FOOD INDUSTRY MERGERS:

A NEW LOOK

Chairperson: Bill Lesser, Cornell University

The Structural and Performance Effects Of Retail Mergers

by

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We are in the midst of a tidal wave of mergers. The distinctive feature of the present merger wave is the large number involving huge corporations. Observers of the food manufacturing and food distribution industries have not previously seen mergers on the scale of Nabisco-Standard Brands, Beatrice's acquisition of Esmark which had not yet digested Norton Simon, Nestle's acquisition of Carnation, R. J. Reynold's acquisition of Heublein, Grand Union's acquisition of Colonial Stores, Kroger's acquisition of Dillon, and most recently, American Store's acquisition of Jewel Cos., the biggest in the history of food retailing. And this is far from a complete list.

I have been asked to talk about the effects of retail mergers. As some of you may know, I was a pro bono economist for the government in challenging National Tea's acquisition of Applebaums and Grand Union's acquisition of Colonial. Both mergers occurred in late 1978 or early 1979. The National Tea-Applebaums merger was horizontal; Grand Union-Colonial was a market extension merger.

National Tea, the number five chain in Minneapolis, acquired Applebaums, the number three chain--resulting in a merged market share about equal to the leading chain. I opposed the merger because Applebaums was one of the strongest competitors in the market and National Tea had a proven ability to turn "silk purses into sow's ears." I was afraid National would do the same with Applebaums, a rather unusual basis for opposing a merger. The merger was allowed and National Tea began to work its magic. By 1983--four short years later--the Applebaum and National Tea stores were sold to Gateway Foods (the Applebaum family was also involved). The market share of the merged company had plunged to about one-third the level at the time of the merger. Even economists are right once in a while.

Little did I know that a similar scenario would be played out in the Grand Union case. There were 13 SMSAs involved in that case--one of which Colonial had exited by the time of the case. Of the remaining 12, Grand Union

has since withdrawn from seven, including two where they were the leading firm (Norfolk and Newport News) and another where they were second. In the five SMSAs in which Grand Union still operates, their market share has dropped by more than half in two and by nearly 25 percent in Atlanta, the most important market in the acquisition. Only in Fayetteville and Raleigh-Durham has Grand Union been able to hang onto the market share it bought. From the tradespeople I talk with, it sounds like Grand Union raided the assets of Colonial. It may have been a profitable investment for Sir James Goldsmith and Cavenham--I don't know--but it has been devastating for Colonial as a chain.

What has been the effect on competition? It really depends on who took over the Grand Union stores and market share, which I have not attempted to track. If they went to fringe companies so as to weaken the oligopolistic core in these markets, competition may have been strengthened. If the stores and sales went to the market leaders, competition may have been weakened. It is clear that a viable competitor has been lost in at least six SMSAs.

It is difficult to evaluate the effects of retail mergers, in part because this depends upon the number and type of mergers that are allowed by the antitrust laws and the agencies responsible for enforcing those laws. Since the Clayton Act was amended by the Cellar-Kefauver Act in 1950, there has been market variations in the interpretation and enforcement of this law. Acquisitions of food retailing stores and companies from 1949 to 1983 are shown in Figure 1 and Appendix Table A. The retail sales (in 1967 dollars) acquired through mergers peaked in 1967-68 and has had a series of peaks from 1978 to the present.

The retail sales acquired by the top 10 and top 20 grocery chains are also plotted on Figure 1. Whereas these chains accounted for a high percentage of the sales acquired from 1949-1964, the following ten-year period was one of tough enforcement of the merger laws by the antitrust agencies. Overall merger activity increased during this period; however, the mergers were channeled to smaller companies. From 1975 through 1978, the top 20 chains were once again the major acquirers. Possibly because the Grand Union-Colonial merger was challenged and initially found illegal, large chains cooled their merger appetites somewhat in the next four years, and especially during 1981 and 1982. In 1983, the large chains jumped back into the merger arena with enthusiasm. And, large chain mergers in 1984 may even surpass those in 1983.

