ADVERTISING AND THE FOOD SYSTEM

Proceedings of a Symposium Held at Airlie House, Virginia on November 6 & 7, 1980

**John M. Connor
and Ronald W. Ward,
Editors**

**With the assistance of
Rosanna Mentzer Morrison**

**North Central Regional Research Project NC 117
Monograph No. 14**

THE EFFECTS OF DISSEMINATING COMPARATIVE GROCERY CHAIN PRICES BY THE INDIANA PUBLIC INTEREST RESEARCH GROUP: A CASE STUDY

Samuel M. Loescher
Indiana University—Bloomington

In July 1971 InPIRG (the Indiana Public Interest Research Group) in cooperation with its publisher, the *Indiana Daily Student*, began what has become nine continuous years of collecting and publishing monthly comparative market basket prices for supermarket-size grocery stores in Bloomington, Indiana.[1] The principal purpose of the monthly price reports was to help consumers in Bloomington save time and anxiety in store selection and save money in the process. A secondary purpose was to rescue prices in Bloomington from a widely-believed, but unproven inflated level which Indiana students insisted characterized all product markets in "college" dominated towns relative to noncollege towns.

THE MAJOR EFFECT

Ultimately the most important effect of persistent reporting of the InPIRG grocery survey has been its paramount contribution to efficient pricing in Bloomington. During the three most recent years (1978-1980) of testing, prices have been found to be consistantly lower in Bloomington than those in other cities surveyed in central Indiana.

Six cities met reasonable criteria for price comparison with the InPIRG market basket. The particular months selected during 1978-1980 for comparing the relative price levels in the cities paired with Bloomington were the time periods chosen by undergraduate students to enroll with me for credit courses entailing field research.

Tables 1 through 6 report the relative level of prices found in the cities compared with Bloomington. Reports on field interviews with grocery managements supplement the tables and seek better to explain their findings. The six tables of comparative prices and the supplementary interviews with management comprise the heart of this paper.

TWO LESSER EFFECTS

In early 1975 Indiana University seminar students used a computerized program of the 99-item InPIRG market basket survey to compare the level of grocery chain prices in Bloomington with the four closest surrounding cities. No real difference was found. In late 1975, and on into the summer of 1976, students with InPIRG detected substantial discrepancies between the Kroger Price Patrol, Kroger's heavily advertised campaign of comparative price reporting, and InPIRG's market basket survey in both Bloomington and Indianapolis.[2] These discrepancies prompted InPIRG students to launch a major investigation of the Kroger Price Patrol.

In early 1975, students in my junior seminar in economics chose to test two contradictory hypotheses concerning the potential consequences of the InPIRG grocery survey on Bloomington prices. The students, like the originators of the InPIRG survey, believed that merchants both were able to and chose to "exploit" consumers in college communities with higher prices. The students believed that only substantially lower market concentration would reduce grocery prices; they doubted that InPIRG's monthly pricing survey could have reduced Bloomington prices to the level of noncollege towns. In direct contrast, one could argue that Bloomington's price level had become lower than in surrounding cities because improved consumer price information would increase consumer mobility among stores, reduce product differentiation, and automatically induce grocery management to increase the ratio of price to nonprice competition. Four cities surrounding Bloomington, (Columbus, Bedford, Linton, and Martinsville), were chosen for the comparative study of price differences. The students reasoned that operating costs could be expected to be comparable in all of these cities of southern Indiana since all of the major chains had to truck merchandise into these towns, principally from warehouses in Indianapolis. The students also confirmed their presumptions about the prevalance of market concentration in each city. Estimates made from the trade magazine, *Grocer's Spotlight,* revealed a four-firm concentration ratio (market share for the four largest firms) exceeding 50% in each market.[3]

The field studies showed the prices of grocery chains to be neither consistently higher nor lower in the surrounding cities, but to average about the same. These findings refuted the hypothesis of higher prices for Bloomington. The findings also refuted the hypothesis that persistent price reporting would automatically tend to reduce prices below comparable cities without reporting.

Release to the press of the InPIRG Report, *Patrolling the Kroger Price Patrol,* in September 1976 is widely believed to have induced the Federal Trade Commission into intensifying its own field investigation and prompting hearings. An FTC administrative judge has made findings sufficiently demanding, as to be strongly contested by Kroger. The InPIRG Report included more than a detailed methodological critique of Kroger's Price Patrol surveys.[4] InPIRG also reported the statistical results from monitoring twenty-two consecutive weeks, in both Bloomington and Indianapolis, of the rotating "sample" lists of items used by Kroger for its Price Patrol comparisons during the spring and summer of 1976. The weekly patterns of price decreases and increases on items placed on and taken off the sample list were so systematically biased as to be totally unexplainable by chance. InPIRG suggested that conscious manipulation offered the best explanation, an explanation that the FTC shared.

