$1.20/gallon and processors pay an over-order premium of \$ 0.12/gallon the cost to the processor is \$1.32/gallon. Processor costs, which include the cost of the container, processing, and transportation to the retail store are conservatively around \$0.85/gallon, resulting in a delivered wholesale price of \$2.17/gallon. Merchandising costs at retail for a grocery store, which include labor, utilities, capital cost, as well as advertising and other costs are at least \$0.45/gallon, giving a conservative estimate of \$2.62/gallon before overhead and profit are added on. The Massachusetts law as written would make it impossible for a retail grocery to cover store milk cost at current farm price levels, as the maximum price allowable before the threat of a finding of “unconscionably excessive” is only \$2.40/gallon in our example while the grocery store costs are \$2.62/gallon.

Again as with the Connecticut proposal there is an incentive to increase the price paid to the producer so that the farm – retail spread widens to allow processors and retailers to cover their cost. The Massachusetts proposal clearly places even more pressure than the Connecticut proposal on the retailer to increase his pay price so that he is able to cover the wholesale price, store merchandising cost and still allow for overhead and profit.

If this legislation were enacted and grocery stores increased their pay price to processors with the understanding that the increase be passed along to dairy farmers the effect would be to increase the total costs associated with producing, processing and retailing fluid milk. This would be a threat to consumers as it would likely sharply increase the price of fluid milk now marketed at discount prices at convenience stores, non-traditional grocery stores, club stores and hyper-markets. Chain grocery stores would also be in the position to increase retail prices as long as they increased returns to producers, setting up the classic case of spiraling costs and reduced fluid milk consumption.

In light of the true cost of producing, processing and merchandising fluid milk this proposal is misguided and should be viewed as an uneconomic and inefficient method to deal with low milk prices at the farm level. Additionally it also grossly

interferes with the marketing of fluid milk, will harm consumers and will likely have additional unforeseen negative consequences.

## SECTION 1: THE ISSUE

It has been asserted by some that grocery stores in Connecticut, Massachusetts and other New England states are charging too much for milk and that this is unfair to both consumers and producers. A proposed solution in Connecticut is price control legislation that would limit markups at the wholesale level to 40% and at the retail level to 30%. Similar measures are being considered in Massachusetts and other states. The main analytical case as to whether a problem exists and in support of these proposed solutions has been prepared by Professor Ronald Cotterill at the University of Connecticut.

The paper by Dr. Ron Cotterill "A Law to Promote the Fair and Efficient Pricing of Milk in Connecticut" outlines a legislative proposal that should be characterized as neither fair nor efficient. The intent of the legislation while far from being readily transparent is still clear. The legislation is crafted to create an untenable economic situation that forces milk processors and retailers to artificially inflate their prices in an attempt to increase returns to dairy producers.

Cotterill attempts to cast the problem as one in which retail milk prices are too high, but in fact what is driving the Cotterill proposal are low milk prices and returns to dairy producers. This would not be a problem if milk was in a condition of undersupply and the market was failing to send a price signal to produce more milk. But that is not the case; milk supplies in the United States are in excess supply, which is why prices are low, and efforts to create artificially high prices are misguided.

The interstate nature of this effort strongly suggests that this is yet another end-run around the Commerce Clause of the U.S. Constitution. The Commerce Clause clearly vests with Congress the power providing for the regulation of milk prices. This legislation if enacted would interfere with the regional and national markets for fluid milk, effectively attempting to legislate out of existence the laws of supply and demand, and it would violate the principle of a unitary national market. It would do this through a new and novel means that appears to be untested by legal precedent.

This effort is also being misleadingly cast as a boon for consumers. This will hardly be the case as this proposal has significant risk to increase milk prices and reduce consumption of fluid milk. This proposal is designed to artificially increase the price paid for fluid milk above market clearing levels. Added costs will be

created if this proposal becomes law, and they will be passed on to consumers. Moreover, such legislation would eliminate the low-priced/discount fluid milk options now available to low-income consumers.

Undoubtedly this proposal is an attempt to squeeze grocery store margins on fluid milk, and increase producer returns, but realistic cost accounting and the inelastic nature of demand for fluid milk suggest that supermarkets could raise prices in an attempt to recoup some of their lost margin.

**The higher cost structure inherent in this proposal and the inelastic nature of demand for fluid milk are a real threat to consumers. Household budgets could realize lower purchasing power and families could reduce milk consumption.**

This proposal would also send farmers the signal to produce even more milk during a time of surplus. This clearly illustrates the absurdity of this proposal. Farm prices would be artificially higher under this proposal, signaling more production in the face of regional and national oversupply. Conversely household milk consumption could actually decline due to higher retail prices.

On the sidelines would be the American taxpayer picking up the tab for excess production through the purchase of non-fat dry milk. Dairy farmers in other regions of the country could also be adversely affected as national milk prices could decline in response to increased production across the New England region

However the “means to the end” of this proposal merits special scrutiny. The “big” idea that drives this proposal is to effectively cap the wholesale price processors can charge for fluid milk at 140% of the acquisition price. As this will not cover processing cost at current prices processors will be placed in the position of having to increase the price they pay to milk producers to the point where 40% of the pay price effectively covers the processing cost.

The inefficiency of this idea cannot be overstated as it creates an incentive for processors to pay more for less milk and to then pass the cost along. The role of markets, economic efficiency and competition would be diminished. This is a point that really needs to sink in:

**Do you really want to pass a law that does not allow a business to cover its production cost unless it conspires to raise the price it pays its suppliers, so that it**

can then achieve a higher return. I believe I have just defined the term "kickback".

