AN ANALYSIS OF SUPERMARKET ADVERTISING PATTERNS

By

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The authors evaluated the importance of advertising in the overall competitive framework of the food retail industry.

Introduction

Newspaper advertising plays a major role in the merchandising activities of supermarkets. It draws attention to the store and products that the store offers during any given time period. Newspaper advertising is also necessary for supermarkets wanting to qualify for manufacturer allowances. Advertised specials are critical to merchandising behavior. Consequently, in order to understand the competitive environment of the modern supermarket one must understand the motivation behind advertised specials.

Holdren (1) argued that advertising in newspapers is an important competitive forum for grocery stores. Items that have strong "transfer effects" are particularly good in newspaper ads. A product will have strong transfer effects if, among other things, a substantial quantity of that product is purchased and the advertised price is low enough to be noticed by the consumer. Sturgess' (2) study of grocery prices in Australia adds support to Holdren's hypotheses.

Gray and Anderson (3) found that advertised specials save shoppers money. They also found that competition between national brands and private labels is enhanced by advertising allowances on national brands. The existence of advertising allowances by manufacturers plays an important role in determining the content of weekly supermarket ads.

Objectives

This study will investigate the factors which appear to influence a supermarket's decision to advertise a product in the local newspaper. The specific objectives are:

(1) to identify the relationship between advertised specials and manufacturer's deals (allowances).

(2) to ascertain the pattern of advertised specials between supermarkets.

(3) to determine how advertising patterns differ between products.

(4) to investigate the degree to which price competition is generated by the advertised specials.

Methodology

Advertised specials on twenty-five different products were collected on a weekly basis from a Southeastern SMSA (Standard Metropolitan Statistical Area) newspaper for a one year period (May 14, 1980 to May 6, 1981). A list of the products appear in Table 1. All brands, grades and sizes were standardized. However, quality of some items, especially meats, could differ between stores. These products were chosen because they were purchased and advertised frequently in the weeks before the study period. The prices of these products were collected for four different chain stores which operate in the case city and the surrounding region. These four chain stores accounted for twenty-four supermarkets in the region.

Chain A is a local chain with supermarkets which are generally smaller than the other three chains and their stores tend to operate in the surrounding areas, rather than in

TABLE 1. SAMPLE PRODUCTS

Chuck Roast (with bone)	Pork and Beans (national brand)
T-Bone Steak	Canned Green Beans (national brand)
Quarter Pork Loin	Macaroni & Cheese Dinner (national brand)
Mixed Fryer Parts	Ketchup (national brand)
Wieners (regional brand)	Mayonnaise (national brand)
Bacon (regional brand)	Bread (store brand)
Bologna (regional brand)	Corn Flakes (national brand)
Eggs	Flour (regional brand)
Margarine (national brand)	Instant Coffee (national brand)
Orange Juice (national brand)	Soft Drink (national brand)
Yellow Onions	Shortening (national brand)
Bananas	Powered laundry degergent (national brand)
Head Lettuce	

the case city. This chain caters to lower income patrons. Chain B is a local chain, and its stores are concentrated in the case city. Chain C is a regional chain. However, all of Chain C's stores covered by the studied ads are located in the case city. Chain D is a national chain and all of its stores covered by the ads are in the case city.

Data on manufacturers allowances and the cost of the products for one of the local chains was obtained each week. This information was not available for meats, produce, eggs, bread or soft drinks.

Results

Advertising and Manufacturer Allowances

An important component of objective one was to determine how much of the newspaper advertising was used to qualify for manufacturer allowances. If one assumes that the advertising allowances offered to each of the four chains are identical in duration, the results indicate that most of the advertising is done for this purpose. Seven of the twelve products, for which allowance information was available, had allowances for the entire year. These products were margarine, coffee, macaroni and cheese, pork and beans, green beans, shortening, and ketchup.

For three products, flour, orange juice, and corn flakes, almost all advertising was done during or closely following deal periods. Orange juice had deals for 17 of the 52 weeks. During, or within two weeks of those 17 periods, orange juice was advertised 12 times. One time, Chain C advertised orange juice at an obviously non-deal price--far above any possible deal price. Corn flakes had deals for the last ten weeks of the study and during that time Chain B and D each advertised it once. Flour had deals for 40 of 52 weeks and it appeared that all advertising was done to qualify for allowances. Two products, laundry detergent and mayonnaise, were commonly advertised during non-deal periods. Laundry detergent was advertised 27 times by the stores and apparently only 6 of these qualified for allowances. The chain for which definitive allowance information was available advertised laundry detergent four times with only one qualifying for an allowance. Mayonnaise was advertised twelve times, with nine occurring during deal periods.

The fact that a majority of the products where deal information was available, had advertising allowances for each week lends some insights into the "battle of the brands." The manufacturers constantly give incentives for retailers to promote their products. These allowances at times accounted for as much as 20 percent of the cost to the retailer for macaroni and cheese, ketchup, flour, and margarine. Each week the advertising allowance for margarine was over 20 percent of the wholesale cost.

