

Food Marketing Policy Center

Milk Prices in New England and Neighboring Areas of New York: A Prologue to Action?

by Ronald W. Cotterill, Adam N. Rabinowitz, and Li Tian

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University of Connecticut
Department of Agricultural and Resource Economics

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Affiliation

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Key Words:

Executive Summary

- This Study examines 1,680 retail milk prices in 191 stores from 35 firms in four states. Prices are for gallons of whole, 2%, 1%, or skim milk for all brands for November 10–13, 2002.
- The study analyzes prices in four distribution channels: chain supermarkets, convenience stores, whole club stores, and limit assortment stores. The supermarket channel dominates the others. In Boston over 87% of milk sold in grocery stores is sold by supermarkets.
- Midland Farms is a new entrant (started July 1, 2002) into the limited assortment channel with 8 stores and a fluid milk processing plant. Midland distributes its milk from the Menands (Albany), NY plant in refrigerated compartments of its own trucks that carry other grocery products from its Menands grocery warehouse to its plants.
- Midland Farms is selling milk at \$1.79 per gallon and \$1.49 per gallon for 1%. Hood and Cumberland Farms complained to the Massachusetts Milk Control Board that Midland is selling milk below cost.
- An Aldi store, a limit assortment store, in Clifton, NY is selling skim milk for \$1.29 per gallon, 2% at \$1.49 per gallon and whole milk at \$1.69 per gallon.
- In the study we examine chain prices for different milk types (whole, 2%, 1%, skim), brands of milk, and region, but in this summary we focus on only aggregate all milk results for New England. These results are reported in Tables 5 and 6 in the report.
- New England supermarket average price for milk was \$3.01 per gallon. New York supermarket chains, including many who are in our New England sample, charge only \$2.42 per gallon (Table 5).
- Price Chopper is the highest priced chain in New England at \$3.17. A&P/Waldbaums is next at \$3.15. These chains are relatively small players in the New England market.
- New England's two leading chains have milk prices near \$3.00 per gallon. Stop & Shop's average price is \$3.09. Shaw's/Star Market's average price is \$2.98.
- Both of these chains, as are many others, are supplied by Dean/Suiza for private label and Garelick brand milk. Dean/Suiza offer another label "natures pride" to club stores.
- Big Y prices average \$3.05 per gallon; however, on November 14, the day after our survey, Big Y cut its private label price for 1% in all stores to \$1.78 per gallon from prior prices at one of the following levels: \$2.79, \$2.89, \$3.09, and \$3.39. Big Y is supplied by Guida.
- DeMoulas, supplied by Crowley, is the lowest priced chain in New England at \$2.54 per gallon. See Table 6.
- Antitrust authorities need to examine closely the potential impact of the proposed Hood and National Dairy Holdings (Crowley) merger. Will this maverick competitor on milk prices at the retail level continue to have access to low priced milk at wholesale?
- Wal-Mart supercenters at \$2.79 per gallon are lower priced than the three leaders, Stop & Shop, Shaw's, and Big Y, but they are not the lowest priced supermarket chain in New England. Wal-Mart is supplied by Dean/Suiza.
- New England prices in the other three distribution channels, convenience (\$2.84), club (\$2.06) and limited assortment (\$1.92) are lower than those of supermarkets (\$3.01). See Table 5.
- Club store prices are 95 cents per gallon lower than chain supermarkets, and limited assortment store prices are \$1.09 per gallon lower than supermarkets. Not all of this price difference is due to lower in-store retailing costs of these bare bones operators, nor is it due to the fact that supermarkets sell branded milk as well as private label. Where are the often claimed efficiencies and economies of scale enjoyed by the leading chains in strategic alliance with Dean/Suiza with one of the world's largest milk plants in Franklin, Massachusetts?
- Since no one has complained about the low prices of club stores and limited assortment stores other than Midland Farms, their prices in Massachusetts do not appear to be below cost.
- The Big Y recent price cut to \$1.78 for 1% signals that they believe that that price is not below cost.

- At the Massachusetts Milk Control Board hearing Midland Farms presented evidence that, controlling for the fact the firm is a new entrant and less than 6 months old, its prices are not below cost.
- At that hearing the State of Massachusetts economist estimated costs at retail for skim milk to be \$1.74/gallon and costs range up to \$2.02 per gallon for whole milk. Again, costs are significantly lower than the chain supermarket retail prices.
- We estimate that chain supermarket prices in New England are at least \$1 above their cost levels for all types of milk. For skim the overcharge is significantly above one dollar.
- Consumers in New England are being overcharged at the rate of \$144 million per year. These overcharges started last Fall. The overcharge is \$11.44 per year per person.
- The International Dairy Foods Association and Professor Kenneth Bailey, Pennsylvania State University, maintained that doing away with the Compact would decrease farm prices. It has. They argued that consumers would benefit by even more than the drop in farm price. They have not. Their model claims that the actual 50 cent drop in New England farm price should produce a 70-90 cent drop in retail prices. Supermarket prices have only dropped 10 cents. The processors and retailers have kept the lion's share of the drop in farm price.
- The Consumer Federation of America sided with IDFA because they believed that consumers benefit from the drop in farm prices. Farmers need to approach them now to see if they will switch positions.
- Jawboning in the public media will help encourage supermarkets to cut prices.
- New England consumer groups could get the word out on high milk prices, and could consider information pickets at key supermarkets to encourage lower retail prices.
- Farmers need consider joining with, even leading consumer groups, in this quest for lower prices.
- New England farmers and consumer groups need to work with counterparts in other parts of the country to locate similar monopolistic pricing of milk. Chicago and Seattle are prime locations.
- Church groups, environmental groups, and others interested in the health of rural and farm communities need to be apprised of the situation.
- Dairy policy at the federal and state level is a crucial component. What needs to be done is a work in progress.
- Cooperatives, such as Agrimark, are a crucial component. Integration in value added products, such as Cabot cheese, is far preferable to processing private label fluid milk, given the power of the chains. Strong brands give a cooperative leverage with a supermarket chain. They must carry them.

1. Introduction

The relationship between retail and farm prices has always been of interest to farmers, consumers and firms in the milk marketing channel. Today, however, interest in pricing relationships is at an extremely high level because the Federal Market Order Administrator's retail price series for Hartford and for Boston indicate that retail prices have dropped only a dime while farm prices have dropped as much as 50 cents over the past year (see Appendix A, Figures 1, 2, 3 and 4). This is sometimes dismissed as sticky retail prices, a temporary phenomenon. However, when price stickiness persists for a year, one has to question the source and impact of that stickiness.

Another reason for high interest in retail milk prices is the Midland Farms case that is before the Massachusetts Milk Control Board. Midland Farms is a new entrant into milk processing and the retailing of milk. It opened a milk plant in Menands, New York, just north of Albany during the summer of 2002, and it subsequently opened eight limited assortment grocery stores, three in Massachusetts, three in Rhode Island, one attached to its Menands, New York milk plant and another in Troy, New York. Midland commenced selling gallons of milk in July for \$1.79 a gallon. Subsequently, in mid-August, it lowered the price of its 1% milk to \$1.49 a gallon. These prices generated protests to the Massachusetts Milk Control Board by Cumberland Farms and Hood. The Massachusetts milk law prohibits the sale of milk below the full cost of processing distribution and retailing.¹ Last week, at a hearing before the Massachusetts Commissioner of Agriculture, Midland presented evidence that if one compensates for its position as a new entrant it is not selling below cost. The state of Massachusetts Department of Agriculture economist presented evidence that the cost for milk ranged from \$1.78 for skim to \$2.02 per gallon for whole milk (Mohl 2002a). The immediate upshot of this set of cost estimates is that retail prices at \$3.02 a gallon (Table 5) are at least \$0.99 a gallon over cost of processing, distributing, and retailing for milk.

There is another reason for investigating milk prices at this time. The Northeast Dairy Compact expired a year ago. Prior to its expiration there was an extensive debate over the merits of the Compact. At that time, the International Dairy Foods Association (I.D.F.A.) noted that if the Compact had not been in existence processors would have paid approximately 10 cents a gallon less for raw fluid milk. They then used Professor Kenneth Bailey's markup model for milk pricing to argue that retailers would have dropped price not 10 cents, but at least 14 and possibly as much as 18 cents a gallon (Cotterill 2002, p. 17).

Now, we no longer have the Compact, and farm prices have dropped 50 cents a gallon. According to the International Dairy Foods Association and Professor Bailey from Pennsylvania State University, retail prices should be 70 to 90 cents a gallon lower than they were at the price peak, just after the Compact ended. Clearly, this is not the case. The Consumer Federation of America, an ally of I.D.F.A. in the fight against the Compact appears to have lost the price dividend that they thought would be theirs by defeating the Compact.

As a prelude to discussion of pricing policy and alternative strategies for improving the performance of the marketing channel, this paper presents milk prices over space to complement those that we have than over time. There are several interesting questions that the price distribution over space can answer for us. Included among these questions are the following: Are prices higher in New England than in New York? Most of us are aware that New York has a price gouge law that limits the retail price of milk to no more than twice the delivered, raw milk price to a processor (see Appendix B). More specifically, the retailer must have at least one brand of milk, such as its private label milk, which is no more than twice that raw delivered milk price to a processor. Other brands of milk in that store can be higher priced.

Another interesting question is how does price vary by channel of distribution? The largest amount of fluid milk sold through stores is sold in supermarkets. For example, the Boston metropolitan area supermarkets account for 87.3% of all grocery store sales (Metro Market Studies, 2002, p. 109-116). We often hear how efficient supermarkets are and agricultural economists are increasingly documenting that large processors in other industries have economies of scale. Dean Foods Franklin, Mass. plant is one of the largest in the nation. Ergo efficiencies in the supermarket, Dean Foods vertical channel should be major and result in lower prices than in other channels. This is especially true

¹ For a fascinating look into New England milk marketing history that sheds light on contemporary farm problems and recounts the incident that led to the Massachusetts Milk Control Law, see (Pattee, 1927, p. 8-13, 27-29). These are provided in the packet distributed at this meeting.

in Massachusetts where all retailers are prohibited from selling below cost, so convenience stores and other cannot use milk as a loss leader.

So the question is how the big boys, the leading supermarket chains and their dominant processor suppliers, price at retail compared to others. How do supermarket prices compare to smaller distribution channels: convenience grocery stores, club stores, and limited assortment stores? Also, how do prices vary by supermarket chain? Are the prices higher at Stop & Shop, Shaw's, and Big Y, the leaders in Southern New England, compared to the mavericks and upstarts, if indeed we have any? (Hint: We have DeMoulas and Wal-Mart). Can we say anything about chain pricing strategy? For example, are the price patterns that are observed consistent with competition with its pricing of milk at cost? Finally, how do prices vary by type of milk? There are four types of milk that we consider: whole milk (3.25% butter fat), 2% milk, 1% milk and skim milk.

2. Survey Design and Methods for Price Comparisons

Shifting now to our survey methodology, we compare prices only on gallons of milk in plastic jugs across all stores. The prices surveyed are valid for the time period from Sunday, November 10th through Wednesday, November 13th. As such, it is a one shot in time look at the price surface. Prices do vary over time; however, the Market Administrator's time series data indicate that there has been very little variation for the Hartford and Boston markets during 2002. We surveyed stores in Connecticut, Massachusetts, Rhode Island, and parts of New York. New York stores are located in and around Albany and Schenectady, Fishkill, Wappingers Falls, Newburgh, Monroe, Middletown, White Plains, and western Suffolk County on Long Island. Prices were collected on each store's own (private) label milk as well as all gallon brands carried in the store, including Hood and Garelick milk. We have collected 1680 prices in 191 stores throughout the region. The data cover 35 firms that operate grocery stores.

The critical issue when conducting an analysis of retail prices is how does one summarize and actually analyze price variation. Here we will always use the lowest price that is reported for a particular item. For example, when an item is on sale we use the in-store advertised sale price rather than the regular shelf price.

Our first run through the data is a directed, commodity focus on milk prices. This approach identifies the lowest price for a type of milk (whole, 2%, 1%, and skim) in a store. This price series is most suitable for consumers who are price conscious, regard milk as a commodity, and consequently always switch to the low price option when buying a particular type of milk. For a supermarket, this means that we will usually be using the private label price. There are however some exceptions to this general rule. For example, Shaw's normally retails Hood milk at prices ranging from \$3.39 to \$3.59 per gallon, but all types of Hood milk were on sale for \$2.89 a gallon, which is 10 cents below Shaw's private label prices. Thus, we use the Hood sale price in Shaw's.

To analyze these minimum prices across stores we have computed the average of the minimum prices in each distribution channel and for each individual chain. We have also broken down these average minimum prices by state as well as reporting them for all New England and for the entire sample. Finally, to understand how these minimum prices are distributed around the reported averages we have charted the frequency distribution for these prices for each type of milk again by distribution channel and for each individual chain. In these charts we have identified the state that each observation comes from so one can see the influence of physical geography on price for each chain.

Clearly not all shoppers buy the cheapest type of milk in a supermarket. Some are brand loyal and pay a premium. Our first attempt to move up from the minimum price in a store for a type of milk was to compute the average price across the brand carried. These average prices are reported in Appendix C by distribution channel and by chain for each type of milk: whole, 2%, 1%, and skim.

A more accurate measure of the consumer's milk bill on a per gallon basis is a weighted average price that recognizes that not all consumers buy private label, the low price option, and they do not buy equal amounts of each brand of milk. We do not have brand level weights, however a good approximation is the average of the minimum and average price series. This weights private label at 75% when one has one brand (25% weight), and at 67% when one has two brands (16.7% weight each). This captures the general brand structure of New York and New England.

3. Survey Results: Prices by Distribution Channel

This discussion of results builds from the most detailed to the most general.² Table 1a reports the average lowest price for each type of milk in the stores surveyed. It summarizes this variable's values by reporting the average for different distribution channels in different states as well as New England and the all of the sample. First note that for all types of milk and all channels milk is lower priced in New York than it is in New England. Whole milk in New England chains, for example, is \$2.89/gallon and it is \$2.36/gallon in New York.

Next notice for a particular type of milk, such as whole milk, price rankings across the market channels are identical in all regions. Convenience stores have the highest minimum whole milk price. Then come chain supermarkets, then Club stores (Sam's, BJ's, Costco) and finally limited-assortment stores (Price Rite, Save-A-Lot, Midland Farms).

Note how prices for different types of milk vary for a particular area. Consider chain supermarkets in New England where whole milk averages \$2.89 per gallon. Two percent averages \$2.86 per gallon. One percent is \$2.88 per gallon, and skim is \$2.87 per gallon. In New York chains average minimum prices across the types of milk are virtually identical at \$2.35 per gallon. Retail prices are nearly identical across types of milk and thus are not based on the underlying value of the milk.³ Why is this so?

Finally note in Table 1a that convenience stores in New England have much lower prices on one percent milk. One percent milk retails at \$2.30 per gallon and skim sells at \$3.02. Two percent and whole milk also retail for more than \$3.00 per gallon at New England convenience stores. These numbers are capturing the fact that Cumberland Farms sells 1% milk for \$1.99 per gallon, but continues to have very high prices on other types of milk.

Table 1b reports the number of observations (stores) in each cell of Table 1a. Note that some of the cells have very few stores. Ideally, one would like more stores in the thin cells.

Moving to Table 2a one has our estimate of the weighted average prices per gallon that consumers paid for all brands of milk. Unlike Table 1a this chart recognizes that consumers do buy higher priced brands of milk. All of the prices in Table 2a are higher (or equal to prices in Table 1a if a store carries only one brand, as is the case with convenience, clubs, and limited assortment stores). Note for Supermarket chains in New England the average prices are nearly identical across types of milk: \$3.02 for whole, \$3.00 for 2%, \$3.01 for 1%, and \$3.00 for skim. Again, these prices do not reflect the differential costs of the underlying raw milk. Yet they should if firms are competitive and maximizing profits.

Again note that prices for milk in supermarket chains in New York are much lower at \$2.42 per gallon on average. Milk at supermarket chain stores in New York is on average 59 cents per gallon cheaper than it is in New England. The New York price gouge law clearly has teeth because we have seen no evidence to suggest that non-milk costs of processing and retailing in New York are 59 cents a gallon below that in New England.

Also, there is more competition at the processing and retail level in New York markets than there is in New England. Dean Foods/Suiza has used mergers, acquisitions, and long term contracts to acquire a very strong dominant position in the New England fluid milk processing industry. In June 2000, Dean Foods/Suiza controlled 64% of the New England supermarket channel and had an even higher share in the core Eastern Massachusetts-Rhode Island market with 80-90% of sales (Cotterill and Franklin 2001, p. 18). Now, Hood seeks to acquire Crowley/Weeks Dairy via its merger with National Dairy Holdings (Mohl 2002b). Southern New England's processing industry will be reduced to three key players, Dean Foods, Hood/Crowley, and Guida. At retail in Southern New England, Stop and Shop has a dominant position (greater than 40% share) in many local market areas. This is especially true for Connecticut and Rhode Island (Cotterill and Franklin 2001, p. 20). Also, Big Y is dominant in Springfield, its hometown.

² If you want the bottom line, jump to the Aggregate Price Results for Distribution Channels and Chains section. Otherwise, read on.

³ Raw milk in the federal market order costs less as one removes cream and lowers the fat content. At the raw milk level, 2% is 10.5 cents per gallon cheaper than whole (3.25%) milk. One percent is 8.4 cents per gallon cheaper than 2%, and another 8.4 cents per gallon is the difference between one percent and skim.

4. Survey Results: Prices for Leading Chains

Table 3a gives the average lowest price for each type of milk for individual supermarket chains. It also breaks down these prices by state and region. There are 13 chains in Table 3a. The first section of the table reports average lowest prices for whole milk. Examining the first column, in New England, the Stop and Shop price for the cheapest whole milk in the 30 stores (Table 3b) price checked averages \$2.98 per gallon. To see how the lowest price per gallon varied across these stores, please inspect Figure 1a. That figure clearly establishes that the modal price (the price charged in nearly all stores) is \$2.99 per gallon for Stop and Shop.

The average lowest price for whole milk at Shaw's is \$2.87 per gallon. Figure 2a indicates that Shaw's modal price is \$2.89 per gallon. The two leading chain's private label milk is processed by Dean Foods/Suiza.