But there is something else that has been omitted from this analysis. The Cotterill proposal fails to disclose that while market prices may now be low, a safety net is in place to protect the incomes of dairy producers during periods of low prices. The U.S. Congress has already acted to protect the income of dairy producers. The Milk Income Loss Contract (MILC) Program financially compensates dairy producers when domestic milk prices fall below a specified level.

The program is authorized by the 2002 farm bill and has no set funding level. For the uninitiated, this provision effectively created a National Dairy Compact to replace the New England Dairy Compact, which had a sunset provision.

We argue in this paper that:

- 1) the Cotterill analysis is seriously flawed,
- 2) consumers actually have ample opportunity to buy inexpensive milk,
- 3) the problems faced by producers are national in scope and really only solvable by national measures,
- 4) the U.S. Congress has provided for the present circumstances of low milk prices with an income assistance program,
- 5) consumers are likely to be hurt rather than helped by the proposed legislation,
- 6) introducing price controls on milk which is already over-regulated would be a costly and unnecessary mistake,
- 7) the controls as designed would send dairy producers the signal to produce more in a time of dairy surplus, and
- 8) the modest level of overall grocery store profitability makes a strong case that grocery store pricing is reasonable and responsible.

**SECTION 2: THE FLAWED COTTERILL ANALYSIS**

**2.1 Retail prices more likely to increase than decrease**

The potentially perverse impacts of this legislation on consumers are revealed in Table 1. We assume that the market price for raw milk is the price paid by the processor to the producer and this price includes the over order premium and the assessment. What is revealed is the proposal’s extreme sensitivity to processing cost. Assuming a raw milk market price of 1.25/gallon, and an unrealistically low processing cost of approximately \$0.50/gallon, the price the processor would be able to charge (140% of the acquisition price) would cover the acquisition cost plus the processing cost, resulting in a wholesale price of \$1.75/gallon. Retail price would then be limited to 130% of the wholesale price or \$2.28/gallon.

**Table 1. Retail Price Sensitivity – To Processing & Delivery Cost**

<b>Market Price</b> (Raw Milk)	<b>Processing Cost</b>	<b>Pay Price</b> (Producer)	<b>Additional Premium</b>	<b>Wholesale Price</b>	<b>Retail Price</b>
<b>1.25</b>	<b>0.50</b>	<b>1.25</b>	<b>0.00</b>	<b>1.75</b>	<b>2.28</b>
1.25	0.55	1.38	0.13	1.93	2.50
1.25	0.60	1.50	0.25	2.10	2.73
1.25	0.65	1.63	0.38	2.28	2.96
1.25	0.70	1.75	0.50	2.45	3.19
1.25	0.75	1.88	0.63	2.63	3.41
<b>1.25</b>	<b>0.80</b>	<b>2.00</b>	<b>0.75</b>	<b>2.80</b>	<b>3.64</b>
1.25	0.85	2.13	0.88	2.98	3.87
1.25	0.90	2.25	1.00	3.15	4.10
1.25	0.95	2.38	1.13	3.33	4.32

But lets take this into the real world where processing costs are realistically much more than \$0.50/gallon. That figure might come close to covering strictly the processing cost, but will not come close to covering the total cost of processing which include the cost of the container and the cost of delivery. A ballpark figure for an efficient processing plant that delivers its fluid milk products would be \$0.80 - \$0.90/gallon.

At the \$1.25/gallon price for whole milk, the processor cannot cover his cost of \$0.80/gallon, leaving two options; the processor could absorb a loss of

\$0.30/gallon as the most he can raise the price of milk would be restricted by the law to 40% of the acquisition cost of \$1.25/gallon or \$0.50/gallon. The other option would be to increase the price paid from \$1.25/gallon to \$2.00/gallon. This would enable the processor to cover his cost of \$0.80/gallon. The effect on the retail price is dramatic as the wholesale price is now \$2.80/gallon and the retail price is now limited to \$3.64/gallon.

It is clear that the intent of the proposal is to raise the price paid to the producer. However, the method employed is badly misguided. By limiting the price the processor can charge to 140% of the raw milk acquisition price a situation is created that leverages the price increase, potentially inflating prices for milk to levels substantially higher than consumers are now paying. Referring again to Table 1, for the processor to make up the 30 cents a gallon shortfall in processing cost he must increase his price paid to the producer by 250% of the amount of the shortfall, or 75cents/gallon. Clearly the architects of this proposal believe that most of this 75cents a gallon increase in cost can be squeezed out of the retailer's mark up without milk prices increasing. This assumption may be unrealistic.

Consumers stand to be the big losers under this proposed legislation as real world cost and constraints will likely result in higher retail milk prices. Processors in this example pay a \$0.75/gallon premium to dairy producers. This increases the wholesale price from \$2.05/gallon to \$2.80/gallon. The retail price allowance of 130% of the wholesale price computes out to an allowable retail price of \$3.64/gallon, well above the current retail price of approximately \$3.00/gallon for a gallon of store brand milk. It is unlikely that grocery stores would charge this price for store brand milk or possibly even higher prices for branded milk as consumer resistance to sharply higher prices might be expected.

However if grocery store margins are tightly squeezed, these stores are in the position to recoup some of their lost revenues due to the inelastic nature of demand for fluid milk. Milk is an important component of our diet and families tend to consume it irrespective of price, at least to a point. The inelastic nature of demand for fluid milk is a reference to the relationship between the price of milk and the quantity purchased. When a good is inelastic a price increase leads to a less than proportional decrease in demand. From the standpoint of a retailer this means that prices could be increased by 10%, demand would fall by less than 10%, and total revenues would increase. Given that this legislation has the potential to squeeze retail margins, pricing strategies that attempt to recapture some of the margin that may be lost under this proposal should be expected.

