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AGRICULTURAL ECONOMICS
STAFF PAPER

TESTIMONY PRESENTED AT PUBLIC HEARING
ON NEW YORK STATE DAIRY PROMOTION ORDER
IN ALBANY, NEW YORK
ON OCTOBER 23, 1974

By

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TESTIMONY PRESENTED BEFORE THE HEARING TO CONSIDER
WHETHER OR NOT THE NEW YORK STATE DAIRY PROMOTION ORDER
SHOULD BE CONTINUED
OCTOBER 23, 1974
ALBANY, NEW YORK

My name is Olan Forker. I am Professor of Agricultural Economics at Cornell University. Doyle Eiler, also from the department of Agricultural Economics, and I have been requested by the director of the Division of Dairy Industry Services and by the Dairy Promotion Order Advisory Board, to present certain information at this hearing.

We are not here to plead for or against the continuation of the Promotion Order. Rather we are here to present factual information and present our professional view concerning the situation at hand. Specifically we plan to do three things:

1) Present information concerning the competitive situation in which milk finds itself in the beverage market.

2) Discuss some of the arguments for and against generic or commodity promotion programs.

3) Report some of the results of our research on beverage consumption, consumer attitudes, and the measurement of the change in milk sales associated with media advertising.

We have been actively engaged in a broad scale research program on the economics of milk consumption and milk promotion since shortly after the beginning of the New York State expanded promotion effort in 1972. This research has been supported partly by funds generated under the Order and allocated to us by the New York Dairy Promotion Order Advisory Board.

At this hearing we can only present a few of the important results of our research. I will integrate some of our findings on attitudes toward milk and on milk consumption into my discussion. Professor Eiler will follow with a more in depth discussion of the estimate of the sales response to the advertising effort of the past 2 1/2 years.

To obtain basic data on attitudes we conducted 1400 in-home personal interviews in the seven largest New York State Markets: New York City White; New York City Black; New York City Hispanic; Buffalo; Rochester; Albany; and Syracuse. To obtain basic data on consumption patterns and awareness to beverage advertising we conducted four waves of telephone interviews. About 4,200 persons aged 12-65 were interviewed each time--in April 1973, in September 1973, in March 1974 and again in September 1974.

A detailed presentation of the survey results are contained in four publications. I would like to submit a copy of each for the record at this time; they are:

Exhibit 1. Judith E. Aronson, Doyle A. Eiler, Olan D. Forker, Attitudes Toward and Consumption of Milk and Other Beverages in Selected New York State Markets, Fall 1972: Base-Line Data for Evaluating Milk Promotion, A. E. Research 73-21, November 1973 (Ithaca, New York: Department of Agricultural Economics, Cornell University).

Exhibit 2. Doyle A. Eiler, Stanley R. Thompson, "Adult Attitudes Toward Major Beverages in Seven New York Metropolitan Markets," Search, Agricultural Economics 7, Vol. 4, No. 10, 1974 (Ithaca, New York: New York State College of Agriculture and Life Sciences).

Exhibit 3. Stanley R. Thompson and Doyle A. Eiler, Factors Affecting Fluid Milk Use in Selected New York State Markets and their Implications for Generic Promotion Decisions--An Application of Multivariate Probit Analysis, A. E. Research 73-16, October 1973 (Ithaca, New York: Department of Agricultural Economics, Cornell University).

Exhibit 4. Carolyn B. Cook, Doyle A. Eiler, Olan D. Forker, Beverage Consumption and Advertising Awareness in Selected New York State Markets, A. E. Research 74-10, September 1974 (Ithaca, New York: Department of Agricultural Economics, Cornell University).

Some analysis has been conducted and is presented in these reports, but further study of the data is still in process. As the survey results and the conclusions of the analysis have become available they have been presented to the Advisory Board at their regular meetings. More information and more insight will be forthcoming as we continue to summarize and analyze.

THE COMPETITIVE SITUATION

Consumption Level

The consumption of milk as a beverage has been on a downward trend for several years. And milk has been losing ground to some other beverages. About ten years ago the daily per capita consumption of milk in the United States averaged slightly over 11 ounces per capita per day. Coffee consumption was higher at about 15 ounces. Soft drink and beer consumption was substantially lower than milk at about 4 1/2 ounces for each.

During the past ten years, milk consumption has declined by about 10 percent, to slightly under 11 ounces. Soft drink consumption has more than doubled to over 9 ounces per capita. Beer consumption has increased to over 7 ounces per capita. Coffee consumption has fared less favorably than milk, declining from the 15 ounces in 1972 to around 11 ounces currently.

If the above trends continue, soft drinks will soon become the dominant beverage consumed nationwide, followed by milk and then coffee. It is clear from the evidence that milk is losing ground to soft drinks in the beverage market. Some are tempted to argue that this justifies expanded milk promotion efforts. However, it is not clear on the surface whether one can stop this decline or reverse it through expanded advertising or promotion.

As a result of the telephone surveys we know a lot more about who drinks what, how much, when and where. We know that consumption of milk decreases dramatically as people get older while coffee consumption increases dramatically as people get older. An example of the kind of information available in our report is given in Table 1 attached; it is from Exhibit 4. In our April 1973 survey, New York City teenagers (12-17) consumed an average of 14.2 ounces of milk per day, young adults (18-34) consumed 6.2 ounces and mature adults (35-65) only 4 ounces.

We also discovered that milk consumption is substantially lower in New York City than in the upstate markets. New York City teenagers consumed 9 ounces per day less than Syracuse teenagers and 5 ounces less per day than Albany teenagers. The differences are about 4 ounces for the young adults and 2 ounces for the mature adults.