Allowances, when offered, were fairly stable from week to week with respect to the amount of allowance offered, for most products. The exceptions were ketchup and flour. The allowances for ketchup varied from two to 30 percent and from five to 25 percent for flour (see Figure 1 for special flour prices). This variance, coupled with the fact that allowances were offered infrequently for some items and much more frequently and even continually (throughout the study period) for others, suggests that deals for items may be used by manufacturers to reduce excess inventories. Variable allowance magnitudes and

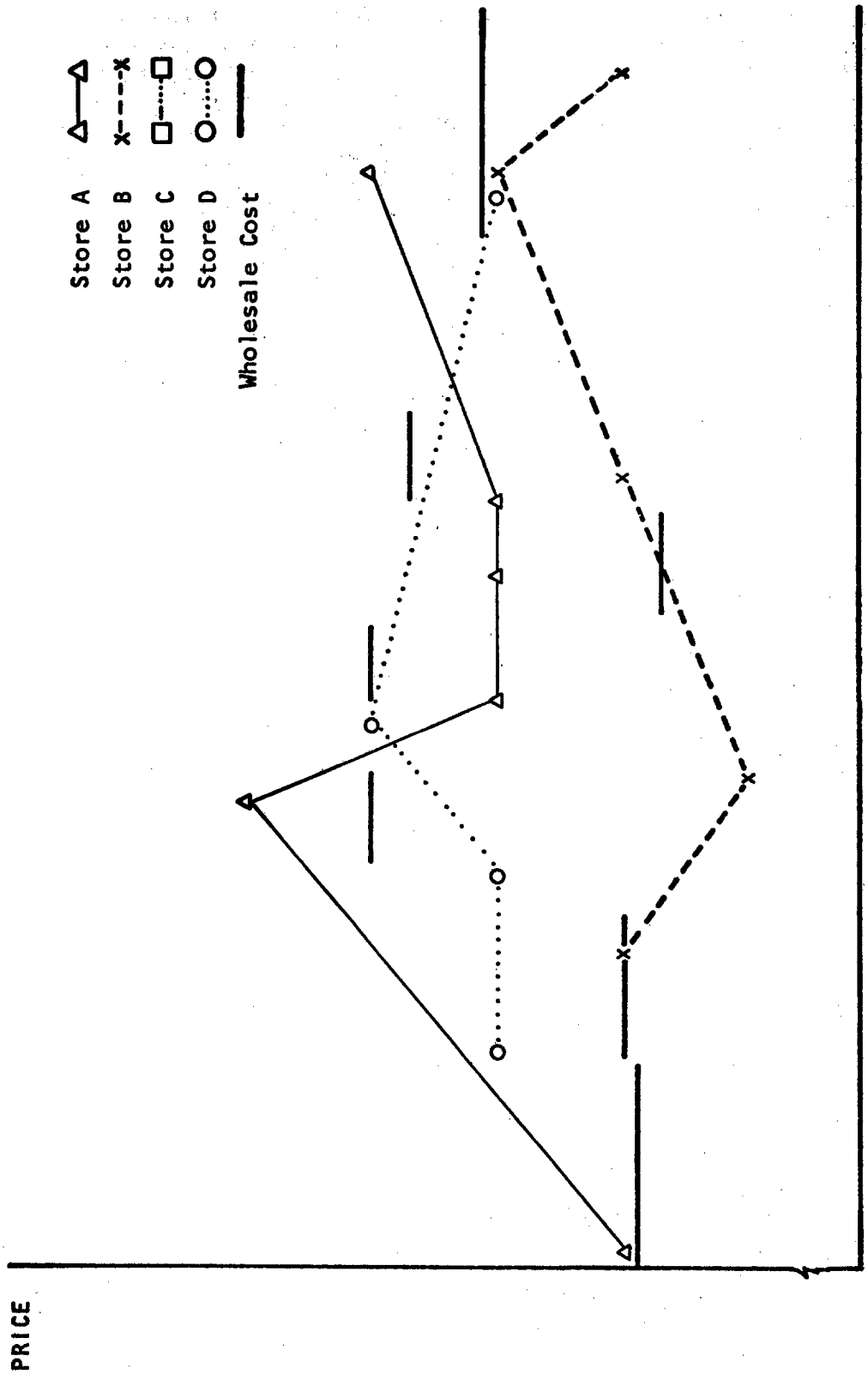

FIGURE 1. Advertised Flour Prices for Four Stores From May 1980 to May 1981.

frequencies would be less likely to exist if manufacturers were not using them, in part, for inventory control.

Time Patterns for Advertisements

On a store by store basis, the advertised specials exhibited only a few discernible time patterns. Chuck roast probably had the most stable pattern. Chain A advertised chuck roast every 4-5 weeks, Chain B every 5-6 weeks, and Chain C every 2-4 weeks. Other products which exhibited some pattern, for a given chain, were T-Bone steak (nearly every week by Chain D), quarter pork loin (nearly every week in the fall by Chain D), mixed fryer parts (nearly every week by Chain D and 2-3 times per month by Chain C), weiners (every 3-5 weeks by Chain A), eggs (nearly every week by Chain D), and coffee (every 2-3 weeks by Chain B). Figures 2 and 3 show the pattern of specials for T-Bone steaks and mixed fryer parts. Chain D tended to be the most patterned advertiser and those advertisements appear almost every week. Advertisements for meats and meat products, tended to be more pattern oriented. However, one must conclude that for most products there is no significant pattern in advertising (only 10 patterns emerged out of one hundred possibilities).