Retailers may be reluctant to increase prices, but realistically, an industry that operates in an ultra competitive environment and razor thin profit margins could find that its hand has been forced.

**It is apparent from the scenarios discussed that this proposed legislation has the potential to increase retail milk prices as realistic scenarios exist where increased processor costs are passed along at retail to consumers.**

## 2.2 Loss of the low-priced milk option

But that may not be the worst impact of this proposal. Low-income families and price conscious consumers now have a low priced milk option. Consumer milk purchases are not restricted to grocery stores. One clear shortcoming of Cotterill's analysis is its sole focus on supermarkets. Only about half the milk that is marketed in New England is purchased by consumers in supermarket chains of 11 stores or more according to a study published by USDA's Agricultural Marketing Service in December 2002. That study reported on distribution methods by handlers regulated under Federal milk marketing orders based on data from the month of November 2001.

As illustrated in the chart below, supermarkets in the Northeast market order accounted for only 50.3% of sales, slightly below the national average of 53.5% moving through that channel. Dairy and convenience stores play a large role in the Northeast with 17.4% of total sales, higher than for any other region. The average for all Federal orders is only 10.0% for these stores.

Another 6% moves through superstores, warehouse and club stores.

The "other" category includes nonchain food stores (10 or fewer outlets), nonfood stores (drug stores, gasoline stations, etc.), restaurants, hotels, hospitals, nursing homes, vending machines, home delivery, and any other outlet. (Home delivery represents just 0.4%).

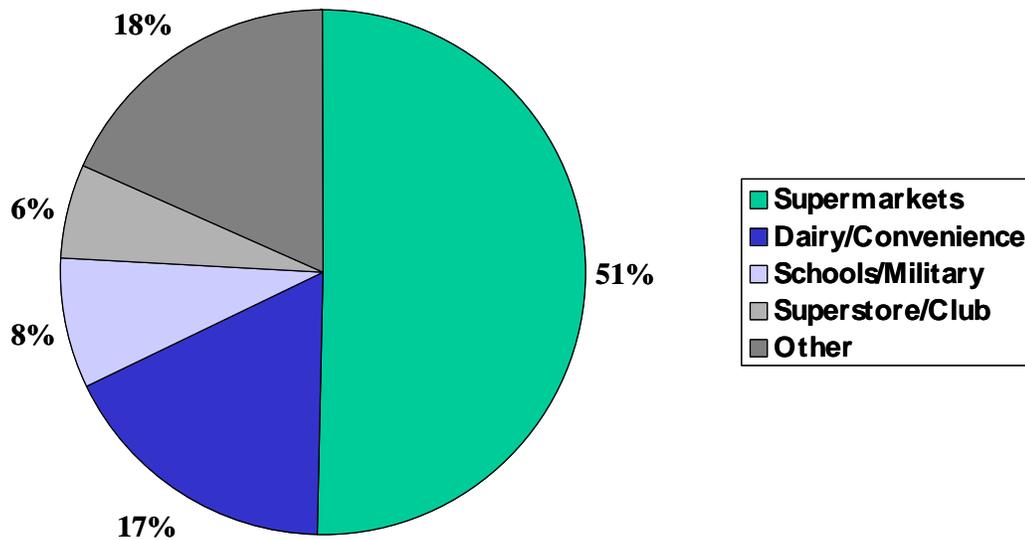
Without a statistical breakdown of this "other" category, it is difficult to be precise about how much milk consumers purchase for home use at locations other than supermarkets but it is probably about 30% (17.4 plus 6.0 plus about a third of the "other" category).

Observation of print advertising and outlet signage in Connecticut indicates that milk is almost always being featured somewhere. Representative sale prices in April and May 2003 were \$1.99 per gallon at convenience stores and \$2.50 per gallon at supermarkets. Often, however, only one type of milk would be on sale, e.g. 2 percent or skim, but not the whole range of butterfat contents.

Consumers also have a range of choices within supermarkets. Store brands are almost always cheaper than dairy company brands and are often featured as sale items.

Figure 1

### Milk Sales in the Northeast by Type of Outlet



Source: Agricultural Marketing Service, USDA

The common denominator for many of these retail outlets is that they sell milk at steeply discounted prices to grocery stores. There is a perfectly transparent explanation for this as these stores operate under completely different business models than do chain grocery stores. Our non-scientific survey of non-food chain milk prices across the state of Connecticut revealed that whole milk is available across the state at gas stations, convenience stores, club stores, discount stores

and hypermarkets at prices that ranged from \$1.99/gallon to \$2.49/gallon. (While there are only a limited number of WALMART Superstores, which include full-line groceries in Connecticut, our telephone survey indicates that all WALMART stores sell fluid milk.)

We estimate that 10%-15% of total fluid milk sales in Connecticut are at steeply discounted prices relative to chain grocery stores. These sales appear to be increasing based on national trends and effectively intensify the competitive environment in which the chain grocery stores operate.

Our concern is that this proposal will increase the wholesale price of fluid milk across the board. Retail outlets that currently sell milk at steep discounts to grocery store prices would be placed in the position of paying the higher inflated wholesale price, driving up their retail price at least as much as their added cost and possibly more, dependent upon pricing strategies.

One possible scenario is that hypermarkets and club stores such as WALMART and Costco, which currently sell whole milk for under \$2.25/gallon would increase their prices to over \$3.00/gallon to cover the higher wholesale cost inherent under this proposal.

**This legislation would effectively take away from consumers the low priced milk alternative now available.**

### **2.3 Processing Cost**

Processing costs are closely held and highly proprietary as they reflect the competitiveness of the processing operation. Processing cost include the acquisition price of the raw milk, including any over-order and over-price premium and assessments, the cost of the container, the actual cost of processing, a reasonable rate of return or profit to ensure the long-run viability of the processing operation and delivery cost.