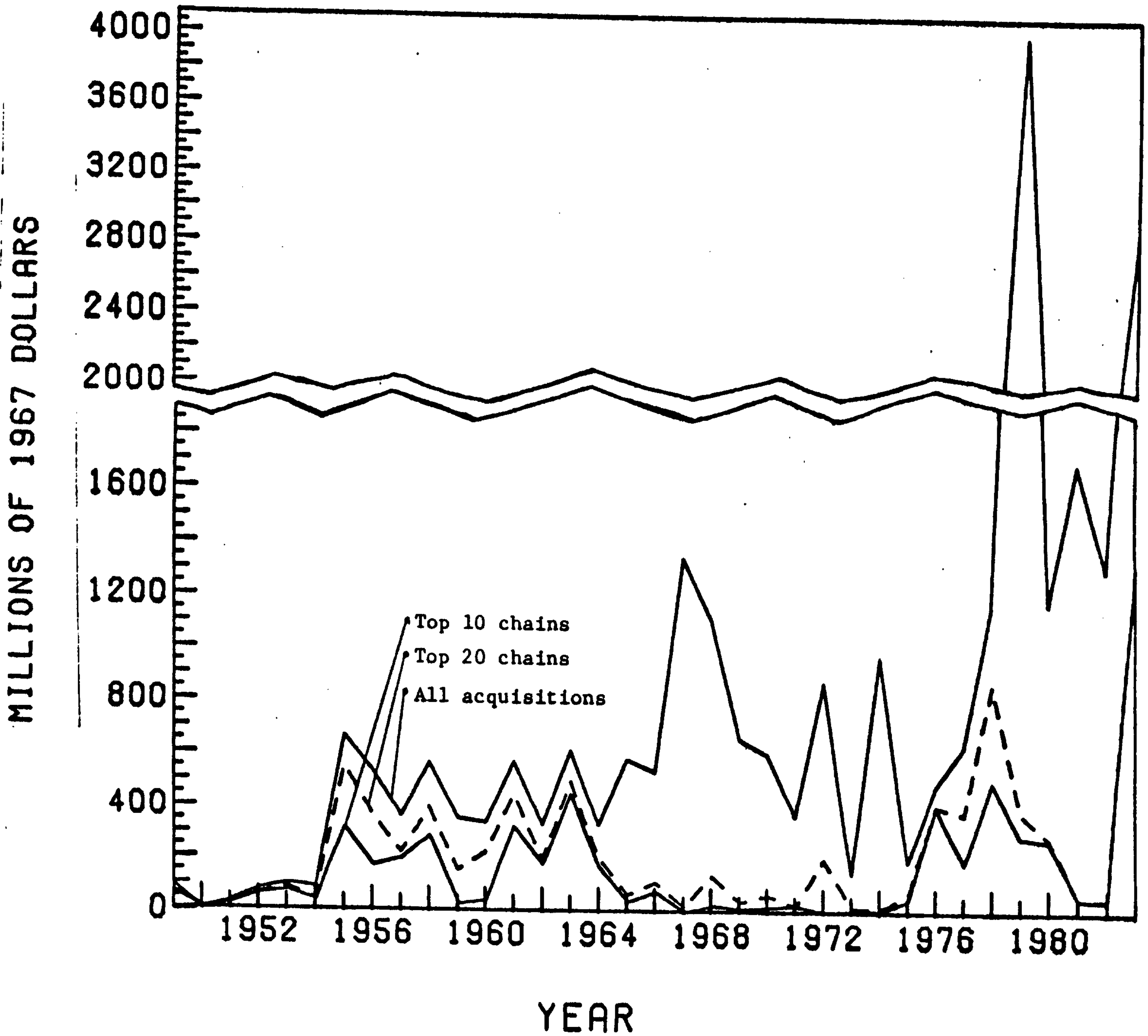
Antitrust enforcement today is very selective; there is little interest in challenging mergers. Thus, evidence concerning the effects of mergers during an earlier period may provide no basis for judging the effects of the present wave of mergers. Because of this, I want to spend some time discussing the changes in antitrust enforcement and the key factors that may influence future merger enforcement activities.

Since the mid 1970s, the antitrust agencies have increasingly turned their backs on mergers, large and small. In the last two or three years, even substantial horizontal mergers have been ignored. In my home town of Madison, Wisconsin, the number one chain, Eagle, was recently acquired by the number two chain, Kohls (which was acquired by A&P in 1983). The estimated market shares of these chains in 1983 were 21.5 and 17.4 percent (Metro Market Studies, 1984). Although their combined market share is probably something less than 39 percent because of the sales gains of warehouse stores and one or two store closings, the merged chain clearly dominates the market. Sentry is the only other market-wide operator of conventional supermarkets and superstores is a voluntary group.

In California, Lucky recently acquired Smith Food King with no response

from antitrust agencies. The two were competitors in four SMSAs; of particular concern is Santa Barbara where Lucky was number one (17.8%) and Smith Food King number two (15.0%) in 1983 according to Metro Market Studies.

Figure 1. Acquisitions of Food Retailers, 1949-83
(amounts in millions of 1967 dollars)



In Birmingham, Alabama, Brunos, the number one chain with 22 percent of the market was allowed to acquire ten A&P stores in 1979. A&P ranked fifth in the market according to Metro with a 7 percent share. The list goes on. Clearly, the precedent established by the Von's case has been abandoned. Since the Federal Trade Commission has been primarily responsible for antitrust enforcement in the food distribution industries, it is primarily this agency that must be credited with opening the merger flood gates. Although the Commission largely endorsed the Merger Guidelines issued by the Justice Department in 1982, it has subsequently ignored horizontal mergers that seriously violated the Guidelines.