Advertising appeared to be seasonal for only one of the 25 products; onions. All other product advertising was dispersed evenly throughout the year. Holiday advertising was only obvious for the sampled products for the July 4 weekend. During that week at least two chains advertised margarine, mixed fryer parts, bacon, weiners, lettuce, and bologna. Only T-Bone steaks were advertised by two or more chains the week of Thanksgiving; only soft drinks, weiners, and T-Bone steaks were advertised the week of Christmas; and only soft drinks, eggs, and T-Bone steaks were advertised the week of Easter. One must also remember that Chain D regularly advertised eggs and T-Bone steaks, so it could be argued that their ad for those products was not motivated by the holiday.

Frequency of Advertising

The products in this study were chosen because they were frequently advertised. However the frequency did vary markedly by product. Part of the reason is the brand chosen, but certainly some products tend to be advertised more often than others. Of the products in this study, mixed fryer parts, soft drinks, quarter pork loin, T-Bone steaks, eggs, and head lettuce were most commonly advertised. Except for soft drinks, these were all non-branded products. The most commonly advertised branded products were soft drinks, bacon, bologna, margarine, weiners, and coffee. In both categories meats and meat products were commonly advertised.

Each chain concentrated its advertising in a different product but within similar groups. All firms concentrated in meats and meat products, produce, and soft drinks. Chain C was very pronounced in its advertising of chuck roast, mixed fryer parts, and head lettuce. Chain D concentrated its efforts especially on T-Bone steaks, quarter pork loin, mixed fryer parts and eggs.

The leading advertisers of the twenty-five products were Chain D (281 times), Chain C (239 times), Chain B (198 times), and finally Chain A (163 times). As mentioned earlier, these totals are sensitive to the products used in the sample. However, the total number of items

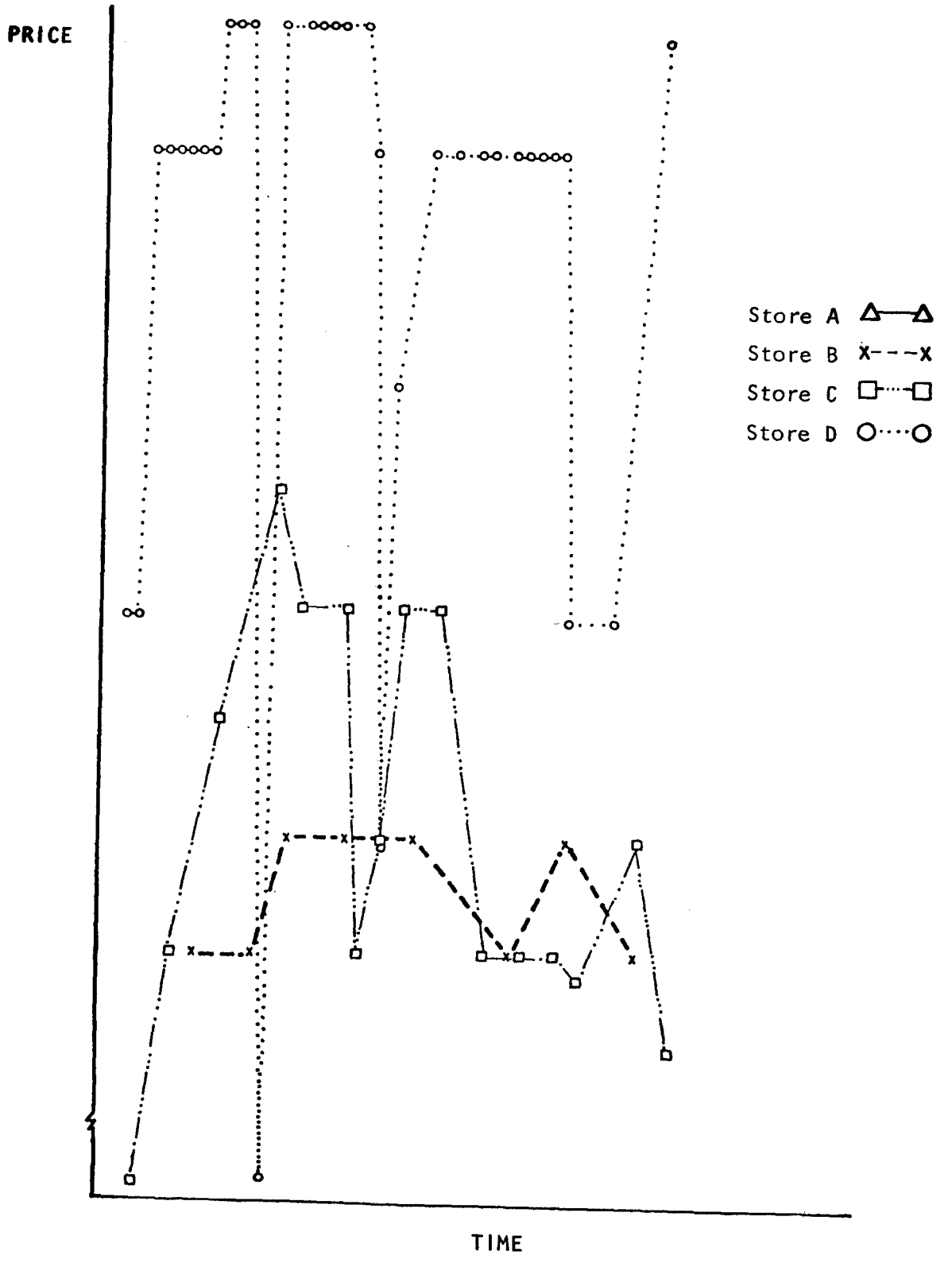

FIGURE 2. Advertised T-Bone Steak Prices for Four Stores From May 1980 to May 1981.