We also found that Blacks in New York City drank as much milk as New York City Whites. This is contrary to earlier beliefs and exists partly because New York City Whites are low consumers. But it also indicates that factors other than ethnic background might be important in affecting milk consumption in New York City.

Figure 1 attached provides an example of information presented in our Exhibit 3. Analysis of the survey data indicates that the probability of a person consuming milk during a single 24 hour period declines with age and that the probability of a male consuming milk is greater than that of a female until about the age of 50. And in New York City, the probability of a female drinking milk exceeds that of a male at ages 50 through 65.

Figure 2 attached comes from the same publication. It shows that coffee consumers are less likely to drink milk than non consumers of coffee.

Consumer Attitudes

One of the arguments used to justify advertising and promotion is the need to change or improve consumers' attitudes toward milk. In our attitude survey we determined that the attitude of all consumers was quite favorable toward milk as compared to the other beverages.

New York State adults viewed regular whole milk as a nutritious beverage necessary for good health in adults. But it was viewed as high in fat, calories and relatively bad for someone concerned with heart disease. Well over half of the respondents liked the taste of milk.

TABLE 1. PER CAPITA CONSUMPTION BY AGE GROUP: NEW YORK CITY, ALBANY AND SYRACUSE SMSA'S
ALL RESPONDENTS
APRIL 1, 1973

Market (SMSA) Age Group	Beer or Wine	Soft Drinks	Milk	Coffee or Tea	Fruit Juices or Drinks	Liquor	Water	Total
			-ounces per day-					
New York City								
12-17	0.5	16.5	14.2	3.0	6.0	0.3	8.3	48.8
18-34	6.1	12.2	6.2	13.6	4.9	1.1	7.3	51.3
35-65	3.8	6.7	4.0	18.1	3.7	1.3	7.0	44.6
Albany								
12-17	0.7	14.5	19.1	2.6	4.9	0.2	9.6	51.6
18-34	9.1	11.4	10.5	12.9	3.2	1.4	7.7	56.2
35-65	5.8	5.2	5.8	18.9	3.2	1.6	9.8	50.4
Syracuse								
12-17	0.3	13.1	22.8	2.4	4.2	0.0	10.9	53.7
18-34	7.7	14.8	10.3	12.8	3.6	1.1	9.1	59.4
35-65	5.4	5.9	6.1	20.4	3.0	1.3	8.9	50.9

Source: Survey conducted by Department of Agricultural Economics, Cornell University.

