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Analysis of the May 2004 Milk Price Survey with a Comparison to June 2003

by

Matthew Schwane,
Adam N. Rabinowitz, and Ronald W. Cotterill

Food Marketing Policy Center
University of Connecticut

Tel (860) 486-1927
Fax (860) 486-2461

email: *fmpc@uconn.edu*
http://www.fmpc.uconn.edu

Food Marketing Policy Center, Department of Agricultural and Resource Economics,
University of Connecticut, 1376 Storrs Road, Unit 4021, Storrs, CT 06269-4021

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* The senior author is an undergraduate student at Lehigh University and was an employee at the Food Marketing Policy Center, University of Connecticut during the summer 2004. All correspondence should be directed to Ronald W. Cotterill, Professor of Agricultural and Resource Economics and Director of the Food Marketing Policy Center (Ronald.Cotterill@uconn.edu). Adam N. Rabinowitz is a Food Marketing Policy Center Research Assistant and Ph.D. student in the Department of Economics at the University of Connecticut. The senior author collected most of these data, however, he acknowledges the assistance of Kenneth Herrington, dairy farmer, for collecting prices in the Albany area, Donald Rabinowitz for collecting prices on Long Island, and Li Tian, graduate research assistant, FMPC, for collecting prices in parts of Connecticut.

Analysis of the May 2004 Milk Price Survey with a Comparison to June 2003

I. Introduction

Since November of 2002, the Food Marketing Policy Center has periodically conducted price surveys of milk in New York and Southern New England (Cotterill, et. al. 2002; Rabinowitz, et. al. 2003;Cotterill 2003). Results of these surveys, when coupled with data on the underlying cost of the raw milk, have shown that milk channel firms are continually charging unconscionably excessive prices for milk. While it was originally believed that both processors and retailers were exercising market power, information obtained on processing costs indicates that retailers are charging the bulk of the markup. Additionally, surveys conducted in 2003 found that average milk prices in New England were as much as 70 cents higher than prices of similar milk in New York. This is likely due to a New York State milk price gouging law, which states that retailers must offer at least one brand of each type of milk at a price no greater than 200% of the farm price of 3.5% butterfat milk (New York State Department of Agriculture and Markets, 2004). No such law exists in New England.

II. A New Price Survey: May 2004

This paper reports on the Policy Center's May 2004 survey. This new survey concentrates on the same stores in New York and New England as previous surveys. In May 2004 the Class I raw milk price nearly doubled from it May 2003 level, climbing from $13.19 to $23.10 per hundredweight. Thus we expect to see an increase in retail milk prices. One of our goals is to determine exactly how much of the raw milk price increase was passed on to consumers.

The dramatic increase in raw milk price also meant that retailers in New York no longer had low price thresholds imposed by the New York milk price gouging law (Huff, 2003). As raw milk prices increase, the New York State law is less restrictive on dollar margins. In May 2004, New York retailers had leeway to increase the selling price of their milk by more than the raw milk price increase in order to achieve greater dollar margins.

Survey results are compiled from a sample of 188 stores in New York, Connecticut, Rhode Island, and Massachusetts. This large group consists of 122 chain stores, 36 convenience stores, 19 club stores, and 11 limited assortment stores. 138 of the stores surveyed are located in New England, while 50 are located in New York. This sample is identical to the samples in the November 2002, June 2003, and October 2003 surveys, except for the few stores that have relocated or gone out of business. Consequently, data collected during the four periods provides an accurate representation of how the milk prices have fluctuated over time in the given areas. A more comprehensive breakdown of the stores surveyed in May 2004 is available in Appendix Tables 1 and 2.

Figure 1 depicts the raw and retail milk prices recorded in Southern New England in our June 2003 survey (Rabinowitz, et. al. 2003) and the May 2004 survey, as well as the processor and retail price margins.[1] We use two factors to calculate the price of raw milk in Figure 1: the Class I skim milk price and the Class I butterfat price. Butterfat is added to the skim milk in order to produce 1%, 2%, and whole (3.25%) milk, but the added fat increases the price of those types of milk. As the cost of butterfat rises, the cost discrepancy between the different types of milk across increases. This is exactly what happened between June of 2003 and May of 2004. Although the price of Class I skim milk went up over this time, the class of butterfat rose as well, creating a greater gap in cost between the types of milk.

Information from Dairy Technomics indicates that processor margins between June 2003 and May 2004 remained effectively constant.[2] May 2004 processing costs remain well under one dollar per gallon of milk. Guida's processing costs are about 71 cents, while processor costs for Hood and Garelick are 68 and 63 cents, respectively.[3] Stop & Shop has a 20 year contract with Garelick where it pays less than

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[1] Unless otherwise stated, retail prices are determined through a weighted average technique in which the average lowest price of a particular type of milk (skim, 1%, 2%, 3.25%) in a chain or channel is combined with the overall average for that particular milk type. This weighted average price thus includes branded milk as well as private label and gives most weight to the lowest price milk, usually private label. In the absence of actual brand level weights, this weighted average is a good approximation of the price that consumers pay for branded and unbranded milk.