Public release of InPIRG's *Patrolling the Kroger Price Patrol* not only converted the FTC's lethargic investigation into one of expedition, but also prompted the FTC to subpoena InPIRG for its underlying investigative data accumulated during its twenty-two week surveillance of Kroger.

THE EVOLVING SOPHISTICATION OF INPIRG'S MARKET BASKET SURVEY

For its first two years the InPIRG grocery surveys were indeed simple. InPIRG selected a market basket sample which corresponded with the most recently available BLS studies of household purchases. The survey included 40 items, and InPIRG published the name and price of each item sampled at each store. The potential for store managers to focus price reductions on the few published items, while elevating prices among the vastly greater nonsampled items was of considerable concern to InPIRG. Moreover, hand processing of the prices, without a procedure to point out possible errors, raised the probability of faulty reporting.

During the summer of 1973 the basic format for InPIRG's computerized 99-item market basket survey was developed and put into operation. Indiana University specialists in sociology and computer programming joined forces with specialists in marketing to design a system for both comprehensive and accurate survey reporting, while relying upon volunteer survey data collectors and processors.

Relative weights for categories and subcategories of commodities purchased nationally in supermarkets were used to provide annual adjustments to the InPIRG model. The percentage excess of each store relative to the supermarket rated as the low price leader in each category was reported on an overall basis as well as for five categories of food purchased (dry groceries, meat, produce, dairy, and bakery). At the close of 1975, the computer program was expanded to a market basket of 150 items and to report two additional categories of purchases reported by *Supermarketing:* "non-foods" (about 12% weight) and "general merchandise" (about 10% weight). A copy of the InPIRG price report as it appeared in the *IDS* during one month of 1980 is shown on page 330.

The 150 items in the market basket which is being surveyed on any particular month are not reported to the public. Store managers are thus discouraged from tailoring their prices selectively in ways which would reduce the general representativeness of relative grocery store price comparisons reported by InPIRG. Only standard shelf prices are used. No allowance is made for such categories of special prices that require coupons from newspaper advertisements or minimum dollar purchase, or that limit the quantity for which the lower price applies.

INTER-CITY RESEARCH COMPARISONS FOCUS ON CHAINS

The InPIRG monthly grocery price report surveys and reports comparative prices for all supermarkets in Bloomington. In recent months the survey included relative prices in Bloomington for five independents in addition to the five supermarket stores of three chains and one warehouse store of another chain.

Comparisons of Bloomington InPIRG market basket prices with InPIRG market prices in other cities, however, are purposely limited to the grocery stores of chains. Initial efforts to include independents raised two problems. Independent supermarkets in central Indiana are smaller in average size than those of the chains. Moreover, independents in test studies have generally been found to charge higher prices than chains. Authoritative market share data have not been available, hence unweighted averages by company have been used. To minimize the capriciousness which could stem merely from differences in the ratio of independents to chains comparisons of inter-city relative prices were based exclusively on the chains' data. Special comparisons are made where applicable, however, of major chains alone, major chains combined with local (non-union) chains,

Table 1. 150 Item InPIRG Market Basket Prices Expressed Relative to the Lowest Major Chain in Bloomington, Indiana for Major Chains and Nonunion Local Chains, for Four Cities Surrounding Bloomington (Columbus, Martinsville, Bedford and Linton), Indiana, March 1978 and March 1979.

	MARCH 1978						MARCH 1978						
	Bloomington		Columbus	Martinsville	Bedford	Linton	Bloomington		Columbus	Martinsville		Bedford	Linton
Chain	Major	Major	Nonunion Local	Major	Major	Major	Major	Major	Nonunion Local	Major	Major	Nonunion Local	Major
Eisner (Jewel)	1.000						1.000						
Marsh	1.004	1.018					1.046	1.046					
Kroger	1.023	1.035		1.044	1.055	1.057	1.036	1.060		1.073	1.053		1.086
Standard (National Tea)*	1.048	1.031						1.088					
A&P		1.023		1.019				1.085		1.088			
Jay C			0.962						1.022			1.027	
Unweighted average relative for Major Chains	1.109	1.027		1.031	1.055	1.057	1.027	1.070		1.080	1.053		1.086
Unweighted average relative for Major and Local Chains	1.109		1.013				1.027		1.060			1.040	
Comparison relative to Bloomington for Major Chains		1.008		1.012	1.035	1.038		1.042		1.052	1.025		1.057
Comparison relative to Bloomington for Major and Local Chains			0.994						1.032			1.013	

* National Tea Co., Standard Division phased out its high priced, low volume Bloomington store, and converted it to a low price warehouse store, re-named No Frills, after completion of the March 1979 survey.

and major chains and local (non-union) chains combined with warehouse chains.