The average price for whole milk in DeMoulas is \$2.44 per gallon, well below the others in New England. Crowley/Weeks Dairy in Concord, New Hampshire processes DeMoulas' private label milk. A key question that must be answered is the antitrust review of the Hood National Dairy Holdings merger is the impact on DeMoulas, the low price competitor in Eastern Massachusetts.

Guida processes Big Y private label milk. The Big Y retail price for whole milk in Table 3a is as high as Stop and Shop at \$2.98 per gallon. In New England, whole milk is also highest priced at A&P/Waldbaums (\$2.97) and Price Chopper (\$2.99). The prices for all of these chains in the other type of milk (2%, 1%, and skim) in Table 3a are similar to their whole milk prices.

Table 4a gives our estimate of the actual milk bill paid by consumers at each of these chains on a per gallon basis. The reported prices are a weighted average of all milk prices, branded as well as private label. Therefore, these prices are higher than those reported in Table 3a. Whole milk prices for five of the 13 chains average above \$3.00 per gallon. Again, DeMoulas is cheapest at \$2.54, then Roche Brothers at \$2.74.

5. Wal-Mart Supercenters are Not the Lowest Priced Chain

Note in Tables 3a and 4a that the Wal-Mart Supercenter prices are lower than those of many, but not all supermarket chains in New England. Focusing on Table 4a and our estimates of what consumers pay for all brands of milk, at Wal-Mart whole milk prices in New England average \$2.86, which is higher than DeMoulas and Roche Brothers. The same ranking holds for the other three types of milk. We must, however, acknowledge that the three New England Wal-Marts that we price checked are not in the same local markets as Roche Brothers and DeMoulas. They are not direct competitors.

There is another interesting insight on Wal-Mart. Their prices are lower than some but not all chains, yet they remain well above various cost estimates for supplying milk. The expansion of Wal-Mart is no panacea for milk market channel pricing problems.

6. Aggregate Price Results for Distribution Channels and Chains

Table 5 aggregates across milk types to provide a single price level measure for each distribution channel. In New England, chain supermarkets milk prices average \$3.01 per gallon. Convenience stores have a lower average price at \$2.84 per gallon. Club stores average price is \$2.06 and limited assortment stores check in at \$1.92 per gallon. All of these prices are distinctively higher than their counterparts in New York. Also note that the big boys have higher retail prices. The claimed efficiency of large supermarket chains and the strategic partner in the processing sector, Dean/Suiza, are not passed forward as lower prices. It is hard to imagine how a club store who sells milk for 95 cents a gallon less than supermarket chains can save that much on in-store retailing costs. Again, recall that at least for Massachusetts, club stores cannot sell below their full cost, so club stores are not using milk as a loss leader. Chain prices are inordinately high.

Table 6 aggregates across milk types to provide a single price level measure for each chain. We were surprised to find that Price Chopper has the highest prices in New England at \$3.17 per gallon, followed by a perennial high price operator, A&P/Waldbaums at \$3.15 a gallon. Then one drops to the leading firms in the region, Stop and Shop at \$3.09 a gallon, Big Y at \$3.05, and Shaw's at \$2.98 per gallon. DeMoulas is the lowest priced firm at \$2.54 and Wal-Mart checks in at \$2.79. Need one say more?

7. Consumer and Farmer Impacts of Noncompetitive Prices

At this juncture let's focus on the lack of competition in New England and specifically its impact on consumers and farmers. Recall that supermarket chains sell 87% of the milk in Boston and similar amounts elsewhere in New England. The simple average price across the four types of milk for New England is \$3.01 per gallon. What is the cost of supplying that milk to consumers in their neighborhood supermarkets? Midland Farms, a limited assortment store, claims that it can sell whole milk at retail in Massachusetts at a price as low as \$1.79 per gallon without selling below cost. Big Y supermarkets has just cut the price of its 1% and skim milk from the following prices in different stores, \$2.79, \$2.89, \$3.09, and \$3.39 per gallon to \$1.78 per gallon. Are they violating the law and selling below cost? Referring to Table 1a, club and limited assortment stores in Massachusetts that we surveyed have average low prices for all types of milk that range between \$2.20 and \$1.84 per gallon. Are they selling below cost? The staff economist at the Massachusetts Department of Agriculture estimates costs ranging from \$1.74 to \$2.02 per gallon. The evidence clearly and strongly suggests that chain store retail milk prices in Southern New England are at least one dollar higher than the cost of supplying milk to consumers through those stores. A crude estimate of the minimum overcharge to consumers is one-dollar times the number of gallons of milk sold through supermarkets in Southern New England. Based on Cotterill and Franklin (2001 p. 68) we estimate supermarket milk sales in Southern New England (Boston, Providence, and Hartford/Springfield Information Resources, Inc. market areas) to be 8 million gallons per month. Therefore, the minimum overcharge is 8.0 million dollars per month and 96 million dollars per year. On a per capita basis, given a population of 9,448 million, one has an overcharge equal to \$10.16 per person annually.

If this retail pricing extends into Northern New England, and it most certainly does because the leading chains and processors operate up there, then one can add the Northern New England Information Resources, Inc., market area. We estimate that milk sold through supermarkets throughout New England totals 12 million gallons per month or 144 million gallons annually. The annual minimum overcharge is \$144 million and \$11.44 per person.

Farmers also benefit from lower retail prices because consumption would increase. As consumers drink more milk, the current "excess" supply situation would disappear more rapidly and farm prices would rise. Also, there is an immediate impact on farm prices via the way milk is priced in the Northeast Federal Milk Market Order. A one percent increase in the Order's use of milk for drinking rather than manufactured dairy products increases farm prices four percent. This is because the price farmers receive for milk used for drinking is much higher than the price they receive for milk used in manufactured products, including cheese and butter.

8. Concluding Comments and Some Options for Action

This study examined 1680 milk prices in 191 stores from 35 firms in four states. Prices reported are valid for Sunday November 10th, 2002 through Wednesday November 13th, 2002. When combined with the time series data from the Federal Market Administrators office in Boston and Hartford, one obtains a fairly comprehensive view of retail milk pricing in New England and neighboring parts of New York. Prices are lower in New York.

Milk prices in New England are high, relative to costs and relative to prices in New York. Market power is clearly being exercised in New England by processors and retailers. Absent wholesale prices, it is hard to determine how much of the power dividend is being captured by retailers and how much by processors. There clearly is a need for public access to such data. The Massachusetts Milk Board has stumbled into the area because complaints about an entrant firm, Midland Farms, has forced them to estimate processing and retailing costs. Yet the Board currently is looking at the wrong firm, an integrated processor-retailer entrant. It should be examining the actual processing, distribution, and retailing operations of the leading firms in the New England dairy industry. To date, antitrust enforcement has failed to protect consumers and farmers in this industry. The future outlook is hardly better.

This suggests that states, or groups of states, via a Compact must exercise stronger oversight on the operation of the dairy marketing channel. One need not go back to regulating milk like a public utility. Public hearings, publicity, moral suasion/jawboning can cause firms to reign in greedy pricing practices. Daylight also rewards firms who are innovative, efficient, and competitive on pricing.

Consumer groups could consider setting up informational picket lines outside leading supermarket chains to inform shoppers about high milk prices and alternatives, such as nearby clubs or limited assortment stores. Farmers might even want to consider joining them to publicize how high retail prices hurt them. Farmers in Maine are dumping milk (Bombardieri 2002) to protest low prices. This is not the correct location for airing their grievances with the milk marketing system. Farmers need to help consumers see the light and shop right. Buying less milk at higher priced supermarkets would give them the message. It is more economic to raise farm price by expanding demand via a drop in retail prices than it is to dump milk in an attempt to restrict supply. If prices dropped from \$3.00 to \$2.00, a 33 percent move, fluid milk consumption would increase 10-20 percent, according to retail demand elasticity estimates.

New England consumers and farmers also need to look to other regions. Our prior research indicates that similar noncompetitive retail problems have occurred in Chicago and Seattle (Cotterill and Brundage 2001). Undoubtedly, there are other markets where milk pricing is noncompetitive. Farmers have a stronger tradition for group action than consumers. Perhaps farmers should take the lead. For farmers to recapture this policy agenda in Washington, they need to be united across regions and have the support of nonfarm groups such as consumer, environmental, and church groups.

Building a consumer-farmer coalition movement around milk prices could be the start of a strong relationship that would spill over into support for farmland preservations and a family farm based agriculture. Farmers would be well advised to read the old timers like Richard Pattee. We close with a quote from him:

I have seen hundreds of good men and women out on the farms, working themselves and their children from dawn to dark, denying themselves practically all luxuries and some real necessities because the stuff they raised sold for so little. It has been a system of industrial slavery under which handlers of our products made fat profits for themselves by selling at a good margin but at a price far below what our stuff was worth. As long as we would sell for less than cost, they would add their profits and resell at less than value.

I have felt that consumers were willing to pay fair prices if they knew them to be fair and that the producers got them. I still so believe. If ever we can perfect our organization, I believe we can make dairying pay in New England. The main thing is to get together to realize that it is a problem in which we must think and act as a unit, not as individuals. ... Isn't it a shame that hundreds of good men with good herds don't get enough for what they sell to save money for a doctor's bill? I have had scores of letters like this, "I had sickness in my family and had to sell off my cows to pay the bills." These men hadn't wasted their money foolishly as it came in. They simply were not able, with all hands working, living at the least possible cost, raising most of what they ate, wearing old clothes that didn't cost much when bought, going without the comforts of city homes, no gas or electric light, no steam, hot water or furnace heat, no bath rooms and flush toilets, no theatres and very few other amusements, to save money enough to meet an emergency like sickness. So they had to sell off stock and go to work at something else.

We didn't want to get rich unfairly off consumers. We do want such a marketing system as will enable us to get a living price without asking consumers a prohibitive price.

-- Richard Pattee, 1927

References

- Bombardieri, Marcella. 2002. A Good Living Gone Sour. *The Boston Globe*, November 17, B1.
- Cotterill, Ronald W. 2002. *The Impact of the Northeast Dairy Compact on New England Consumers: A Report from the Milk Policy Wars*. University of Connecticut, Food Marketing Policy Center, October 24.
- Cotterill, Ronald W., and Michael F. Brundage. 2001. *Competition, or the Lack Thereof in Local Fluid Milk Markets: San Francisco, Seattle, Chicago, Miami and Dallas-Fort Worth*. University of Connecticut, Food Marketing Policy Center Issue Paper No. 21, May.
- Cotterill, Ronald W., and Andrew W. Franklin. 2001. The Public Interest and Private Economic Power: A Case Study of the Northeast Dairy Compact. University of Connecticut, Food Marketing Policy Center Monograph No. 1., May 2. <http://www.are.uconn.edu/fmktc.html>
- Mohl, Bruce. 2002a. Economists Find High Markup of Regional Milk Prices. *The Boston Globe*, November 13, D6.
- Mohl, Bruce. 2002b. Hood Plans to Merge with Dallas Dairy Firm. *The Boston Globe*, November 13, D6.
- Pattee, Richard. 1927. *My Personal Word*.
- Trade Dimensions. 2002. *2002 Market Scope, Mid-Year Update*. Wilton, CT.

Table 1a. Average Lowest Price By Channel

Type	Channel	New England	New York	Massachusetts	Connecticut	Rhode Island	All
Whole	Chain	2.89	2.36	2.82	2.94	2.90	2.72
Whole	Convenience	3.03	2.51	2.88	3.09	3.12	2.88
Whole	Club	2.16	2.01	2.20	2.13	2.18	2.13
Whole	Limited	1.94	1.69	1.99	1.99	1.84	1.92
Two	Chain	2.86	2.35	2.81	2.88	2.90	2.69
Two	Convenience	3.01	2.48	2.89	3.04	3.09	2.85
Two	Club	2.11	1.86	2.14	2.09	2.14	2.08
Two	Limited	1.94	1.49	1.99	1.99	1.84	1.91
One	Chain	2.88	2.35	2.81	2.93	2.90	2.71
One	Convenience	2.30	2.48	2.16	2.43	1.99	2.35
One	Club	2.03	1.92	2.09	1.98	2.08	2.01
One	Limited	1.79	N/A	1.84	1.99	1.62	1.79
Skim	Chain	2.87	2.35	2.80	2.92	2.90	2.70
Skim	Convenience	3.02	2.48	2.90	3.07	3.09	2.86
Skim	Club	1.93	1.91	2.06	1.84	2.04	1.92
Skim	Limited	1.99	1.29	1.99	1.99	1.99	1.85

Note: N/A means no observations in data

Table 1b. Number of Observations (Stores) for Average Lowest Price By Channel

Type	Channel	New England	New York	Massachusetts	Connecticut	Rhode Island	All
Whole	Chain	87	40	34	44	9	127
Whole	Convenience	24	10	7	14	3	34
Whole	Club	14	3	4	8	2	17
Whole	Limited	12	1	6	2	4	13
Two	Chain	87	40	34	44	9	127
Two	Convenience	24	10	7	14	3	34
Two	Club	13	2	4	8	1	15
Two	Limited	12	1	6	2	4	13
One	Chain	87	40	34	44	9	127
One	Convenience	24	10	7	14	3	34
One	Club	14	3	4	8	2	17
One	Limited	12	0	6	2	4	12
Skim	Chain	87	40	34	44	9	127
Skim	Convenience	24	10	7	14	3	34
Skim	Club	12	3	3	7	2	15
Skim	Limited	4	1	1	2	1	5

Table 2a. Weighted Average Price By Channel

Type	Channel	New England	New York	Massachusetts	Connecticut	Rhode Island	All
Whole	Chain	3.02	2.43	2.96	3.07	3.03	2.86
Whole	Convenience	3.03	2.51	2.88	3.09	3.12	2.88
Whole	Club	2.16	2.01	2.20	2.13	2.18	2.13
Whole	Limited	1.94	1.69	1.99	1.99	1.84	1.92
Two	Chain	3.00	2.42	2.95	3.03	3.03	2.84
Two	Convenience	3.01	2.48	2.89	3.04	3.09	2.85
Two	Club	2.11	1.86	2.14	2.09	2.14	2.08
Two	Limited	1.94	1.49	1.99	1.99	1.84	1.91
One	Chain	3.01	2.42	2.95	3.06	3.03	2.85
One	Convenience	2.30	2.48	2.16	2.43	1.99	2.35
One	Club	2.03	1.92	2.09	1.98	2.08	2.01
One	Limited	1.79	N/A	1.84	1.99	1.62	1.79
Skim	Chain	3.00	2.42	2.94	3.05	3.03	2.84
Skim	Convenience	3.02	2.48	2.90	3.07	3.09	2.86
Skim	Club	1.93	1.91	2.06	1.84	2.04	1.92
Skim	Limited	1.99	1.29	1.99	1.99	1.99	1.85

Note: N/A means no observations in data

Table 2b. Number of Observations (SKUS) for Weighted Average Price By Channel

Type	Channel	New England	New York	Massachusetts	Connecticut	Rhode Island	All
Whole	Chain	272	88	107	138	27	360
Whole	Convenience	24	10	7	14	3	34
Whole	Club	14	3	4	8	2	17
Whole	Limited	12	1	6	2	4	13
Two	Chain	271	90	107	137	27	361
Two	Convenience	24	10	7	14	3	34
Two	Club	13	2	4	8	1	15
Two	Limited	12	1	6	2	4	13
One	Chain	270	87	107	136	27	357
One	Convenience	24	10	7	14	3	34
One	Club	14	3	4	8	2	17
One	Limited	12	0	6	2	4	12
Skim	Chain	271	88	107	137	27	359
Skim	Convenience	24	10	7	14	3	34
Skim	Club	12	3	3	7	2	15
Skim	Limited	4	1	1	2	1	5

Table 3a. Average Lowest Price By Chain

Type	Chain	New England	New York	Massachusetts	Connecticut	Rhode Island	All
Whole	Stop & Shop	2.98	2.53	2.91	3.02	2.99	2.88
Whole	Shaw's/Star Market	2.87	-	2.84	2.89	2.89	2.87
Whole	DeMoulas/Market Basket	2.44	-	2.44	-	-	2.44
Whole	Roche Bros	2.50	-	2.50	-	-	2.50
Whole	Big Y	2.98	-	3.04	2.95	-	2.98
Whole	A&P/Waldbaums	2.97	2.66	2.79	3.01	-	2.83
Whole	Shop Rite	2.76	2.41	-	2.76	-	2.62
Whole	Price Chopper	2.99	2.17	2.99	N/A	-	2.29
Whole	Ro Jacks	2.83	-	2.99	-	2.75	2.83
Whole	Hannaford	N/A	2.25	N/A	-	-	2.25
Whole	King Kullen	-	2.57	-	-	-	2.57
Whole	Wal-Mart Supercenter	2.73	2.06	2.82	2.69	-	2.29
Whole	Pathmark	-	2.57	-	-	-	2.57
Two	Stop & Shop	2.97	2.48	2.91	3.02	2.99	2.87
Two	Shaw's/Star Market	2.87	-	2.84	2.89	2.89	2.87
Two	DeMoulas/Market Basket	2.44	-	2.44	-	-	2.44
Two	Roche Bros	2.50	-	2.50	-	-	2.50
Two	Big Y	2.79	-	3.01	2.69	-	2.79
Two	A&P/Waldbaums	2.99	2.66	2.79	3.03	-	2.84
Two	Shop Rite	2.76	2.41	-	2.76	-	2.62
Two	Price Chopper	2.99	2.17	2.99	N/A	-	2.29
Two	Ro Jacks	2.83	-	2.99	-	2.75	2.83
Two	Hannaford	N/A	2.25	N/A	-	-	2.25
Two	King Kullen	-	2.57	-	-	-	2.57
Two	Wal-Mart Supercenter	2.63	2.06	2.66	2.61	-	2.25
Two	Pathmark	-	2.57	-	-	-	2.57
One	Stop & Shop	2.97	2.48	2.91	3.01	2.99	2.87
One	Shaw's/Star Market	2.87	-	2.84	2.89	2.89	2.87
One	DeMoulas/Market Basket	2.44	-	2.44	-	-	2.44
One	Roche Bros	2.50	-	2.50	-	-	2.50
One	Big Y	2.96	-	3.00	2.94	-	2.96
One	A&P/Waldbaums	2.97	2.66	2.79	3.01	-	2.83
One	Shop Rite	2.76	2.41	-	2.76	-	2.62
One	Price Chopper	2.99	2.17	2.99	N/A	-	2.29
One	Ro Jacks	2.83	-	2.99	-	2.75	2.83
One	Hannaford	N/A	2.25	N/A	-	-	2.25
One	King Kullen	-	2.57	-	-	-	2.57
One	Wal-Mart Supercenter	2.63	2.06	2.66	2.61	-	2.25
One	Pathmark	-	2.57	-	-	-	2.57
Skim	Stop & Shop	2.97	2.48	2.91	3.00	2.99	2.86
Skim	Shaw's/Star Market	2.87	-	2.85	2.89	2.89	2.87
Skim	DeMoulas/Market Basket	2.44	-	2.44	-	-	2.44
Skim	Roche Bros	2.50	-	2.50	-	-	2.50
Skim	Big Y	2.93	-	2.96	2.92	-	2.93
Skim	A&P/Waldbaums	2.97	2.66	2.79	3.01	-	2.83
Skim	Shop Rite	2.76	2.41	-	2.76	-	2.62
Skim	Price Chopper	2.99	2.17	2.99	N/A	-	2.29
Skim	Ro Jacks	2.83	-	2.99	-	2.75	2.83
Skim	Hannaford	N/A	2.25	N/A	-	-	2.25
Skim	King Kullen	-	2.57	-	-	-	2.57
Skim	Wal-Mart Supercenter	2.53	2.06	2.53	2.53	-	2.21
Skim	Pathmark	-	2.57	-	-	-	2.57