Discussions with processing industry representatives cause us to conclude that the processing cost and pay prices presented in the Cotterill proposal are not accurate. The scenarios presented in Cotterill's paper are highly suspect and should be questioned. Processing costs are highly variable, as they reflect the size and efficiency of the operation, its capital cost and depreciation schedule, labor and marketing costs as well as delivery cost.

We note that the data presented in Cotterill's cost review models is not accurately reflected in the scenarios, and reference the Dairy Tech , Garelick Farms – Warehouse Drop & Warehouse to Retail Cost,he cites from Franklin Massachusetts. These costs on a per gallon basis are represented in the cost review model to be 76.1 cents gallon yet in Table 2 of the Cotterill proposal a processor margin of only 57cents/gallon is used to compute the farm price, wholesale price, and retail price under the proposed 140%/130% wholesale/retail markup restriction.

This is a significant discrepancy, as any change in actual cost that must be covered by the processor is effectively multiplied by a factor of 2.5 by the 140% wholesale mark up allowance. In this instance a 19 cents/gallon difference in cost translates into a 47.5 cents/gallon increase in the wholesale price of milk and provides a higher base price to apply the 130% retail markup allowance. This is not a trivial amount as reflected in the following table.

When processing and delivery costs of 57 cents/gallon are assumed using a \$1.25/gallon raw milk price for whole milk the respective wholesale and retail prices generated under the Cotterill proposal are \$2.00 and \$2.59/gallon. Even under this scenario wholesale milk prices are now higher than the price of whole milk now available at some discount locations.

**Table 2. Price Comparison to Reflect Sensitivity to Processing Cost (Whole milk)**

Price	Processing & Deliv. Cost	Farm Price w/premium (Dollars/Gallon)	Additional Premium	Wholesale Price	Retail Price
1.25	0.57	1.43	0.18	2.00	2.59
1.25	0.76	1.90	0.65	2.66	3.45

When the processing and delivery cost estimate of 76 cents/gallon from Cotterill's Cost Review model are utilized and one starts with a \$1.25/gallon raw milk price for whole milk, the respective wholesale and retail prices generated under the Cotterill proposal are \$2.66 and \$3.45/gallon. The wholesale price increase has now completely eliminated the potential for low-priced, discounted milk as the \$2.66/gallon wholesale price is well above the price now charged at many discount locations. The allowable retail price of \$3.45/gallon is well above the price charged by many grocery stores for store brand milk.

**Consumers are clearly the big losers as the discount milk alternative is eliminated and the price consumers pay for grocery store milk has the potential to increase.**

The importance of using accurate processing and delivery cost cannot be overstated. For this reason we contacted the Commonwealth of Pennsylvania – Milk Marketing Board. The Pennsylvania Milk Marketing Board is charged with the responsibility to provide a regulatory environment that facilitates a safe, adequate supply of wholesome milk by providing security for its dairy farmers and milk dealers, while protecting the public health and welfare of consumers. To facilitate this the Board sets minimum wholesale and retail prices that processors and retailers can charge for milk. This action is taken to ensure that both producers and processors completely cover their cost. Data is collected for six regions cross Pennsylvania and the data is disseminated monthly. The most recent data that we were able to obtain is shown in Table 3.

The Pennsylvania Milk Marketing Board minimum prices reflect their best effort to accurately capture true cost. The above cost estimates do not reflect volume discounts, which can be as high as 15% in some areas, or even higher if wholesale customers pick up the milk themselves. It is likely that most of the discount volume is based upon delivery cost saving to large customers with multiple stores. But what is worth noting is the large discrepancy between the Cotterill analysis and the analytical work done in Pennsylvania to ensure that milk is not sold at below its true cost, effectively creating a situation in which the farm price could be driven artificially low.

Another discrepancy that calls into question the Cotterill data and analysis is reflected in Table 1 of the Cotterill proposal, Direct Store Deliver Wholesale Prices are footnoted that they reflect raw milk cost, processing cost and delivery cost. However we note that the Stop & Shop pay price for whole milk is represented as \$1.706/gallon, which suggest that processing and delivery costs are

approximately 52 cents a gallon. Data contained elsewhere in the Cotterill analysis contradicts this figure and puts the true cost around 25 cents/gallon higher.

**Table 3. The Pennsylvania Milk Marketing Board Cost Data – August -2003**

Area	Raw Milk	Container	Processing	Total Cost w/profit	Delivery Cost	Min Whsle
1	1.30	0.14	0.91	2.35	0.29	2.64
2	1.27	0.14	0.58	1.98	0.45	2.43
3	1.27	0.13	0.69	2.10	0.35	2.45
4	1.28	0.14	0.72	2.14	0.39	2.53
5	1.21	0.14	0.82	2.17	0.29	2.46
6	1.24	0.16	0.71	2.10	0.40	2.50
<b>Avg.</b>	1.26	0.14	0.74	2.14	0.36	2.50
<b>Avg . Min Wholesale Price w/15% Volume discount applied</b>						2.13

This may be a rather subtle point but in the Cotterill analysis the cost data compiled by Dairy Technomics and presented is represented as “measured” data. This term may be inaccurate, as the Dairy Technomics data is most likely to be an “estimated” set of cost data, based upon the best guesses of the staff at Dairy Technomics. The proprietary nature of a firm’s internal cost accounting and the potential use of this type of cost information in bargaining situations leads me to believe that in most cases processors will not release cost data to be measured.