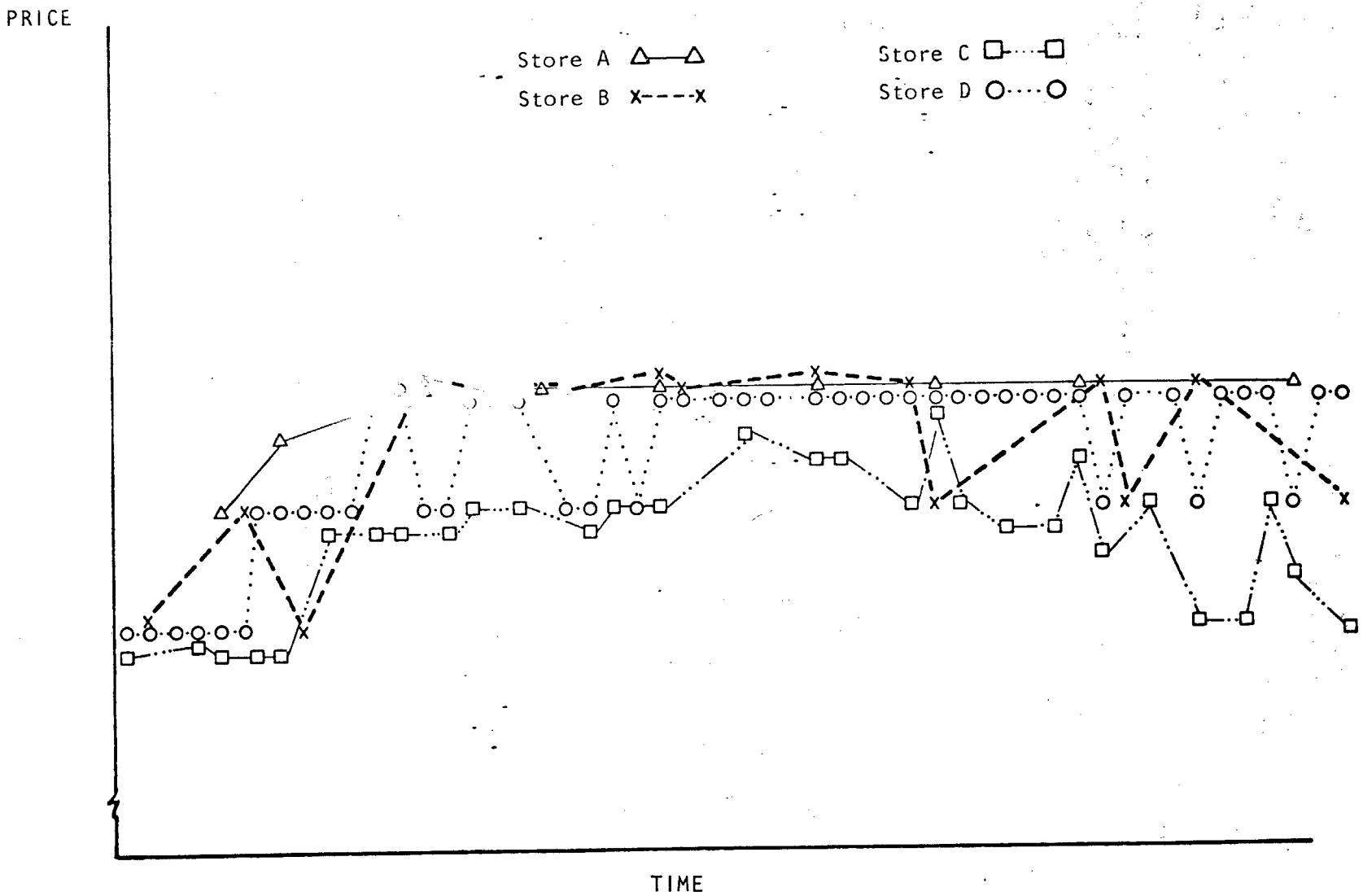

FIGURE 3. Advertised Mixed Fryer Parts Prices for Four Stores From May 1980 to May 1981.

advertised in the weekly ads of these four chains probably reflect the same ranking (Chain D would advertise the most products and Chain A would advertise the least).

Prices of Advertised Items

One reason for advertising products is to attract shoppers to the store. Many times the store will price the product below their cost because of its transfer effect for other products (Holdren). Three of the products sampled in this study were frequent loss-leaders; flour, laundry detergent, and shortening (See Figures 1, 4, and 5). According to wholesale cost of flour by the chain, three of the four chains (Chains A, B and D) sold flour below cost at least once during the 52 week period. Chain B sold flour below cost the most times (4) and Chain D twice sold flour below cost during non-deal periods. The largest loss was 30¢ per pound by Chain B (or 28 percent below cost). Flour was the only product that Chain A sold below cost (it did so twice).