Notes: - means chain not in area, N/A means no observations in data

Table 3b. Number of Observations (Stores) for Average Lowest Price By Chain

Type	Chain	New England	New York	Massachusetts	Connecticut	Rhode Island	All
Whole	Stop & Shop	30	8	11	15	4	38
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	6	5	1	5	-	11
Whole	Shop Rite	6	4	-	6	-	10
Whole	Price Chopper	1	6	1	N/A	-	7
Whole	Ro Jaks	3	-	1	-	2	3
Whole	Hannaford	N/A	8	N/A	-	-	8
Whole	King Kullen	-	2	-	-	-	2
Whole	Wal-Mart Supercenter	3	6	1	2	-	9
Whole	Pathmark	-	1	-	-	-	1
Two	Stop & Shop	30	8	11	15	4	38
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	6	5	1	5	-	11
Two	Shop Rite	6	4	-	6	-	10
Two	Price Chopper	1	6	1	N/A	-	7
Two	Ro Jaks	3	-	1	-	2	3
Two	Hannaford	N/A	8	N/A	-	-	8
Two	King Kullen	-	2	-	-	-	2
Two	Wal-Mart Supercenter	3	6	1	2	-	9
Two	Pathmark	-	1	-	-	-	1
One	Stop & Shop	30	8	11	15	4	38
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	6	5	1	5	-	11
One	Shop Rite	6	4	-	6	-	10
One	Price Chopper	1	6	1	N/A	-	7
One	Ro Jaks	3	-	1	-	2	3
One	Hannaford	N/A	8	N/A	-	-	8
One	King Kullen	-	2	-	-	-	2
One	Wal-Mart Supercenter	3	6	1	2	-	9
One	Pathmark	-	1	-	-	-	1
Skim	Stop & Shop	30	8	11	15	4	38
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	6	5	1	5	-	11
Skim	Shop Rite	6	4	-	6	-	10
Skim	Price Chopper	1	6	1	N/A	-	7
Skim	Ro Jaks	3	-	1	-	2	3
Skim	Hannaford	N/A	8	N/A	-	-	8
Skim	King Kullen	-	2	-	-	-	2
Skim	Wal-Mart Supercenter	3	6	1	2	-	9
Skim	Pathmark	-	1	-	-	-	1

Notes: - means chain not in area, N/A means no observations in data

Table 4a. Weighted Average Price By Chain

Type	Chain	New England	New York	Massachusetts	Connecticut	Rhode Island	All
Whole	Stop & Shop	3.10	2.62	3.04	3.14	3.09	3.01
Whole	Shaw's/Star Market	2.98	-	2.95	3.01	2.99	2.98
Whole	DeMoulas/Market Basket	2.54	-	2.54	-	-	2.54
Whole	Roche Bros	2.74	-	2.74	-	-	2.74
Whole	Big Y	3.10	-	3.16	3.07	-	3.10
Whole	A&P/Waldbaums	3.16	2.70	3.07	3.18	-	3.00
Whole	Shop Rite	2.90	2.44	N/A	2.90	-	2.71
Whole	Price Chopper	3.17	2.33	3.17	N/A	-	2.46
Whole	Ro Jacks	3.03	-	3.14	-	2.98	3.03
Whole	Hannaford	N/A	2.33	N/A	-	-	2.33
Whole	King Kullen	-	2.57	-	-	-	2.57
Whole	Wal-Mart Supercenter	2.86	2.15	2.94	2.81	-	2.40
Whole	Pathmark	-	2.57	-	-	-	2.57
Two	Stop & Shop	3.09	2.58	3.04	3.13	3.09	3.00
Two	Shaw's/Star Market	2.98	-	2.95	3.01	2.99	2.98
Two	DeMoulas/Market Basket	2.54	-	2.54	-	-	2.54
Two	Roche Bros	2.72	-	2.72	-	-	2.72
Two	Big Y	2.97	-	3.13	2.89	-	2.97
Two	A&P/Waldbaums	3.15	2.70	3.07	3.17	-	2.99
Two	Shop Rite	2.90	2.45	-	2.90	-	2.71
Two	Price Chopper	3.17	2.33	3.17	N/A	-	2.45
Two	Ro Jacks	3.03	-	3.14	-	2.98	3.03
Two	Hannaford	N/A	2.33	N/A	-	-	2.33
Two	King Kullen	-	2.57	-	-	-	2.57
Two	Wal-Mart Supercenter	2.79	2.15	2.84	2.76	-	2.38
Two	Pathmark	-	2.57	-	-	-	2.57
One	Stop & Shop	3.09	2.58	3.04	3.13	3.09	3.00
One	Shaw's/Star Market	2.98	-	2.94	3.01	2.99	2.98
One	DeMoulas/Market Basket	2.54	-	2.54	-	-	2.54
One	Roche Bros	2.72	-	2.72	-	-	2.72
One	Big Y	3.08	-	3.13	3.06	-	3.08
One	A&P/Waldbaums	3.14	2.70	3.07	3.15	-	2.99
One	Shop Rite	2.90	2.44	-	2.90	-	2.71
One	Price Chopper	3.17	2.33	3.17	N/A	-	2.46
One	Ro Jacks	3.03	N/A	3.14	-	2.98	3.03
One	Hannaford	N/A	2.33	N/A	-	-	2.33
One	King Kullen	-	2.57	-	-	-	2.57
One	Wal-Mart Supercenter	2.80	2.15	2.84	2.78	-	2.39
One	Pathmark	-	2.57	-	-	-	2.57
Skim	Stop & Shop	3.09	2.58	3.04	3.13	3.09	3.00
Skim	Shaw's/Star Market	2.98	-	2.95	3.01	2.99	2.98
Skim	DeMoulas/Market Basket	2.54	-	2.54	-	-	2.54
Skim	Roche Bros	2.72	-	2.72	-	-	2.72
Skim	Big Y	3.06	-	3.10	3.04	-	3.06
Skim	A&P/Waldbaums	3.14	2.70	3.07	3.15	-	2.99
Skim	Shop Rite	2.90	2.44	-	2.90	-	2.71
Skim	Price Chopper	3.17	2.33	3.17	N/A	-	2.45
Skim	Ro Jacks	3.03	-	3.14	-	2.98	3.03
Skim	Hannaford	N/A	2.33	N/A	-	-	2.33
Skim	King Kullen	-	2.57	-	-	-	2.57
Skim	Wal-Mart Supercenter	2.71	2.15	2.75	2.70	-	2.36
Skim	Pathmark	-	2.57	-	-	-	2.57

Notes: - means chain not in area, N/A means no observations in data

Table 4b. Number of Observations (SKUS) for Weighted Average Price By Chain

Type	Chain	New England	New York	Massachusetts	Connecticut	Rhode Island	All
Whole	Stop & Shop	91	17	33	46	12	108
Whole	Shaw's/Star Market	59	-	24	26	9	59
Whole	De Moulas/Market Basket	12	-	12	-	-	12
Whole	Roche Bros	9	-	9	-	-	9
Whole	Big Y	47	-	16	31	-	47
Whole	A&P/Waldbaums	19	7	3	16	-	26
Whole	Shop Rite	10	7	-	10	-	17
Whole	Price Chopper	4	21	4	N/A	-	25
Whole	Ro Jaks	9	-	3	-	6	9
Whole	Hannaford	N/A	18	N/A	-	-	18
Whole	King Kullen	-	2	-	-	-	2
Whole	Wal-Mart Supercenter	9	15	3	6	-	24
Whole	Pathmark	-	1	-	-	-	1
Two	Stop & Shop	91	17	33	46	12	108
Two	Shaw's/Star Market	59	-	24	26	9	59
Two	De Moulas/Market Basket	12	-	12	-	-	12
Two	Roche Bros	9	-	9	-	-	9
Two	Big Y	47	-	16	31	-	47
Two	A&P/Waldbaums	18	7	3	15	-	25
Two	Shop Rite	10	8	-	10	-	18
Two	Price Chopper	4	22	4	N/A	-	26
Two	Ro Jaks	9	-	3	-	6	9
Two	Hannaford	N/A	18	N/A	-	-	18
Two	King Kullen	-	2	-	-	-	2
Two	Wal-Mart Supercenter	9	15	3	6	-	24
Two	Pathmark	-	1	-	-	-	1
One	Stop & Shop	91	17	33	46	12	108
One	Shaw's/Star Market	59	-	24	26	9	59
One	De Moulas/Market Basket	12	-	12	-	-	12
One	Roche Bros	9	-	9	-	-	9
One	Big Y	46	-	16	30	-	46
One	A&P/Waldbaums	18	7	3	15	-	25
One	Shop Rite	10	7	-	10	-	17
One	Price Chopper	4	21	4	NA	-	25
One	Ro Jaks	9	-	3	-	6	9
One	Hannaford	N/A	18	N/A	-	-	18
One	King Kullen	-	2	-	-	-	2
One	Wal-Mart Supercenter	9	14	3	6	-	23
One	Pathmark	-	1	-	-	-	1
Skim	Stop & Shop	91	17	33	46	12	108
Skim	Shaw's/Star Market	59	-	24	26	9	59
Skim	De Moulas/Market Basket	12	-	12	-	-	12
Skim	Roche Bros	9	-	9	-	-	9
Skim	Big Y	47	-	16	31	-	47
Skim	A&P/Waldbaums	18	7	3	15	-	25
Skim	Shop Rite	10	7	-	10	-	17
Skim	Price Chopper	4	22	4	N/A	-	26
Skim	Ro Jaks	9	-	3	-	6	9
Skim	Hannaford	N/A	18	N/A	-	-	18
Skim	King Kullen	-	2	-	-	-	2
Skim	Wal-Mart Supercenter	9	14	3	6	-	23
Skim	Pathmark	-	1	-	-	-	1

Notes: - means chain not in area, N/A means no observations in data

Table 5. Milk Prices By Channel

Channel	New England	New York	Massachusetts	Connecticut	Rhode Island	All
Chain	3.01	2.42	2.95	3.05	3.03	2.85
Convenience	2.84	2.49	2.71	2.91	2.82	2.74
Club	2.06	1.92	2.12	2.01	2.11	2.03
Limited	1.92	1.49	1.95	1.99	1.82	1.87

Notes: Average of prices for types of milk in Table 2a

Table 6. Milk Prices By Chain

Chain	New England	New York	Massachusetts	Connecticut	Rhode Island	All
Stop & Shop	3.09	2.59	3.04	3.13	3.09	3.00
Shaw's/Star Market	2.98	-	2.95	3.01	2.99	2.98
DeMoulas/Market Basket	2.54	-	2.54	-	-	2.54
Roche Bros	2.73	-	2.73	-	-	2.73
Big Y	3.05	-	3.13	3.01	-	3.05
A&P/Waldbaums	3.15	2.70	3.07	3.16	-	2.99
Shop Rite	2.90	2.44	N/A	2.90	-	2.71
Price Chopper	3.17	2.33	3.17	N/A	-	2.46
Ro Jacks	3.03	-	3.14	-	2.98	3.03
Hannaford	N/A	2.33	N/A	-	-	2.33
King Kullen	-	2.57	-	-	-	2.57
Wal-Mart Supercenter	2.79	2.15	2.84	2.76	-	2.38
Pathmark	-	2.57	-	-	-	2.57