## 2.4 Price Markup and Margins

Our questioning of the cost data and the application of that data in the Cotterill analysis causes us to question the claims made regarding the degree to which grocery stores mark up milk prices from wholesale levels. For example, referring to Cotterill’s Table C-1 we question the \$1.706/gallon wholesale price for Stop&Shop private label milk and believe this is in error or possibly omits delivery cost. It is likely that the cost is closer to \$1.95/gallon. Cotterill claims a retail mark up of 175.2%, however this shrinks to 153% if the wholesale price is more realistically represented at \$1.95/gallon.

But even this does not accurately represent the mark up process at retail. (Table 4.) Cotterill implies that the retailer has added 176% to the wholesale price paid to arrive at the retail price. This is because the 176% includes the wholesale price as well as the mark up percentage. In reality using Cotterill's cost estimate the retailer is adding 76% of the wholesale price to arrive at the retail price. Using our cost estimate the retailer in this instance has added 53% of the wholesale price to arrive at the retail price. Cotterill's use of gross margins is also misguided. Economists have more sophisticated and meaningful methods such as "direct producer profits" that overcome the problems associated with using gross margins.

The retailer does this to cover his cost of merchandising the milk. These cost include but are not limited to labor, equipment, building capital cost, and utilities as well as items such as advertising. Again, due to the difficulty of obtaining proprietary cost information we reference data published by the Pennsylvania Milk Marketing Board that retail in-store handling cost on average are 42 cents/gallon. The Pennsylvania estimates do not appear to be inclusive of all retail merchandising cost and a reasonable profit. However the in-store handling cost estimate of 42 cents/gallon is particularly illustrative in demonstrating how reasonable levels of retail markup can be misrepresented. When the Pennsylvania in-store handling cost estimate of 42 cents/gallon is added to the wholesale price of \$1.95/gallon, a truer picture of total retail cost is revealed. In this instance the retailer's cost is now \$2.37/gallon and the retail price is \$2.99/gallon. The difference of 62 cents/gallon represents a markup of approximately 26% above the retailer's cost, a far cry from 176% markup that Cotterill's analysis implies.

**Table 4. Retail Margins and Markup**

Wholesale Price	% of Wholesale Price	Retail Markup	Handling Cost*	Retail In-Store Cost	Retail Price	Actual Markup	Markup %
			(\$/Gallon)				
1.70	76%	1.29	0.42	2.12	2.99	0.87	41%
1.95	53%	1.03	0.42	2.37	2.99	0.62	26%

\*Handling cost based on Pennsylvania Milk Marketing Board Estimates.

It goes without saying that the markup on branded milk products is substantially more than on store branded items. Processors and manufacturers invest large sums to differentiate their products and must be compensated for this effort. Consumer loyalty may not appear rational, but consumer choice should not be seriously questioned in a case where the consumer clearly has lower priced options for essentially the same wholesome milk product.

Retail merchandising cost and markup are badly misrepresented in the Cotterill analysis in a way that distorts unfairly the true retail markup. It is likely that retail merchandising costs are higher than the 42 cents/gallon used in this example. Obviously the methodology employed will to a large part determine how a store allocates its cost. But from the perspective of this analysis retail markup is reasonable.

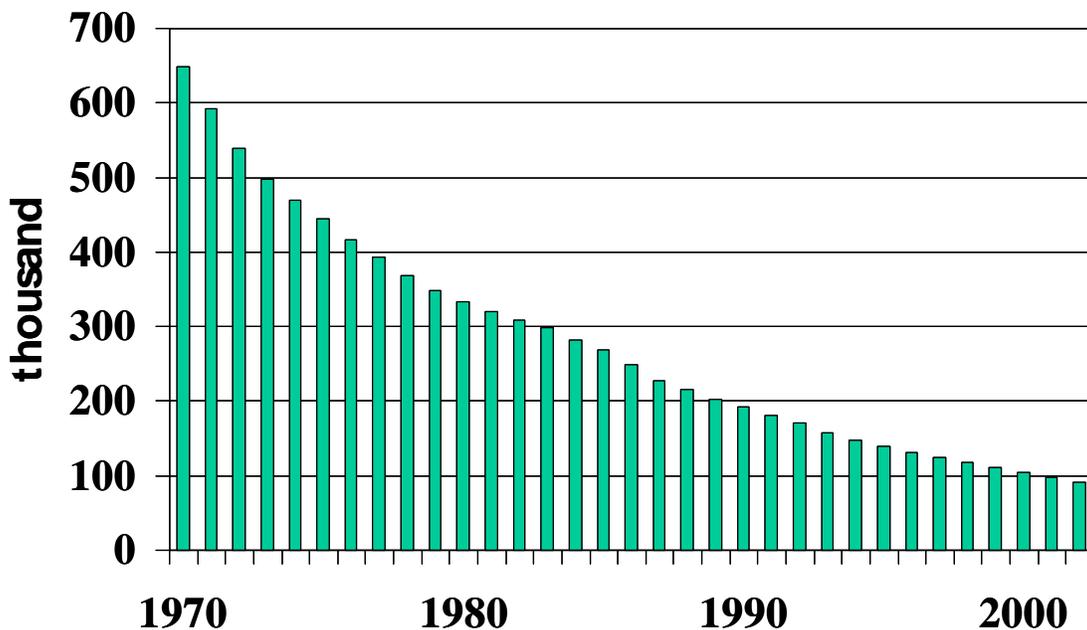
**SECTION 3: THE DAIRY PROBLEM IS A NATIONAL PROBLEM**

**3.1 The number of dairy farms declines every year**

It is simply a fact of life that there are going to be fewer dairy farms every year. The business has been changing and there have proved to be significant economies of scale. Since 1970 the number of dairy operations nationally has declined every year. There were 647,860 in 1970 and we were down to 105,250 in 2000. During the 1990s, an average of 6% of US dairy operations closed each year, as the average number of cows per operation and the output per cow have risen. In the course of this enduring national process, the share of milk produced in the Northeast (defined to include New York, Pennsylvania and Maryland) has declined from 20% in 1970 to 17% in 2002.