Table 2. 150 Item InPIRG Market Basket Prices Expressed Relative to the Lowest Major Chain in Bloomington, Indiana for Major Chains, Nonunion Local Chains, and Warehouse Chains in Columbus, Indiana, February 1980, May 1980 and June 1980.

	FEBRUARY 1980			MAY 1980					JUNE 1980				
	Bloomington	Columbus		Bloomington		Columbus			Bloomington		Columbus		
Chain	Major	Major	Nonunion Local	Major	Warehouse	Major	Nonunion Local	Warehouse	Major	Warehouse	Major	Nonunion Local	Warehouse
Eisner (Jewel)	1.000			1.000					1.018				
Kroger	1.017	1.014		1.002		1.034			1.000		1.041		
Marsh	1.044	1.074		1.042		1.059			1.037		1.040		
Standard (National Tea)*		1.067				1.049					1.038		
Jay C			1.032				1.004						
No Frills (National Tea)					0.937					0.930			
Cost Plus								1.014**					0.947**
Unweighted average relative for Major Chains	1.020	1.052		1.015		1.047			1.018		1.040		
Unweighted average relative for Major and Local Chains	1.020		1.047	1.015			1.036		1.018			1.033	
Unweighted average relative for Major, Local and Warehouse Chains					0.986			1.032		0.996			1.014

Table 2. 150 Item InPIRG Market Basket Prices Expressed Relative to the Lowest Major Chain in Bloomington, Indiana for Major Chains, Nonunion Local Chains, and Warehouse Chains in Columbus, Indiana, February 1980, May 1980 and June 1980. (Cont.)

	FEBRUARY 1980			MAY 1980					JUNE 1980				
	Bloomington	Columbus		Bloomington		Columbus			Bloomington		Columbus		
Chain	Major	Major	Nonunion Local	Major	Warehouse	Major	Nonunion Local	Warehouse	Major	Warehouse	Major	Nonunion Local	Warehouse
Comparison relative to Bloomington for Major Chains		1.031				1.032					1.038		
Comparison relative to Bloomington for Major and Local Chains			1.027				1.021					1.015	
Comparison relative to Bloomington for Major, Local, and Warehouse Chains								1.046					1.018

* Standard converted during February-March 1979 its high prices and volume-shrinking conventional supermarket to its first warehouse store in Indiana, called No Frills. By February 1980, the InPIRG Market Basket in No Frills was priced at only 0.929 of the Eisner level.

** Cost Plus prices its items at delivered "wholesale" cost and adds a percentage which decreases with the quantity purchased. For this comparison, I have assumed a 16% addition, to correspond with a purchase of $50-$99.99. (The percentage addition would have been 18% for $25-$29.99 and 12% for $100-$199.99).

Table 3. 150 Item InPIRG Market Basket Prices Expressed Relative to the Lowest Major

Table 3. 150 Item InPIRG Market Basket Prices Expressed Relative to the Lowest Major Chain in Bloomington, Indiana for Major Chains, Nonunion Local Chains, and Warehouse Chains in Indianapolis, Indiana, March 1979 and March 1980.

	MARCH 1979					MARCH 1980				
	Bloomington		Indianapolis			Bloomington		Indianapolis		
Chain	Major	Warehouse	Major	Nonunion Local	Warehouse	Major	Warehouse	Major	Nonunion Local	Warehouse
Eisner (Jewel)	1.000					1.003				
Marsh	1.044		1.055			1.043		1.055		
Kroger	1.056		1.063			1.000		1.053		
A&P			1.064					1.082		
Standard (National Tea)			1.070					1.103		
Preston Safeway				1.066					1.092	
No Frills (National Tea)		0.977					0.912			
Big E (Jewel)					0.998					1.002
Unweighted average relative for Major Chains	1.033		1.063			1.015		1.073		
Unweighted average relative for Major and Local Chains	1.033			1.064		1.015			1.077	
Unweighted average relative for Major, Local, and Warehouse Chains		1.019			1.053		0.990			1.065
Comparison relative to Bloomington for Major Chains			0.029					1.057		
Comparison relative to Bloomington for Major and Local Chains				1.030					1.061	
Comparison relative to Bloomington for Major, Local, and Warehouse Chains					1.033					1.076

Table 4. 150 Item InPIRG Market Basket Prices Expressed Relative to the Lowest Major Chain in Bloomington, Indiana for Major Chains, Nonunion Local Chains, and Warehouse Chains in Indianapolis, Indiana, May 1980 and June 1980.

