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THE EFFECT OF NO REPRICING POLICIES ON NEW JERSEY SUPERMARKET PRICING PRACTICES AND COSTS

by
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The authors utilized the model store and questionnaire approach to determine the effects of a no repricing policy.

The reaction of consumers to rapidly escalating food prices and frequent price changes occurring in the fall of 1974 provided the impetus for many New Jersey supermarkets to initiate no repricing programs on a voluntary basis. From the outset the industry was aware that this policy necessitated changes in operational procedures for handling and pricing merchandise. However, little knowledge as to the exact effect of these programs on supermarket costs and profits was known. The purpose of this study was to define the impact of no repricing programs on supermarket cost and price structures.

RESEARCH PROCEDURE

Contact was made with a number of supermarket chains to identify those areas of the supermarket operation which were affected by a no repricing policy. From these discussions, the grocery, dairy, frozen, and health and beauty aid departments were determined to be those significantly affected.

Individual functions in moving merchandise from the store backroom through the checkout stand were examined for these departments. Other functions including administrative and overhead services that were affected by the no repricing policy were also considered.

Since no repricing was hypothesized to have an effect upon pricing strategy, this area of concern was a significant part of the study. Major elements considered were gross margin targets, actual gross margins, and shrinkage.

Questionnaire

A questionnaire was developed and mailed to nine representative supermarket companies in New Jersey. Six of the nine companies representing over 50 percent of New Jersey food sales returned completed questionnaires. The input data used relied to a large extent upon industrial engineering time and motion studies for the labor coefficients to perform the specific functions affected by the policy. Other cost and price information was obtained from financial records of the actual operating results of the cooperating food chains.

Time Period Represented by Data

The data was collected for two different periods. The first was the four week period in the fall of 1974 immediately preceding the widespread adoption of the no repricing policy. This data provided a benchmark to measure changes due to no repricing. The second period included the period from January 5, 1975 through February 1, 1975 when a large number of price increases occurred.

Model Store

A model store was developed to test the effect of a no repricing policy on a

typical store operation (Table 1). Information from the questionnaire was used as input data. Since the study was concerned with the change in costs due to no repricing, tonnage for the two periods was held at the period 1 level. Increasing tonnage would have required an adjustment factor to provide figures on a comparable basis between periods. With increasing tonnage, costs would have increased to handle the additional volume. Sales figures for all departments increased from period 1 to period 2 due to higher prices.

The average hourly wage rate for in-store non-supervisory personnel ranged from \$4.33 in the dairy department to \$3.88 in health and beauty aids. Fringe benefits paralleled the wage rates and ranged from \$1.06 to \$1.17 per hour. Fringe benefits were included as a component of labor costs.

Compensation for in-store supervisory and administrative personnel ranged from a high of \$311 per week in the dairy department to a low of \$288 in groceries. Fringe benefits ranged from \$77 to \$79 per week. Checkout stand operators were compensated at the rate of \$3.59 per hour with fringe benefits valued at \$.99 per hour. For easier comparison between periods, the hourly and weekly compensation figures were maintained at these levels. Introducing changes in the level of these figures would have added unnecessary complications in determining the net effect of the no repricing policy.

EFFECT OF NO REPRICING POLICY ON COSTS

Merchandise Handling Costs

The function time coefficients and the wage and salary calculations were used to obtain the merchandise handling costs shown in Table 2. The functions, as outlined, represent the physical

handling of merchandise. Only the changes in costs between time periods are shown as the absolute level of the costs is incidental to the study. All functions involved from transporting, spotting in the aisles, opening cases, pricing, rotating, levelling and blocking were included. The costs for performing the total of these functions are called merchandise handling costs in this report.

The grocery department was most affected by the program with merchandise handling costs increasing by \$343. With tonnage constant at period 1 level, this increase in costs is due to the actual increase in manhours necessary to perform all of these functions. Additional costs of \$143 were associated with opening the case, cutting the case, searching for price, preparing the price stamp and price marking merchandise on the selling floor. The reason for the increase in costs is the additional time necessary to check and verify prices for merchandise. Each of the percentages represent that cost as a percentage of the sales of the department.