[2] For more information on Dairy Technomics, see the "Milk Plant Benchmarking" presentation from the 2003 Northeast Dairy Policy and Prices Summit Meeting (http://www.fmpc.uconn.edu/milk).

[3] Processing costs include packaging, plant, G&A, delivery, sales & marketing, contribution to overhead, market administrator fee, processor assessment, and 1% plant loss.

other supermarket chains, only 55 cents per gallon, for fluid milk in May 2004. Processing costs in Figures 1 are aggregated from supermarket firm and brand level data.

In June of 2003, the channel markup which includes processor and retailer margins, on a gallon of whole milk in New England was $1.88. Processor costs including processing, packaging, and transportation of the milk, total 62 cents, and retail margins total $1.26.

Figure 2 shows these same data for retailers in New York. The channel markup on a gallon of whole milk in New York was $1.23. Processor costs in New York are 68 cents, and the retail margin is only 55 cents. Examining Figures 1 and 2 reveals that New England retail margins are consistently 70-80 cents higher than New York retailer margins across all milk types in June 2003. The lower margins on milk in New York are undoubtedly a result of the milk price gouging law, which prevented retailers in New York from charging the inflated prices that were ubiquitous in New England during most of 2002 and 2003.

The results of our May 2004 study, as reported in Figures 1 and 2, support the effectiveness of this law. Note that the increase in raw milk prices allowed a relaxation of the maximum price that New York retailers could charge for milk. Retail prices and margins in New York shot up in May, to levels more comparable with Southern New England.

Figure 2 shows that retailers in New York were making between 46 and 73 cents more per gallon of milk in May of 2004 than in June of 2003. The increase in the raw price of milk ranged from 49 cents per gallon for skim to 83 cents per gallon for whole milk. Retail price increases were much larger, ranging from $1.24 for skim to $1.31 for whole milk and averaged $1.27 across the four types. In May 2004, the average milk price in New York was $3.58 per gallon. Still, retail milk prices in New England, which average $3.73 per gallon across all types, remain slightly above those in New York.

Figure 3 depicts the weighted average price of whole milk in both New York and New England during our four survey periods, as well as the Class I price (the price paid to the farmers) for whole milk over time. The figure clearly demonstrates that the milk price gouging law in New York has a significant impact on retail milk prices. As the price of raw milk increases, retailers are no longer constrained by the law and retail milk prices creep closer to prices found in New England.

Table 3 also indicates that retail stores tend to charge a single price for all types of milk (skim, 1%, 2%, 3.25%) despite their underlying cost differences. The retailer thus makes more profit selling milk with a lower fat content. This effect is compounded during months such as May of 2004 when the butterfat price is extremely high. Consequently we see price transmissions of greater than 100% on most types of milk, and gross profit margin increases for the retailers.

This effect can also be seen in Figure 1. With the increase in milk and butterfat, retailers increased the price of their whole milk to an average of $3.73 in May 2004. The retail margins, as compared to those in June of 2003, actually went down about six cents per gallon on whole milk. This is a relatively small drop in retail margin because 93% of the increase in raw milk price was passed on to the consumer. Margins on every other type of milk however went up. These types of milk are all priced around the same as whole milk and yet cost significantly less. Average retail margins on skim milk, for instance, increased from $1.61 in June 2003 to $1.78 in May 2004, meaning that about 135% of the increase in raw milk price was passed to the consumer. Across all types of milk, average retail margins rose from $1.46 in June 2003 to $1.51 in May 2004. Retailers actually increased their gross margins when raw milk prices increased.

Tables 1 and 2 compare average lowest prices and weighted average prices across the various chain stores in our survey. Note that Wal-Mart appears to be the only chain that prices the four types of milk based on the underlying raw milk prices. As noted earlier, raw milk becomes more expensive as butterfat is added, and therefore whole milk costs significantly more to bottle than skim milk. All chains except Wal-Mart continue to charge a fixed price for their milk regardless of its fat content. An occasional sale may lower the price of a specific type of milk in a store temporarily; this is the reason why there are slight differences in price among types of milk in several of the other chains. Still, Wal-Mart continues to be the only chain that prices its milk based on costs. Why is this the case? One would think that prices in a competitive market environment would reflect costs. Moreover, even a monopolists prices are at least partially related to cost levels. Flat prices across different fat content milks is an economic anomaly.

Tables 3 and 4 analyze milk prices across various classes of trade. In Table 3 for New England, prices in chain and convenience stores are similar, but a sale on 1% milk in many convenience stores brought the average price well below the prices of 1% milk in chain stores. In fact, over the past two years, convenience stores have persistently priced 1% milk at an attractive low level and promoted it on external signs in an attempt to draw traffic into the stores. For this reason, chain store prices in New England are slightly higher on average than convenience store prices. Prices in club stores are the lowest of any channel in both New York and New England. Club stores are also the only ones to consistently price the different types of milk according to their underlying raw costs. It leads one to question why the other channels do not practice this economic pricing strategy (Wal-Mart being the exception within chain stores). The lack of price response by other channels suggests that club stores are in a separate market.