	MAY 1980					JUNE 1980				
	Bloomington		Indianapolis			Bloomington		Indianapolis		
Chain	Major	Warehouse	Major	Nonunion Local	Warehouse	Major	Warehouse	Major	Nonunion Local	Warehouse
Eisner (Jewel)	1.000					1.022				
Marsh	1.085		1.086			1.035		1.063		
Kroger	1.042		1.084			1.000		1.038		
A&P			1.101					1.065		
Standard (National Tea)			1.108					1.065		
Preston Safeway				1.113					1.090	
No Frills (National Tea)		0.977					0.925			
Big E (Jewel)					1.088					0.985
Unweighted average relative for Major Chains	1.042		1.095			1.019		1.058		
Unweighted average relative for Major and Local Chains	1.042			1.077		1.019			1.064	
Unweighted average relative for Major, Local and Warehouse Chains		1.026			1.083		0.996			1.051
Comparison relative to Bloomington for Major Chains			1.051					1.038		
Comparison relative to Bloomington for Major and Local Chains				1.054					1.044	
Comparison relative to Bloomington for Major, Local, and Warehouse Chains					1.056					1.055

Table 5. 150 Item InPIRG Market Basket Prices Expressed Relative to the Lowest Major Chain in Bloomington, Indiana for Major Chains in Lafayette, Indiana, April 1979 and April 1980.

	APRIL 1979		APRIL 1980				
	Bloomington	Lafayette	Bloomington			Lafayette	
Chain	Major	Major	Major	Warehouse	Major	Nonunion Local	Warehouse
Eisner (Jewel)	1.000	1.082	1.003		1.062		
Kroger	1.046	1.074	1.000		1.040		
Marsh	1.056	1.070	1.056		1.044		
Payless**						1.000	
No Frills (National Tea)				0.932			0.948
Unweighted average relative for Major Chains	1.034	1.075	1.020		1.049		
Unweighted average relative for Major and Local Chains			1.020			1.037	
Unweighted average relative for Major, Local, and Warehouse Chains				0.998			1.019
Comparison relative to Bloomington for Major Chains		1.040			1.028		
Comparison relative to Bloomington for Major and Local Chains						1.017	
Comparison relative to Bloomington for Major, Local, and Warehouse Chains							1.021

** Payless was not recognized to be a chain (even, a nonunion local chain) in 1979, thus, it was not price-surveyed until April 1980. Indeed, *Grocer's Spotlight,* August 1980, accords a 33% share of the Lafayette market to the two stores of Payless.

Table 6. 150 Item InPIRG Market Basket Prices Expressed Relative to the Lowest Major Chain in Bloomington, Indiana for Major Chains, Nonunion Local Chains, and Warehouse Chains in Lafayette, Indiana, May 1980 and June 1980.

	MAY 1980					JUNE 1980				
	Bloomington		Lafayette			Bloomington		Lafayette		
Chain	Major	Warehouse	Major	Nonunion Local	Warehouse	Major	Warehouse	Major	Nonunion Local	Warehouse
Eisner (Jewel)	1.000		1.095			1.018		1.060		
Kroger	1.040		1.068			1.000		1.021		
Marsh	1.090		1.081			1.031		1.048		
Payless				1.058					1.007	
No Frills (National Tea)		0.978			0.984		0.930			0.924
Unweighted average relative for Major Chains	1.043		1.081			1.016		1.043		
Unweighted average relative for Major and Local Chains	1.043			1.076		1.016			1.034	
Unweighted average relative for Major, Local, and Warehouse Chains		1.027			1.058		0.995			1.012
Comparison relative to Bloomington for Major Chains			1.036					1.027		
Comparison relative to Bloomington for Major and Local Chains				1.032					1.018	
Comparison relative to Bloomington for Major, Local, and Warehouse Chains					1.030					1.017