What do we make of this? Is the recent lapse in enforcement simply a reflection of the political philosophy of this administration or are there legal or economic explanations? Although one can chalk up the FTC's paralysis to politics, of equal importance is the economic Weltanschauung held by Chairman Miller and his economist colleague, Commissioner Douglas. This is the first time an economist has served on the Commission; now we have two in extremely powerful positions. As a result, economic doctrine probably has more influence over the present Commission than anytime in history. Armed with the new theories and empirical evidence of "revisionist" industrial organization economists, the Commission has charted a new course for antitrust enforcement.

Let me depart for a moment to comment on the debate between traditionalists and revisionists within the field of industrial organization. During the last decade or so, a reinterpretation of the concentration-profitability literature has been gaining adherents. The traditional monopoly power explanation for the positive concentration-profits relationship found in many empirical studies was challenged by Brozen, Demsetz, Peltzman and others, who argued that efficiency and lower costs in concentrated industries accounted for the relationship--not higher prices (Pautler). This argument was reinforced by William Baumol's new theory of contestable markets, which emphasizes that concentration has no effect if there is completely free entry and exit into an industry. In spite of its extreme and simplistic assumptions (see Shepherd's critique), contestable market theory has attracted followers in part because of its mathematical elegance.

This debate will not soon end. The stakes are too high. Perhaps the most telling evidence comes from studies of concentration-price relationships. If the revisionists are right, prices in concentrated markets should not be higher and might be lower than prices in unconcentrated markets. Either a negative or no relationship between concentration and prices would be expected.

Roughly twenty studies have examined concentration-price relationships across local markets for gasoline, drugs, groceries, bread, beer, business loans, life insurance, auto loans and other product-services. After reviewing these studies, Greer (1984) concludes, ". . . prices and concentration <u>are</u> positively related" (p. 296). F. M. Scherer agrees. In the 1980 edition of his highly respected book, Scherer comments on the various studies relating prices to concentration:

> Although one can, as always, quarrel with the particular samples, controls, and methods employed in these studies, their overall thrust is unambiguous. Prices do tend to be higher when markets are highly concentrated than when they are not.

Thus, to date, the evidence supports the traditional point of view that concentration conveys market power and results in supra-competitive prices.

Perhaps because of the debate concerning the effects of market concentration, the FTC currently places heavy

emphasis on entry barriers and the efficiencies that may be gained in concentrated markets. One also senses that the Commission has a strong faith that businessmen and consumers are rational, and that competition is generally effective--particularly when left alone. There is a pervasive laissez faire mentality.

This is reflected in the Grand Union decision. The Commission's decision in that case rested on the following logic.

- The relevant product market involved in the merger was all grocery stores, including supermarkets, warehouse stores, box stores and convenience stores.

- During the 1970s, there was some type of grocery store entry into nearly all of the 13 SMSAs involved in the case.

- Several firms already in these markets expanded in number of stores or market share during the 1970s.

- Therefore, entry barriers into grocery retailing must be low. The Administrative Law Judge's decision finding the acquisition illegal was reversed.

One of the key statements in Chairman Millers' decision is:

> Indeed, this consistent pattern of recent entry and expansion in these numerous markets may indicate that barriers to entering the retail grocery industry <u>in general</u> are relatively low . . . [emphasis added]. (FTC 1983, p. 49)

Although this conclusion was based upon startlingly skimpy evidence, it accurately foretold subsequent FTC actions. If an industry has low entry barriers, antitrust has little role. Predation is irrational and unlikely if there are no entry barriers. Mergers are of no concern, for it firms try to elevate prices, new firms will enter. If firms try to collude, new firms will seize that opportunity to enter the market. Thus, the extent to which entry barriers exist in food retailing is <u>the</u> key issue with the present Commission.

Is the Commission correct? Are entry barriers low? If so, mergers can be expected to have little if any effect on competition. What are the important factors to consider? Since entry barriers can only be ascertained once the relevant product and geographic markets have been properly defined, I will examine this subject next, followed by a discussion of entry conditions.