The Class I raw milk price for each type of milk is listed in the last column of both Table 3 and 4. Even in club stores, where average retail prices are nearly a dollar lower than prices in chain and convenience stores, channel margins are still substantial. A portion of the channel margin covers processing, shipping, and other costs associated with getting milk onto store shelves, but these costs certainly cannot accumulate to the point of justifying such elevated prices, particularly in chain and convenience stores.

III. Summary

Our most recent survey results for May 2004 demonstrate that retailers continue to charge unconscionably excessive prices for fluid milk in Southern New England. Retailers in New York have also moved to excessive pricing levels because the price gouge law is not effective when raw milk prices are high. High retail margins continue even with significant increases in raw milk prices. Raw milk prices hovering around $2.00 per gallon are the highest in history, and are considerably higher than prices during the Dairy Compact period (1997-2001). Since this May 2004 survey, raw milk prices dropped to around $1.50 in September 2004, as shown in Figure 3. It would be interesting to see if retailers continue to charge high prices or whether retail prices follow the downward trend in the same fashion as they followed the upswing during the month of May.

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Table 1. Average Lowest Price by Chain

Type	Chain	New England	New York	Massachusetts	Connecticut	Rhode Island	All
Whole	Stop & Shop	$3.75	$3.67	$3.69	$3.79	$3.76	$3.73
Whole	Shaw's/Star Market	$3.37	-	$3.38	$3.25	$3.61	$3.41
Whole	DeMoulas/Market Basket	$2.69	-	$2.69	-	-	$2.69
Whole	Roche Bros	$3.38	-	$3.38	-	-	$3.38
Whole	Big Y	$3.74	-	$3.76	$3.74	-	$3.75
Whole	A & P/Waldbaums	$4.12	$4.10	-	$4.12	-	$4.11
Whole	Shop Rite	$3.79	$3.49	-	$3.79	-	$3.64
Whole	Price Chopper	$3.19	$3.27	$3.19	-	-	$3.23
Whole	Ro Jacks	$3.46	-	$3.69	-	$3.34	$3.52
Whole	Hannaford	-	$3.37	-	-	-	$3.37
Whole	King Kullen	-	$4.53	-	-	-	$4.53
Whole	Wal-Mart Supercenter	$3.57	$3.20	$3.57	$3.57	-	$3.45
Whole	Pathmark	-	$4.43	-	-	-	$4.43
Two	Stop & Shop	$3.74	$3.67	$3.69	$3.77	$3.76	$3.72
Two	Shaw's/Star Market	$3.40	-	$3.38	$3.32	$3.61	$3.44
Two	DeMoulas/Market Basket	$2.69	-	$2.69	-	-	$2.69
Two	Roche Bros	$3.38	-	$3.38	-	-	$3.38
Two	Big Y	$3.73	-	$3.67	$3.76	-	$3.72
Two	A & P/Waldbaums	$4.12	$4.10	-	$4.12	-	$4.11
Two	Shop Rite	$3.73	$3.49	-	$3.73	-	$3.61
Two	Price Chopper	$3.19	$3.27	$3.19	-	-	$3.23
Two	Ro Jacks	$3.39	-	$3.69	-	$3.24	$3.47
Two	Hannaford	-	$3.37	-	-	-	$3.37
Two	King Kullen	-	$4.53	-	-	-	$4.53
Two	Wal-Mart Supercenter	$3.24	$3.06	$3.24	$3.24	-	$3.18
Two	Pathmark	-	$4.43	-	-	-	$4.43
One	Stop & Shop	$3.73	$3.49	$3.69	$3.74	$3.76	$3.67
One	Shaw's/Star Market	$3.37	-	$3.38	$3.25	$3.61	$3.41
One	DeMoulas/Market Basket	$2.69	-	$2.69	-	-	$2.69
One	Roche Bros	$3.38	-	$3.38	-	-	$3.38
One	Big Y	$3.68	-	$3.61	$3.72	-	$3.66
One	A & P/Waldbaums	$4.12	$4.10	-	$4.12	-	$4.11
One	Shop Rite	$3.69	$3.49	-	$3.69	-	$3.59
One	Price Chopper	$3.19	$3.27	$3.19	-	-	$3.23
One	Ro Jacks	$3.22	-	$3.69	-	$2.99	$3.34
One	Hannaford	-	$3.37	-	-	-	$3.37
One	King Kullen	-	$4.53	-	-	-	$4.53
One	Wal-Mart Supercenter	$2.98	$2.91	$2.98	$2.98	-	$2.96
One	Pathmark	-	$4.43	-	-	-	$4.43
				-			
Skim	Stop & Shop	$3.71	$3.67	$3.69	$3.71	$3.76	$3.71
Skim	Shaw's/Star Market	$3.40	-	$3.38	$3.25	$3.61	$3.44
Skim	DeMoulas/Market Basket	$2.69	-	$2.69	-	-	$2.69
Skim	Roche Bros	$3.38	-	$3.38	-	-	$3.38
Skim	Big Y	$3.67	-	$3.57	$3.72	-	$3.64
Skim	A & P/Waldbaums	$4.12	$4.10	-	$4.12	-	$4.11
Skim	Shop Rite	$3.67	$3.49	-	$3.67	-	$3.58
Skim	Price Chopper	$3.19	$3.27	$3.19	-	-	$3.23
Skim	Ro Jacks	$3.29	-	$3.69	-	$3.09	$3.39
Skim	Hannaford	-	$3.37	-	-	-	$3.37
Skim	King Kullen	-	$4.53	-	-	-	$4.53
Skim	Wal-Mart Supercenter	$2.77	$2.73	$2.77	$2.77	-	$2.76
Skim	Pathmark	-	$4.43	-	-	-	$4.43