InPIRG survey tells grocery prices

PERCENTAGE COST DIFFERENCE RELATIVE TO THE LOWEST PRICED STORE FOR THE MODEL SHOPPING BASKET

Model Basket	Overall	Dry Groceries	Meats & Poultry	Non-foods	Fresh Vegs and Fruits	General Merchandise	Dairy	Baked Goods
Composition	**100%**	**32.7%**	**22.0%**	**11.9%**	**10.5%**	**9.7%**	**8.9%**	**8.3%**
No Frills	.0	.0	4.9	.0	11.5	.0	.0	.0
Hays Market	7.2	12.2	.0	6.0	.0	33.3(H)	16.9	6.8
Eisner	9.0	6.3	9.0	2.5	32.0	17.1	8.1	28.9(H)
Kroger Eastland	9.1	6.0	17.6	1.6	34.8	5.9	9.9	13.4
Kroger Seminary	9.1	5.1	16.4	1.6	39.5(H)	5.9	10.4	15.2
Marsh West	9.7	4.7	18.4(H)	.7	32.2	14.5	11.4	19.8
Marsh Southgate	10.4	6.5	17.8	.7	32.4	14.8	11.2	23.4
Ralph's T-Mart	11.1	13.2	5.9	9.4	33.0	19.6	19.3	5.3
Highland IGA	11.4	9.6	17.0	5.1	12.6	28.1	14.4	23.7
Grubbs IGA	11.5	9.6	16.4	5.3	14.9	28.1	14.4	23.7
Cascade IGA	14.6	13.7(H)	17.7	11.4(H)	16.7	30.8	20.5(H)	22.6

(H) signifies highest price in category

About the InPIRG grocery survey:

This survey was conducted Wednesday, Sept. 24, at 11 Bloomington grocery stores by volunteers. The survey, which is conducted every month, is based on a ranking system. The store with the lowest prices receives a ranking of .0 on the chart. The percentage difference between the lowest price on each item and the prices at other stores on the same name brand item is used in ranking the other stores. The 150-item survey sample is based on the "model basket" which is representative of both the types and relative amounts of items at supermarkets. Items are weighted on the basis of how often and in what amount consumers purchase them.

The survey is weighted not only by category, but by each item in the category. The most commonly purchased items receive the heaviest weighting. InPIRG uses a computer system which determines the weighting of each item, compiles the price data and checks for human error. Name brands are usually used, except in some cases in which InPIRG judges a less expensive item as good as the name brand and uses it instead. Although InPIRG keeps the number of estimates to a maximum of 10 per store, no more than one estimate for an item on the survey is allowed. Estimates for items in one category in the store are based on the prices of other items in the same store.

Source: *Indiana Daily Student,* Friday, October 3, 1980.

FACTORS INDUCING RENEWED RESEARCH (1978-1980) INTO INTER-CITY PRICE EFFECTS OF INPIRG'S PRICE REPORTS

Three considerations prompted a renewed effort to compare Bloomington grocery prices with those in surrounding towns in 1978, and then gradually to expand the exploration to two other cities in 1979 and 1980. First, toward the end of 1977, Devine's experimental pricing studies in Canada demonstrated a clear cut short-run price-reducing impact from price reporting in Ottawa-Hull relative to Winnipeg (Devine 1976 and Devine and Marion 1979). An obvious question arose as to what, if any, long run consequences would flow from grocery price reporting. The 1975 surveys had detected no impact, but perhaps emerging consequences over a much longer run warranted additional research.

Second, in December 1976, the *IDS* ran a story, accompanying that latest InPIRG grocery survey, to the effect that Eisner (a Jewel subsidiary) had held low price leadership of the InPIRG grocery survey for twelve straight months following operation as one of Bloomington's highest priced major chains from late 1973 through late 1976. Persistent InPIRG reporting of low prices for Eisner for the entirety of 1977 suggested that Eisner might have decided to take advantage of InPIRG's price reporting to implement a low price policy.

Third, in February-March, 1979 National Tea's Standard Division converted its Standard supermarket to a No Frills warehouse-type supermarket with wide selection of merchandise but minimum service. Fairly recently Jewel's Eisner Division had converted its Eisner supermarkets in Indianapolis, to Big E warehouse-type supermarkets. A direct price comparison of the two warehouse chains would be interesting, as would direct comparisons of Standard's regular supermarket in Indianapolis against Eisner's regular supermarket in Bloomington. Moreover, Kroger and Marsh operated standard supermarkets in both cities. The operating cost edge should clearly go to Indianapolis, since chain outlets in Bloomington required a 100 mile greater round-trip haul from warehouse to store. Adverse supply-cost differentials would make any findings of lower prices in Bloomington all the more significant.

Lafayette was added to the Central Indiana study for two reasons.[5] All three chains which operated in Bloomington also operated in Lafayette. Moreover, Lafayette, being the home of Purdue University, could serve to rule out the college environment of Indiana University as the explanation for lower prices in Bloomington.