FIGURE 1. PROBABILITY OF MILK USE BY AGE OF RESPONDENT, MALE AND FEMALE CONSUMERS, NEW YORK CITY, SMSA, APRIL, 1973

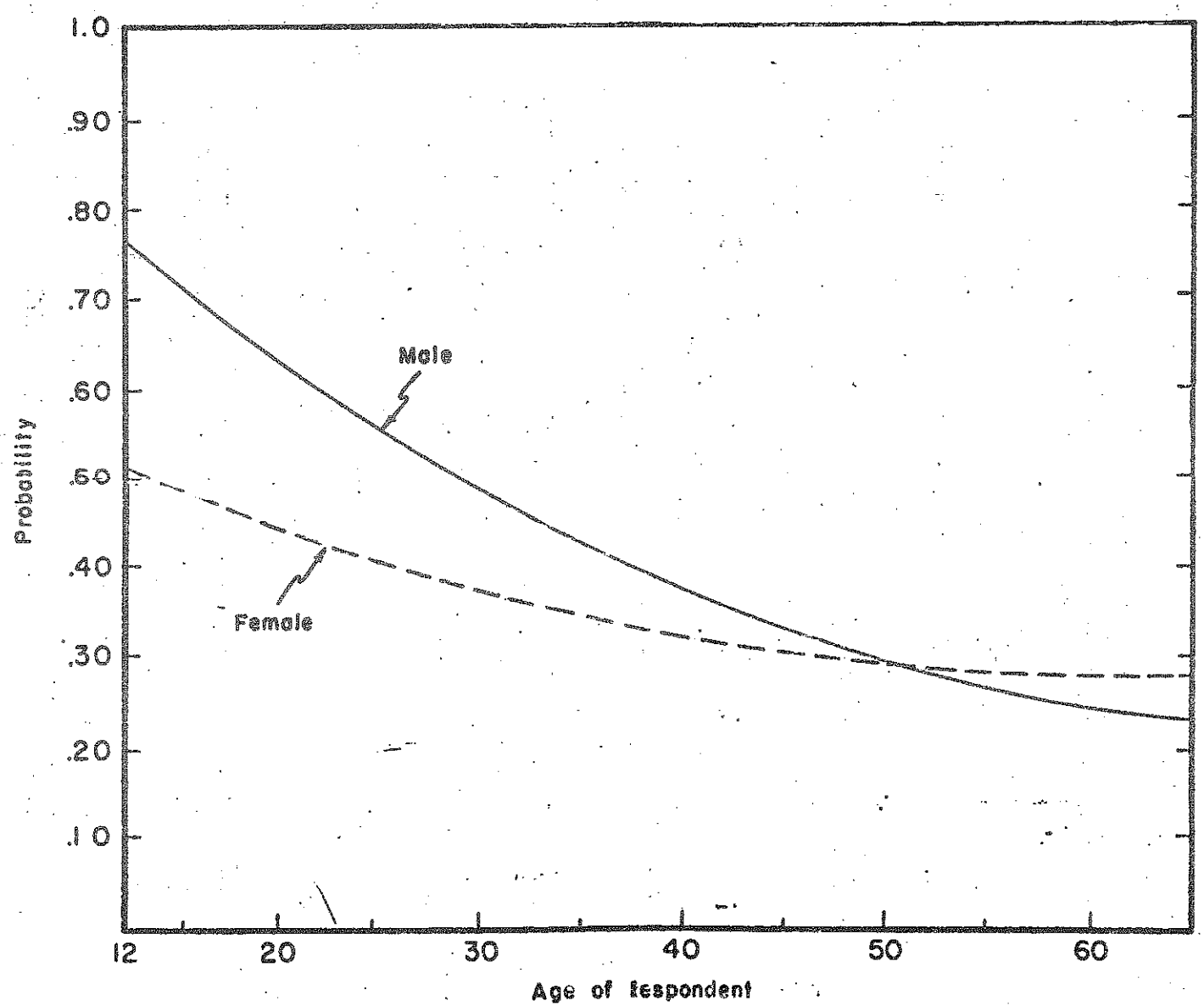
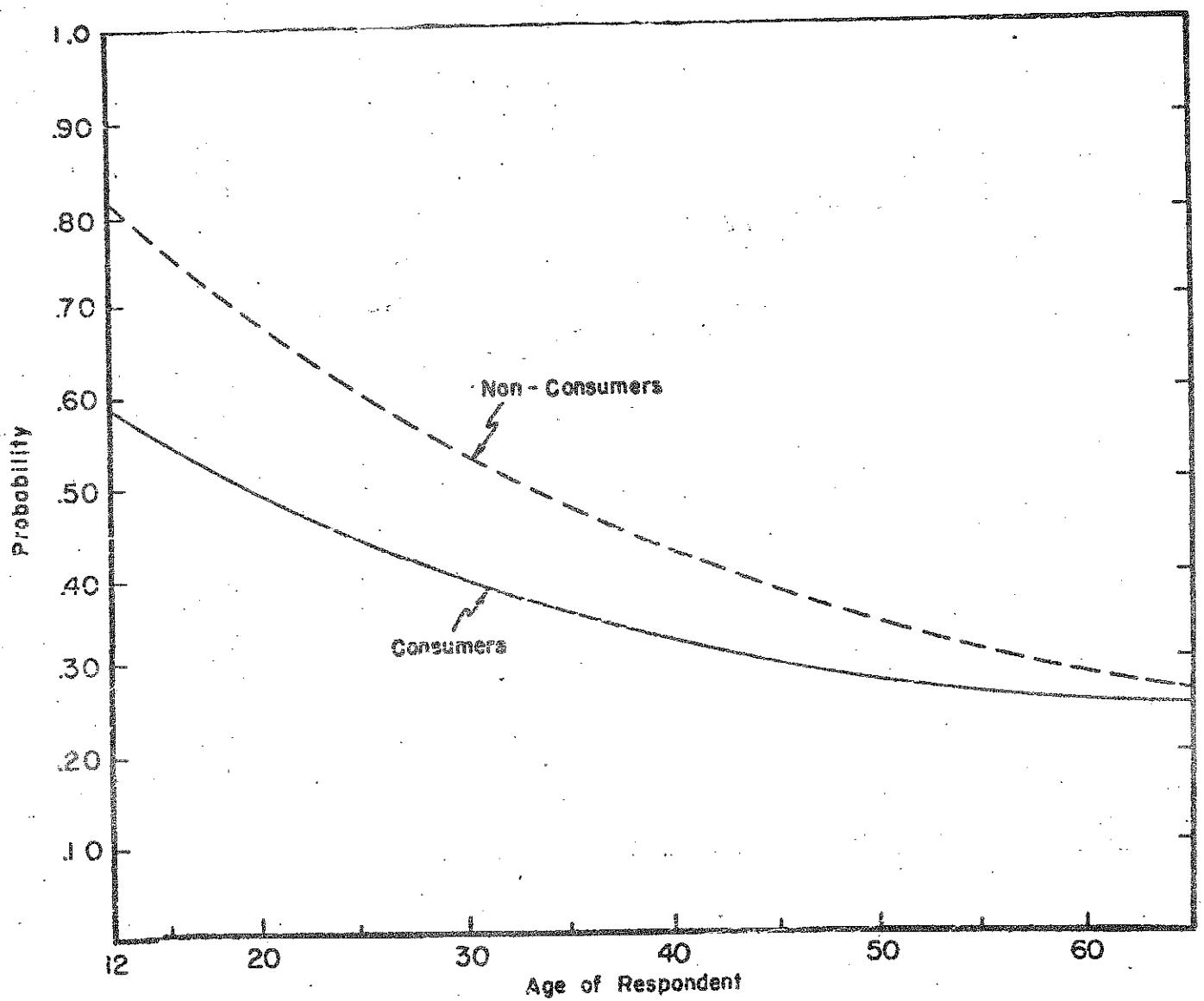


FIGURE 2. PROBABILITY OF MILK USE BY AGE OF RESPONDENT, CONSUMERS AND NON-CONSUMERS OF COFFEE OR TEA, NEW YORK CITY, SMSA, APRIL, 1973



But there were some differences. New York City Whites were significantly more negative in their attitudes toward milk than respondents in any other market. New York City Black and New York City Hispanic respondents viewed milk much more favorably than did New York City Whites.

Within each market regular whole milk, when compared with low fat and skim milk, was viewed as more nutritious, more expensive and better tasting. However, regular whole milk was considered to be higher in calories, higher in cholesterol, and worse for both weight watchers and persons concerned with heart disease.

While the attitudes toward the various beverages were found to differ substantially, we could not identify any relationship between attitude and consumption behavior. In particular, virtually no significant differences were observed between the attitudes of adult milk consumers and adult milk non-consumers in any of the seven markets. This lack of attitudinal differences raises some question as to whether one can change consumption behavior by changing the consumer's attitude. If there is any causal relationship between attitude changes and consumption changes it would appear to be long run in nature.