Laundry detergent was sold below cost, at least once, by three of the chains (B, C, and D). Chain C sold laundry detergent below cost eight times, and had the largest per unit loss (about 35¢ or 21 percent below cost for a one-week period).

Every time Chains B, C and D advertised the shortening product sampled, it was priced below cost. Chain B advertised shortening six times, while the other two chains advertised it twice. The biggest loss was 38¢ or 19 percent.

Three products, for which information on wholesale costs were available, were never priced below cost by any of the chain stores. These products were coffee, green beans, and corn flakes. For the other products, the losses per unit were generally only a cent or two and losses were not very common.

Prior to the study it was expected that products would be priced such that the price ended with a "9" (i.e. 69¢, $1.09), but the extent of the practice was surprising. Nearly every time a product was advertised its price would end with "9". The lone exceptions were pork and beans, green beans, macaroni and cheese, coffee, lettuce, and bananas. The first three exceptions were because of the wholesale price of the products. A retail margin going up to a "9" price would likely be too high; and going down to a "9" price would involve a loss.

In the pricing of mixed fryer parts some chains took "advantage" of the strategy of "9" (See Figure 3). In the first few weeks of the study, Chains B and D would advertise mixed fryer parts at 49¢ per pound, Chain C would advertise them at 47¢ or 48¢ per pound. When the advertised price went up to 59¢ per pound at the other chains, Chain C sold at 57¢ per pound. Finally, when prices went up to 69¢ per pound at Chains A and B, Chain D priced their mixed fryer parts at 68¢. Chain C's specials would at times lag their competition by a week or two, and at other times would appear simultaneously. However, during the whole time Chain C always made sure they had the lowest price (at least by a penny or two).

Price competition in advertised products, during the 52 weeks of the study was very fierce for many products. The frequent advertising of flour, laundry detergent, and shortening at prices below cost highlights this point.