THE INTER-CITY PRICE COMPARISONS WITH BLOOMINGTON

The grocery price comparisons of 1978 (Table 1) strongly suggested that prices in the chain stores of Bloomington ran below those in its four surrounding cities. Prices for major chains in all four cities averaged well over 2 percent more. Still, grocery prices in Columbus averaged only slightly more than 1% greater for major chains and averaged almost 1% less when nonunion and major chains were combined. From Table 1 the prices for the major chains in the four surrounding cities were at least 2.5% greater and averaged 4% greater. Even when the local chains of Columbus and Bedford are combined with their major chains, prices in the two cities average 2% higher than Bloomington.

Tables 3 and 5 reveal that prices in 1979 also ran decisively higher in both Indianapolis and Lafayette. Moreover, Kroger, Marsh and Eisner not only charged higher prices in each direct comparison, but Eisner's Big E warehouse store in Indianapolis also charged higher prices than Standard's No Frills warehouse store in Bloomington.

During 1980 prices in Columbus, Indianapolis, and Lafayette were compared with Bloomington's. The magnitude of Bloomington's price discount slipped slightly during 1980 compared to 1977 for Columbus and Lafayette and rose substantially relative to Indianapolis.

Comparisons of Bloomington prices during the past three years with the six central Indiana cities may be summarized in the following manner. Bloomington prices were found to be *lower*: 19 for 19 times on comparisons among major chain stores, 11 for 12 times on major combined with local chain stores, and 9 for 9 times on comparisons of major and local combined with warehouse chain stores. Such consistency in direction of the difference is so compelling that the relatively lower level of Bloomington grocery prices during 1978-1980, seven to nine years following initiation of the InPIRG grocery price reporting, can definitely be attributable to something more fundamental than chance. The findings of overwhelming consistency in direction are far more important statistically than the unweighted averages of the same intercity comparisons which show Bloomington grocery prices to be 3.5% lower for all major chain stores, 2.7% lower for all major and local chain stores combined, and 3.8% lower for all major, local, and warehouse stores combined.

THE CONTRIBUTION OF FIELD INTERVIEWS TOWARD EXPLAINING THE INTER-CITY GROCERY PRICE COMPARISONS

Three sets of field interviews with grocery managements support *IDS* publication of the InPIRG grocery surveys as the principal explanation for the eventual emergence of reduced grocery prices in Bloomington relative to other cities in central Indiana.

First, headquarters managers for both Marsh and the Indiana Division of Kroger helped rule out differential costs as an explanation for lower prices in Bloomington. Operating costs were reported to be comparable for site rents, construction costs, utilities, and wage and salary scales. Indeed, added transportation costs should elevate Bloomington costs relative to Indianapolis by an estimated 1%.

Second, the Bloomington manager of the No Frills warehouse grocery store of National Tea's Standard Division indicated ways in which the combined presence of InPIRG's price reporting and eventual reductions of Bloomington's grocery prices relative to other cities have affected the marketing strategy of the Standard Division. Volume of Standard's last remaining conventional supermarket fell to a trickle in 1978 as the monthly InPIRG grocery surveys confirmed consumers precepts about Standard's high prices. In early 1979 the Standard Division selected Bloomington to test market the potential conversion of some of its low volume Indiana supermarkets to warehouse stores. Warehouse stores are low service stores where customes supply and pack their own bags, forego general check cashing, services like a meat cutter, and general aesthetic refinements, yet are offered a wide selection of items. National Tea had successfully introduced these No Frills warehouse stores in Canada, but their local manager informed me that Bloomington with its InPIRG price reporting and lower price level for conventional supermarkets was targeted as the acid test of whether to convert conventional supermarkets in some of its other "losing" territories in Indiana to warehouse stores. The InPIRG grocery survey was perceived as especially important for its new Bloomington manager. For nine months he made strenuous requests for permission to expand his selection of products so as to qualify regularly for inclusion of InPIRG's publication rankings. By late summer of 1979 Standard had converted its conventinal supermarkets to No Frills warehouse stores in Lafayette, Kokomo, Richmond, and Terre Haute, Indiana, but none of these has yet to approach the volume generated in Bloomington. In September 1980 the No Frills Bloomington's sales volume exceeded the per-store volume of the Kokomo outlet by 50% and all others by 100%.

Third, the most compelling support for the long-run impact of the InPIRG grocery surveys upon price levels in Bloomington has come from extensive interviews with Larry Corts, the Bloomington manager of Eisner from the summer of 1976 to the summer of 1979.[6] These interviews also point to the necessity of perceptive and courageous managers who are prepared to act upon the plausible, yet uncertain, hypothesis that the existence of improved price information shortens the time lag of consumer purchasing responses to substantial, yet potentially sustainable, levels of price reductions.