Competitive Advertising of Other Beverages

The manufacturers and distributors of other beverages are trying hard to increase their share of the market. The coffee distributors are trying hard to reduce the rate of decline in their share. Soft drink distributors, distributors of fruit juice and juice drinks and distributors of beer and wine are spending tremendous sums of money to maintain momentum in the rate of increase in the consumption of their products. Data in Table 2 provide an indication of the relative amounts spent monthly, by quarters.

During the calendar year 1971, the dairy farmers of this State spent between 2 and 2 1/2 cents per capita advertising milk in the New York City and Upstate markets of New York State. As a result of the expanded funding available under the auspices of the Dairy Promotion Order, the amount spent increased to a level near 7 cents per capita in 1973, three and one half times as much. But even at the higher level of 7 cents per capita, dollar expenditures by major advertisers of soft drinks were 6 times that amount, or near 42 cents per capita. The dollar expenditures by major advertisers of coffee and tea were 5 times that of milk, or near 35 cents per capita. The dollar expenditures by the major advertisers of fruit juice and juice drinks was 3 times that of milk, or near 20 cents per capita. Dollar expenditures for beer and wine were much higher at 7 times the amount spent for milk. Advertising levels for each of the various beverages, of course, varies from month to month and from year to year; it also varies substantially among markets. But the evidence is clear that the battle for the share of the beverage market is a keen and competitive one; and that other beverage distributors spend much more than the milk industry in an attempt to maintain or increase their share.

TABLE 2. AVERAGE MONTHLY ADVERTISING EXPENDITURE FOR GENERIC MILK[a/] AND OTHER BEVERAGES[b/] BY QUARTERS-- DOLLARS PER CAPITA (1971-1973)

		NEW YORK CITY					ALBANY					SYRACUSE				
Year	Qtr.	Beer& Wine	Coffee &Tea	Juice	Soft Drink	Generic Milk	Beer& Wine	Coffee &Tea	Juice	Soft Drink	Generic Milk	Beer& Wine	Coffee &Tea	Juice	Soft Drink	Generic Milk
1971	1	.0391	.0178	.0151	.0393	.0026	.0244	.0171	.0099	.0180	.0024	.0202	.0192	.0113	.0387	.0033
	2	.0554	.0277	.0143	.0685	.0011	.0382	.0226	.0073	.0430	.0012	10297	.0330	.0086	.0581	.0009
	3	.0434	.0286	.0114	.0492	.0011	.0360	.0236	.0066	.0330	.0011	.0170	.0267	.0090	.0480	.0013
	4	.0415	.0335	.0190	.0301	.0032	.0357	.0021	.0086	.0180	.0024	.0038	.0253	.0106	.0325	.0027
1972	1	.0276	.0191	.0144	.0229	.0007	.0269	.0143	.0113	.0177	.0006	.0236	.0182	.0133	.0207	.0007
	2	.0360	.0288	.0116	.0354	.0021	.0373	.0237	.0083	.0320	.0022	.0299	.0359	.0106	.0424	.0027
	3	.0323	.0253	.0101	.0453	.0060	.0253	.0198	.0073	.0323	.0067	.0237	.0203	.0113	.0388	.0080
	4	.0472	.0276	.0157	.0292	.0058	.0343	.0236	.0114	.0196	.0058	.0304	.0249	.0118	.0220	.0053
1973	1	.0289	.0279	.0164	.0173	.0060	.0203	.0197	.0088	.0354	.0068	.0172	.0217	.0108	.0246	.0067
	2	.0420	.0346	.0159	.0489	.0063	.0303	.0279	.0141	.0503	.0015	.0269	.0287	.0128	.0443	.0022
	3	.0367	.0242	.0141	.0492	.0056	.0273	.0205	.0108	.0465	.0000	.0228	.0203	.0086	.0476	.0002
	4	.0493	.0228	.0192	.0278	.0052	.0317	.0161	.0113	.0471	.0145	.0315	.0219	.0126	.0335	.0167
1974	1															
	2															

a/ Actual monthly advertising expenditures for milk by New York State Dairy Promotion Program.

b/ Dollar expenditures by major advertisers for beverages by market in the following media: Network T. V., Spot T. V., Network Radio and Magazines and Syndicated Supplements. Basic data source is Broadcast Advertisers Report (BAR).

ARGUMENTS FOR AND AGAINST GENERIC PROMOTION

Many arguments have been used in the past to justify expanded promotion efforts. We can list some of them. (1) "Look at the decline in per capita sales; you must advertise to stop it." (2) "Look at the way soft drinks are increasing their share of the market; we must advertise to prevent even more milk drinkers from switching." (3) "Look at how much money is spent by Coca Cola, Pepsi, Brim and Gallo; dairy farmers must do likewise if they are to stay alive." The facts on consumption level, market shares and competitive advertising are correct as I have just indicated above. However, if advertising and promotion is to be of economic value to the dairy farmers of New York State it must result in at least a short run shift in the demand curve so that more milk will be consumed with advertising and promotion than would be consumed without, everything else being constant. Furthermore, the comparative increase in sales would have to be large enough to increase revenue to dairy farmers in an amount equal to or greater than the cost of the advertising effort. In our research of the past two years we have attempted to measure the impact of the program. Professor Eiler will discuss the results of this part of our research in some detail.

But before I close I want to make several points relative to the continuation of the Promotion Order.

(1) Estimates of the sales response to advertising expenditures would not have been possible, without good and valid estimates of the monthly quantity of milk sold in each of the important New York State markets. With the funds provided under the Order, the New York State Department of Agriculture and Markets was able to expand and improve the data procurement process so that reliable estimates were available.

(2) An advantage of a state Order is that it causes the cost of the promotion program to be shared by all producers supplying the market. Benefits, if any, accrue somewhat equally to all suppliers and therefore a mandatory program is more equitable than a voluntary program.