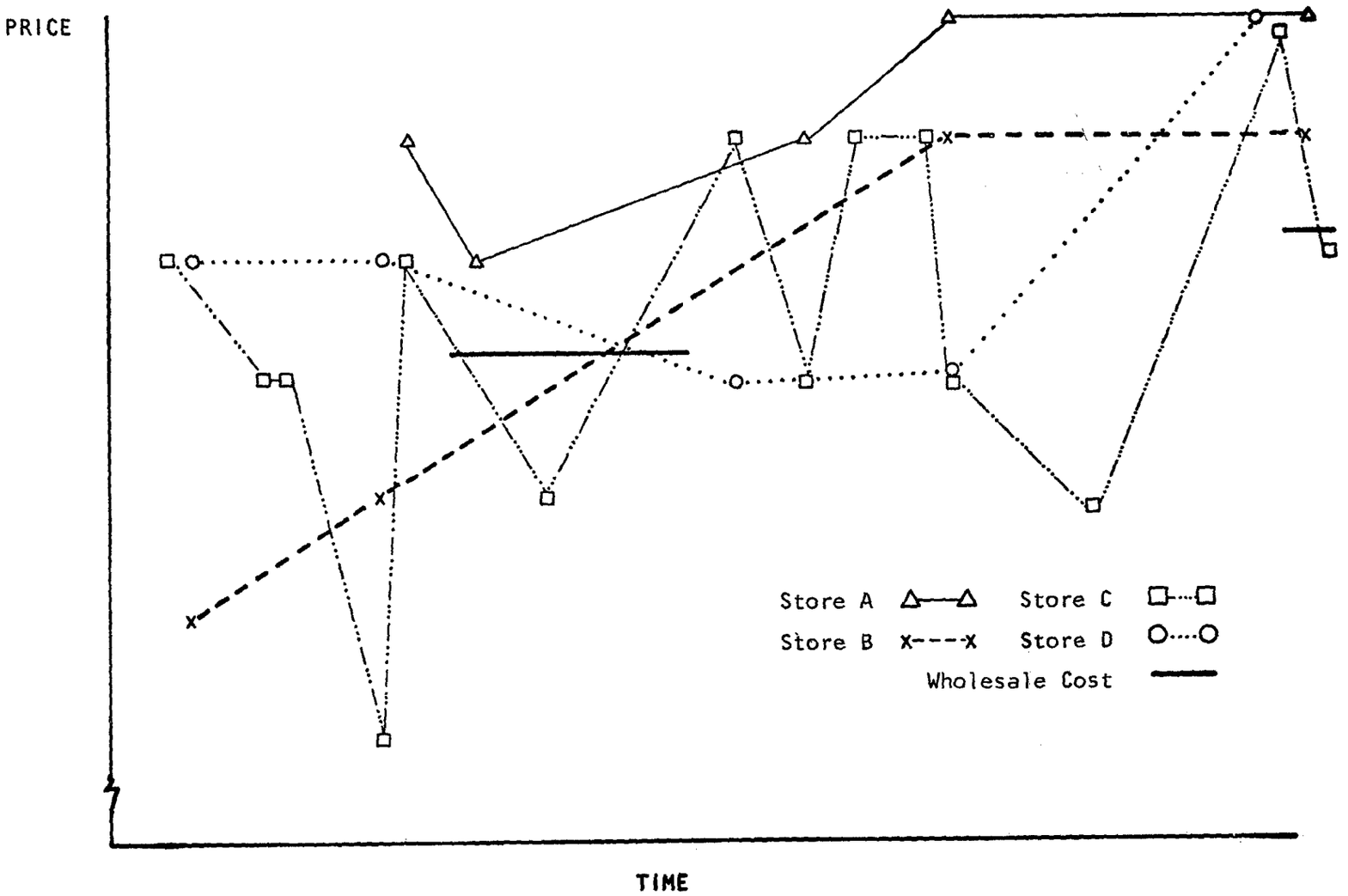

FIGURE 4. Advertised Laundry Detergent Prices for Four Stores From May 1980 to May 1981.

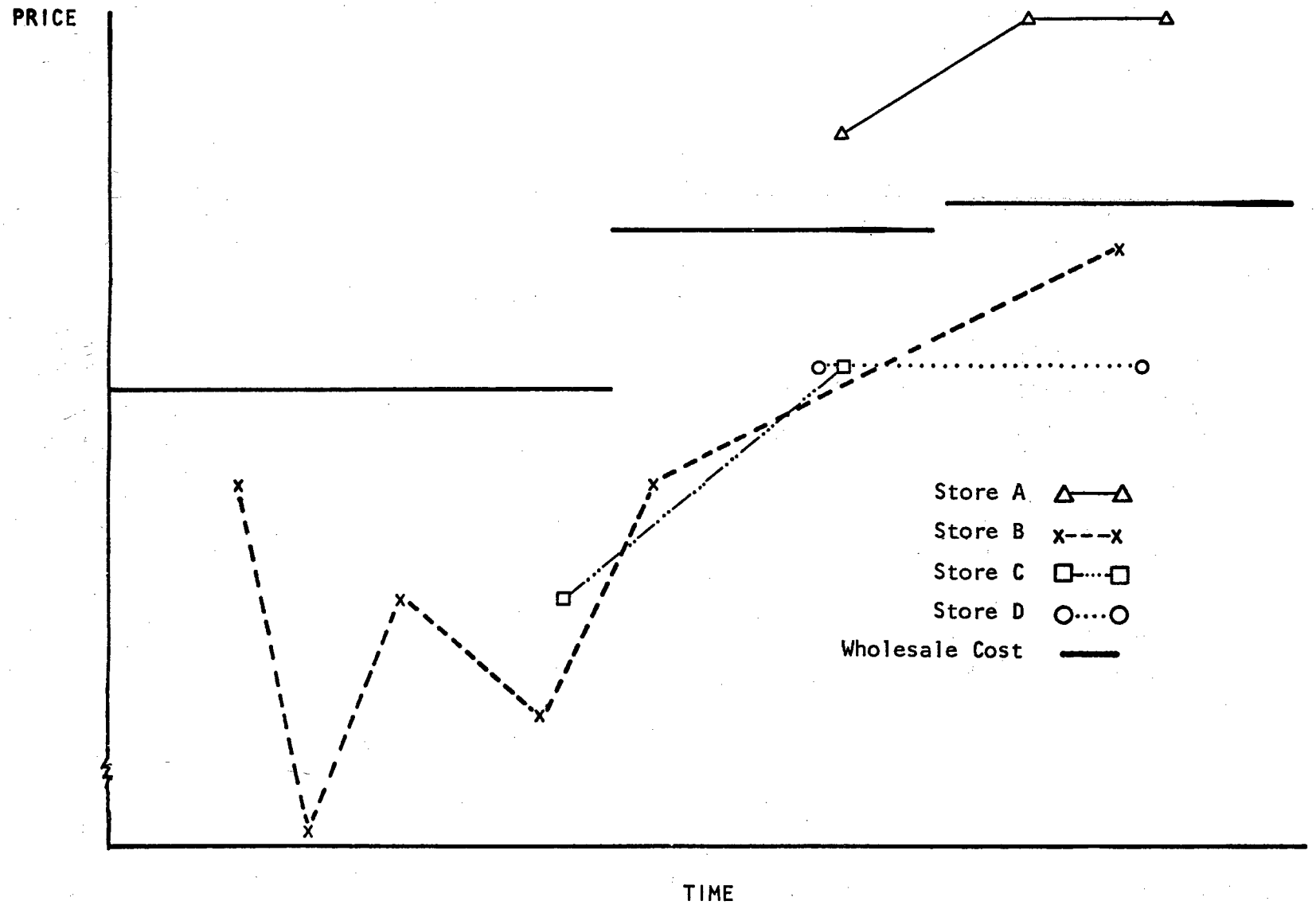

FIGURE 5. Advertised Shortening Prices for Four Stores From May 1980 to May 1981.