Strategic Groups and Submarkets in Food Retailing

Those that labor on the marketing faculties of our schools of business have long recognized that businesses "segment" their markets and attempt to "position" their product-service-price offers so as to appeal to certain market segments. In recent years, academicians interested in business strategic planning or in industrial organization have attempted to develop a more comprehensive theoretical framework. Michael Porter has written extensively on the theory of strategic groups and mobility barriers. Porter's basic notion is relatively simple. In any given industry, there is a continuum of firms with different strategies regarding products, prices and services. Some may appeal to customers desiring low prices; others may appeal to customers seeking high quality or services. In addition, firms are often clustered in groups along the continuum of strategies, hence the term strategic groups. Firms compete most directly with other firms in their "strategic group," and less directly with firms in other strategic groups. Strategic groups that are sufficiently "distant" from one another are only indirect competitors; for antitrust purposes, they are in separate product markets. Porter and his colleagues also propose

the notion of mobility barriers--that is the extent to which barriers prevent the movement of firms from one strategic group to another. He argues that all firms strive to drive other firms out of their strategic territory and to create sustainable mobility barriers. Where there exist strategic groups with high mobility barriers, industry structure may be misleading. As Porter states: "An industry need not be concentrated for a particular strategic group to have enormous market power" (1981, p. 455-56).

Strategic Groups In Food Retailing

For illustrative purposes, I have identified eight retail store formats in Figure 2, classified by price and service levels and by breadth of product assortment. While stores might be classified by other attributes, these three are probably the most important in trying to visualize the "space" between different store formats. In general, low price stores have low service and vice versa, but this is not always the case. Included in "service" is the pleasantness of the shopping environment as well as customer services such as carry-out, check cashing, special departments, etc.

Each store format can be viewed as a strategic group. For each to survive in a market, there must be a segment of customers who prefer that cluster of products, services and prices. For example, box stores have met with limited success in most markets and may not survive as a strategic group.

All these strategic groups compete to some degree with each other if they are located in the same geographic market. I can buy ground coffee at a conventional supermarket, a warehouse store, a convenience store, or at a specialized coffee-tea shop. However, does that mean they are in the same product market for economic analysis or for antitrust purposes?

The Department of Justice has proposed procedures for identifying relevant product markets in its 1982 Merger Guidelines.[1] The latter states:

> . . . the Department seeks to identify a group of products such that a hypothetical firm that was the only present and future seller of those products could raise price profitably. (U.S. Dept. of Justice, p. 5)

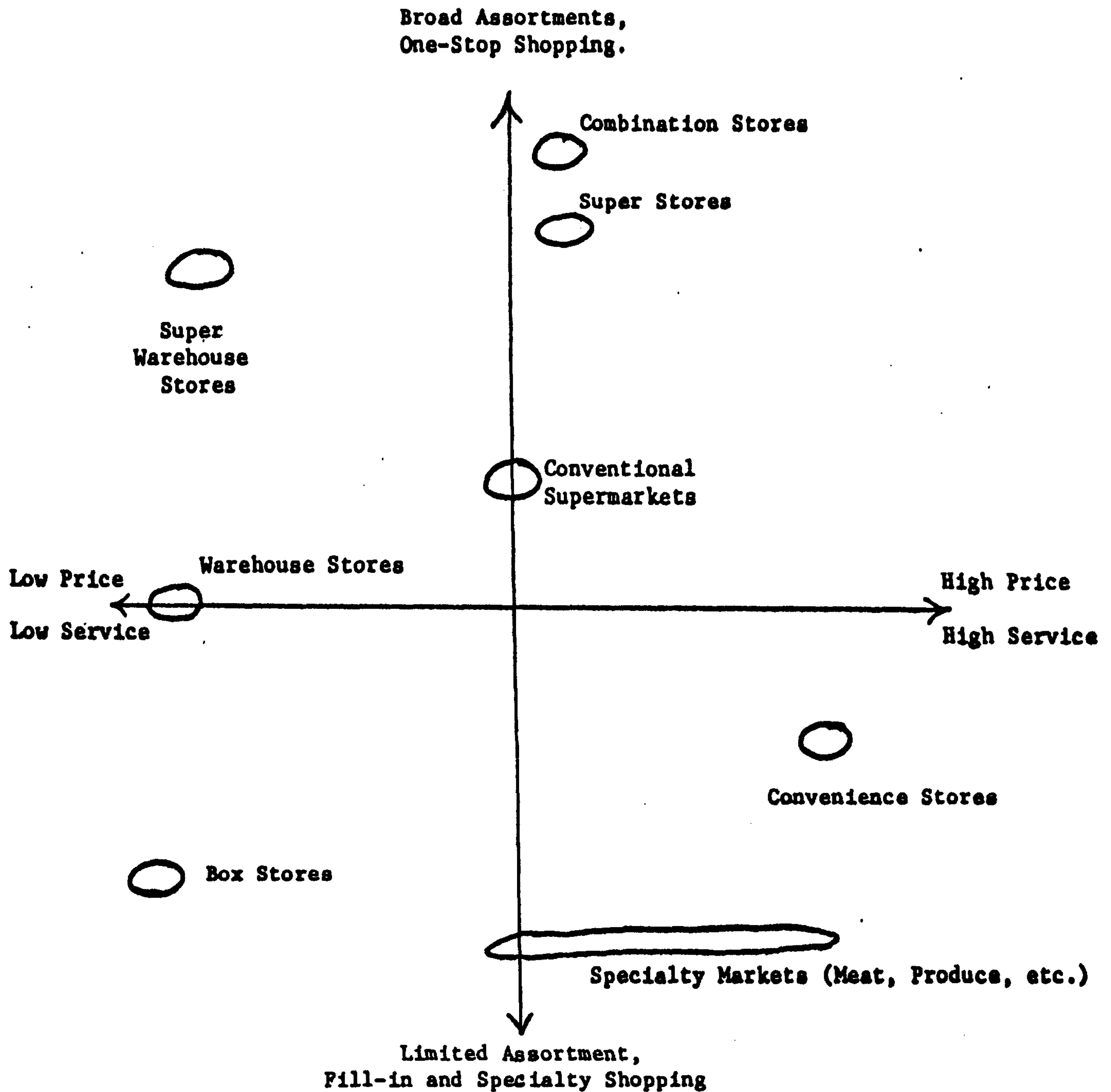
Thus, the Department's approach attempts to include all close substitutes within its market boundaries, but to exclude all poor substitutes.