Special note should be made of the differences in functions 5 and 6. Period 2 is represented by function 5 which omits the changing of prices of shelf inventory which was included in function 6 as it corresponds with period 1. The difference between the functions of \$200 represents the increase in costs caused by additional time needed to rotate the shelves and put the lowest priced items to the front. The additional cost of \$19 for levelling and blocking was minimal. In percentage terms the increase in costs of \$343 represented 0.36 percent of the sales of the grocery department.

Other departments affected were dairy, with an increase of \$44 per week, frozen with a \$39 decrease and health and beauty aids with a \$31 decrease. The net change in merchandise handling costs for all

Table 1. Description of Model Store

Description	Unit	Departments				Total
		Grocery	Dairy	Frozen	Health & Beauty Aids	
Weekly sales ^a						
	Dollars					
Period 1		82,497	20,152	13,071	23,179	138,899
Period 2		93,982	22,706	15,253	27,254	159,195
Compensation for in-store non-supervisory personnel						
	Dollars					
Wage rate per hour		4.11	4.33	4.24	3.88	-
Fringe benefits per hour		1.12	1.17	1.16	1.06	-
Compensation for in-store supervisory and administrative personnel						
	Dollars					
Salary per week		288	311	307	298	-
Fringe benefits per week		79	77	77	77	-
	Hours					
Average number of hours worked per week by in-store supervisory and administrative personnel		45	44	44	44	
Compensation for check-out stand operators						
	Dollars					
Wage rate per hour		3.59	3.59	3.59	3.59	
Fringe benefits per hour		.99	.99	.99	.99	

^a Tonnage held constant at period 1 level. Larger dollar volumes result from increasing prices.

Table 2. Changes in Merchandise Handling Costs per Week from Period 1 to Period 2 with Tonnage Constant

Function	Departments							
	Grocery		Dairy		Frozen		H.A.B.A.	
	% of Per. 2	Dollar Dept. Change Sales	% of Per. 2	Dollar Dept. Change Sales	% of Per. 2	Dollar Dept. Change Sales	% of Per. 2	Dollar Dept. Change Sales
1. Transporting cases to floor	0	0	0	0	0	0	0	0
2. Spotting cases in aisle	0	0	0	0	0	0	0	0
3. Opening case, cutting case, searching for price, preparing price stamp and price marking merchandise in backroom ^b	-19	-0.02	-3	-0.01	0	0	0	-22 -0.01
4. Opening case, cutting case, searching for price, preparing price stamp and price marking merchandise on selling floor	143	0.15	33	0.14	0	0	-32	-0.12 144 0.09
5. Placing lowest priced items to front of shelf, rotating stock, preparing shelves and stocking shelves from cases	1,666	1.77	178	0.78	171	1.12	257	0.94 2,272 1.43
6. Changing prices, rotating stock, preparing shelves and stocking items on shelves from cases ^c	-1,466	-1.56	-170	-0.75	-213	-1.40	-261	-0.96 -2,110 -1.33
7. Levelling and blocking	19	0.02	6	0.03	3	0.02	5	0.02 33 0.02
TOTAL MERCHANDISE HANDLING COSTS	343	0.36	44	0.19	-39	-0.26	-31	-0.12 317 0.20

^aCombined sales of the four departments.^bFor those items handled in this location.^cOccurred during period 1 only.