While one does not like to see any enterprise go out of business, no amount of milk price regulation is going to alter that trend. The number of dairy farms in Connecticut and other New England states will continue to decline. USDA estimates that in 2002, the number of dairy operations declined 6% nationally, in the six New England states, and in Connecticut.

Figure 2  
**Number of US Dairy Operations**



Source: Economic Research Service, USDA



### **3.2 National production surplus to blame**

The collapse of milk prices during 2002 was the result of surging production and sagging demand. Dairy producers had generally seen high returns during the 1996 – 2001 period, which created a situation that led to expansion and increased production. However, the situation of robust demand present during this same period evaporated and demand for dairy products weakened substantially during 2002. Commercial use just barely grew during 2002, even given sharply lower prices. Farm prices fell dramatically from an average of \$15 per hundredweight in 2001 to just over \$12 per hundredweight during 2002, ending the year on a particularly weak note. Milk prices during late 2002 and early 2003 are at levels not seen since the 1970's.

However there are signs that the situation is slowly beginning to correct itself. The latest Supply and Demand Estimates from the U. S, Department of Agriculture show lower production levels and forecast somewhat higher prices. Growth in demand for dairy products should resume during 2003, as the recent sag in demand may have run its course. However, only modest growth should be expected, and burdensome stocks will continue to weigh on the market.

Barring a serious weather-related drop in production, supplies of dairy products over the next year should be closer to achieving a balance with demand. But until stocks of surplus dairy products are substantially reduced or demand experiences an unexpected surge, a strong recovery of prices should not be expected.

### **3.3 Federal government provides direct payments**

The MILC payments are made on a monthly basis when the Boston Class I milk price falls below \$16.94 per hundredweight. The actual payment per hundredweight is determined by multiplying 45% of the difference between \$16.94 and the Boston Class I price. Payments are then issued on up to a maximum of 2.4 million pounds of milk produced and marketed by a dairy operation in a fiscal year. A rough approximation would suggest that small and mid-sized dairy operations (up to around 125 cows) would qualify for the maximum allowable payments. While the calculation is slightly different from the math involved for the dairy compact it is worth noting that the 45% multiplication factor approximates the Class I utilization in New England.



## **SECTION 4: MILK PRICING IS NOT A PROBLEM**

### **4.1 Good data on Northeast consumer prices are lacking**

The Bureau of Labor Statistics prepares the Consumer Price Index each month and also publishes the underlying national average price data for certain items, including milk. In 2002 the national average retail price for a gallon of whole milk was \$2.76. The price for low fat milk was only reported for half the months and was generally lower than that for whole milk by about 20 cents per gallon.

Under the various federal milk marketing orders, the national average price for the Class I milk that goes into the fluid market was \$13.69 per hundredweight or approximately \$1.18 per gallon. (There are 11.62 gallons of whole milk in a hundredweight.) In addition, in many regions the farmers also receive an “over-order premium” that may be as much as a dollar or two per hundredweight., in addition to the Class 1 price. Thus the farm price for Class 1 was 43% of the retail price.

In the Northeast region, the average Class 1 price in 2002 was \$14.25 per hundredweight or \$1.23 per gallon. MILC payments averaged \$1.21 per hundredweight, adding another 10 cents per gallon, and over-order premiums further increased producer returns.

There is no statistically valid survey of wholesale or retail milk prices in Connecticut that one can use to calculate margins along the chain. No price data at the state or regional level is available from the Bureau of Labor Statistics’ Consumer Price Index. The Connecticut Department of Agriculture’s milk inspectors collect some price information from around the state once a month. However the numbers and types of stores visited are somewhat arbitrary and there is no weighting of the results to reflect volume of sales.

### **4.2 Farm share of retail prices is broadly declining**

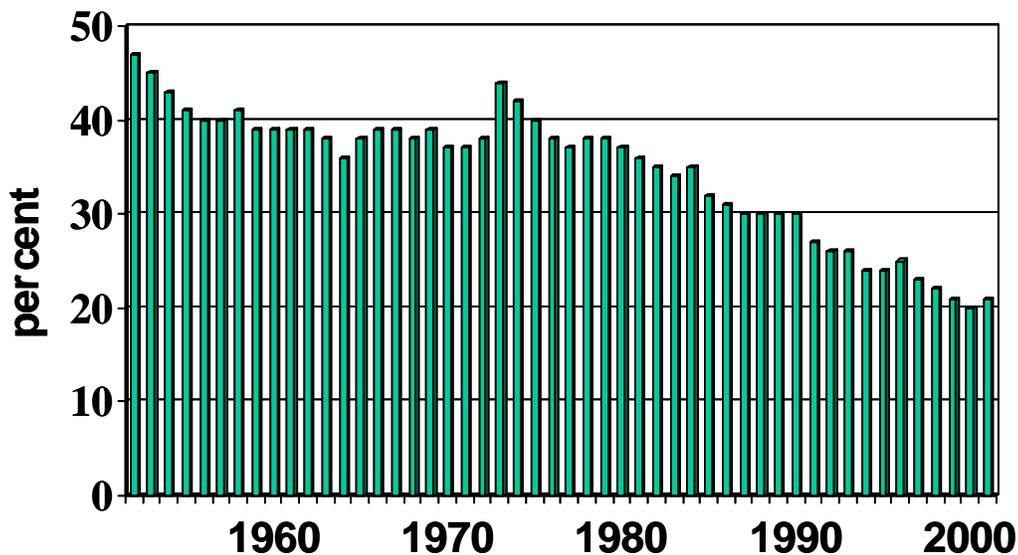
Milk is not a unique example of a grocery store item for which the farmer’s share of what the consumer pays has declined. In fact that has been the general rule.