In the case of food retailing, the "product" is the product-service-price bundle provided by various retail stores. Thus, the question becomes whether consumers perceive the "bundles" of various types of stores as close substitutes. For consumers, are convenience stores or meat markets close substitutes for supermarkets? Are warehouse stores close substitutes for superstores?

I believe most people would agree that specialty meat, bakery or confectionery stores are in separate markets from the remaining store formats in Figure 2. I suspect that there would also be general agreement that combination stores and super stores belong in the same product market. At least for now, I will argue that all five store formats on or above the horizontal line in Figure 2 compete directly enough to be placed in the same product market. All provide the breadth of assortment and price levels to compete for the major shopping trips of consumers. All would be classified by the trade under the general umbrella of "supermarkets."

In my judgment, however, convenience stores (and other small grocery stores) are in a distinct product submarket and do not compete directly with the

Figure 2. Retail Food Store Formats



five formats classified as supermarkets. The Administrative Law Judge in the Grand Union case (Federal Trade Commission, 1981c) concluded:

> The record in this case is replete with evidence that supermarkets, by and large, compete with other supermarkets . . . . (p. 204)
>
> Convenience stores are not generally price-checked by supermarket firm operators. They carry little, if any, produce and meat, and indeed, average only 500-3000 items. Supermarkets stock from 8-12,000 items. Convenience stores generally have only one employee per shift and they average sales of from $1-3 per customer, as compared to the $11-15 average sale for supermarkets. Convenience stores are generally not considered in supermarket expansions and store location studies. Basically, the only competition they offer to supermarkets is in terms of hours of operation. (p. 204)
>
> The record evidence shows that the gross margins of supermarkets are 15-20% as opposed to 30% for non-supermarket grocery firms such as convenience stores. (p. 200)
>
> Grand Union's and Colonial's supermarkets averaged over $3 million dollars in annual sales per store, while convenience stores averaged from $140 thousand to $325 thousand per store. (p. 201)

The Justice Department procedures can be used to help judge whether the supermarket submarket--as I have defined it--is an appropriate product market. Here we ask ourselves if one firm was the only present (and potential) operator of conventional supermarkets, super stores, warehouse stores, etc. in Madison, Wisconsin or Washington, D.C., could that firm profitably increase its prices? For example, could that firm raise prices by 2 or 3 percent and increase profits? Or, would customers transfer enough patronage to convenience stores, small grocery stores and specialty markets that the supermarket firm's profits would decline? Assuming supermarket gross margins of 20 percent of sales, a 2 percent price increase would represent a 10 percent increase in gross margins. Since there would be no apparent change in costs, sales would have to decline by roughly 10 percent for no change to occur in profits. Given the much higher gross margin of convenience stores and the one-stop shopping appeal of supermarkets, I doubt that the supermarket chain in this example would lose much sales as a result of the price increase.

The correct definition of relevant product markets and submarkets is obviously critical in antitrust cases. It is also critical in attempting to study structure-performance relations. For example, entry into the convenience store submarket is much easier than into the supermarket submarket. Compared to supermarkets, desirable convenience store sites are more numerous, initial investment is much less, advertising is relatively unimportant, and zone pricing by incumbent retailers to deter entry is highly unlikely. In short, entry conditions into the convenience store submarket provide no indication of entry conditions into the supermarket submarket, and vice versa.

Entry Barriers Into Grocery Retailing

> Barriers to entry are the *sine qua non* of monopoly and oligopoly, for sellers have little or no enduring power over price when entry barriers are nonexistent. (Scherer, 1971)

Recently, the theory of contestable markets has placed great emphasis on entry and exit conditions. If we could only do a better job of measuring entry barriers, I suspect we would see an outpouring of Ph.D. dissertations on this aspect of market structure.