Prices of other products such as bacon, quarter pork loin, eggs, T-Bone steak, head lettuce, and soft drinks were very low at times. One chain would advertise a very low price one week and some other chain would apparently try to match or at least greatly reduce their advertised price the next week. Chain B once advertised the soft drinks at 99¢ the week after the other three had advertised soft drinks between $1.29 and $1.49. Within three weeks, Chains C and D had matched Chain B's price of 99¢ (see Figure 6). Twice Chain D adjusted its price of eggs for a "weekend special" apparently to stay competitive with Chain B. Chain D once lowered its price for T-Bone steak one dollar per pound apparently in order to undercut the price advertised by Chain B the week before (Figure 2).

Weekly prices for T-Bone steaks were available from a different study for the last fourteen weeks of the year. Figure 7 shows the role of the weekly specials for T-Bone steaks for the three chains. Each chain made deep price cuts when T-Bones were advertised with the exception of Chain D one week. Over most of the fourteen weeks, Chain D had the lowest unadvertised price, but the highest advertised price.

In general, Chains B and C appeared to be the most aggressive in their pricing strategies. Chain B was very aggressive in pricing T-Bone steaks, eggs, soft drinks, flour, and shortening. Chain C was very aggressive in pricing T-Bone steaks, eggs, laundry detergent, and mixed fryer parts. Chains A and D were very aggressive in only one product each; Chain A with head lettuce and Chain D with quarter pork loin.

Summary and Implications

Because of the localized nature of this study no general conclusions about the retail grocery industry can be made. However, evidence concerning the behavior of retail grocery units was procured. This study found that advertising allowances by manufacturers play an important role in deciding what products should be advertised. Qualifying for allowances is apparently not the only reason for advertising a product at a given time. Many times the stores in their study would advertise a product when no allowance was offered.

The timing of advertisements exhibited no well-defined pattern. For instance, one could not rely on margarine to be advertised once a month by any store. If one of the chains did fall into any type of pattern, the other chains would probably exploit the pattern to their own advantage.

Most of the advertised products had very substantial reductions from the regular prices, and occasionally even below the wholesale cost of the products. This is consistent with the findings of Gray and Anderson. Obviously, the pricing of advertised products is indeed central to the competitive nature of the modern supermarket.

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2. Sturgess, I. M. "A Study of Retail Prices of Groceries in Relation to Standard Price Theory." Review of Marketing and Agricultural Economics, 38(1970):170-89.