Table 2. Weighted Average Price by Chain, May 2004

Type	Chain	New England	New York	Massachusetts	Connecticut	Rhode Island	All
Whole	Stop & Shop	$3.91	$3.79	$3.84	$3.96	$3.89	$3.88
Whole	Shaw's/Star Market	$3.55	-	$3.54	$3.46	$3.76	$3.55
Whole	DeMoulas/Market Basket	$2.89	-	$2.89	-	-	$2.89
Whole	Roche Bros	$3.62	-	$3.62	-	-	$3.62
Whole	Big Y	$3.90	-	$3.91	$3.89	-	$3.90
Whole	A & P/Waldbaums	$4.28	$4.17	-	$4.28	-	$4.21
Whole	Shop Rite	$3.91	$3.51	-	$3.91	-	$3.75
Whole	Price Chopper	$3.36	$3.37	$3.36	-	-	$3.36
Whole	Ro Jacks	$3.61	-	$3.76	-	$3.54	$3.61
Whole	Hannaford	-	$3.42	-	-	-	$3.42
Whole	King Kullen	-	$4.55	-	-	-	$4.55
Whole	Wal-Mart Supercenter	$3.66	$3.26	$3.66	$3.66	-	$3.38
Whole	Pathmark	-	$4.43	-	-	-	$4.43
Two	Stop & Shop	$3.89	$3.79	$3.84	$3.93	$3.89	$3.87
Two	Shaw's/Star Market	$3.56	-	$3.54	$3.51	$3.76	$3.56
Two	DeMoulas/Market Basket	$2.89	-	$2.89	-	-	$2.89
Two	Roche Bros	$3.62	-	$3.62	-	-	$3.62
Two	Big Y	$3.88	-	$3.83	$3.91	-	$3.88
Two	A & P/Waldbaums	$4.28	$4.17	-	$4.28	-	$4.21
Two	Shop Rite	$3.86	$3.51	-	$3.86	-	$3.72
Two	Price Chopper	$3.36	$3.37	$3.36	-	-	$3.36
Two	Ro Jacks	$3.57	-	$3.76	-	$3.47	$3.57
Two	Hannaford	-	$3.42	-	-	-	$3.42
Two	King Kullen	-	$4.55	-	-	-	$4.55
Two	Wal-Mart Supercenter	$3.34	$3.10	$3.34	$3.34	-	$3.17
Two	Pathmark	-	$4.43	-	-	-	$4.43
One	Stop & Shop	$3.88	$3.65	$3.84	$3.91	$3.89	$3.84
One	Shaw's/Star Market	$3.55	-	$3.54	$3.46	$3.76	$3.55
One	DeMoulas/Market Basket	$2.89	-	$2.89	-	-	$2.89
One	Roche Bros	$3.62	-	$3.62	-	-	$3.62
One	Big Y	$3.84	-	$3.78	$3.88	-	$3.84
One	A & P/Waldbaums	$4.28	$4.17	-	$4.28	-	$4.21
One	Shop Rite	$3.84	$3.51	-	$3.84	-	$3.71
One	Price Chopper	$3.36	$3.37	$3.36	-	-	$3.36
One	Ro Jacks	$3.46	-	$3.76	-	$3.31	$3.46
One	Hannaford	-	$3.42	-	-	-	$3.42
One	King Kullen	-	$4.55	-	-	-	$4.55
One	Wal-Mart Supercenter	$3.09	$2.94	$3.09	$3.09	-	$2.98
One	Pathmark	-	$4.43	-	-	-	$4.43
				-			
Skim	Stop & Shop	$3.87	$3.79	$3.84	$3.89	$3.89	$3.86
Skim	Shaw's/Star Market	$3.56	-	$3.54	$3.46	$3.76	$3.56
Skim	DeMoulas/Market Basket	$2.89	-	$2.89	-	-	$2.89
Skim	Roche Bros	$3.62	-	$3.62	-	-	$3.62
Skim	Big Y	$3.83	-	$3.73	$3.88	-	$3.83
Skim	A & P/Waldbaums	$4.28	$4.17	-	$4.28	-	$4.21
Skim	Shop Rite	$3.82	$3.51	-	$3.82	-	$3.70
Skim	Price Chopper	$3.36	$3.37	$3.36	-	-	$3.36
Skim	Ro Jacks	$3.50	-	$3.76	-	$3.37	$3.50
Skim	Hannaford	-	$3.42	-	-	-	$3.42
Skim	King Kullen	-	$4.55	-	-	-	$4.55
Skim	Wal-Mart Supercenter	$2.88	$2.76	$2.88	$2.88	-	$2.80
Skim	Pathmark	-	$4.43	-	-	-	$4.43