The height of entry barriers are measured in terms of the cost or selling price advantages that established firms have relative to the least disadvantaged outside firms. The least disadvantaged "potential entrants" into the supermarket submarket of an SMSA are usually supermarket chains that operate a warehouse within about 200 miles and are a "competitive factor" in a nearby city.

The ease of de novo entry into a strategic group is likely to depend upon the extent to which incumbent firms in that group have fully exploited the market potential. For older strategic groups, such a conventional supermarkets, they have probably gained about as much of the market as they can in most SMSAs. There may little easily gained sales for a new conventional supermarket.

By contrast, the warehouse and superwarehouse store strategic groups are far short of their market potential in many SMSAs. Apparently a sizeable segment of consumers in some markets prefer these store formats. If allowed to enter, warehouse stores will attract this segment of consumers. At some point, these strategic groups will also achieve their market potential--at which point, new entry will be more difficult.

Significant new strategic groups emerge only rarely in food retailing. When they do--as in the case of warehouse and super warehouse stores--de novo entry into that strategic group may be easier than it is into older strategic groups. Where the new strategic group poses a substantial threat to other strategic groups, entry deterring action can be expected. This is particularly likely when the new strategic group is expected to introduce non-trivial price competition.

Thus, warehouse stores and super warehouse stores represent a sufficiently better "mouse trap" that they have entered some markets with relative ease. For example, in my home of Madison, Wisconsin, a new Cub super warehouse store reputedly garnered over 10 percent of grocery store sales in its first six months of operation. As the first warehouse store on the west side of Madison, it filled a market vacuum--an unmet consumer demand. During the last year, another super warehouse store (Woodmans) has been built near Cub. Whereas Cub found entry easy, Woodmans has found it difficult since a significant portion of its sales had to be taken from Cub. With a new strategic group, there are important first mover advantages.

Let me turn my attention now to entry conditions into the supermarket submarket. I will comment particularly on the barriers to de novo entry by conventional supermarkets, superstores and combination stores. The barriers faced by these firms may be similar to the barriers faced by warehouse stores in a few years as they approach their potential.

The Federal Trade Commission, in reversing the Administrative Law Judge's (ALJ's) opinion in the Grand Union case, concluded that grocery retailing was the relevant product market for that case and that entry barriers into grocery retailing are low. As the above discussion indicates, I believe the ALJ in that case was correct in defining the supermarket submarket as the relevant product market. Using this as the relevant market, what evidence would we expect to find if entry barriers are low?

If entry barriers are low into the supermarket submarket, there is no opportunity for sustained monopoly prices or profits. We would expect to find no

relationship between market concentration and prices. We would expect to see few instances of predatory behavior; the main incentive for predation is the expectation of future supra competitive prices and profits. These are only possible where significant barriers exist. If entry barriers are low, we would expect to observe new entry into large SMSAs as often (or more often) as into small SMSAs. We also would expect to see all sizes of firms entering various SMSAs; with low barriers, there are many firms that can successfully hurdle the barriers. Finally, if entry barriers were low, we would expect to see no medium or large SMSAs with persistently high levels of concentration and profits. Economies of scale do not require high levels of concentration except in small markets. With low entry barriers, new entrants would be expected to erode high concentration and profits in medium or large markets.

As I examine the facts, they don't support the above scenario. First--at least four different studies have found a significant positive relationship between retail food prices and supermarket (or grocery store) concentration (Marion et al. 1979; Lamm 1981; Hall, Schmitz and Cothern 1979; Cotterill 1984). The relationship holds both in studies that have examined SMSAs and studies that have examined small cities. The results are consistent with the growing number of studies of concentration-price relationships in other industries. The results of the price studies tell us that entry barriers exist in at least some markets.

To what extent do we see predatory behavior in food retailing? Without getting into the question of what constitutes predation, I do want to comment briefly on zone pricing. I believe there is ample evidence that zone pricing is widely used--particularly by certain chains--to deter or limit the success of a new entrant. The basic concept of zone pricing means that it can only be employed by multi-store firms. When used to deter entry, prices are normally dropped in the 2 or 3 stores closest to the new entrant while the remaining stores of the chain maintain normal prices. Because it can be employed very selectively against a firm entering with one, two or three stores, the incumbent chain can cross-subsidize the losses or lower profits from its stores near the new entrant by normal profits from its remaining stores.

The long-run profit incentives for a leading incumbent chain to employ zone pricing to deter new entry are substantial if the new entry is likely to become a competitive "factor in the market." In addition, firms with large market shares have a much greater incentive to deter new entry than firms with a small market share. They also have a greater capacity to use zone pricing and cross-subsidization to deter entry.