Over the last 25 years, the share of the retail food dollar that goes to farmers has steadily declined, from 38% in the late 1970s to just 21% in 2001. This is illustrated in the chart below which shows the farm share of a representative market basket of

farm foods. There have been two main reasons for the decline in farmers' share of the food dollar. First, there has been tremendous continuing growth in the productivity of US agriculture. Crop production per acre has risen, and the efficiency of producing animal products like milk, meat and eggs has also risen. This has caused prices of most farm commodities to decline in real terms. Second, consumers have demanded more and more marketing services in the form of greater processing, improved packaging, and more sophisticated wholesaling and retailing of food products. Marketing services have a large labor component, and while there have certainly been productivity gains in wholesaling and retailing, steady or increasing real wage rates in the US economy have meant that the marketing bill continues to grow as a proportion of the retail food dollar.

Figure 3

### Farm Share of Retail Food Prices



Source: Economic Research Service, USDA

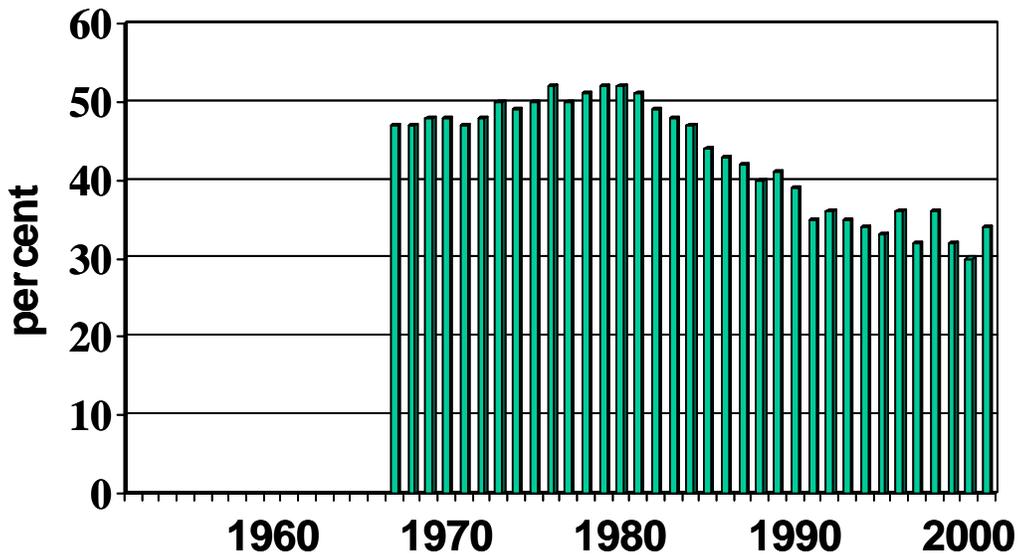
USDA also makes similar calculations for certain distinct segments of the market basket like meats, dairy products or bakery and cereal products. Data are available from 1967 through 2001 for dairy products and are displayed in Figure 4. As a result of generous Federal price support policies for milk in the 1970s, the farm

share of the retail dollar for dairy products actually rose above 50 percent by the end of the decade. Since then however it has declined steadily and is now in the 30-35 percent range.

The 79% of the food dollar that accrues beyond the farm gate is referred to as the marketing bill. The USDA chart reproduced as Figure 5 shows the estimated breakdown of that 79 cents of the food dollar. Labor is clearly the biggest item at 38.3 cents. Profits of manufacturers, wholesalers, and retailers add up to about 4.7 cents out of each dollar consumers spend on food.

Figure 4

## Farm Share of Retail Dairy Prices



Source: Economic Research Service, USDA

Figure 5

### Components of the marketing bill, 2000



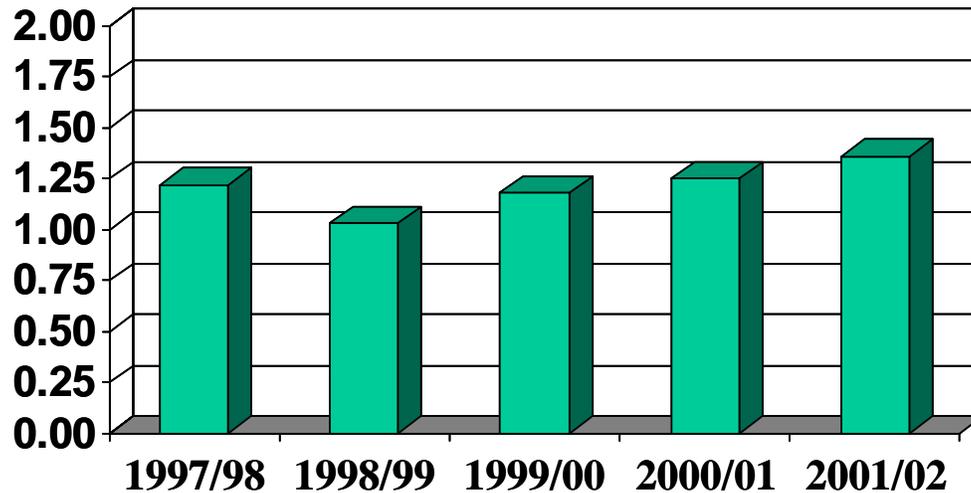
### 4.3 Grocery retailing is competitive

It is a well-documented fact that grocery retailing is a comparatively low-margin business. Success depends on moving a large volume of products through one's stores and, on average, making that targeted margin. On many products a grocery store may lose money on a fully-costed basis due to competitive conditions in the industry. On other items they may earn superior margins due to the nature of consumer demand or other factors. But if one can achieve a sufficient number of inventory turns, i.e. 15-20, a store can usually achieve industry norms for profitability.