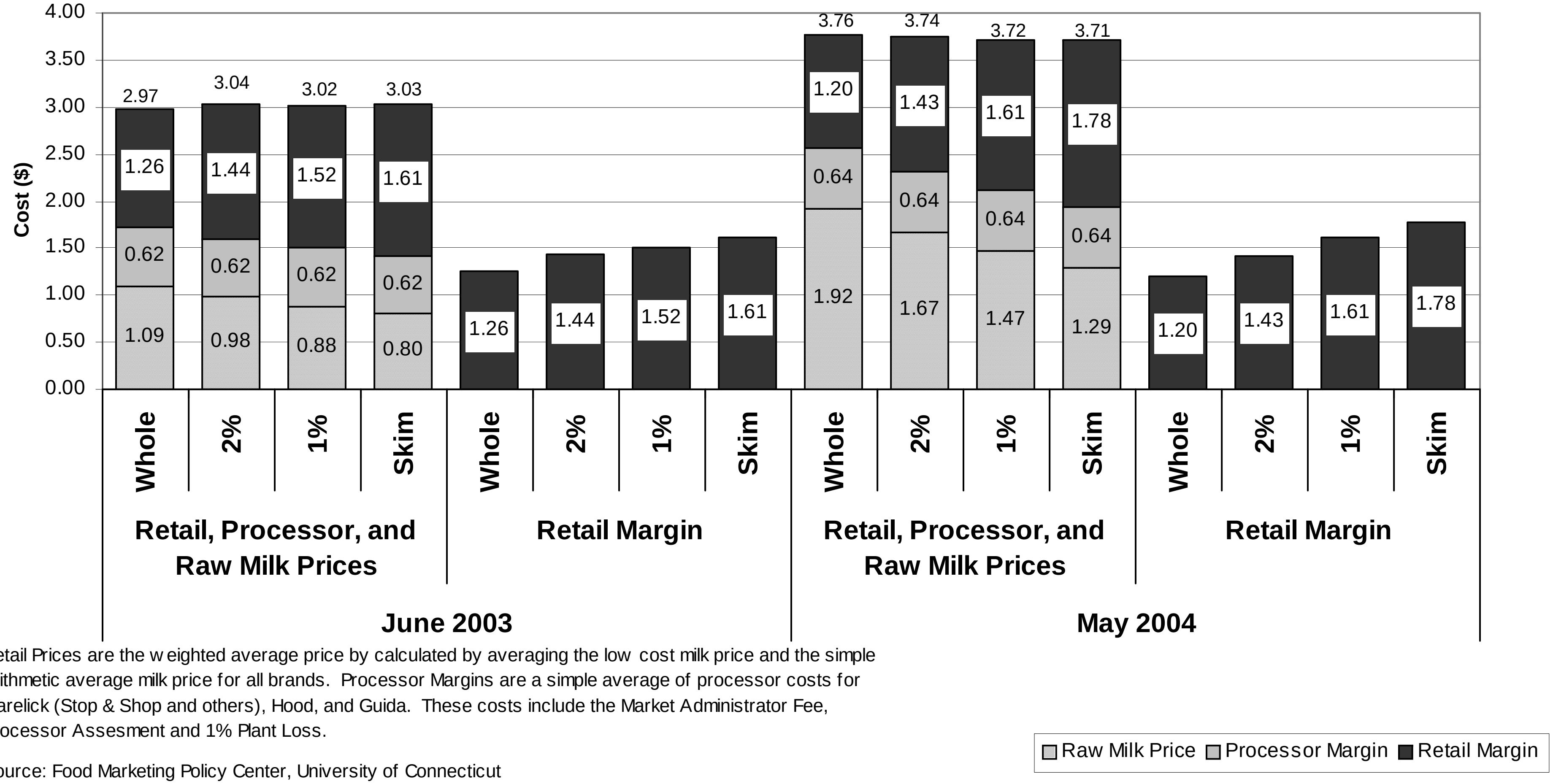
Table 3. Average Lowest Price by Channel and Final Raw Price, May 2004

Type	Channel	New England	New York	Massachusetts	Connecticut	Rhode Island	All	Final Raw Price
Whole	Chain	$3.60	$3.59	$3.46	$3.71	$3.60	$3.60	$1.9404
Whole	Convenience	$3.72	$3.52	$3.57	$3.80	$3.67	$3.67	$1.9404
Whole	Club	$2.86	$2.90	$2.79	$2.88	$3.12	$2.87	$1.9404
Whole	Limited	$2.90	-	$2.94	$2.79	$2.91	$2.90	$1.9404
Two	Chain	$3.58	$3.57	$3.44	$3.70	$3.58	$3.58	$1.6940
Two	Convenience	$3.67	$3.52	$3.49	$3.76	$3.64	$3.63	$1.6940
Two	Club	$2.68	$2.75	$2.65	$2.67	$2.92	$2.69	$1.6940
Two	Limited	$2.75	-	$2.84	$2.49	$2.79	$2.75	$1.6940
One	Chain	$3.55	$3.52	$3.43	$3.66	$3.51	$3.54	$1.4933
One	Convenience	$3.16	$3.52	$2.92	$3.35	$2.96	$3.25	$1.4933
One	Club	$2.57	$2.48	$2.49	$2.59	$2.82	$2.55	$1.4933
One	Limited	$2.74	-	$2.79	$2.49	$2.79	$2.74	$1.4933
Skim	Chain	$3.54	$3.53	$3.42	$3.65	$3.54	$3.54	$1.3142
Skim	Convenience	$3.63	$3.52	$3.41	$3.72	$3.64	$3.60	$1.3142
Skim	Club	$2.54	$2.38	$2.52	$2.54	$2.66	$2.51	$1.3142
Skim	Limited	$2.76	-	$2.82	$2.49	$2.82	$2.76	$1.3142