The following example, based upon the regression results of the Marion, Mueller, et al., study, illustrates the profit incentives for established firms to block a new entrant from becoming established. In the example the entrant is assumed to achieve a moderate 8 percent market share in a market in which the top four firms have an initial 70 percent combined share. It is assumed that the market share lost to a new entrant is proportional to the market share of established firms. The size of market assumed for the example is $1,000,000,000 of annual grocery store sales which is about the size of Memphis presently or Washington, D.C. in the early 1970s.

Under these assumptions, a firm with a 10 percent initial share stands to lose $166,400 in profits per year if the new entrant gains an 8 percent market share. However, a firm with an initial share of 30 percent would suffer profit reductions nine times as great. Although this illustration only holds under rather narrow assumptions, it does indicate the strong incentive which an established firm may have to prevent the

Market Share of Established Chain		Firm's Profit Rate			Annual Profit Reduction due to entry
before entry	after entry	before entry	after entry	change	
10%	9.2%	1.45%	1.39%	-.06	$166,000
30%	27.6%	2.94%	2.76%	-.18	$1,312,000

successful entry of a new firm. The stakes are particularly high for the market leader.

Thus, without dealing with the question of when zone pricing constitutes predation, I conclude that there are strong incentives for the leading firms in a market to deter new entrants through zone pricing (and possibly other actions such as increased advertising and promotions). In addition, zone pricing appears to be frequently used as a response to a new entrant.

An additional piece of evidence concerning barriers is the extent to which entry is observed in large and small SMSAs, and by large, medium, or small firms. Independent operators may be satisfied to enter and operate one or two stores in certain trading areas. Their entry will affect competition in those areas but will affect competition market-wide only in small cities. When a supermarket chain enters a metropolitan area, however, they are usually interested in gradually penetrating all or most of the market. If they are successful in entering and building market share, they influence competition first in the trading areas directly affected by their stores; at some point as they expand, their competitive influence is sufficient to affect competition at the market level. In the jargon of the trade, they have become a competitive "factor" in the market.

Thus, de novo entry by supermarket chains is of particular interest. In addition, the entry must be "effective" in the sense of developing a sufficient beachhead that it affects competition. The Court held in Marine Bancorporation (418 U.S. at 636-37) that for actual potential entrant analysis, the only entry that is significant is that which has a "realistic hope of ultimately producing deconcentration" or of having a "meaningful effect on the economic behavior" of the major market participants.

In most markets, a market share of 5 percent or more is needed to be a competitive "factor," although this may not be true for particularly threatening entrants such as a warehouse store. A major chain that is entering the market may also be a factor. Eugene Walters, President of Commonwealth Foods, testified:

> Anybody the size of Winn Dixie that wants to come into a market, if you do not think that they are a factor in the market, you are making a crucial mistake. They have the assets and they have the resources the same as any other substantial company to come in. You better consider them, because they are not coming in there for one store. (Federal Trade Commission, 1981b, p. 36)

Time does not permit a comprehensive analysis of "effective" entry activity. However, I have examined the 13 SMSAs included in the Grand Union case. Only de novo entry by supermarket chains between 1975 and 1983 was considered. Table 1 summarizes my findings. Using a 5 percent market share as the threshold, there were seven cases of <u>effective</u>

entry into the 13 SMSAs in the nine-year period. Three firms accounted for the seven instances: Foodtown (now Food Lion), Albertson and Kroger. All three rank among the 30 largest supermarket chains. In these markets, large chains were clearly best able to overcome the barriers to de novo entry. Only Fayetteville, N.C. had two effective entrants. Seven of the 13 SMSAs had no effective entrants during this period although all but one had ineffective entry. The entry into the Atlanta SMSA is misleading since it involved two BiLo stores on the fringe of this 13-county SMSA. There has been no effective entry into the Atlanta SMSA since Winn Dixie in the late 1950s. Given the relatively high concentration of supermarket sales in this market (SCR4=79 in 1977) and the frequent characterization of Atlanta as a soft market with high prices in the Grand Union case, the lack of effective entry suggests that some type of barrier exists. The Grand Union proceedings provide abundant evidence that entry barriers are particularly high in a large SMSA such as Atlanta.

Finally, if entry barriers are low, why has there been persistently high levels of concentration in many markets? Table 2 indicates the change in concentration that occurred between 1972 and 1977. Although the very highly concentrated SMSAs experienced a slight decline in supermarket four-firm concentration (SCR4), the vast majority of the SMSAs had an increase in SCR4.

Why is it that markets such as Washington, D.C. and Denver have had very high levels of concentration for years? Why is it that Kroger had dominated the Cincinnati market for at least the last twenty years? Surely, if entry were easy, there must be other firms whose stores would catch the fancy of Cincinnati, Washington and Denver consumers.