The Food Marketing Institute each year publishes an Annual Financial Review that presents various financial measures of the state of grocery retailing based on a survey of its members. The most recent review covers the period 2001/02. During that year and the four preceding it, supermarkets' net profit margin averaged 1.21 percent. The figures for the individual years are shown in Figure 6 below. Return on equity over the five-year period ranged from 10.71% in 1999/00 to 16.03% in 1997/98 and averaged 13.45%.

Figure 6

## Supermarkets' Net Profit Margin (percent)



Source: FMI Annual Financial Review

#### 4.4 GAO describes why retail prices do not directly track farm prices

The United States General Accounting Office has periodically been asked by the Congress to look at milk pricing in the United States. Their last full report was published in June 2001 and came to conclusions similar to those in prior GAO reports in 1998.<sup>1</sup> In a statement released in May 2001, Robert Robinson, Director for Natural Resources and Environment, provided a good description of the relationships among milk prices at different levels, and why retail prices do not always track farm prices:<sup>2</sup>

“In 1998, we reported that for the period January 1996 through February 1998, changes in prices at any given stage in the milk marketing chain were most often reflected in changes in prices at the next stage. For example, in

<sup>1</sup> “Dairy Industry: Information on Milk Prices and Changing Market Structure” GAO-01-561, June 2001

<sup>2</sup> “Fluid Milk: Farm and Retail Prices and the Factors that Influence Them” GAO-01-730T, May 2001

most of the markets we analyzed, there was a strong correlation between changes in farm prices and changes in cooperative prices—the next stage in the milk distribution process. Similarly, changes in wholesale prices generally correlated with changes in retail prices. In contrast, changes in prices received by farmers less frequently correlated with changes in retail prices. This is because as milk moves from the dairy farm to the consumer it passes through various processing, packaging, and distribution stages, and many factors other than the farm-level price begin to influence fluid milk prices at each subsequent stage. In particular, we found that supply and demand forces influence milk prices at all stages of the milk marketing process; however, the following factors influence milk prices at each particular stage:

- Federal and state dairy programs have a major influence on farm-level prices for raw milk used in fluid products. These programs provide farmers with the assurance that milk prices will not fall below the government-set minimums and therefore may play a significant role in the production decisions of dairy farmers.
- The price that cooperatives charge wholesale milk processors for fluid milk is influenced not only by the minimum price established by federal and state milk marketing order programs but also by the services that the cooperatives provide to the wholesale milk processors. Cooperatives generally sell raw milk that will be used for fluid purposes to wholesale milk processors at prices above the federal or state minimums. This higher price, in part, compensates cooperatives for the services they provide to wholesalers. These services include (1) transporting milk from different milk-producing areas, (2) scheduling milk deliveries to coincide with demand, and (3) standardizing the component content of milk deliveries. In addition, cooperatives may be able to sell milk to wholesale milk processors for a price higher than the government-set minimum price because they have greater market power compared with the wholesalers. One of the primary reasons dairy farmers become members of cooperatives is to benefit from the cooperative's greater bargaining power.
- Processing, packaging, and distributing costs have a significant influence on the wholesale price of fluid milk, in addition to the wholesaler's need to earn a normal return on investment. Processing services provided by

wholesale milk processors include pasteurization, homogenization, and the standardization of butterfat and nonfat solids in flavored milks, buttermilk, whole, 2-percent, 1-percent, and skim milk. Wholesalers also incur costs for packaging these products into a variety of types and sizes of containers and arranging for their distribution to retail outlets for sale to consumers. Costs of distribution may be significantly higher in rural markets compared with urban markets because smaller quantities of milk have to be transported over longer distances. Some wholesalers also provide different levels of in-store service in addition to shipping the products to retailers—such as unloading the milk at the store dock, restocking the dairy case, and removing outdated and/or leaking containers. Differences in any or all of these factors will be reflected in differences in wholesale-level prices.

- Retail prices for fluid milk are influenced not only by certain factors that generally apply to all retailers but also by specific considerations at individual retail outlets. The retail-level factors that generally influence price include the wholesale cost of the product; retailers' operating costs, such as labor, rent, and utilities; and their need to earn a normal return on investment. In addition, the size, age, tastes, and income levels of the population in the marketing area and the prices of substitutes will influence how retailers set prices for milk. For individual retail outlets, other considerations may influence the manner in which retail prices for milk are set. To meet their stores' goals, such as profit maximization and increased market share, individual retailers may use a number of strategies for pricing fluid milk. In developing these pricing strategies, retailers consider a variety of factors beyond their operating costs, such as the prices charged by their competitors, the role that milk prices play in attracting customers to their stores, the convenience offered by their store compared with other stores, and their desire to build an image of quality or low prices for their stores. Those retail pricing strategies that are primarily based on a retailer's operating costs are generally referred to as vertical pricing strategies, whereas those strategies that are based on responding to prices charged by competitors are referred to as horizontal pricing strategies. Retailers generally use a combination of horizontal and vertical pricing strategies when setting prices for fluid milk.

In conclusion, Mr. Chairman, our work shows that while the farm price of milk has some influence on the retail price, other factors may ultimately

have a greater influence on the retail price. Given that farm prices account only for about 40 percent of the retail price, there is adequate opportunity for other factors, such as wholesale processing costs and retail pricing strategies, to significantly influence the other 60 percent of the retail price.”