Table 4. Weighted Average Price by Channel and Final Raw Price, May 2004

Type	Channel	New England	New York	Massachusetts	Connecticut	Rhode Island	All	Final Raw Price
Whole	Chain	$3.76	$3.63	$3.63	$3.86	$3.75	$3.72	$1.9404
Whole	Convenience	$3.72	$3.54	$3.57	$3.80	$3.66	$3.67	$1.9404
Whole	Club	$2.86	$2.90	$2.79	$2.88	$3.12	$2.87	$1.9404
Whole	Limited	$2.91	-	$2.97	$2.79	$2.91	$2.91	$1.9404
Two	Chain	$3.74	$3.61	$3.61	$3.85	$3.74	$3.70	$1.6940
Two	Convenience	$3.67	$3.54	$3.49	$3.76	$3.63	$3.63	$1.6940
Two	Club	$2.68	$2.75	$2.65	$2.67	$2.92	$2.69	$1.6940
Two	Limited	$2.75	-	$2.84	$2.49	$2.79	$2.75	$1.6940
One	Chain	$3.72	$3.56	$3.60	$3.82	$3.70	$3.67	$1.4933
One	Convenience	$3.15	$3.54	$2.92	$3.35	$2.95	$3.25	$1.4933
One	Club	$2.57	$2.48	$2.49	$2.59	$2.82	$2.55	$1.4933
One	Limited	$2.74	-	$2.79	$2.49	$2.79	$2.74	$1.4933
Skim	Chain	$3.71	$3.56	$3.59	$3.81	$3.71	$3.66	$1.3142
Skim	Convenience	$3.63	$3.54	$3.41	$3.72	$3.63	$3.60	$1.3142
Skim	Club	$2.54	$2.38	$2.52	$2.54	$2.66	$2.51	$1.3142
Skim	Limited	$2.76	-	$2.82	$2.49	$2.82	$2.76	$1.3142

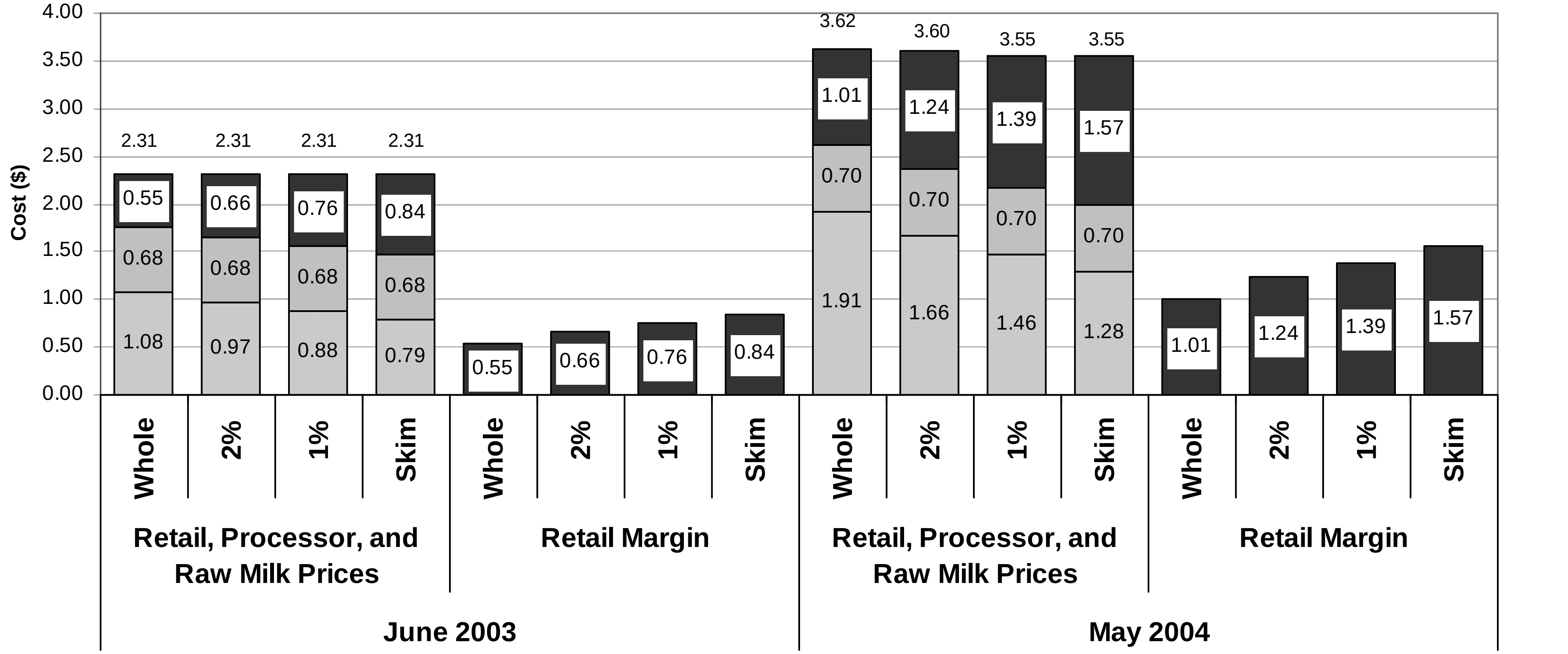
Figure 1. Southern New England
Retail, Processor, and Raw Milk Prices and Retail Margins for Whole, 1%, 2%, and Skim Milk
June 2003 and May 2004