Corts had been transferred by Eisner from a successful Lafayette, Indiana outlet in order to turn around a sickly Bloomington outlet. He attributed Eisner's success in Bloomington to his innovation of an "every day low price policy," which substantially reduced the gross margin and eliminated the variety of weekend specials which are tied to newspaper coupons and customer limits—marketing methods which persist in other Bloomington chains and, indeed, in Eisner's supermarkets in Lafayette.

Corts knew, before leaving Lafayette, that volume in the Bloomington Eisner had plummeted during the summer of 1973 and had sustained a dwindling volume for three years thereafter. Upon his arrival in Bloomington, employees in the Eisner outlet also told him about the InPIRG pricing survey. Corts' examination of past price comparisons published in the IDS[7] confirmed his suspicion that Eisner's prices had risen relatively to the rival chains, when the Bloomington Eisner raised its gross margins, and explained the rapidity of Eisner's loss of substantial market share. Corts undertook an opinion survey of a substantial sample of grocery shoppers and discovered that an unusually high proportion of Monroe Countians were regularly informed about monthly results of the InPIRG grocery survey. Most families had either relatives or neighbors who were students or employees of Indiana University with access to the *IDS* and its monthly InPIRG price report.

Corts concluded that the same published InPIRG pricing survey which had accelerated the decline of profitability for Eisners in Bloomington following a sharp rise in prices could symmetrically accelerate the revival of profitability following a sharp reduction in prices. Corts recognized that without relatively rapid shifting of store patronage by the potentially mobile margin of consumers, substantial reductions in gross margins would not only lead to initial sharp increases of losses for the Bloomington Eisner, but also unduly prolonged losses before adequate increases in sales volume would generate any profitability, let alone substantial profitability. But Corts was confident that consumers conditioned by authoritatively-perceived comparative price information would substantially shorten their lags in responding to a chain's sustainable level of store-wide price reductions.[8]

Corts was confident that his two major rivals in Bloomington, Kroger and Marsh, would retaliate only modestly. Eisner operated with only a single store in Bloomingon, but the two other major chains were positioned with two units each. Kroger and Marsh could not, in turn, contemplate comparable percentage increases in their volume from similar price reductions.

Eisner functioned as the InPIRG-reported low price leader in Bloomington for 1977 and 1978 and on into 1979. When the newly-opened No Frills warehouse store widened its merchandise selections sufficiently to qualify regularly for publication as the InPIRG low-price leader, Corts contemplated one of two responses by Eisner. One was to convert the Eisner supermarket to an Indianapolis-style Big E warehouse store, which would meet or beat No Frills prices in the process. A second was to maintain a low gross margin overall but to shift its mix in product and pricing. The mix shift entailed substantially enlarging its proportion of generic-grade merchandise, and foregoing some of its thinned-out margins on InPIRG-monitored national brand merchandise in order to shave its margins and price, but expand its volume, on generics. Corts chose the latter strategy since he believed that continued leadership among the chains (if not against the warehouse store) on the InPIRG survey would continue to bring and maintain a large patronage who would price compare and purchase vast quantities of generics.

EXCESS CAPACITY REDUCTION IN BLOOMINGTON?

To what extent have the delayed price reductions in Bloomington, encouraged by InPIRG's price reporting, been associated with cost reductions? My students and I have been in no position to evaluate evidence bearing upon the potentially changing role of nonprice marketing competition, with one possible exception: excess capacity. The Census for 1980 reports the population of Bloomington to have grown 19 percent during the past decade—a faster rate than for any of the larger cities in Indiana, yet the number of supermarkets (and warehouse stores) reported by InPIRG has shrunk by 8 percent, from twelve to eleven, between 1970 and 1980. Stores of four chains (two Standards, A&P, and Thrifty-Mart) and one independent have existed. Stores of two chains (a new Marsh and a No Frills warehouse conversion) and two independents (a new IGA and a converted Thrifty-Mart) have entered. Increased size of the two newly-built stores probably more than offset the 8 percent shrinkage in net store units but probably falls substantially short of the enlarged demand from population increase. Reduced "overstoring" seems probable in Bloomington.

CONCLUSIONS

A substantial time lag followed the first publication of comparative grocery prices in 1971 before demonstrably reduced prices were found in Bloomington relative to other cities in central Indiana. Reduced prices probably began in 1977, but they were undetected empirically until 1978 and were not substantiated with significant statistics until an overwhelming consistency was demonstrated by accumulating inter-city comparisons made in 1979 and 1980.