Notes: average of prices for types of milk in Table 4a,

- means chain not in area, N/A means no observations in data

Figure 1a

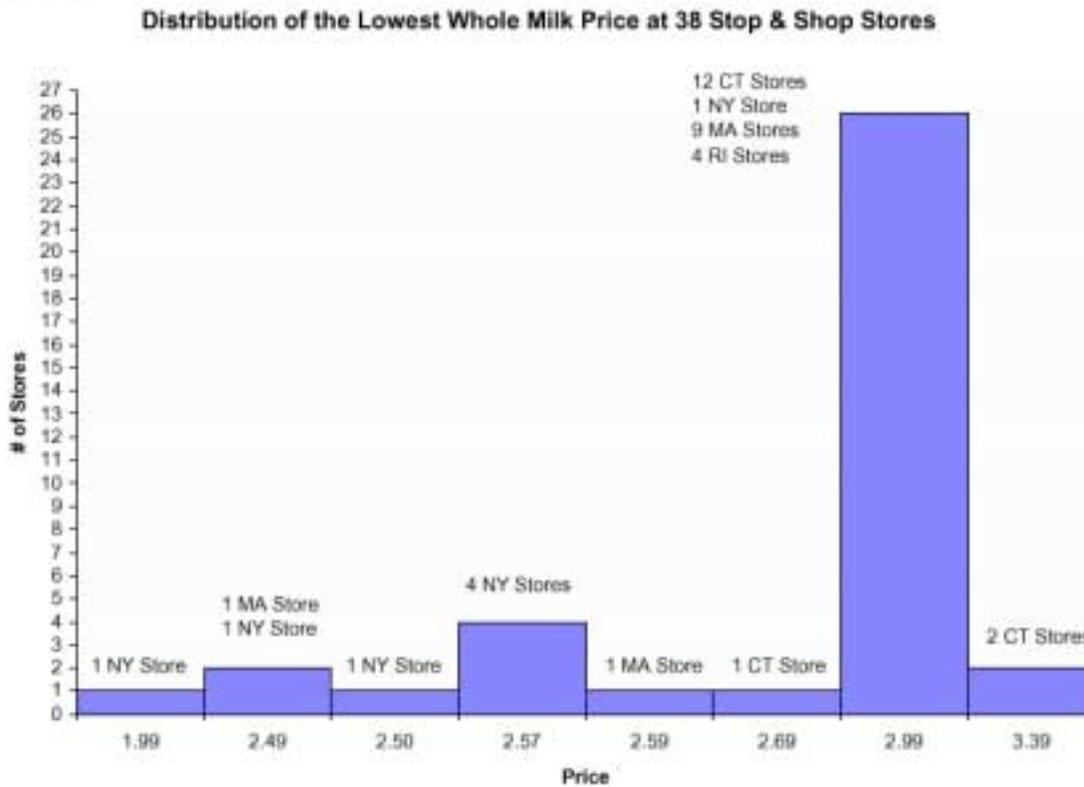


Figure 1b

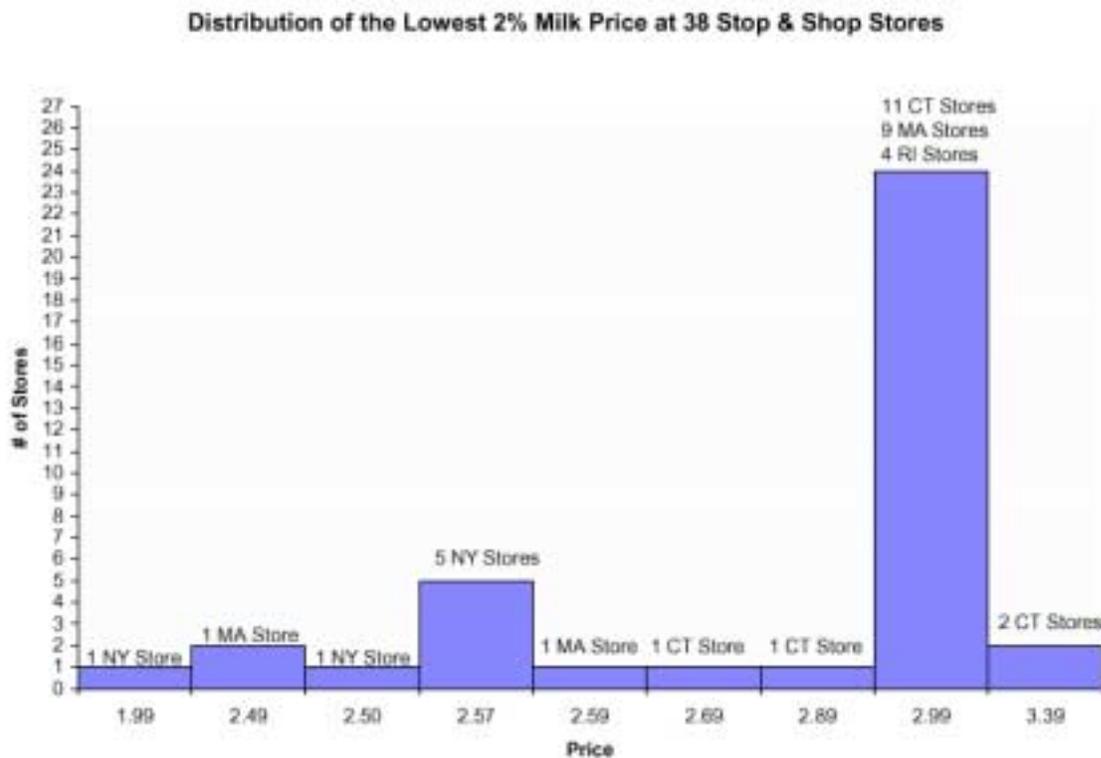


Figure 1c

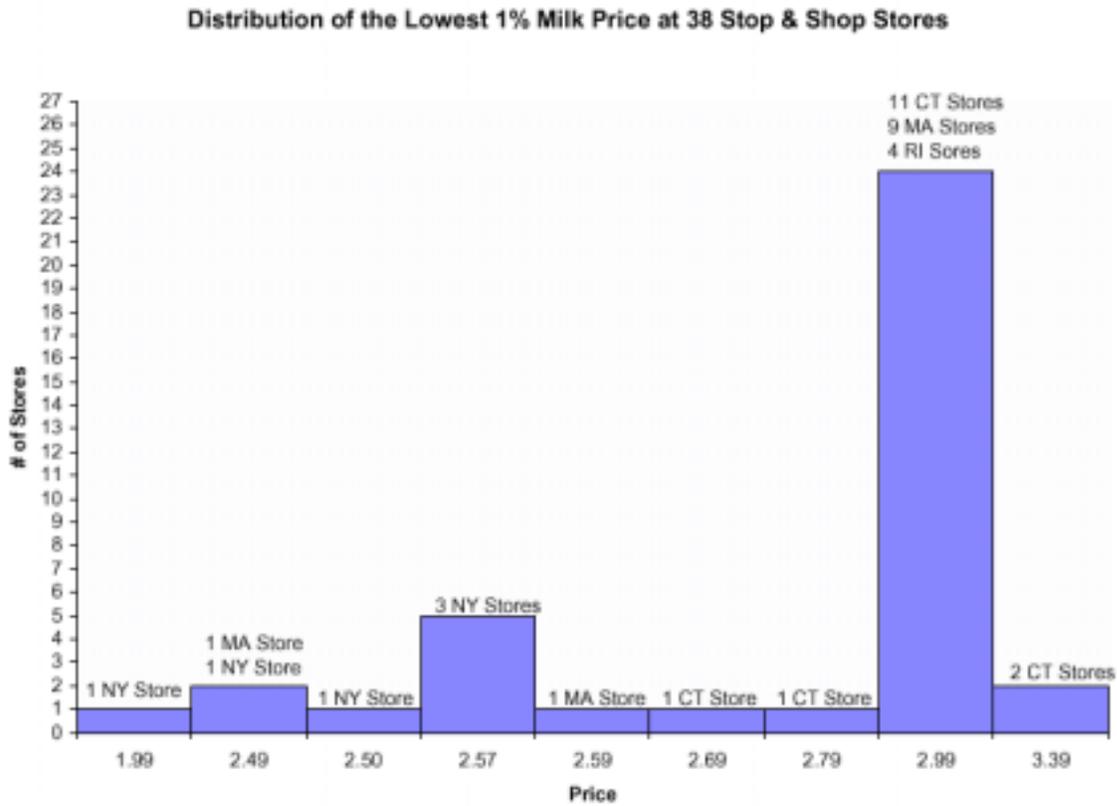


Figure 1d

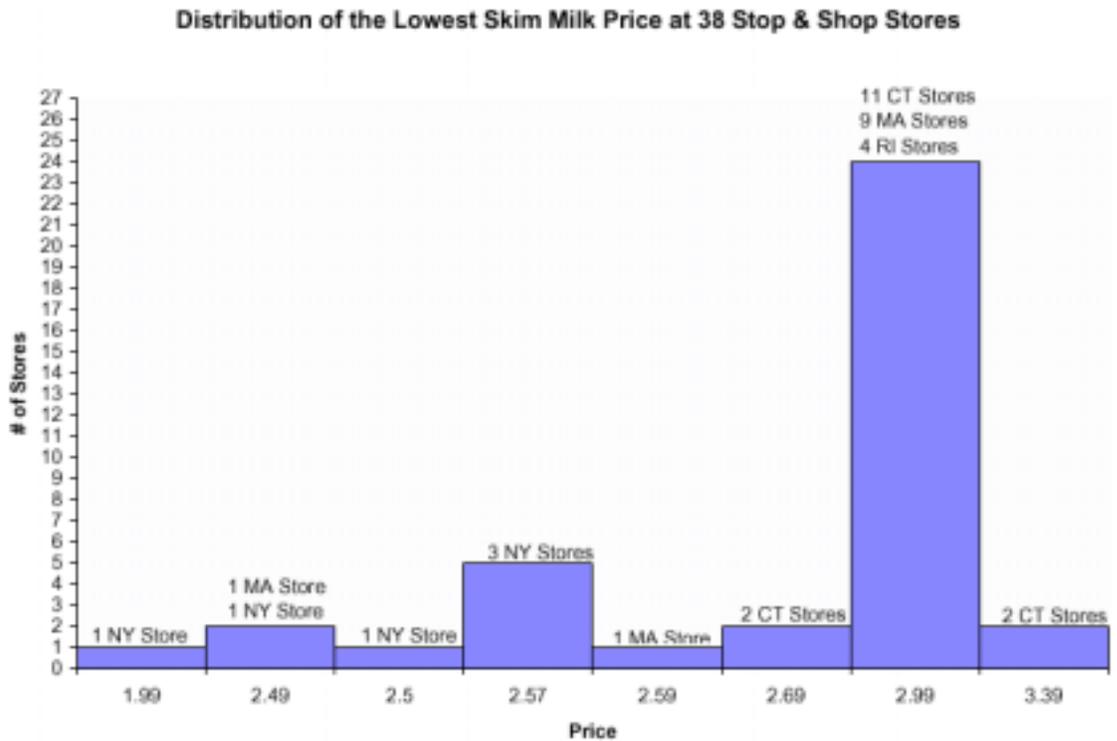


Figure 2a

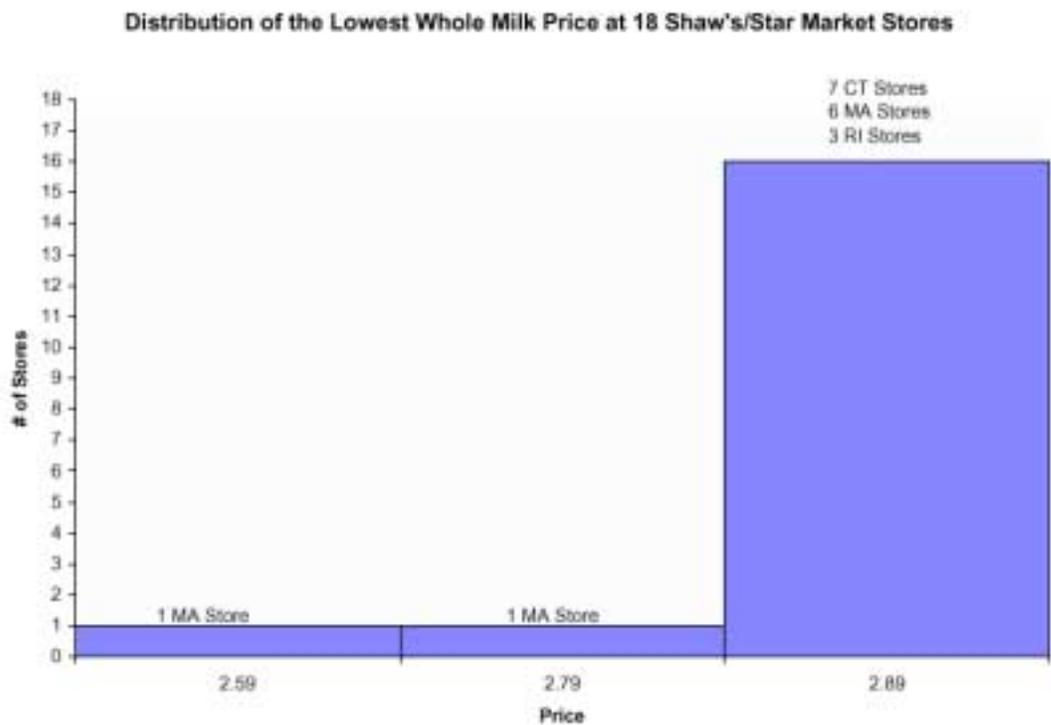


Figure 2b



Figure 2c

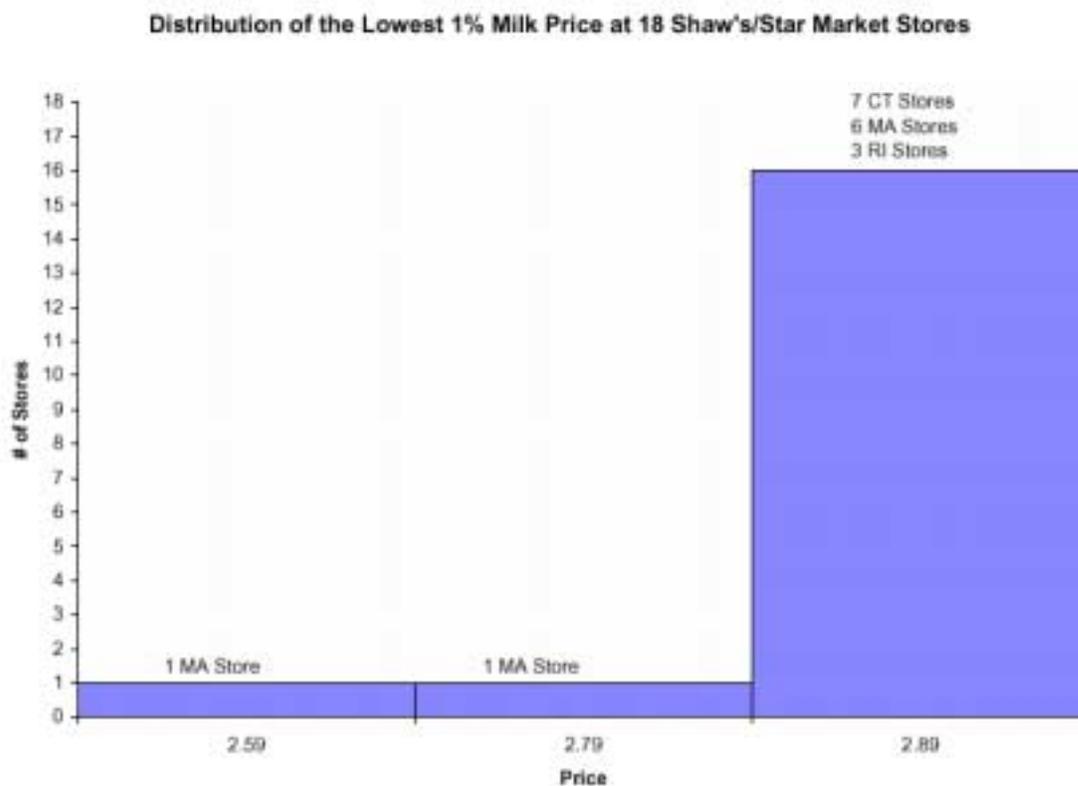


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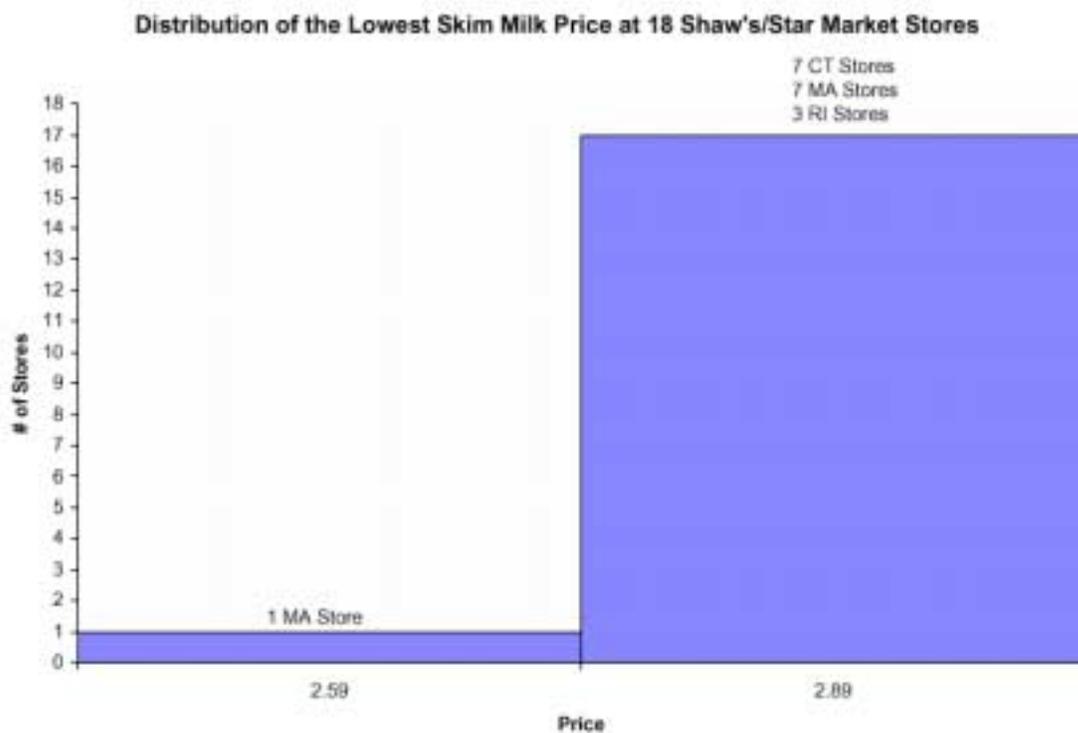