Table 3. Changes in per Week Costs for Ordering, Maintaining Pricing System, Inventories and Checkout from Period 1 to Period 2 with Tonnage Constant

Function	Departments										Total % of Per. 2 Dollar Change Sales ^a
	Grocery		Dairy		Frozen		H.A.B.A.				
	% of		% of		% of		% of				
	Per. 2 Dept. Sales	Dollar Change Sales	Per. 2 Dept. Sales	Dollar Change Sales	Per. 2 Dept. Sales	Dollar Change Sales	Per. 2 Dept. Sales	Dollar Change Sales	Per. 2 Dept. Sales	Dollar Change Sales	
1. Ordering	7	0	7	0.03	1	0.01	0	0	15	0.01	
2. Maintaining Pricing System	45	0.05	11	0.05	32	0.21	10	0.04	98	0.06	
3. Inventories	0	0	1	0	0	0	0	0	1	0	
4. Checkout Costs	0	0	0	0	0	0	0	0	0	0	
5. Unit Pricing System	7	0.01	2	0.01	2	0.01	5	0.02	16	0.01	
TOTAL	59	0.06	21	0.09	35	0.23	15	0.06	130	0.08	

^a Combined sales of the four departments

departments was \$317 or .20 percent of sales of the four departments. Increases resulted from the additional time necessary to perform function 5 compared to function 6 and the additional time involved in opening and cutting cases, searching for prices and price marking the merchandise.

Other Costs

Other costs affected by the no repricing program are contained in Table 3. Ordering costs included the manhours of hourly and supervisory personnel in preparing orders, taking inventories for orders, and transmitting the order. Included also were headquarter costs associated with ordering. For all departments the change in ordering costs totalled \$15 or 0.01 percent of sales of the combined departments. (Additional costs for maintaining the pricing system amounted to \$98 or 0.06 percent of combined department sales).

Changes in the costs to maintain the unit pricing system amounted to only 0.01 percent of sales of the combined departments. Both store level costs and headquarter costs associated with unit pricing were considered. The change in costs for ordering, maintaining the pricing system, inventories and checkout was \$130 per week or 0.08 percent of combined sales of the four departments.

Total Costs

The sum of costs for merchandise handling, ordering, maintaining the pricing system, inventories, checkout and maintaining the unit pricing system by departments are contained in Table 4. The grocery department was most affected with an increase in costs of \$402 or 0.43 percent of grocery sales. Costs in the dairy department increased by \$65 or

0.29 percent of dairy sales. There was only a slight impact upon the health and beauty aids department and the frozen department. Weekly costs increased by \$447 for all departments which represented 0.28 percent of combined sales.

Table 4. Weekly Changes in Costs of Model Store by Department Due to No Repricing Program^a

Department	Period 2	
	Dollars	Percent of Individual Department Sales
Grocery	402	0.43
Dairy	65	0.29
Frozen	-4	-0.03
Health and Beauty Aids	-16	-0.06
TOTAL	447	0.28 ^b

^aTonnage held constant with week 1 as base time period.

^bThese percentages are based on combined sales of all four departments.

EFFECT OF NO REPRICING POLICY ON PRICES

Shrinkage

The concept of shrinkage represents a cost from the standpoint of the supermarket. It can be simply defined - by abstracting some of the accounting technicalities - as the difference between "Anticipated gross" and "Realized gross". Under a shelf repricing system, a period of increasing prices would mean that shelf inventory would be remarked to prices higher than the original marking. This procedure had the effect of increasing the realized gross since more gross margin dollars are generated from that item at

the higher price than was recognized at the initial billing. Thus, shrinkage would be lower than under a no repricing policy. Given all other factors as constant, the elimination of shelf repricing should have increased shrinkage since the realized gross would be lower than if prices were repriced during a period of increasing prices.

Table 5 shows the actual shrinkage in dollars and percentages by departments for each of the periods. For the grocery department the shrinkage increased from \$470 or 0.57 percent of grocery department sales in period 1 to \$714 or 0.76 percent of grocery sales in period 2. Shrinkage for the dairy department was relatively constant. Frozen shrinkage was 0.50 percent in period 1 and 0.25 percent in period 2. Shrinkage for the four departments totalled \$1,825 or 1.31 percent of combined sales in period 1 and increased

to \$2,834 or 1.78 percent of sales in period 2.