(3) Another advantage of a state Order is that it provides the funds and the institutional arrangement, or linkage, whereby data can be collected and funds can be allocated to continually monitor and measure response and control the allocation of funds consistent with findings.

(4) It is incorrect to argue categorically that milk promotion either does or does not pay. Consumers are dynamic, the market is dynamic, advertisers are dynamic, conditions are always changing, new ideas are hopefully always forthcoming. Therefore the management and information system which controls the program must also be dynamic.

(5) If the order is continued, and in view of the last 2 years' experience, it is extremely important that the following points be kept in mind:

a) The Advisory Board should be made up of the best dairy farmer talent available.

b) Department of Agriculture and Markets should be adequately staffed to monitor and evaluate the program and provide the proper information to the Advisory Board so that they can control the expenditure of money and ensure the realization of a positive return.

TESTIMONY PRESENTED AT THE NEW YORK STATE DEPARTMENT OF AGRICULTURE AND MARKETS HEARING ON THE DAIRY PROMOTION ORDER OCTOBER 23, 1974

By Doyle A. Eiler

I am Doyle A. Eiler, Assistant Professor of Marketing in the Department of Agricultural Economics at Cornell University. As Professor Forker has indicated, we have been requested by the Director of Dairy Industry Services and the Dairy Promotion Order Advisory Board to present some of the results of our extensive dairy consumption research program. While Professor Forker's statement has outlined the scope of our research activities, I would like to carefully develop one specific research effort. Much of my testimony is based upon the document I would like to introduce at this time:

> Stanley R. Thompson and Doyle A. Eiler, An Econometric Analysis of the Response of Milk Sales to Advertising in Selected New York State Markets, Cornell Agricultural Economics Staff Paper 74-23, September 1974 (Ithaca, New York: Department of Agricultural Economics, Cornell University.)

The primary question being asked by New York State dairymen and the participants in this hearing is:

Will New York State dairy farmers benefit from a continuation of the dairy promotion order?

This is a tough question, particularly in these times of double digit inflation, feed grain scarcity and depressed farm income. I am not going to predict what will happen in the future, because I don't know. What I will do is carefully examine with you what has happened under the current promotion program. Our analysis focuses on only TV, radio and newspaper advertising financed by the promotion order. The important development cost required to prepare advertising copy has not been included in our analysis.

What I will do is carefully examine with you the results of the increased media advertising program financed by the current Dairy Promotion Order. Many promotion activities have been expanded since the passage of the 1972 order; but since TV, radio and newspaper advertising have received the greatest funding increase we have concentrated our analysis on these programs.

The dairy farmer's investments in advertising should be evaluated in the same way as other investment alternatives. The increased costs should be compared to the change in revenue which it is supposed to generate. While the cost of increased advertising is relatively easy to determine, the revenue increases from advertising can be estimated only through the application of sophisticated econometric techniques. Let me now briefly summarize the procedure which we used in estimating the sales increase from advertising.

Many factors besides advertising effect the sales of fluid milk. These include the traditional decline of milk consumption during the summer months; consumer resistence to higher retail milk prices; the gradual growth in milk consumption as consumer purchasing power grows and increased consumption associated with population growth. The interrelationships between these variables and fluid milk sales must be carefully analyzed in deriving an estimate of the impact of advertising on sales. Because the impact of advertising does not occur all at once but gradually over a period of time a polynomial distributed lag econometric model was used.

At this time I would like to introduce Tables 1-3 which contain the actual data used in estimating the relationship between milk sales and advertising. Monthly observations were available from January 1971 to March 1974 for three Markets, New York City, Albany and Syracuse. The data covered a period of 16 months prior to and 23 months during the expanded advertising program.

The Department of Agriculture and Markets provided the data on retail prices of fluid milk and the sales of fluid milk in each market. In preparing the data for analysis, we placed milk sales on a per capita daily basis and adjusted it for the calendar composition of the month.

The actual media advertising expenditures made by the American Dairy Association and Dairy Council of New York were placed on a monthly per capita base.

For the time period covered in this analysis monthly advertising expenditures ranged from zero to more than one cent per capita. The greatest variation in advertising expenditure occurred in the Albany and Syracuse markets. In both Albany and Syracuse a six month period of no advertising was followed by a period of heavy advertising. Actual annual advertising during 1971 (prior to the Promotion Order) was 2.4, 2.2, and 2.5 cents per capita in New York City, Albany and Syracuse respectively. For a current twelve month period during the expanded program, per capita advertising was at the rate of 6.9 cents in New York City, 9.0 cents in Albany and 10.2 cents in Syracuse.

Effect of Advertising on Sales

Through the application of a polynomial distributed lag econometric model it was possible to estimate the relationship between milk sales and advertising in each of the three markets. Milk sales were positively related to advertising in all markets but the importance of advertising in explaining variability in milk sales was much greater in New York City than it was in Albany and Syracuse. Moreover, the continuing effects of the advertising expenditure lasted longer in New York City. While the continuing effect of milk advertising lasted three and four months respectively in Albany and Syracuse, the continuing effect in New York lasted five months.

In our statistical model we related milk sales to milk advertising, milk prices, consumer income and seasonality. Our model can provide us with an estimate of the extent to which milk sales increased as a result of the increased advertising program.