Retail Prices are the weighted average price by calculated by averaging the low cost milk price and the simple arithmetic average milk price for all brands. Processor Margins are a simple average of processor costs for Garelick (Stop & Shop and others), Hood, and Guida. These costs include the Market Administrator Fee, Processor Assesment and 1% Plant Loss.

Source: Food Marketing Policy Center, University of Connecticut

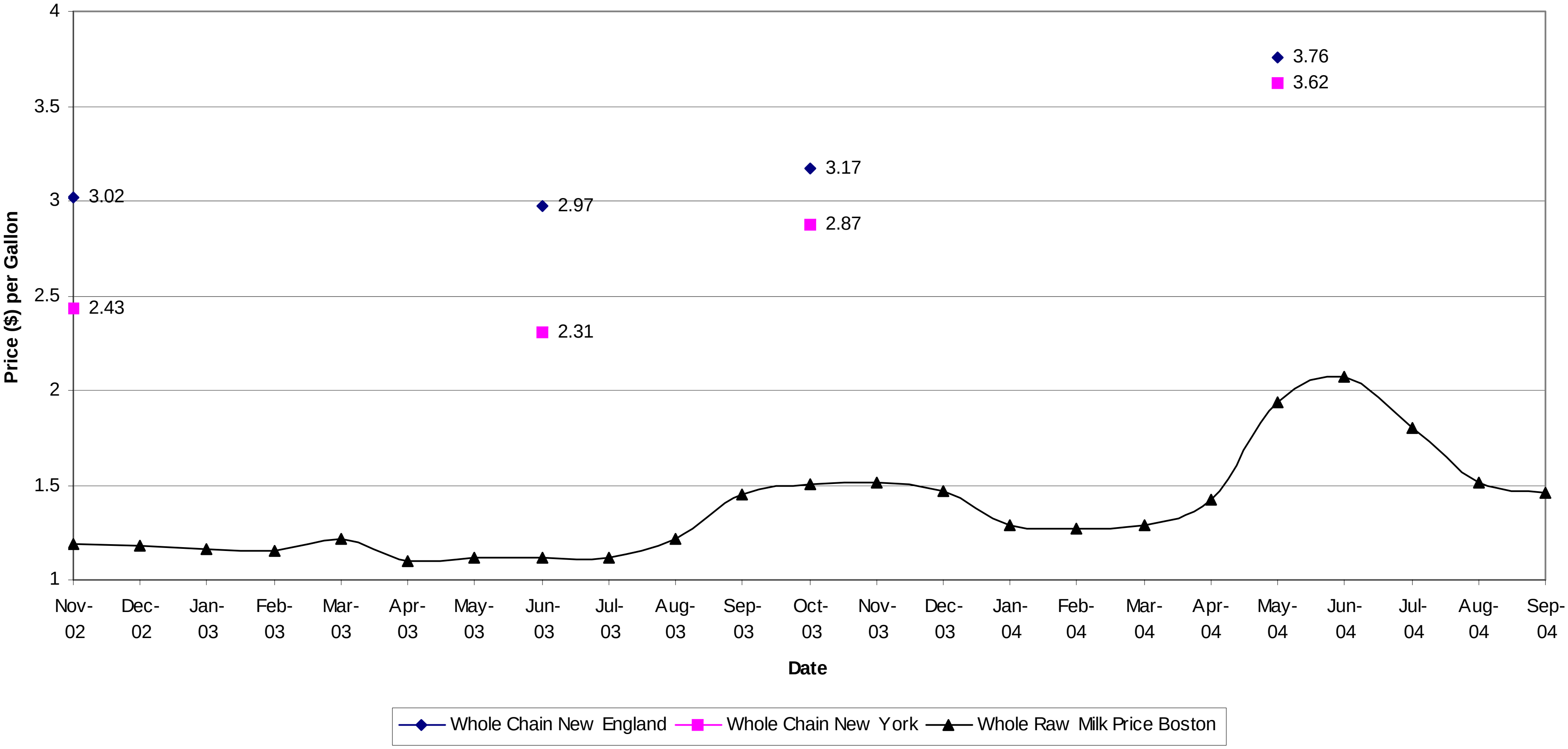
Figure 2. New York
Retail, Processor, and Raw Milk Prices and Retail Margins for Whole, 1%, 2%, and Skim Milk
June 2003 and May 2004



Retail Prices are the w eighted average price by calculated by averaging the low cost milk price and the simple arithmetic average milk price for all brands. Processor Margins are a simple average of processor costs for Garelick (Stop & Shop and others), Hood, and Guida. These costs include the Market Administrator Fee, Processor Assesment and 1% Plant Loss.