Effect of No Repricing on Gross Margin

On the questionnaire companies were requested to provide information about their loss due to not repricing. The estimated percentage loss in the grocery department from not repricing in period 2 was 0.20 percent of grocery sales (Table 6). The percentage for dairy was 0.10 percent while frozen was 0.02 percent and the health and beauty aids loss was 0.50 percent.

The actual loss in weekly gross margin dollars are also shown in Table 6. The estimated loss in the contribution to gross margins from not repricing was \$188 for the grocery department. The losses from the dairy and frozen departments were very small. Health and beauty aids experienced a loss of \$136.

Table 5. Shrinkage Dollars for Department by Period with Constant Tonnage^a

Department	Time Periods			
	1		2	
	Dollars	Percent of Individual Department Sales	Dollars	Percent of Individual Department Sales
Grocery	470	0.57	714	0.76
Dairy	133	0.66	150	0.66
Frozen	65	0.50	38	0.25
Health and Beauty Aids	<u>1,157</u>	<u>4.99</u>	<u>1,932</u>	<u>7.09</u>
TOTAL	1,825	1.31 ^b	2,834	1.78 ^b

^a Tonnage held constant with week 1 as base time period.

^b These percentages are based on the combined sales of all four departments.

Table 6. Effect of No Repricing Policy on Individual Department Gross Margins^a

Department	Estimated Loss of Individual Department Gross Margins	
	Percentage	Dollars
Grocery	0.20	188
Dairy	0.10	23
Frozen	0.02	3
Health and Beauty Aids	0.50	136
TOTAL	0.22 ^b	350

^a Tonnage held constant with week 1 as base time period.

^b These percentages are based on combined sales of four departments.

TOTAL IMPACT OF NO REPRICING PROGRAM

The total impact of the no repricing program equals the sum of the additional costs generated and the loss in gross margin dollars from not repricing (Table 7). A large proportion of the total impact was centered in the grocery department. The total impact was \$590 which represented 0.63 percent of grocery sales. Dairy experienced an impact of 0.39 percent of sales while there was virtually no effect on the frozen department. Health and beauty aids had a significant impact due mostly to the loss in gross revenue from not repricing totalling \$120 or 0.44 percent of sales in the department.

The total impact of all departments was \$731 or 0.46 percent of combined sales if companies did not compensate for reduction in gross margin dollars. If in fact the chains absorbed the increased costs and lost gross margin dollars, weekly store level profits would be reduced by these dollar amounts. However, it is reasonable to hypothesize that due to the fact that the policy covered nearly the entire industry, chains under no repricing would take measures to compensate for the lost gross margins. Therefore, the net

effect of the policy is the increase in merchandise handling and other costs.

CONCLUSIONS

No repricing programs were adopted by supermarket chains in New Jersey in response to the inflationary pressures that spurred the increase in food prices during 1973 and 1974. Escalating food prices created negative consumer reaction and lead to proposed legislation which would have prohibited repricing shelf inventory. The initial reaction and stimulus for the program was that it would save money for the consumer. During the period of increasing food prices, no repricing programs lead to an increase in costs of 0.24 percent which ultimately is paid by the consumer. So in essence, the question is whether or not consumers are willing to pay slightly higher food prices for the convenience of not repricing during periods of rapid inflation.

Any company considering no repricing programs should consider them from a cost-benefit standpoint. If benefits exceed the additional costs then they should be implemented. On the other hand, if costs exceed benefits, then thoughts should be given to seeking alternative pricing policies.

Table 7. Total Weekly Impact of No Repricing Program on Model Store Including Additional Costs and Lost Gross Revenue From Not Repricing Shelf Inventory With Tonnage Constant^a

Department	Period 2	
	Dollars	Percent of Individual Department Sales
Grocery	590	0.63
Dairy	88	0.39
Frozen	-1	-0.01
Health and Beauty Aids	<u>120</u>	<u>0.44</u>
TOTAL	797	0.50 ^b

^aTonnage held constant with period 1 as the base period.

^bThese percentages are based on combined sales of four departments.