Table 1 Milk Sales, Generic Advertising Expenditures, and Other Data for New York City, SMSA (January, 1971 to March, 1974)

		Adjusted Daily Per Capita Sales[1/] (ounces)	Per Capita Monthly Advertising[2/] (dollars)	Per Capita Personal Income[3/] (dollars)	Retail Milk Price, Half Gallon[4/] (dollars)	Population SMSA[5/] (000)	Population MCA[6/] (000)	Consumer Price Index[7/]	Cost of Advertising Index[8/]
1971	January	8.87	.0021	5,268	.61	11,653	18,549	123.0	100.0
	February	8.90	.0020	5,290	.61	11,655	18,557	124.3	100.0
	March	9.01	.0037	5,311	.61	11,656	18,565	124.9	100.0
	April	8.68	.0023	5,332	.61	11,658	18,573	124.9	108.0
	May	8.55	.0010	5,353	.61	11,659	18,581	125.5	108.0
	June	8.46	----	5,375	.61	11,661	18,589	126.3	108.0
	July	7.84	----	5,396	.61	11,663	18,597	126.6	100.0
	August	7.89	.0005	5,420	.61	11,665	18,605	126.7	100.0
	September	8.46	.0028	5,445	.61	11,666	18,612	127.8	100.0
	October	8.61	.0051	5,469	.61	11,668	18,620	128.1	119.0
	November	8.49	.0037	5,494	.61	11,670	18,628	127.7	119.0
	December	8.72	.0009	5,518	.61	11,671	18,636	127.9	119.0
1972	January	8.67	----	5,543	.63	11,673	18,644	128.2	106.0
	February	9.00	----	5,567	.63	11,674	18,652	129.2	106.0
	March	8.87	.0022	5,591	.63	11,676	18,660	129.8	106.0
	April	8.74	.0025	5,616	.63	11,678	18,668	130.0	110.0
	May	8.56	.0010	5,640	.63	11,679	18,676	130.4	110.0
	June	8.62	.0028	5,665	.63	11,681	18,684	130.4	110.0
	July	7.95	.0086	5,689	.63	11,683	18,691	130.3	108.0
	August	8.18	.0061	5,712	.63	11,688	18,696	130.5	108.0
	September	8.79	.0034	5,735	.63	11,692	18,701	132.3	108.0
	October	9.09	.0074	5,758	.59	11,697	18,706	132.7	125.0
	November	9.07	.0054	5,780	.59	11,702	18,711	132.6	125.0
	December	9.05	.0046	5,803	.65	11,707	18,716	132.9	125.0
1973	January	9.12	.0040	5,826	.65	11,712	18,721	131.5	113.0
	February	9.22	.0061	5,849	.67	11,716	18,726	132.4	113.0
	March	9.21	.0080	5,872	.67	11,721	18,731	133.7	113.0
	April	9.11	.0078	5,894	.67	11,726	18,736	134.4	123.0
	May	9.05	.0071	5,917	.67	11,731	18,741	134.8	123.0
	June	8.70	.0039	5,940	.69	11,736	18,746	135.3	123.0
	July	8.03	.0066	5,962	.69	11,740	18,751	134.8	108.0
	August	8.14	.0059	5,991	.69	11,734	18,749	135.7	108.0
	September	8.71	.0042	6,019	.69	11.728	18.746	136.7	108.0
	October	8.94	.0047	6,047	.73	11,721	18,743	137.7	138.0
	November	8.75	.0054	6,076	.77	11,715	18,741	138.7	138.0
	December	8.67	.0055	6,104	.79	11,709	18,738	139.8	138.0
1974	January	8.73	.0029	6,133	.81	11,702	18,736	139.4	121.0
	February	8.85	.0043	6,161	.82	11,696	18,733	141.2	121.0
	March	8.89	.0116	6,190	.85	11,690	18,730	143.4	121.0

Table 2. Milk Sales, Generic Advertising Expenditures, and Other Data for Albany, SMSA (January, 1971 to March, 1974)

		Adjusted Daily Per Capita Sales[1/] (ounces)	Per Capita Monthly Advertising[2/] (dollars)	Per Capita Personal Income[3/] (dollars)	Retail Milk Price, Half Gallon[4/] (dollars)	Population SMSA[5/] (000)	Population MCA[6/] (000)	Consumer Price Index[7/]	Cost of Advertising Index[8/]
1971	January	11.58	.0018	4,350	.55	730.2	1,419.1	123.0	100.0
	February	11.68	.0018	4,383	.56	730.7	1,419.9	124.3	100.0
	March	12.06	.0037	4,416	.55	731.3	1,420.6	124.9	100.0
	April	11.00	.0017	4,449	.55	731.9	1,421.4	124.9	108.0
	May	10.76	.0017	4,481	.55	732.4	1,422.2	125.5	108.0
	June	10.49	.0002	4,514	.55	733.0	1,422.9	126.3	108.0
	July	9.98	----	4,547	.55	733.6	1,423.7	126.6	100.0
	August	10.25	.0004	4,569	.55	734.1	1,424.5	126.7	100.0
	September	11.07	.0030	4,592	.55	734.7	1,425.2	127.8	100.0
	October	11.26	.0056	4,614	.55	735.2	1,426.0	128.1	119.0
	November	11.67	.0013	4,636	.55	735.8	1,426.7	127.7	119.0
	December	11.62	.0002	4,659	.55	736.4	1,427.5	127.9	119.0
1972	January	11.94	----	4,681	.56	736.9	1,428.3	128.2	106.0
	February	12.29	----	4,703	.56	737.5	1,429.0	129.2	106.0
	March	11.84	.0019	4,725	.56	738.1	1,429.8	129.8	106.0
	April	12.13	.0022	4,747	.56	738.6	1,430.6	130.0	110.0
	May	12.16	.0009	4,769	.56	739.2	1,431.3	130.4	110.0
	June	11.68	.0036	4,792	.56	739.7	1,432.1	130.4	110.0
	July	10.46	.0101	4,814	.56	740.3	1,432.9	130.3	108.0
	August	11.32	.0069	4,835	.55	740.8	1,433.4	130.5	108.0
	September	12.30	.0031	4,856	.56	741.3	1,434.0	132.3	108.0
	October	12.92	.0069	4,877	.56	741.7	1,434.6	132.7	125.0
	November	12.89	.0057	4,898	.56	742.2	1,435.1	132.6	125.0
	December	12.77	.0049	4,920	.58	742.7	1,435.7	132.9	125.0
1973	January	12.73	.0041	4,941	.57	743.2	1,436.3	131.5	113.0
	February	13.07	.0068	4,962	.57	743.6	1,436.8	132.4	113.0
	March	13.39	.0094	4,983	.57	744.1	1,437.4	133.7	113.0
	April	13.00	.0019	5,004	.57	744.6	1,438.0	134.4	123.0
	May	12.39	.0016	5,025	.57	745.1	1,438.6	134.8	123.0
	June	11.32	.0009	5,046	.59	745.5	1,439.1	135.3	123.0
	July	10.99	----	5,067	.59	746.0	1,439.7	134.8	108.0
	August	11.46	----	5,089	.59	746.3	1,440.1	135.7	108.0
	September	12.64	----	5,111	.61	746.6	1,440.6	136.7	108.0
	October	13.15	.0125	5,133	.64	747.0	1,441.0	137.7	138.0
	November	13.06	.0147	5,155	.67	747.3	1,441.4	138.7	138.0
	December	12.26	.0163	5,177	.70	747.6	1,441.9	139.8	138.0
1974	January	12.67	.0113	5,199	.72	747.9	1,442.3	139.4	121.0
	February	12.54	.0130	5,220	.74	748.2	1,442.8	141.2	121.0
	March	12.59	.0178	5,243	.75	748.6	1,443.2	143.4	121.0