Regularly published comparative grocery price information appears to be the necessary, yet insufficient, condition for reducing the relative price level of a community in the long run. Managements needed to perceive Bloomington consumers as having become substantially more mobile by grocery price reporting before, most significantly, Jewel's Eisner Division initiated its everyday low price policy in Bloomington and National Tea's Standard Division tested its No Frills warehouse-type store in Bloomington. In other cities, should published comparative grocery price information become permanently available, managerial perceptions of such promising possibilities might come much sooner—or much later.

Bloomington, Indiana is undoubtedly rare among American cities in that voluntary nonprofit labor can be relied upon to collect, process and publish grocery price comparisons. First, most cities lack a student funded and motivated public interest research group (PIRG) to organize and administer such a consumer service. Moreover, all other PIRGs have chosen, thus far, to allocate their limited resources to consumer projects promising meritorious service in other directions. Second, a nonprofit college newspaper, such as the *IDS* in Bloomington, may not be available to enough grocery shoppers to create the sufficient margin of mobile shoppers which could crucially influence the perceptions of managers in the grocery trade.

Public financing of both comparative grocery price reporting and publication and dissemination may well be required if most of our citizens are to be provided the same public good which student philanthropy happened to bestow upon the consumers of Bloomington. Should the results of such public financing tend to parallel those in Bloomington, the modest level of required expenditures would appear capable of meeting benefit-cost tests by a lopsided ratio.

FOOTNOTES

[1] The grocery survey was conceived by Kathy McCord as a research paper for my junior course, The Economics of Industry. McCord, a journalism major, was concurrently on the managing board of editors of the *IDS*, the student newspaper, and on the directing board of InPIRG. McCord elected to publish her comparative findings in the *IDS* as an InPIRG project.

The published survey generated numerous phone calls, letters, and contributions of encouragement to InPIRG and substantial heat to the business office of the *IDS*. Headquarters management from National Tea's Standard Division promptly visited the *IDS* to protest the invidious price comparisons which exposed adversely its Standard store relative to an even newer store of Jewel's Eisner Division which had opened directly across the road. The threat by Standard to discontinue its advertising in the *IDS* merely enhanced the determination of both InPIRG and the *IDS* to commit resources to convert an experimental venture into a durable institution.

[2] During 1975 an *ad hoc* InPIRG branch at IUPUI (Indiana University-Purdue University-Indianapolis) conducted a monthly Indianapolis InPIRG grocery survey which was reported by Indianapolis television stations. Resistance by university administration during 1975 to cooperation at IUPUI with even the modest system of student funding, the positive check-off, led to atrophy of InPIRG at Indianapolis, but not before monitoring of the Indianapolis Price Patrol was completed during the summer of 1976.

[3] Location relative to Bloomington: Columbus-38 miles east, Martinsville-19 miles north, Bedford-23 miles south, and Linton-37 miles west. Estimated sales and 4 firm concentration ratio in 1980 (from *Grocer's Spotlight,* August 15, 1980. Both sales and concentration ratios are for the county of listed largest town.): Bloomington-$76 million, 51%; Columbus-$53 million, 51%; Martinsville-$45 million, 61%; Bedford-$35 million, 61%; and Linton-$16 million, 72%.

[4] For a thorough critique of Kroger's methods see Robert Sandy, "Low Price Claims and Market Penetration in the Grocery Industry: The Case of the Kroger Price Patrol," in this proceedings.

[5] Location relative to Bloomington: Indianapolis-51 miles north and Lafayette-99 miles northwest. Estimated sales and 4 firm concentration ratio in 1980 (from *Grocer's Spotlight,* August 15, 1980, corrected for omission of estimated Marsh share in Indianapolis): Indianapolis-$915 million, 61% and Lafayette-$87 million, 79%.

[6] Larry Corts resigned from Eisner and left Bloomington during the summer of 1979 in order to accept a managerial position with Kroger in developing new marketing territories in North Carolina. Marti Pollard, a former teaching-research assistant and former director of InPIRG's grocery survey, participated with me in all interviews with Larry Corts.

[7] The condition of InPIRG's historical files have substantially deteriorated since 1976 preventing researchers from studying time patterns of reported price dispersions among the stores surveyed.

[8] A similar analysis of lagged responses in volume and average total cost to price reductions is presented in M.A. Adelman, "The A&P Case: A Study in Applied Economic Theory," *Quarterly Journal of Economics,* LXIII (1949), pp. 238-257. But, there, central management had to drag, rather than be dragged by, local management to reduce prices. Moreover, public price information was lacking to abbreviate the lagged response of quantities of consumer demand to changes in price.

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