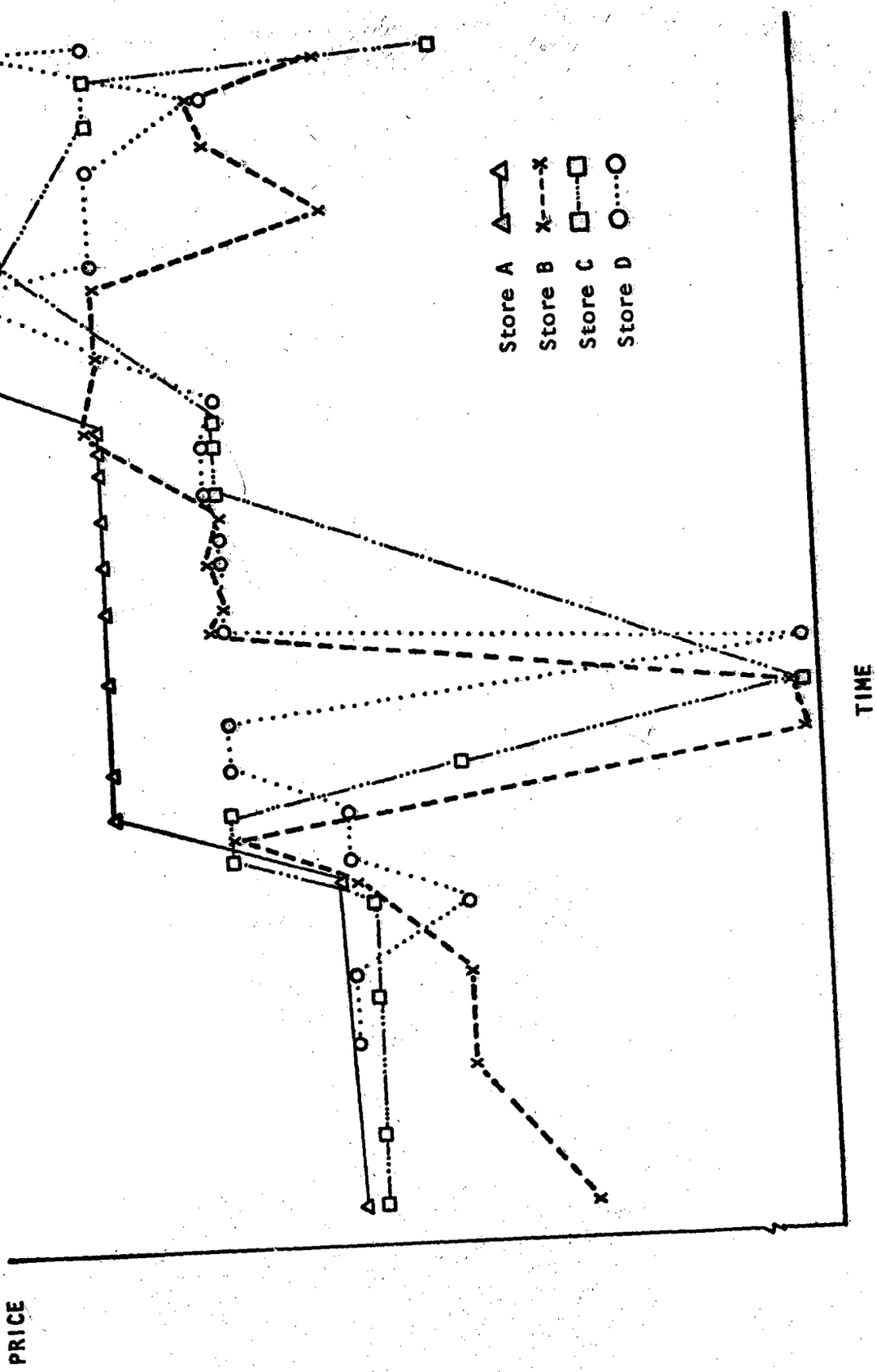

FIGURE 6. Advertised Soft Drink Prices for Four Stores From May 1980 to May 1981.

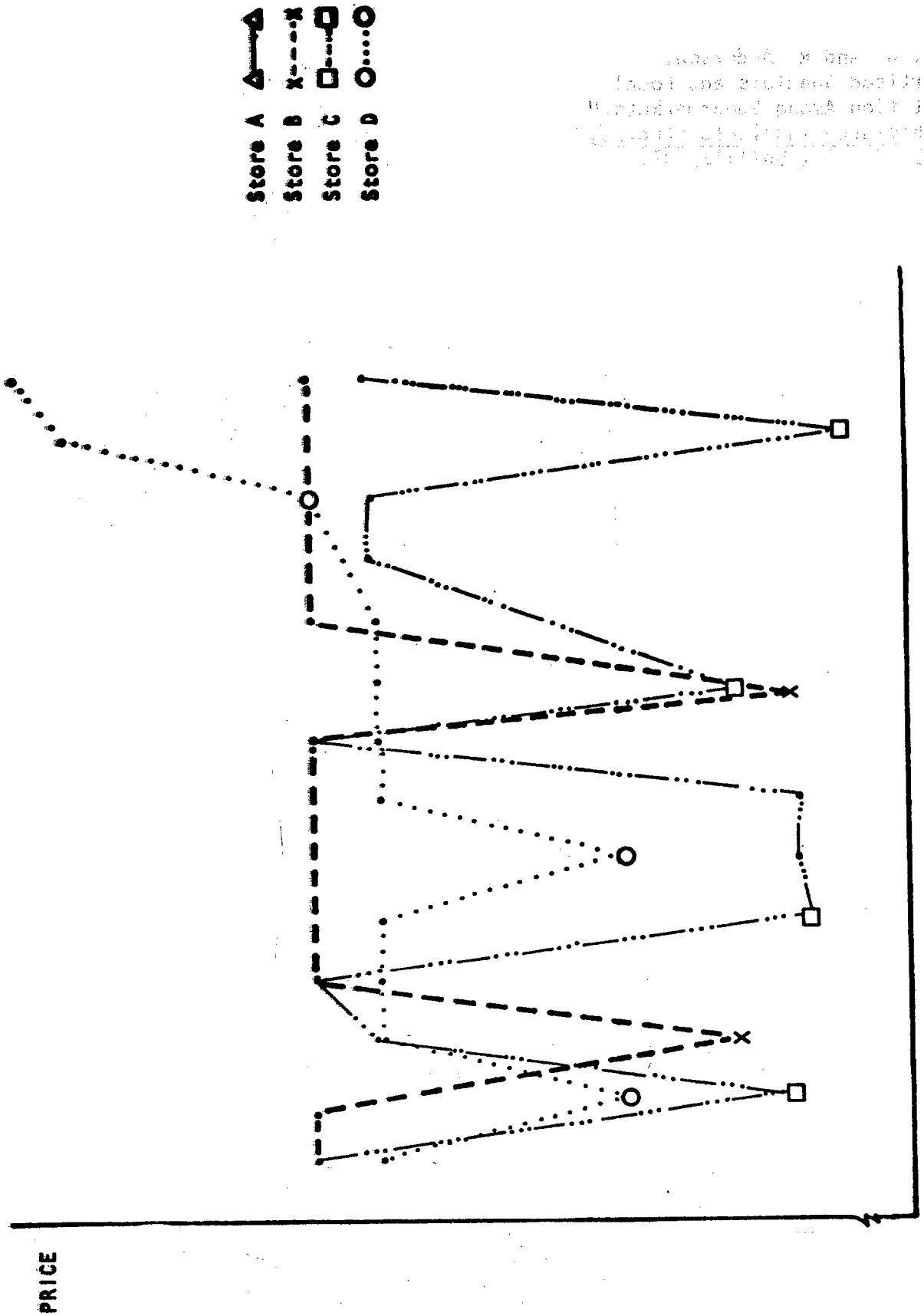

FIGURE 7. Weekly T-Bone Steak Prices for Four Stores From February 1981 to May 1981.

3. Gray, R. W. and R. Anderson. "Advertised Specials and Local Competition Among Supermarkets." Food Research Institute Studies, Vol. 3, No. 2 (1962):125-39.