Source: Food Marketing Policy Center, University of Connecticut

Figure 3: Weighted Average Chain Store 3.25% Whole Milk Prices in New York and New England and Respective 3.25% Whole Raw Milk Prices



Appendix Table 1. Number of observations by Chain, May 2004

Type	Chain	New England	New York	Massachusetts	Connecticut	Rhode Island	All
Whole	Stop & Shop	32	8	12	17	3	40
Whole	Shaw's/Star Market	18	-	8	7	3	18
Whole	DeMoulas/Market Basket	4	-	4	-	-	4
Whole	Roche Bros	3	-	3	-	-	3
Whole	Big Y	12	-	4	8	-	12
Whole	A & P/Waldbaums	3	5	-	3	-	8
Whole	Shop Rite	5	4	-	5	-	9
Whole	Price Chopper	1	5	1	-	-	6
Whole	Ro Jacks	2	-	1	-	2	3
Whole	Hannaford	0	8	-	-	-	8
Whole	King Kullen	0	2	-	-	-	2
Whole	Wal-Mart Supercenter	2	5	1	1	-	7
Whole	Pathmark	0	1	-	-	-	1
Two	Stop & Shop	32	8	12	17	3	40
Two	Shaw's/Star Market	18	-	8	7	3	18
Two	DeMoulas/Market Basket	4	-	4	-	-	4
Two	Roche Bros	3	-	3	-	-	3
Two	Big Y	12	-	4	8	-	12
Two	A & P/Waldbaums	3	5	-	3	-	8
Two	Shop Rite	5	4	-	5	-	9
Two	Price Chopper	1	5	1	-	-	6
Two	Ro Jacks	2	-	1	-	2	3
Two	Hannaford	0	8	-	-	-	8
Two	King Kullen	0	2	-	-	-	2
Two	Wal-Mart Supercenter	2	5	1	1	-	7
Two	Pathmark	0	1	-	-	-	1
One	Stop & Shop	32	8	12	17	3	40
One	Shaw's/Star Market	18	-	8	7	3	18
One	DeMoulas/Market Basket	4	-	4	-	-	4
One	Roche Bros	3	-	3	-	-	3
One	Big Y	12	-	4	8	-	12
One	A & P/Waldbaums	3	5	-	3	-	8
One	Shop Rite	5	4	-	5	-	9
One	Price Chopper	1	5	1	-	-	6
One	Ro Jacks	2	-	1	-	2	3
One	Hannaford	0	8	-	-	-	8
One	King Kullen	0	2	-	-	-	2
One	Wal-Mart Supercenter	2	5	1	1	-	7
One	Pathmark	0	1	-	-	-	1
				-			
Skim	Stop & Shop	32	8	12	17	3	40
Skim	Shaw's/Star Market	18	-	8	7	3	18
Skim	DeMoulas/Market Basket	4	-	4	-	-	4
Skim	Roche Bros	3	-	3	-	-	3
Skim	Big Y	12	-	4	8	-	12
Skim	A & P/Waldbaums	3	5	-	3	-	8
Skim	Shop Rite	5	4	-	5	-	9
Skim	Price Chopper	1	5	1	-	-	6
Skim	Ro Jacks	2	-	1	-	2	3
Skim	Hannaford	0	8	-	-	-	8
Skim	King Kullen	0	2	-	-	-	2
Skim	Wal-Mart Supercenter	2	5	1	1	-	7
Skim	Pathmark	0	1	-	-	-	1

Appendix Table 2. Number of Observations by channel

Type	Channel	New England	New York	Massachusetts	Connecticut	Rhode Island	All
Whole	Chain	261	79	105	132	24	340
Whole	Club	16	3	6	9	1	19
Whole	Convenience	27	9	6	14	7	36
Whole	Limited	13	-	6	2	5	13
Two	Chain	259	79	105	130	24	338
Two	Club	16	3	6	9	1	19
Two	Convenience	26	9	5	14	7	35
Two	Limited	11	-	4	2	5	11
One	Chain	262	78	105	133	24	340
One	Club	16	3	6	9	1	19
One	Convenience	27	9	6	14	7	36
One	Limited	11	-	4	2	5	11
Skim	Chain	261	79	105	132	24	340
Skim	Club	12	2	5	6	1	14
Skim	Convenience	25	9	5	13	7	34
Skim	Limited	9	-	4	2	3	9