Figure 3a



Figure 3b



Figure 3c



Figure 3d

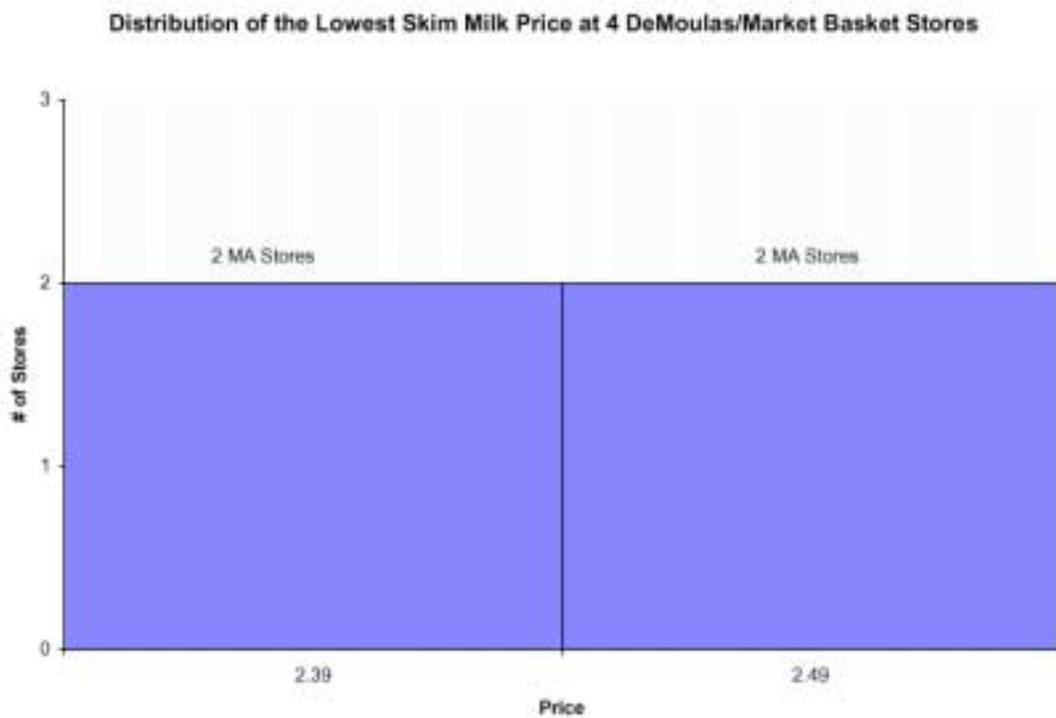


Figure 4a



Figure 4b

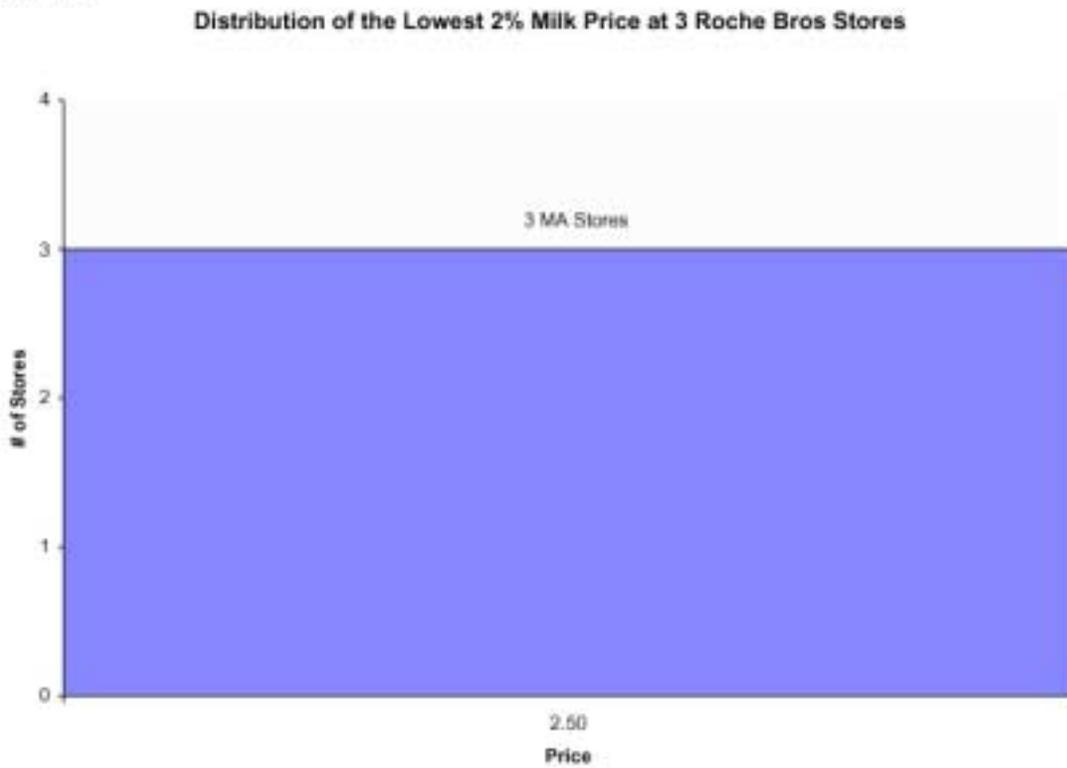


Figure 4c



Figure 4d



Figure 5a



Figure 5b

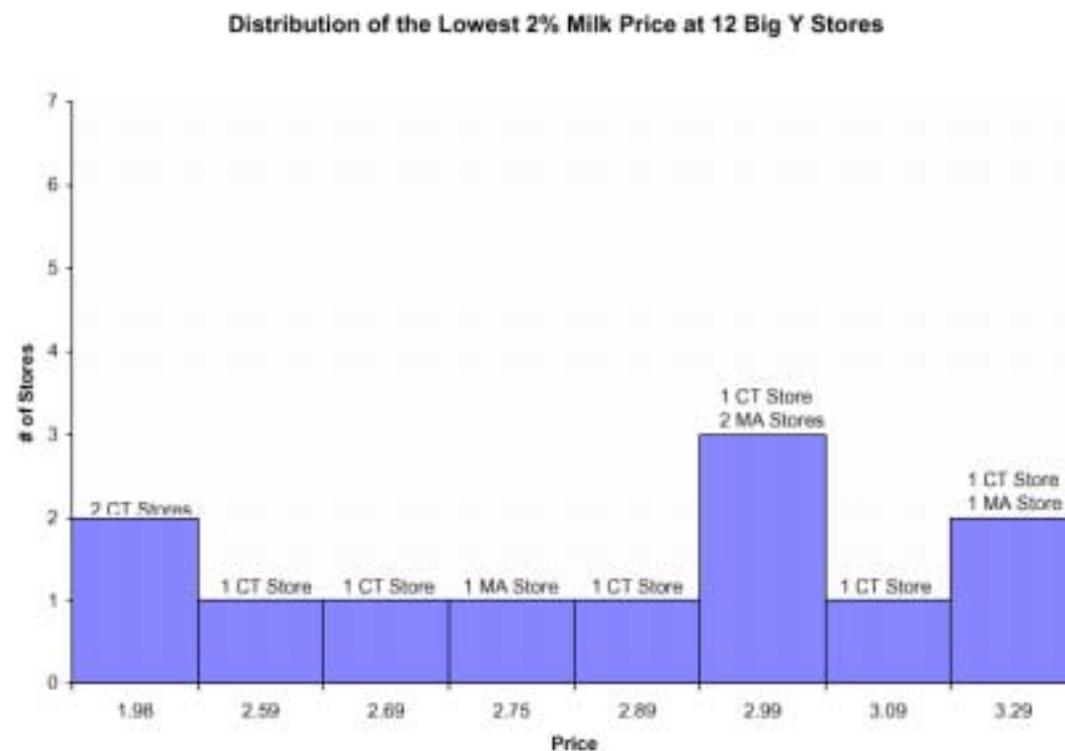
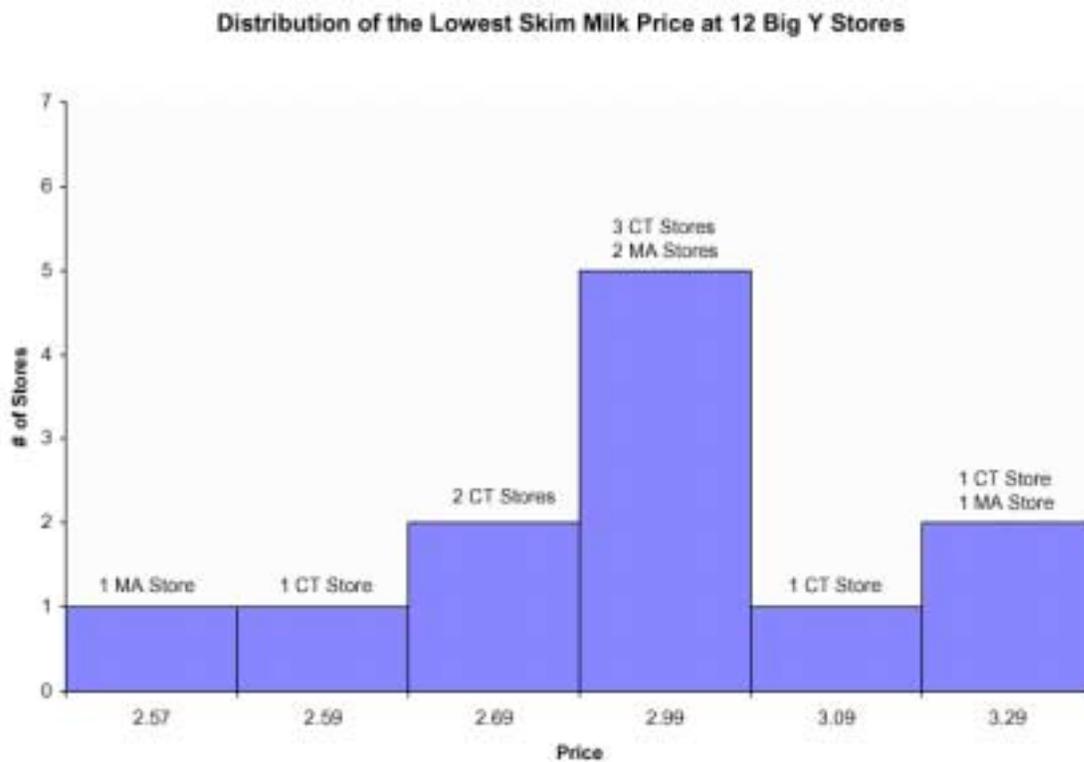


Figure 5c



Figure 5d



v Figure 6a

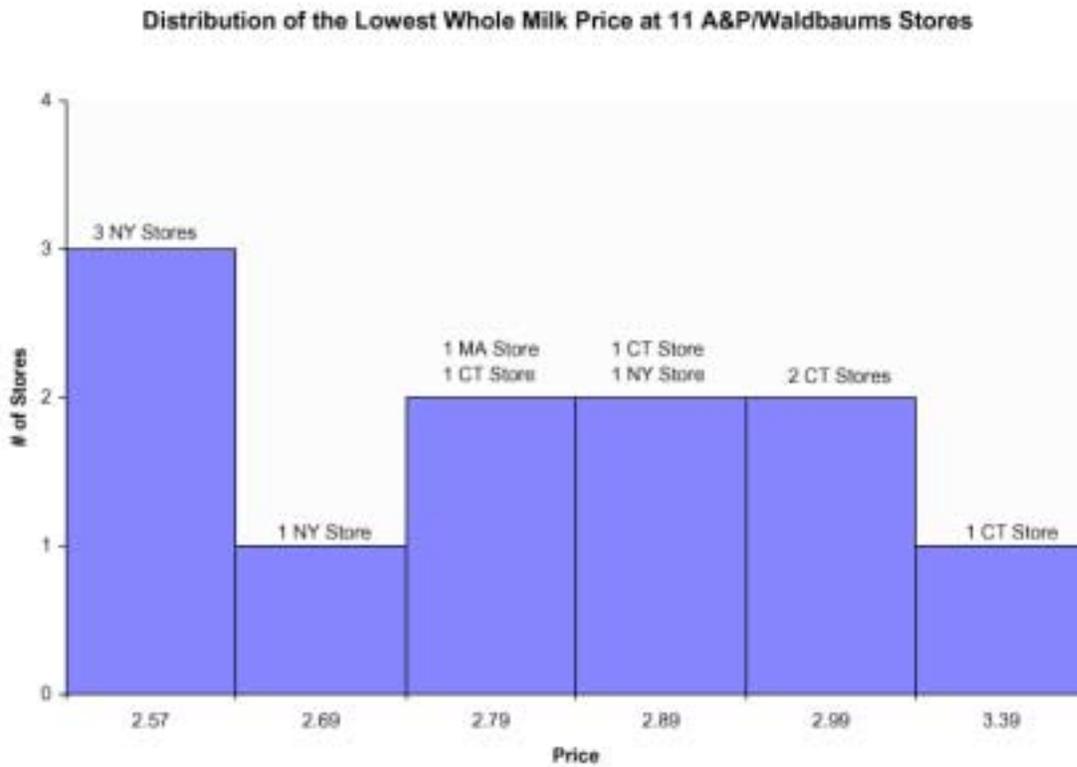


Figure 6b

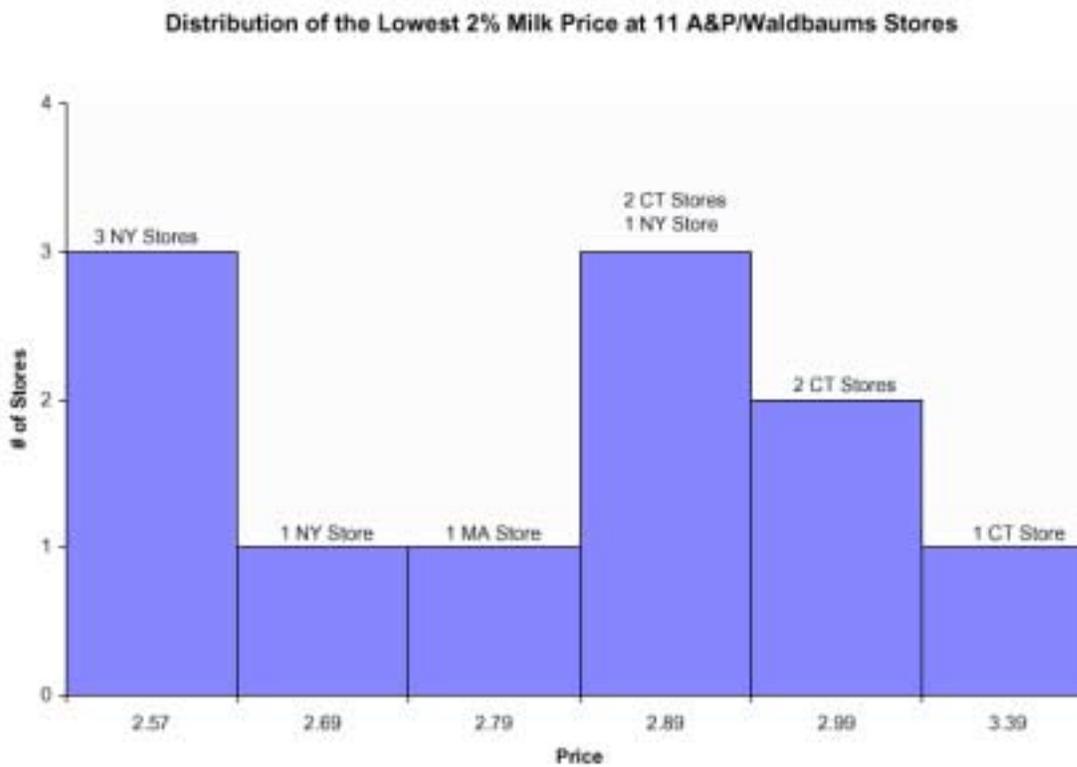


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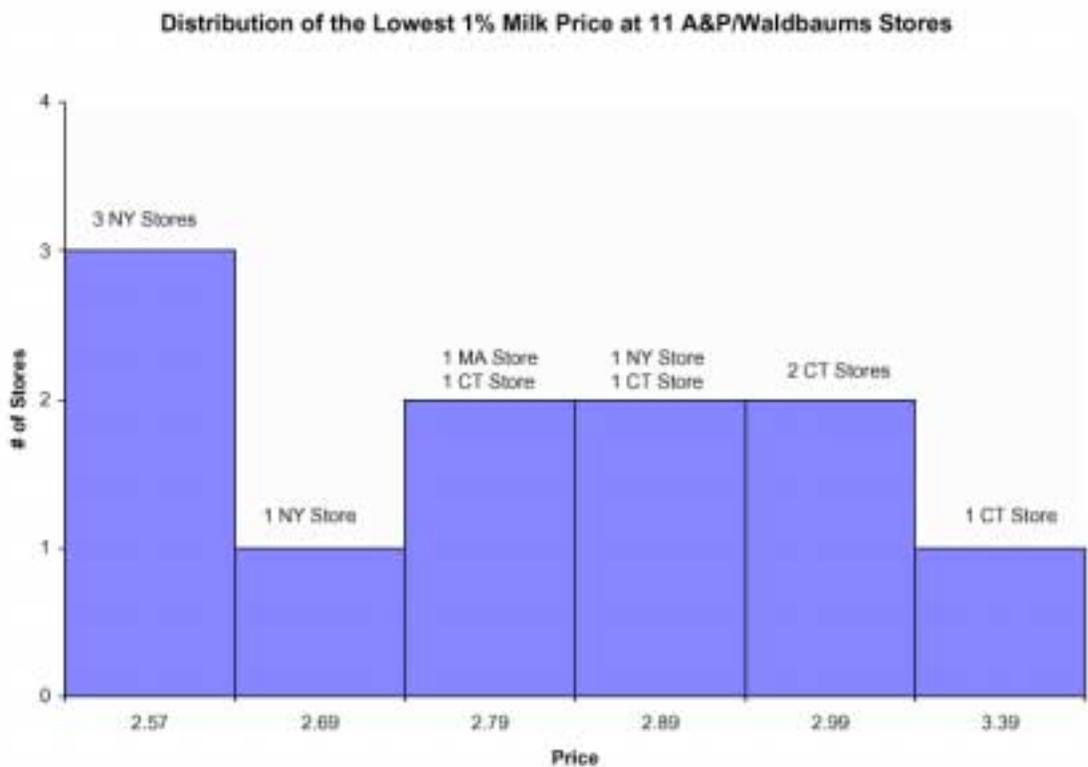


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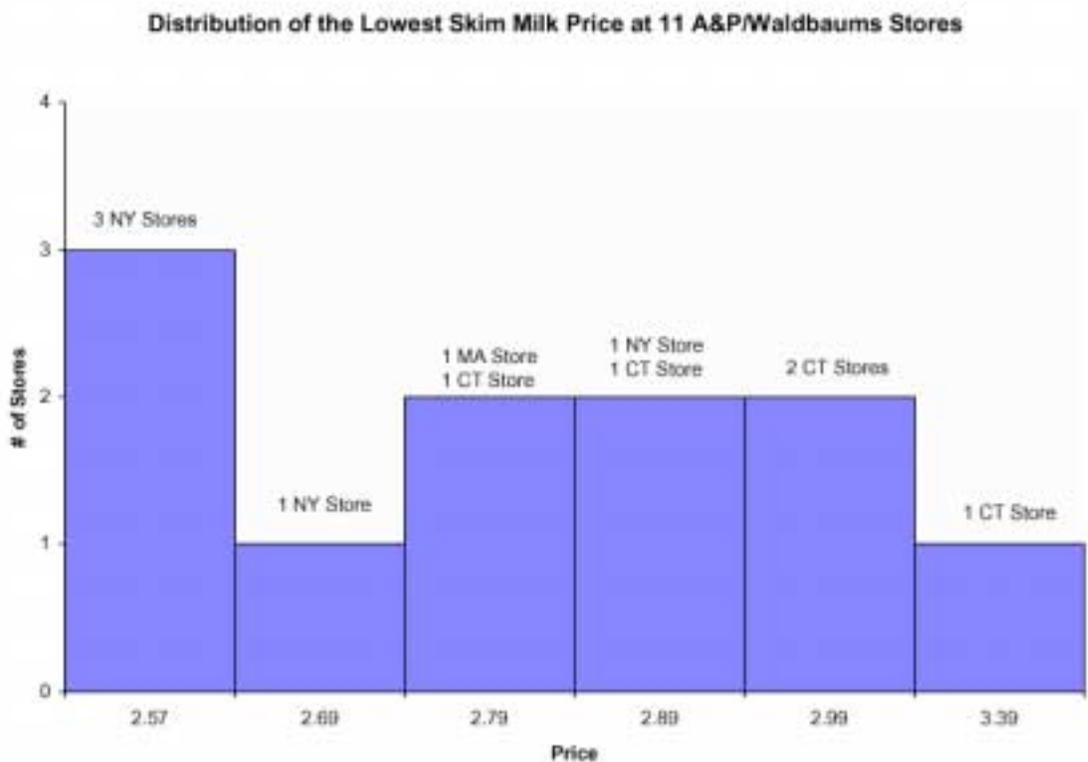