Table 3 Milk Sales, Generic Advertising Expenditures, and Other Data for Syracuse, SMSA (January, 1971 to March, 1974)

		Adjusted Daily Per Capita Sales[1/] (ounces)	Per Capita Monthly Advertising[2/] (dollars)	Per Capita Personal Income[3/] (dollars)	Retail Milk Price, Half Gallon[4/] (dollars)	Population SMSA[5/] (000)	Population MCA[6/] (000)	Consumer Price Index[7/]	Cost of Advertising Index[8/]
1971	January	13.77	.0020	3,933	.54	643.4	1,464.4	123.0	100.0
	February	13.97	.0019	3,954	.54	643.8	1,465.5	124.3	100.0
	March	14.00	.0060	3,976	.54	644.2	1,466.6	124.9	100.0
	April	13.74	.0028	3,997	.54	644.7	1,467.7	124.9	108.0
	May	13.47	----	4,019	.54	645.1	1,468.5	125.5	108.0
	June	12.70	----	4,040	.55	645.5	1,470.0	126.3	108.0
	July	12.23	----	4,062	.53	646.0	1,471.1	126.6	100.0
	August	12.44	.0005	4,085	.53	646.4	1,471.5	126.7	100.0
	September	14.02	.0033	4,108	.51	646.8	1,471.9	127.8	100.0
	October	14.68	.0066	4,131	.51	647.2	1,472.3	128.1	119.0
	November	14.47	.0014	4,154	.51	647.7	1,472.7	127.7	119.0
	December	14.38	.0001	4,177	.49	648.1	1,473.1	127.9	119.0
1972	January	13.92	----	4,200	.53	648.5	1,473.5	128.2	106.0
	February	14.49	----	4,223	.53	649.0	1,473.9	129.2	106.0
	March	14.03	.0021	4,246	.52	649.4	1,474.2	129.8	106.0
	April	13.74	.0023	4,269	.53	649.8	1,474.6	130.0	110.0
	May	13.59	.0010	4,292	.53	650.2	1,475.0	130.4	110.0
	June	13.28	.0047	4,315	.53	650.7	1,475.4	130.4	110.0
	July	12.09	.0128	4,338	.53	651.1	1,475.8	130.3	108.0
	August	12.46	.0074	4,361	.53	651.4	1,476.5	130.5	108.0
	September	14.09	.0037	4,388	.53	651.8	1,477.2	132.3	108.0
	October	14.49	.0065	4,408	.51	652.1	1,477.9	132.7	125.0
	November	13.98	.0048	4,431	.53	652.5	1,478.6	132.6	125.0
	December	13.72	.0045	4,454	.55	652.8	1,479.3	132.9	125.0
1973	January	14.56	.0042	4,477	.55	653.2	1,480.0	131.5	113.0
	February	14.55	.0069	4,501	.55	653.5	1,480.6	132.4	113.0
	March	14.62	.0091	4,524	.57	653.9	1,481.3	133.7	113.0
	April	14.05	.0030	4,547	.57	654.2	1,482.0	134.4	123.0
	May	13.98	.0020	4,570	.59	654.6	1,482.7	134.8	123.0
	June	12.83	.0015	4,593	.59	654.9	1,483.4	135.3	123.0
	July	12.27	.0002	4,616	.59	655.3	1,484.1	134.8	108.0
	August	12.46	.0004	4,641	.59	655.4	1,484.3	135.7	108.0
	September	14.01	.0001	4,665	.60	655.6	1,484.6	136.7	108.0
	October	14.39	.0143	4,689	.65	655.7	1,484.8	137.7	138.0
	November	14.32	.0165	4,714	.69	655.9	1,485.0	138.7	138.0
	December	14.01	.0192	4,738	.69	656.1	1,485.3	139.8	138.0
1974	January	14.18	.0127	4,762	.73	656.2	1,485.5	139.4	121.0
	February	14.30	.0134	4,787	.74	656.4	1,485.7	141.2	121.0
	March	14.43	.0193	4,811	.75	656.5	1,486.0	143.4	121.0

Footnotes to Tables 1, 2 and 3

1/ The net sales within the Standard Metropolitan Statistical Area (SMSA) were adjusted for type of days in the month (i.e., number of Sundays, Mondays, etc.). The sales were placed on a per capita basis according to the population in the SMSA.