Figure 7a



Figure 7b



Figure 7c



Figure 7d



Figure 8a

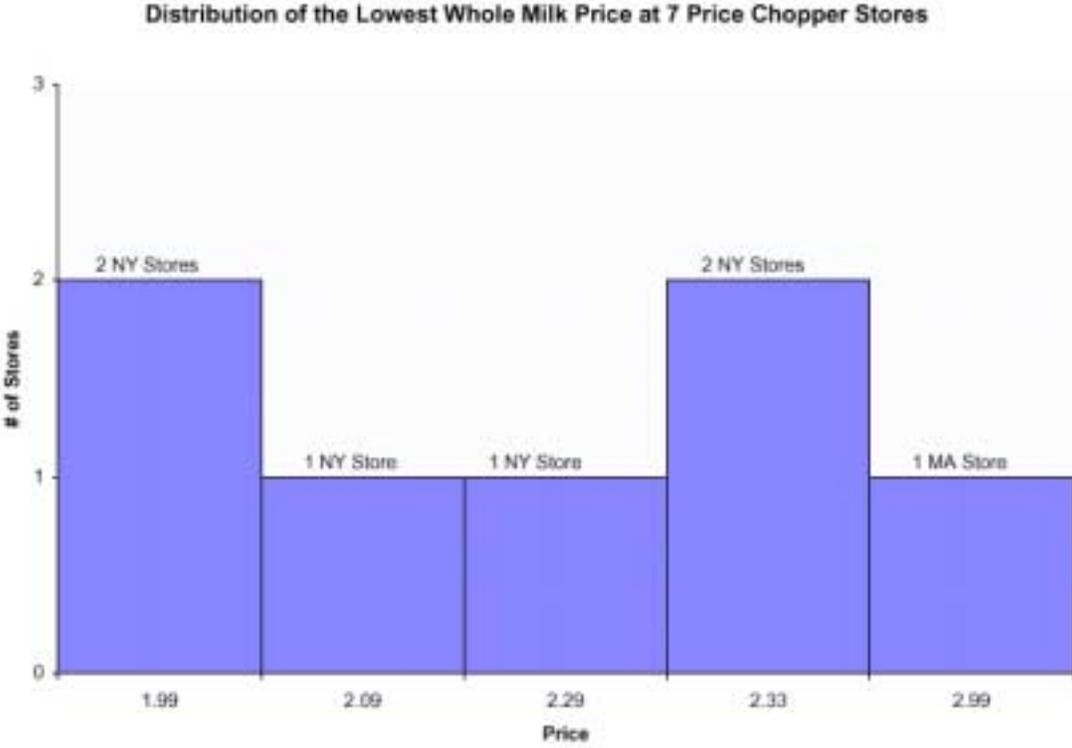


Figure 8b

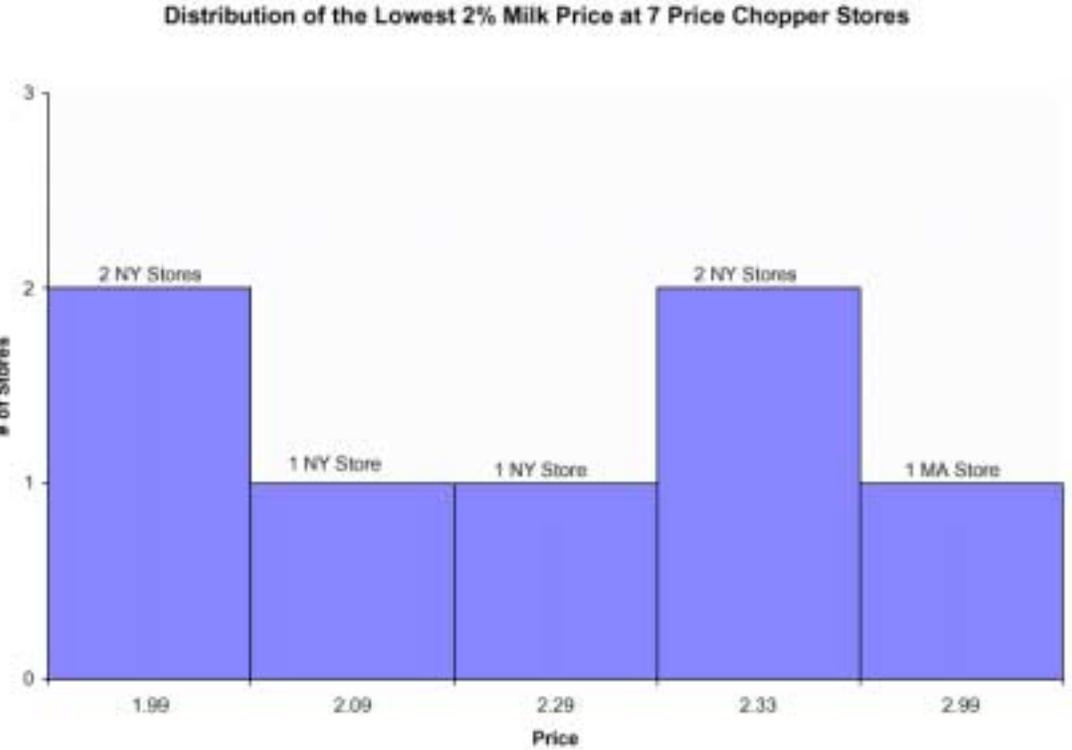


Figure 8c

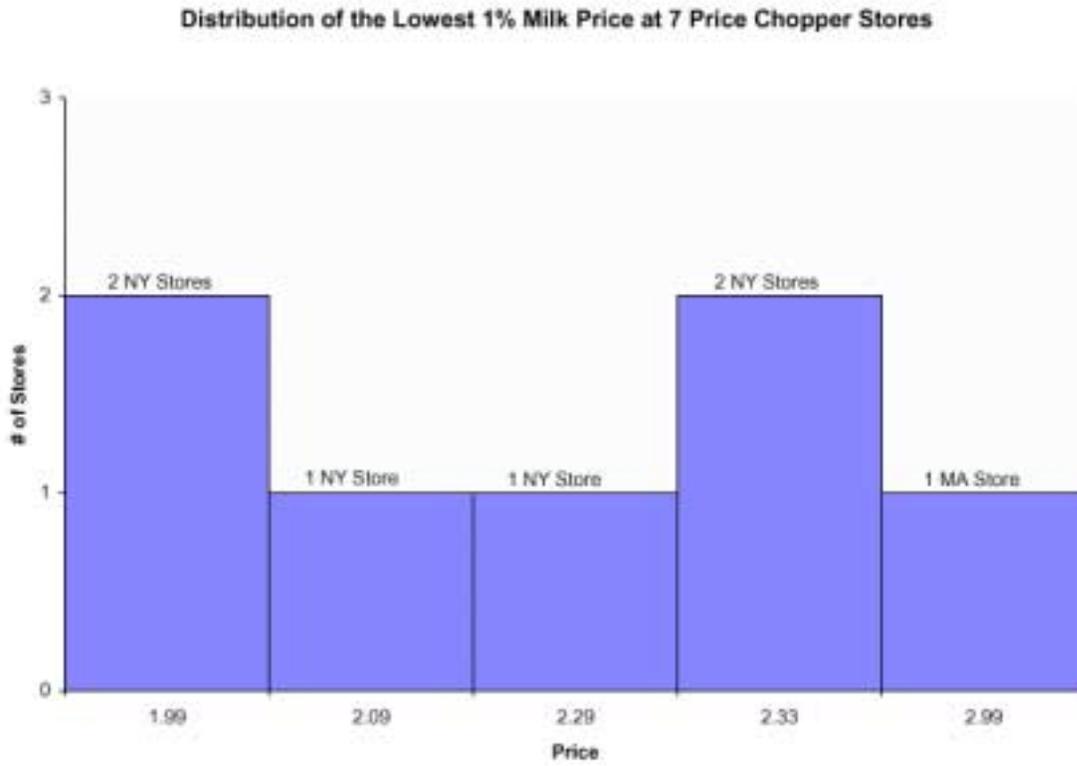


Figure 8d



Figure 9a



Figure 9b



Figure 9c



Figure 9d

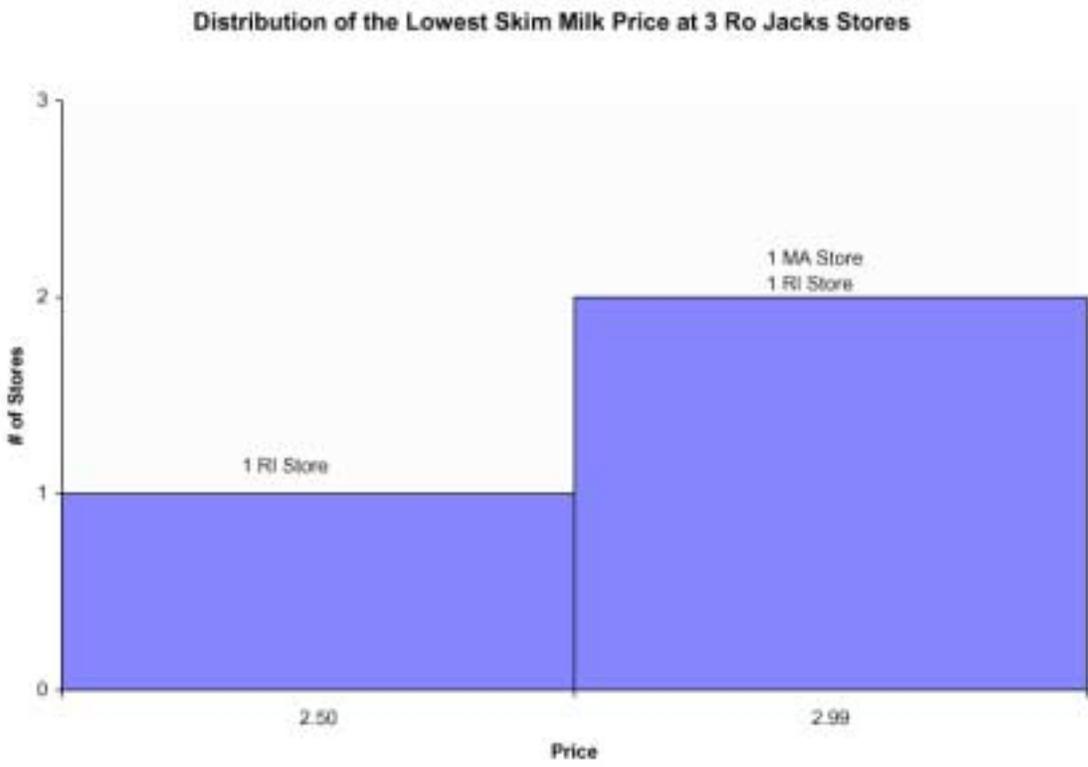


Figure 10a

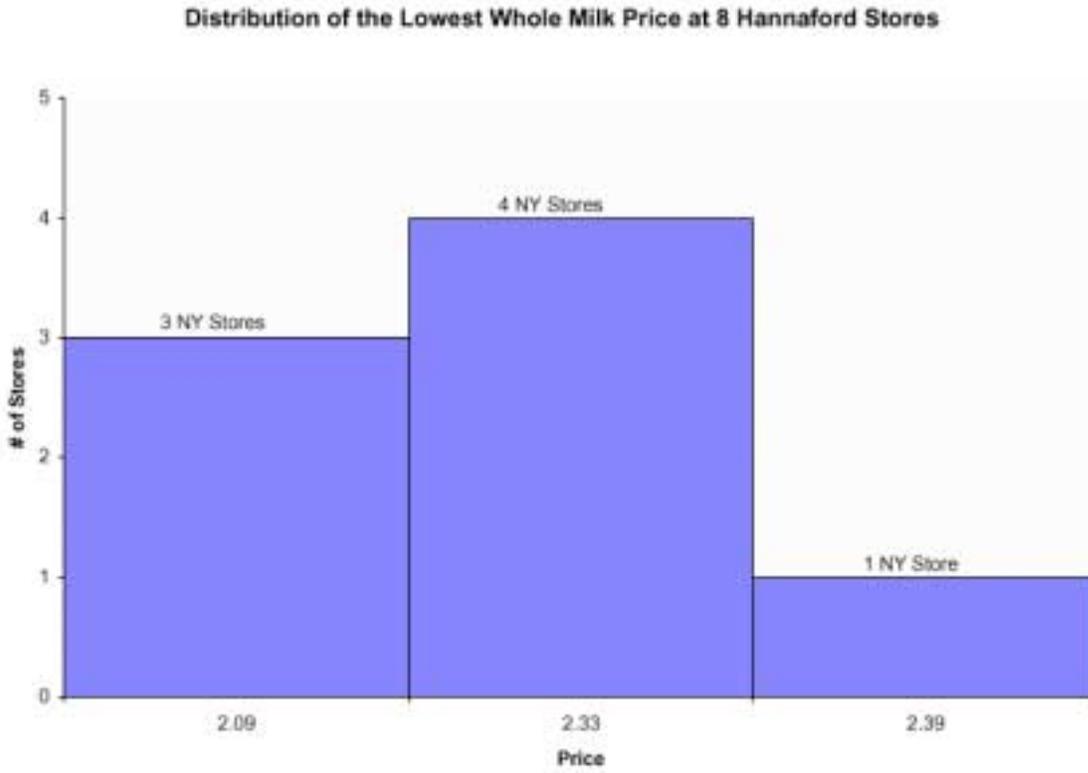


Figure 10b



Figure 10c



Figure 10d



Figure 11a



Figure 11b



Figure 11c

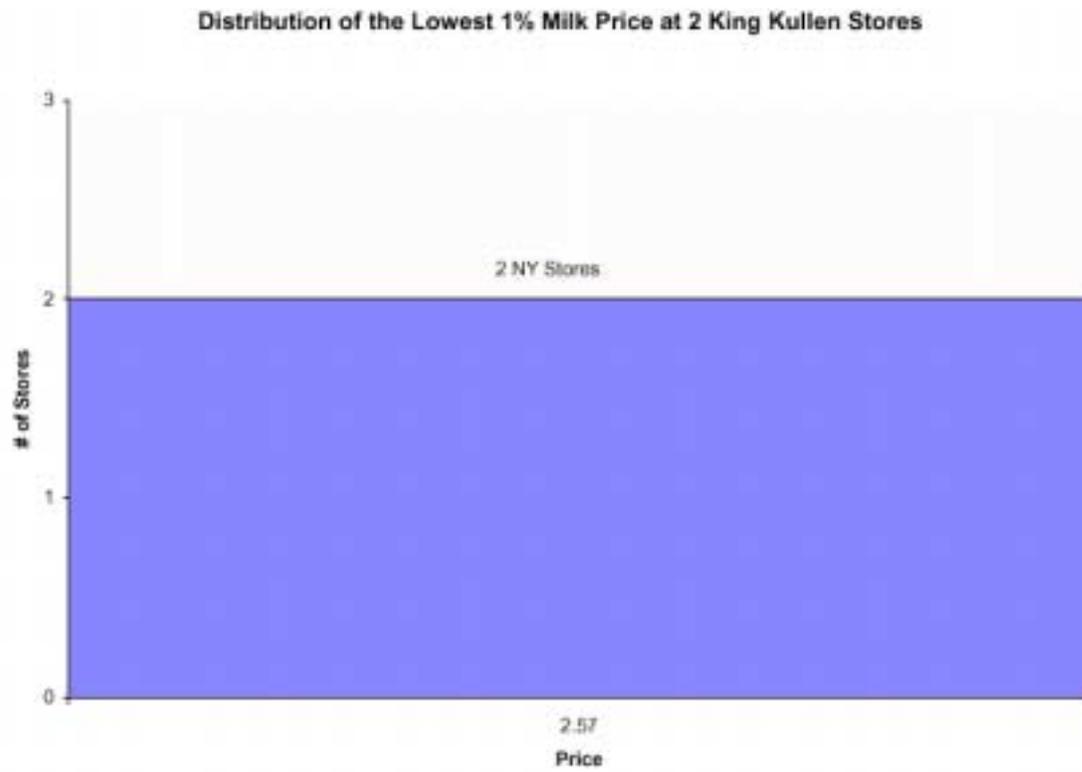


Figure 11d



Figure 12a

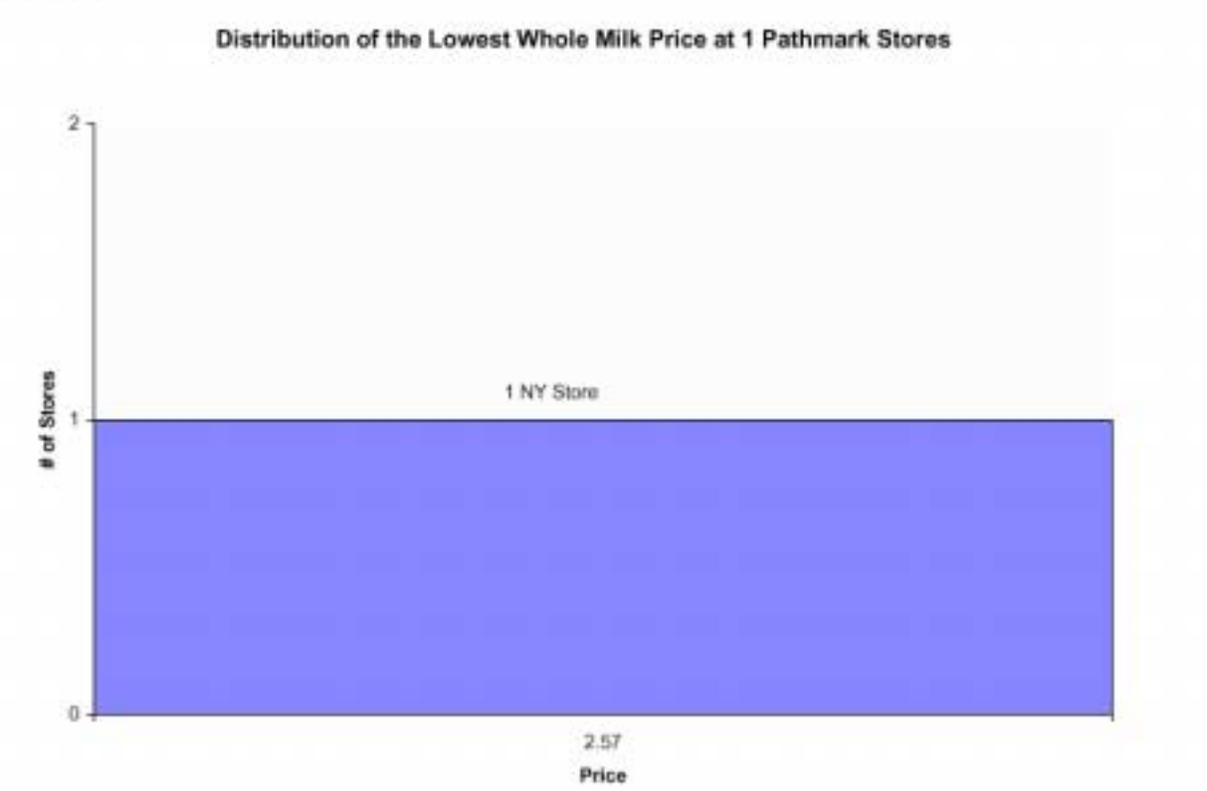


Figure 12b



Figure 12c

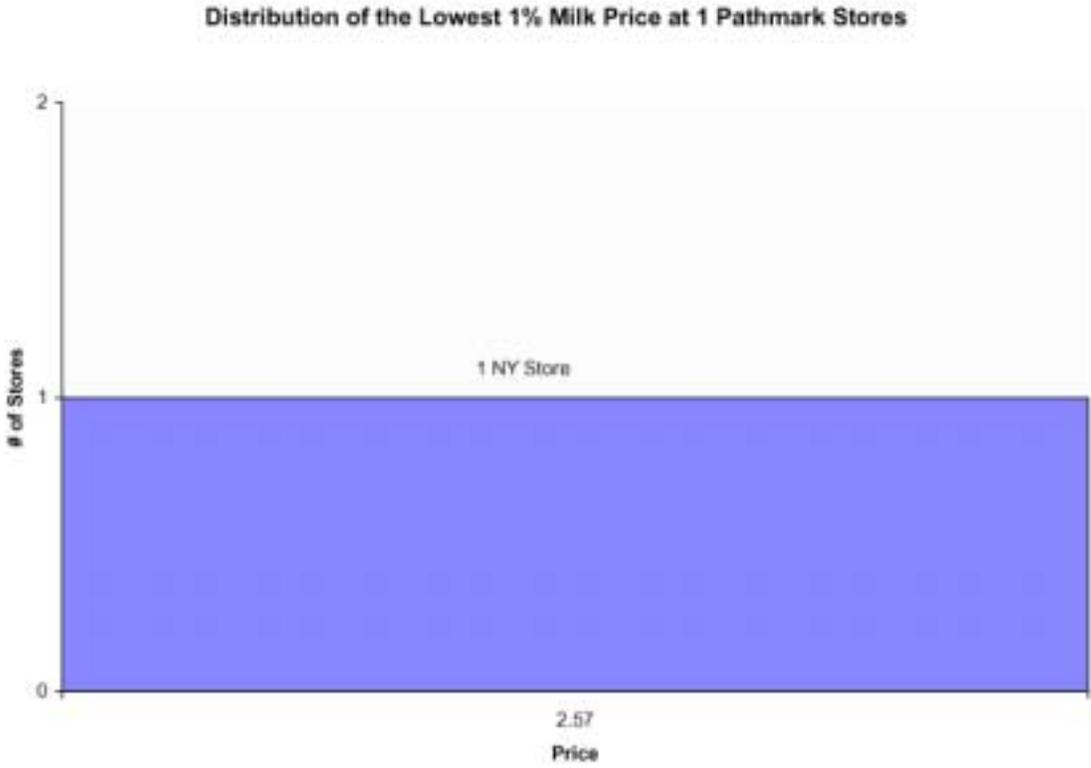


Figure 12d



Figure 13a

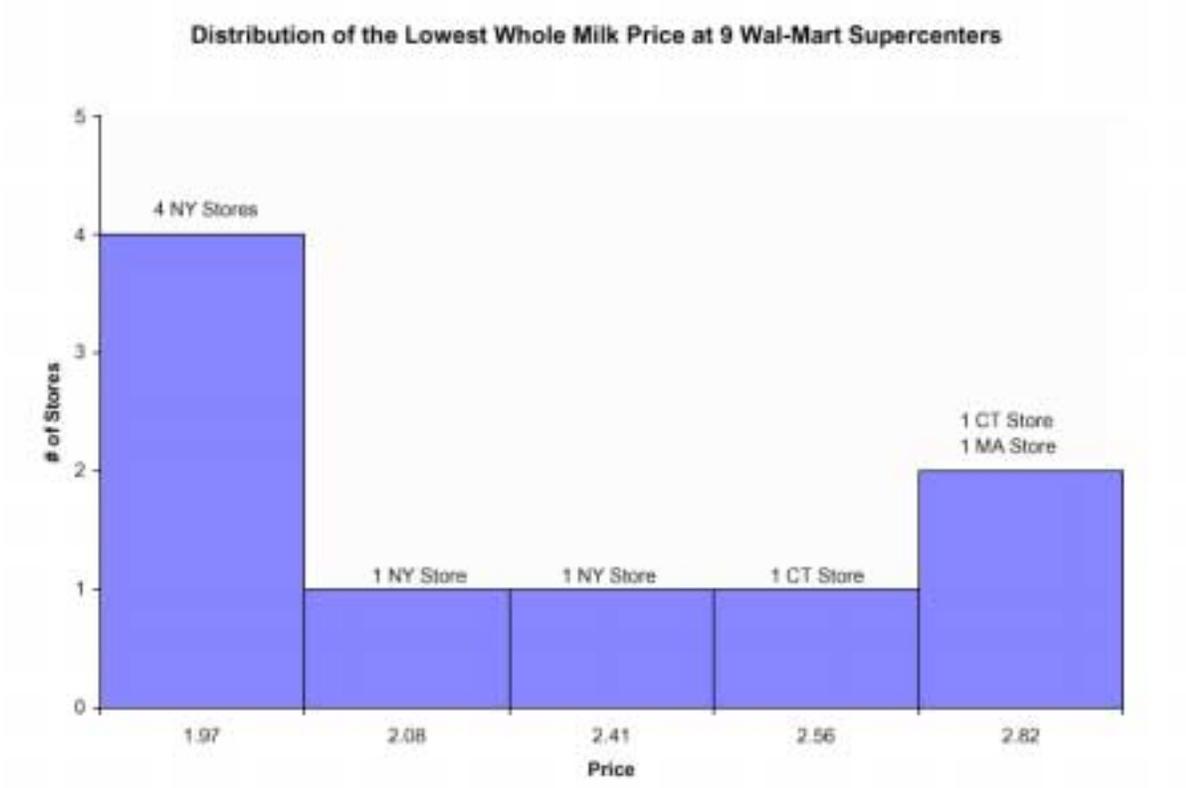


Figure 13b

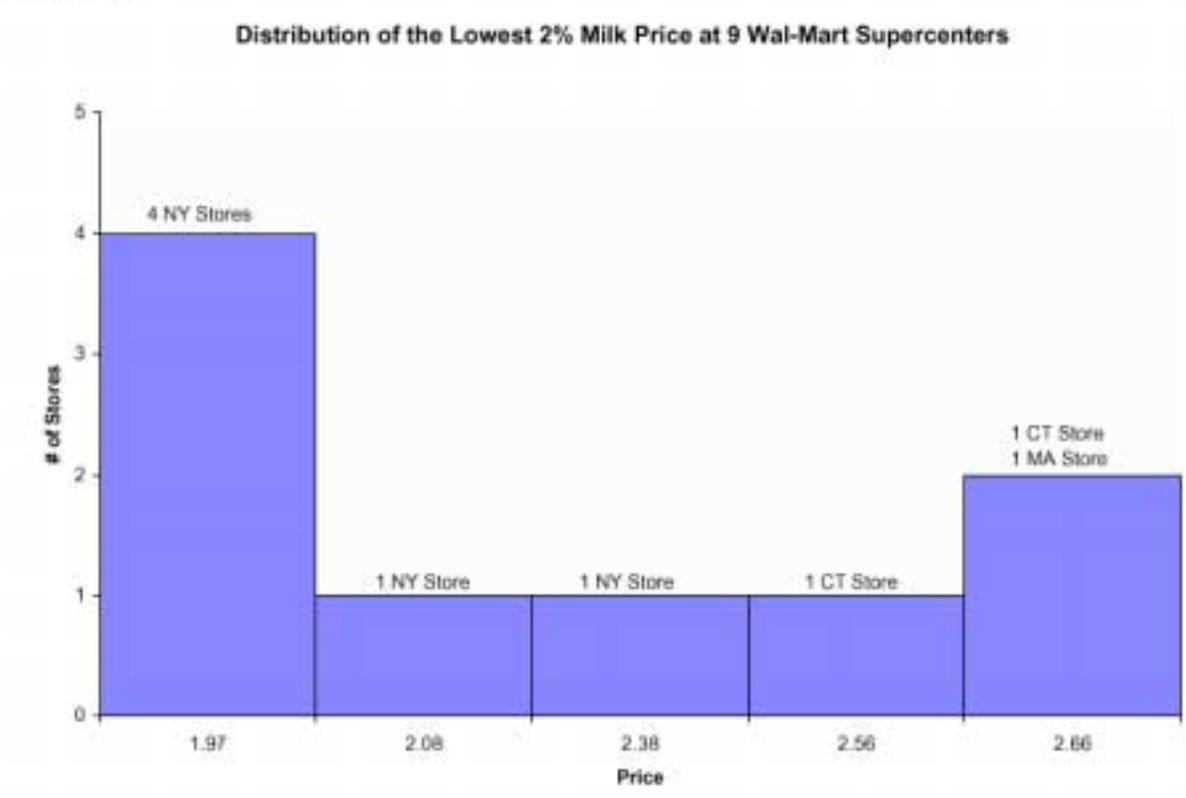


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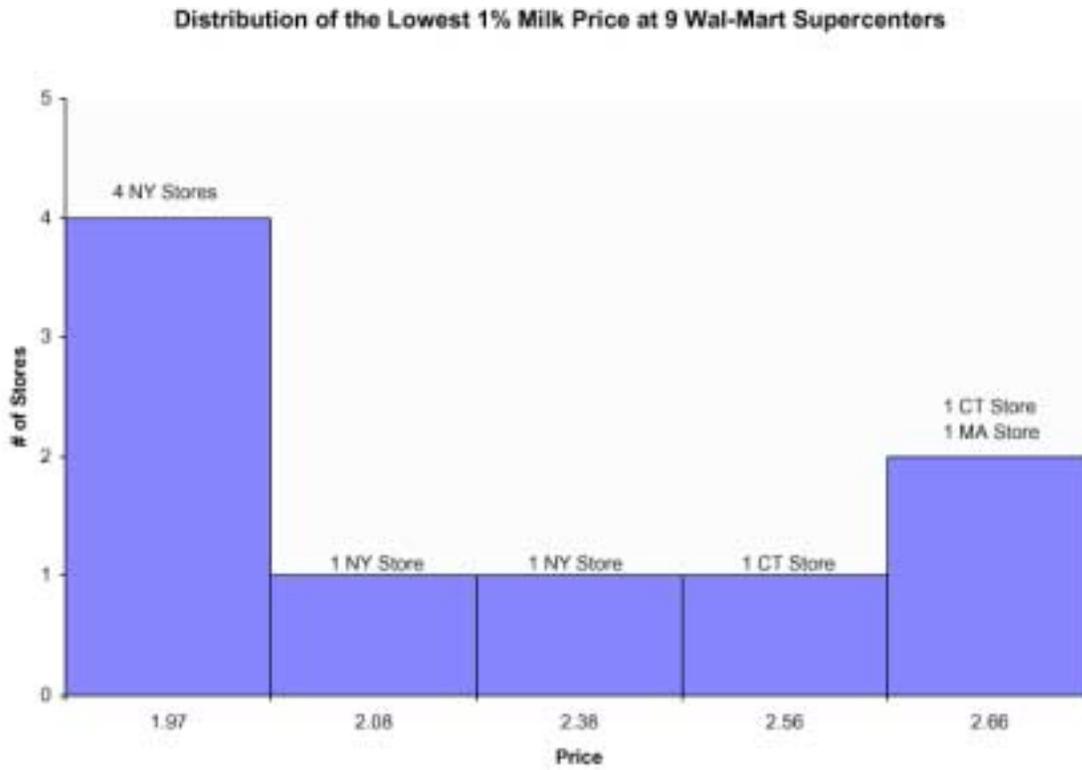
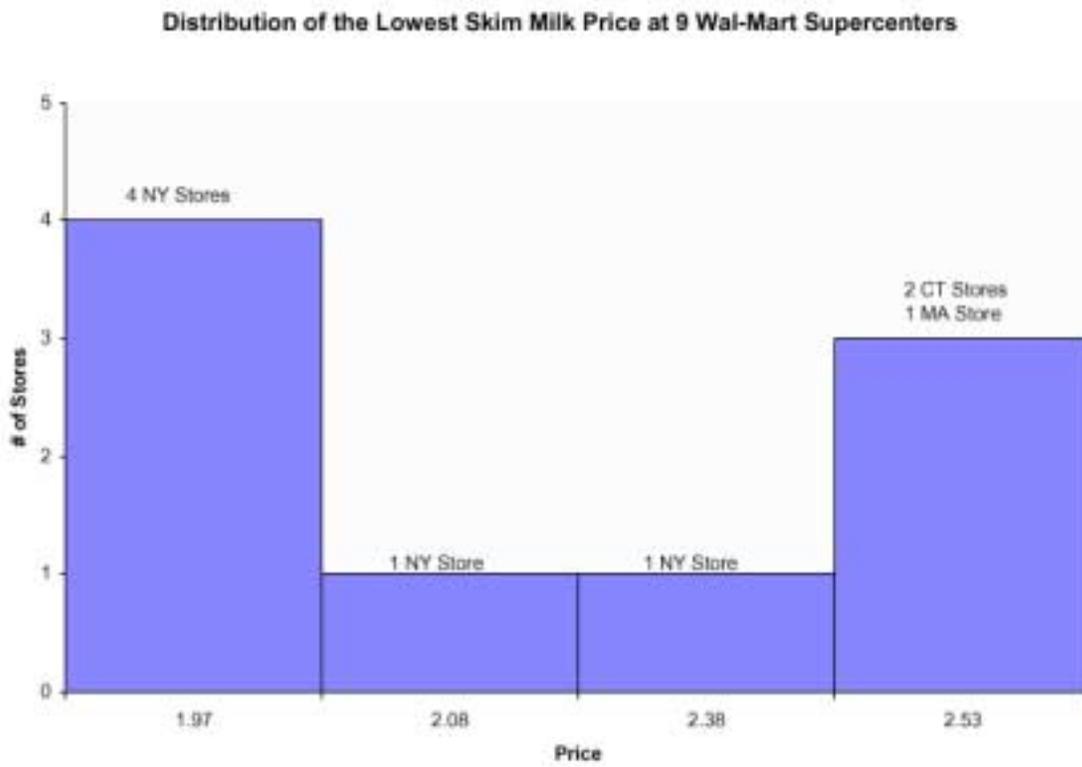


Figure 13d



Appendix A: Boston and Hartford Farm and Retail Prices

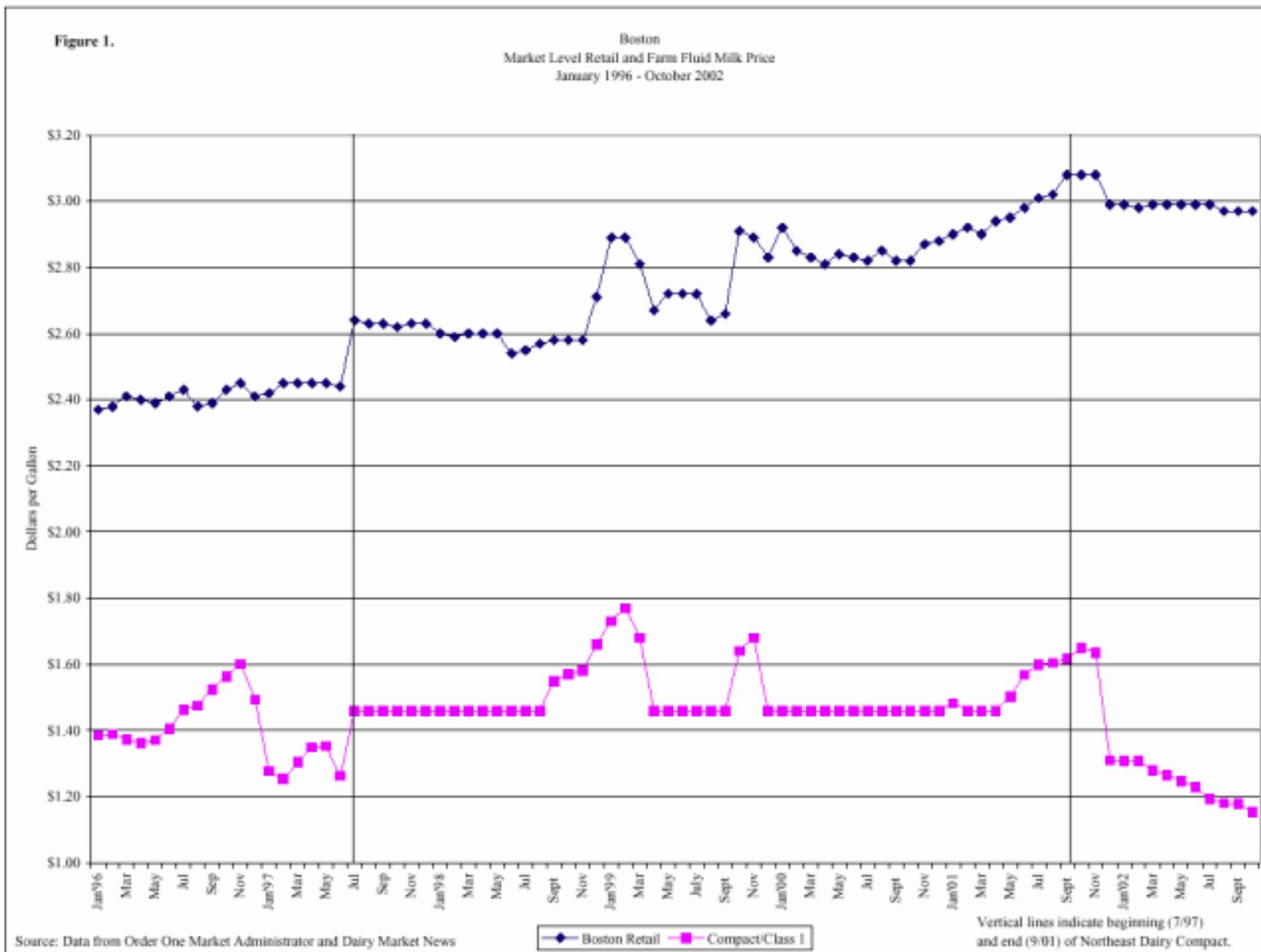
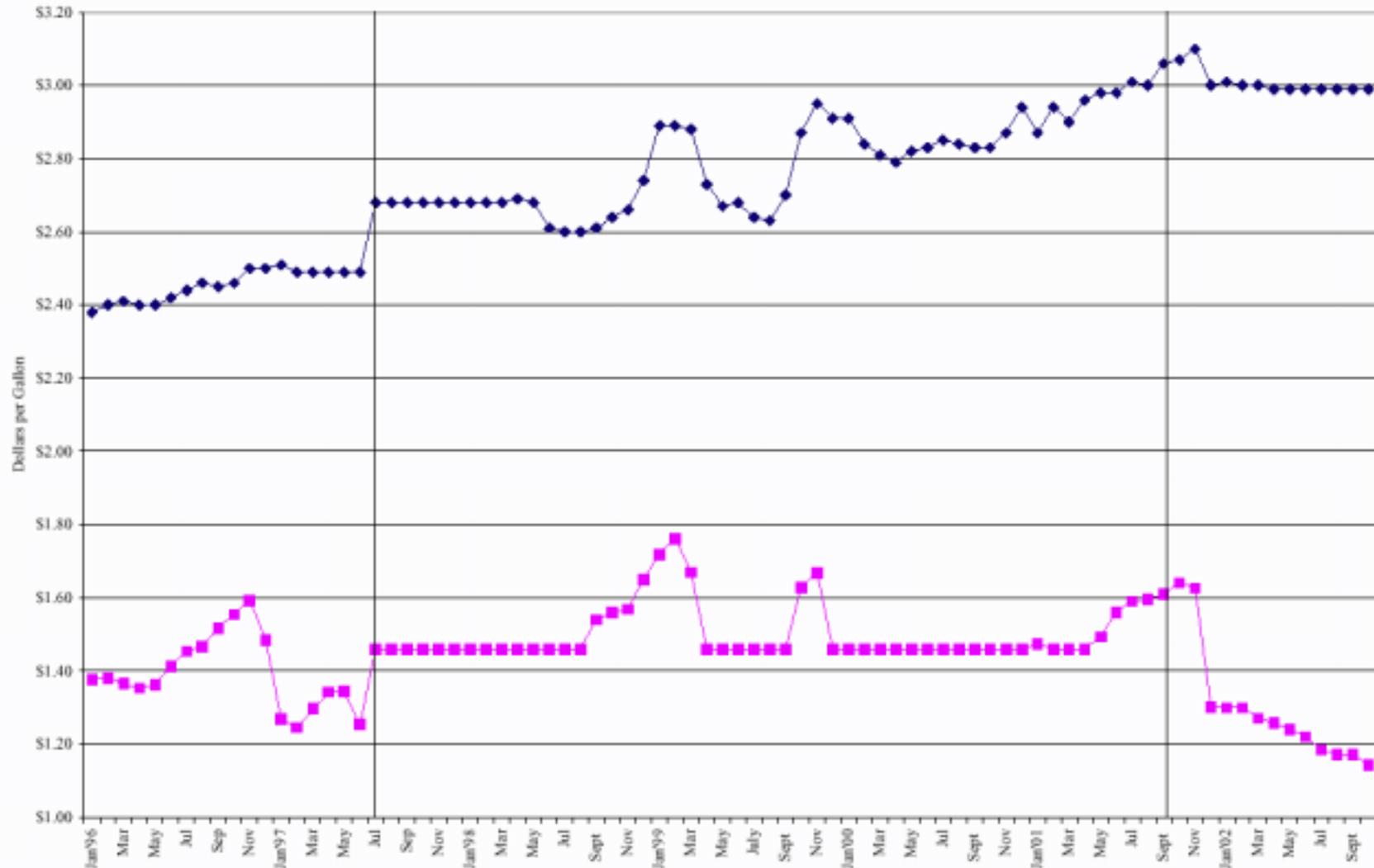