2/ Includes media advertising expenditures for television, radio, and newspaper. Advertising expenditures were placed on a per capita basis according to the population in the media coverage area.

3/ Personal income within SMSA before taxes. Personal income was placed on a per capita basis according to the population of the SMSA. Source: Personal Income in Areas and Counties of New York State (various issues) New York State Department of Commerce.

4/ Prevailing food store milk price in half gallon paper container. Source: Survey of Prices Charged for Milk on Retail Routes, Food Stores and Dairy Stores 25 Upstate Markets, Division of Milk Control, Department of Agriculture and Markets, Albany.

5/ SMSA counties are:
New York City; Nassau, New York City--five boroughs, Rockland, Suffolk and Westchester
Albany-Schenectady-Troy; Albany, Rensselaer, Saratoga, and Schenectady
Syracuse; Herkimer, Oneida, Onondaga, and Oswego

6/ Media Coverage Area (MCA) Population. Estimated population viewing television stations of a given market. Population source: New York State Department of Health.

7/ Consumer Price Index (CPI), 1967 = 100.

8/ Cost of Advertising Index, where first quarter 1971 = 100. This index reflects variations in the cost of prime time spot television.

Table 4 Estimated Returns from Additional Advertising by SMSA

	NYC-SMSA	Albany-SMSA	Syracuse-SMSA
Sales Gain	1/73-12/73	4/73-3/74	4/73-3/74
Actual Per Capita Sales of Fluid Milk in 1973	3212 oz.	4509 oz.	5024 oz.
Estimated Per Capita Sales of Fluid Milk if Advertising had been at the 1971 Level	3117	4503	5000
Per Capita Sales Gain Attributable to Increased Advertising	95 oz.	6 oz.	24 oz.
Farm Value of Sales Gain			
Assuming no supply response and a Class I, Class II price differential of $2.40/cwt. Each additional oz. of fluid milk sales has a farm value of $.0016.			
Per Capita Farm Value of Sales Increase	15.2¢	.0 ¢	3.8¢
Cost of Increased Advertising			
Per Capita Advertising Expenditure 1973	6.9¢	9.0¢	10.2
Per Capita Advertising Expenditure 1971	2.4	2.2	2.5
Increase in Advertising	4.5¢	6.8	7.7¢
Net Returns from Increased Advertising			
Farmer's Net Return Per Capita from Increased Advertising	10.7¢	-5.8¢	-3.9¢

a/ The advertising coefficients used for these estimates had a t ratio of 4.16 in NYC, 1.34 in Albany, and .67 in Syracuse

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At this point I would like to carefully develop with you the contents of Table 4. The actual sales of fluid milk during a 12 month period during the expanded advertising program was 3212 ounces per person. If milk advertising had been at the 1971 level we could predict using our model that milk sales would have been 3117 ounces per person. The 95 ounce (3.05 percent) difference in milk sales can be attributed to the increased advertising program.

Following the same procedure for the other markets, Albany's milk sales were 6* ounces per person per year and Syracuse's were 24 ounces per person per year more than they would have been with advertising at the 1971 level.

We determined that milk sales increased in each market from increased advertising, but was it worth the cost incurred?

The New York advertising program has been designed to increase the consumption of fluid milk. Assuming no supply response on the part of dairy farmers, an increase in the sales of Class I milk means a reduction in the sales of Class II milk. This shifting of milk from Class II to Class I increases the farmer's blend price for milk. In the Federal Order II area, the difference in Class prices during the 12 month period was approximately $2.40/cwt. or $.0016/ounce. Multiplying the sales increase attributed to advertising by the increase in the farm value of milk due to its shift from Class II to Class I, we can estimate the value of the increased advertising.

In the New York City market the farm value of the increase was 15.2¢ per capita. Albany's increase was worth 1.0¢* per capita and Syracuse's 3.8¢ per capita.

The expanded advertising program cost 6.9¢ per person in New York City during 1973. This is a 4.5¢ increase compared to the 1971 level. In Albany the increase was 6.8¢ per person and in Syracuse 7.7¢ per person.

We have now estimated the farm value of the increased milk sales and we have calculated how much it cost New York State dairy farmers to get these sales increases. Has it been a good investment? In New York City the dairy farmers' net return from increased advertising was 10.7¢ per person. This represented a $3.38 return for every additional dollar spent in New York City. Dairy farmer returns in Albany were -5.8¢* per person and in Syracuse they were -3.9¢. These represent returns of only 15¢* on every additional dollar spent in Albany and only 49* cents for every additional dollar spent in Syracuse.

The results indicate that New York dairy man's increased investment in media advertising under the 1972 dairy promotion order has been clearly profitable in New York City. His increased advertising in the upstate markets has been of questionable value. While increased advertising in the upstate markets did not appear to be profitable, these markets are relatively small when compared to New York City.

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* Revised subsequent to the hearing.

Based upon our analysis and the relative milk sales in the various New York State markets, we would conclude that New York State dairy farmers have received a positive return on their investment in increased advertising under the 1974 dairy promotion order.

One word of caution, our analysis has been limited to what has happened under the largest expenditure item funded by the 1972 promotion order. Whether milk advertising will continue to be a profitable investment of dairy farmers is difficult to say because of the dynamics of our economic environment. Consumers will not be the same tomorrow as they are today. What was a successful program today may be a bust tomorrow. This implies a continuing need for monitoring and evaluating all program areas, not just advertising.