Figure 2.

Hartford
Market Level Retail and Farm Fluid Milk Price
January 1996 - October 2002



Source: Data from Order One Market Administrator and Dairy Market News

◆ Hartford Retail ■ Compact/Class 1

Vertical lines indicate beginning (7/97) and end (9/01) of Northeast Dairy Compact.

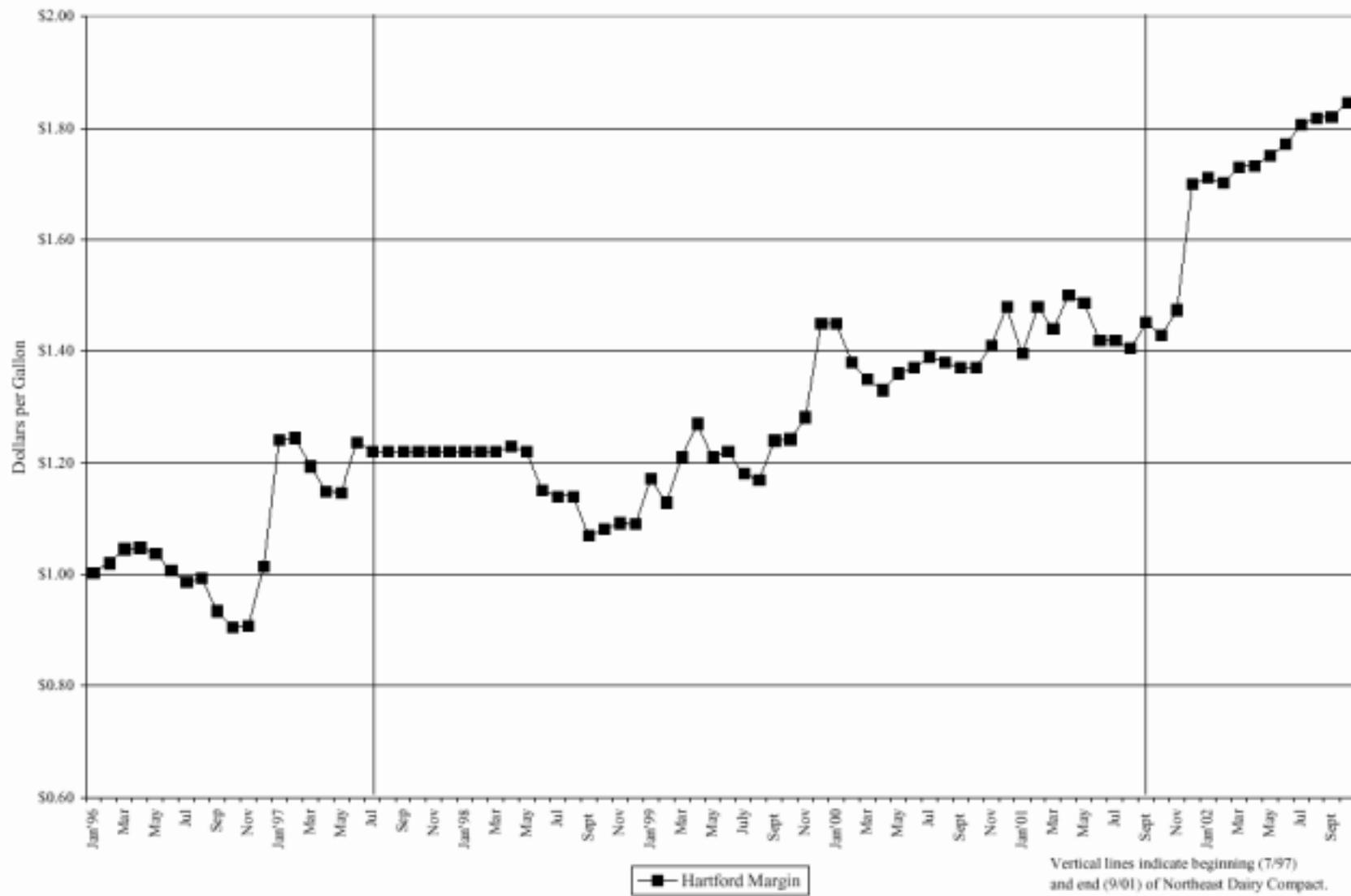
Figure 3.

Boston
Retail - Farm Marketing Margin
January 1996 - October 2002



Figure 4.

Hartford
Retail - Farm Marketing Margin
January 1996 - October 2002





STATE OF NEW YORK
DEPARTMENT OF AGRICULTURE AND MARKETS
I WINNERS CIRCLE
ALBANY, NEW YORK 12235

DIVISION OF MILK CONTROL AND DAIRY SERVICES
518-457-5731

TO: Retailers of Milk
DATE: October 18, 2002
SUBJECT: Announcement of threshold price relative to milk price gouging law,
effective NOVEMBER 2002

THRESHOLD PRICE

Effective **NOVEMBER 2002**, threshold prices for milk, lowfat milk, or skim milk offered for retail sale in the state are:

	<u>Gallon</u>	<u>Half Gallon</u>	<u>Quart</u>
Metro Region: (NYC and Counties of Nassau, Suffolk, Rockland, Westchester, Orange, Putnam and Dutchess)	\$2.57	\$1.34	\$.70
Upstate Region: (Remaining Counties)	\$2.41	\$1.25	\$.66

A retailer who sells above the threshold price may be in violation of the law unless such selling price is justified as not being unconscionably excessive. Such justification includes net invoice price paid for the milk item plus actual costs incurred in handling and selling that milk item.

Compared to the previous month, threshold prices increased \$0.08 a gallon, \$0.04 a half gallon and \$0.02 a quart in Metro NY and increased \$0.08 a gallon, \$0.03 a half gallon and \$0.02 a quart in Upstate NY.

Appendix C: Average Price Tables

Table C1. Average Price By Chain

Type	Chain	New England	New York	Massachusetts	Connecticut	Rhode Island	All
Whole	Stop & Shop	3.22	2.70	3.18	3.25	3.18	3.14
Whole	Shaw's/Star Market	3.09	-	3.05	3.13	3.09	3.09
Whole	DeMoulas/Market Basket	2.65	-	2.65	-	-	2.65
Whole	Roche Bros	2.98	-	2.98	-	-	2.98
Whole	Big Y	3.21	-	3.28	3.18	-	3.21
Whole	A&P/Waldbaums	3.34	2.74	3.36	3.34	-	3.18
Whole	Shop Rite	3.04	2.47	-	3.04	-	2.81
Whole	Price Chopper	3.34	2.49	3.34	N/A	-	2.63
Whole	Ro Jacks	3.24	-	3.29	-	3.21	3.24
Whole	Hannaford	N/A	2.41	N/A	-	-	2.41
Whole	King Kullen	-	2.57	-	-	-	2.57
Whole	Wal-Mart Supercenter	2.98	2.24	3.06	2.94	-	2.52
Whole	Pathmark	-	2.57	-	-	-	2.57
Two	Stop & Shop	3.22	2.68	3.18	3.25	3.18	3.13
Two	Shaw's/Star Market	3.09	-	3.05	3.13	3.09	3.09
Two	DeMoulas/Market Basket	2.65	-	2.65	-	-	2.65
Two	Roche Bros	2.95	-	2.95	-	-	2.95
Two	Big Y	3.16	-	3.26	3.10	-	3.16
Two	A&P/Waldbaums	3.31	2.74	3.36	3.30	-	3.15
Two	Shop Rite	3.04	2.49	-	3.04	-	2.80
Two	Price Chopper	3.34	2.49	3.34	N/A	-	2.62
Two	Ro Jacks	3.24	-	3.29	-	3.21	3.24
Two	Hannaford	N/A	2.41	N/A	-	-	2.41
Two	King Kullen	-	2.57	-	-	-	2.57
Two	Wal-Mart Supercenter	2.95	2.24	3.01	2.91	-	2.51
Two	Pathmark	-	2.57	-	-	-	2.57
One	Stop & Shop	3.21	2.68	3.18	3.25	3.18	3.13
One	Shaw's/Star Market	3.09	-	3.04	3.13	3.09	3.09
One	DeMoulas/Market Basket	2.65	-	2.65	-	-	2.65
One	Roche Bros	2.94	-	2.94	-	-	2.94
One	Big Y	3.20	-	3.26	3.17	-	3.20
One	A&P/Waldbaums	3.31	2.74	3.36	3.30	-	3.15
One	Shop Rite	3.04	2.47	-	3.04	-	2.81
One	Price Chopper	3.34	2.49	3.34	N/A	-	2.63
One	Ro Jacks	3.24	-	3.29	-	3.21	3.24
One	Hannaford	N/A	2.41	N/A	-	-	2.41
One	King Kullen	-	2.57	-	-	-	2.57
One	Wal-Mart Supercenter	2.97	2.24	3.01	2.95	-	2.53
One	Pathmark	-	2.57	-	-	-	2.57
Skim	Stop & Shop	3.21	2.68	3.18	3.25	3.18	3.13
Skim	Shaw's/Star Market	3.09	-	3.05	3.13	3.09	3.09
Skim	DeMoulas/Market Basket	2.65	-	2.65	-	-	2.65
Skim	Roche Bros	2.94	-	2.94	-	-	2.94
Skim	Big Y	3.19	-	3.24	3.16	-	3.19
Skim	A&P/Waldbaums	3.31	2.74	3.36	3.30	-	3.15
Skim	Shop Rite	3.04	2.47	-	3.04	-	2.81
Skim	Price Chopper	3.34	2.49	3.34	N/A	-	2.62
Skim	Ro Jacks	3.24	-	3.29	-	3.21	3.24
Skim	Hannaford	N/A	2.41	N/A	-	-	2.41
Skim	King Kullen	-	2.57	-	-	-	2.57
Skim	Wal-Mart Supercenter	2.90	2.24	2.97	2.86	-	2.50
Skim	Pathmark	-	2.57	-	-	-	2.57

Notes: - means chain not in area, N/A means no observations in data

Table C2. Number of Observations (SKUS) for Average Price By Chain

Type	Chain	New England	New York	Massachusetts	Connecticut	Rhode Island	All
Whole	Stop & Shop	91	17	33	46	12	108
Whole	Shaw's/Star Market	59	-	24	26	9	59
Whole	De Moulas/Market Basket	12	-	12	-	-	12
Whole	Roche Bros	9	-	9	-	-	9
Whole	Big Y	47	-	16	31	-	47
Whole	A&P/Waldbaums	19	7	3	16	-	26
Whole	Shop Rite	10	7	-	10	-	17
Whole	Price Chopper	4	21	4	N/A	-	25
Whole	Ro Jacks	9	-	3	-	6	9
Whole	Hannaford	N/A	18	N/A	-	-	18
Whole	King Kullen	-	2	-	-	-	2
Whole	Wal-Mart Supercenter	9	15	3	6	-	24
Whole	Pathmark	-	1	-	-	-	1
Two	Stop & Shop	91	17	33	46	12	108
Two	Shaw's/Star Market	59	-	24	26	9	59
Two	De Moulas/Market Basket	12	-	12	-	-	12
Two	Roche Bros	9	-	9	-	-	9
Two	Big Y	47	-	16	31	-	47
Two	A&P/Waldbaums	18	7	3	15	-	25
Two	Shop Rite	10	8	-	10	-	18
Two	Price Chopper	4	22	4	N/A	-	26
Two	Ro Jacks	9	-	3	-	6	9
Two	Hannaford	N/A	18	N/A	-	-	18
Two	King Kullen	-	2	-	-	-	2
Two	Wal-Mart Supercenter	9	15	3	6	-	24
Two	Pathmark	-	1	-	-	-	1
One	Stop & Shop	91	17	33	46	12	108
One	Shaw's/Star Market	59	-	24	26	9	59
One	De Moulas/Market Basket	12	-	12	-	-	12
One	Roche Bros	9	-	9	-	-	9
One	Big Y	46	-	16	30	-	46
One	A&P/Waldbaums	18	7	3	15	-	25
One	Shop Rite	10	7	-	10	-	17
One	Price Chopper	4	21	4	NA	-	25
One	Ro Jacks	9	-	3	-	6	9
One	Hannaford	N/A	18	N/A	-	-	18
One	King Kullen	-	2	-	-	-	2
One	Wal-Mart Supercenter	9	14	3	6	-	23
One	Pathmark	-	1	-	-	-	1
Skim	Stop & Shop	91	17	33	46	12	108
Skim	Shaw's/Star Market	59	-	24	26	9	59
Skim	De Moulas/Market Basket	12	-	12	-	-	12
Skim	Roche Bros	9	-	9	-	-	9
Skim	Big Y	47	-	16	31	-	47
Skim	A&P/Waldbaums	18	7	3	15	-	25
Skim	Shop Rite	10	7	-	10	-	17
Skim	Price Chopper	4	22	4	N/A	-	26
Skim	Ro Jacks	9	-	3	-	6	9
Skim	Hannaford	N/A	18	N/A	-	-	18
Skim	King Kullen	-	2	-	-	-	2
Skim	Wal-Mart Supercenter	9	14	3	6	-	23
Skim	Pathmark	-	1	-	-	-	1

Notes: - means chain not in area, N/A means no observations in data

Table C3. Average Price By Channel

Type	Channel	New England	New York	Massachusetts	Connecticut	Rhode Island	All
Whole	Chain	3.15	2.49	3.10	3.19	3.16	2.99
Whole	Convenience	3.03	2.51	2.88	3.09	3.12	2.88
Whole	Club	2.16	2.01	2.20	2.13	2.18	2.13
Whole	Limited	1.94	1.69	1.99	1.99	1.84	1.92
Two	Chain	3.14	2.49	3.09	3.17	3.16	2.98
Two	Convenience	3.01	2.48	2.89	3.04	3.09	2.85
Two	Club	2.11	1.86	2.14	2.09	2.14	2.08
Two	Limited	1.94	1.49	1.99	1.99	1.84	1.91
One	Chain	3.14	2.49	3.09	3.19	3.16	2.99
One	Convenience	2.30	2.48	2.16	2.43	1.99	2.35
One	Club	2.03	1.92	2.09	1.98	2.08	2.01
One	Limited	1.79	N/A	1.84	1.99	1.62	1.79
Skim	Chain	3.14	2.49	3.09	3.18	3.16	2.98
Skim	Convenience	3.02	2.48	2.90	3.07	3.09	2.86
Skim	Club	1.93	1.91	2.06	1.84	2.04	1.92
Skim	Limited	1.99	1.29	1.99	1.99	1.99	1.85

Note: N/A means no observations in data

Table C4. Number of Observations (SKUS) for Average Price By Channel

Type	Channel	New England	New York	Massachusetts	Connecticut	Rhode Island	All
Whole	Chain	272	88	107	138	27	360
Whole	Convenience	24	10	7	14	3	34
Whole	Club	14	3	4	8	2	17
Whole	Limited	12	1	6	2	4	13
Two	Chain	271	90	107	137	27	361
Two	Convenience	24	10	7	14	3	34
Two	Club	13	2	4	8	1	15
Two	Limited	12	1	6	2	4	13
One	Chain	270	87	107	136	27	357
One	Convenience	24	10	7	14	3	34
One	Club	14	3	4	8	2	17
One	Limited	12	0	6	2	4	12
Skim	Chain	271	88	107	137	27	359
Skim	Convenience	24	10	7	14	3	34
Skim	Club	12	3	3	7	2	15
Skim	Limited	4	1	1	2	1	5

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