So much for what I consider the "circumstantial" evidence that entry barriers are significant into the supermarket submarket. Let me now comment on five of the most important barriers to effective entry. These are:

1. Economies of store size
2. Multi-store economies, including advertising
3. Capital costs and risk
4. Store sites
5. Entry forestalling practices by incumbent supermarket chains

Economies of store size. Because of the sharp increase in the number of items carried and consumer preference for store features such as service delicatessens and wide aisles, the minimum desired size of supermarkets has steadily increased. Larger stores require large capital expenditures and substantial sales to break even.

Supermarkets averaged $6 million in annual sales in 1981 (Progressive Grocer, 1982). A city of 25,000 people could support four supermarkets of this size; a small SMSA of 50,000 people could support about eight. Thus, in small cities and SMSAs, a new entrant faces the challenge of taking substantial sales from existing firms (a "displacement" effect). In general, the larger the displacement effect of a new entrant, the stronger the resistance from incumbent firms. Because the average cost curve of supermarkets is sharply downward sloping at low volumes, new entrants are usually at a substantial cost disadvantage unless they are able to achieve the desired store volume. For the new entrant, sales volume is the key to survival.

Super warehouse stores, such as Cub and Edwards, are often very large (40,000 to 80,000 square feet). When these stores enter a market, the displacement effect is many times that of a conventional supermarket entrant. Whereas the latter may take $6 million per year in sales from incumbent firms,

Table 1. De novo Entry into 13 Southeastern SMSAs, 1975-1983

SMSA	Census 1977 Grocery Store Sales (mil. $)	Supermarket[a] Sales as % of Groc. Store Sales 1972	Firms Entering[b]	Year[b]	Market Share[c] 1983	Effective Entry (X)
Atlanta, GA	1,227	70	BiLo	1978	0.8	
Augusta, GA	194	65	Harris Teeter	1977	0	
Charlotte, NC	455	68	Kroger	1978	12	X
Fayetteville, NC	118	54	Food Lion	1975	15	X
			Kroger	1977	15	X
Gainesville, FL	102	72	Albertson	1975	10	X
Greenville-Spartanburg, SC	397	73	Food Lion	1977	3	
Jacksonville, FL	470	66	Albertson	1975	5	X
Macon, GA	165	60	None			
Newport News-Hampton, VA	228	69	Winn Dixie	1978	3	
Norfolk, VA	481	71	Winn Dixie	1978	3	
Orlando, FL	471	78	Albertson	1975	14	X
Raleigh-Durham, NC	366	65	Food Lion	1975	11	X
			Harris Teeter	1977	4	
			Food World	1975	2	
			Lyon	?	2	
Richmond, VA	434	76	Winn Dixie	1978	4	

[a] Provided by special tabulation of Bureau of Census and included in Marion et al, 1979, appendix D.

[b] From Complaint Counsel's Answering Brief, In the Matter of Grand Union et al, Atlanta Regional Office, Federal Trade Commission, March 12, 1982, p. 24-25, plus trade magazines, newspapers and directories.

[c] Metro Market Studies, "1984 Grocery Distribution Analysis and Guide," Weston, MA, 1984.

Table 2. Comparison of Four-firm Grocery Store and Supermarket Concentration Figures, 240 SMSAs, 1972 and 1977

Grocery Store Concentration in 1972 (CR4)	Nr. of SMSAs	Grocery Store Conc. Mean CR4 in 1972	Grocery Store Conc. Mean CR4 in 1977	Supermarket Conc. Mean CR4 in 1972	Supermarket Conc. Mean CR4 in 1977
< 30	5	27.86	32.20	38.40	41.42
30 < 40	17	35.07	40.02	48.65	51.51
40 < 50	81	44.90	49.71	61.84	64.87
50 < 60	77	54.69	58.05	72.12	73.30
60 < 70	45	65.72	66.02	83.44	82.52
≥ 70	15	74.93	76.89	90.40	88.49
Total	240	52.58	56.09	69.55	70.93

Source: Marion, Parker and Handy.

some super warehouse stores do $25 to $50 million in sales per year.

The displacement effect of a new warehouse store in a relatively small SMSA is documented in the Shoppin' Bag v. Dillon Case (U.S. District Court for Colorado, No. 81-Z-1548 [1979]). In March 1979, Shoppin' Bag opened a warehouse store in Pueblo, Colorado. As the first warehouse store in Pueblo, it had little difficulty attracting sales with its substantially lower prices. With annual sales of approximately $30 million, King Soopers was the market leader in the Pueblo SMSA with a 30 percent market share. Safeway was number two with 27 percent of the market. Assuming no price response by incumbent firms, King Soopers estimated the Shoppin' Bag store would take 14 percent of their sales, 11 percent of Safeway's sales and 26 percent of Albertson's sales. This proved to be a greater sales loss than King Soopers was willing to take. Nine weeks after the Shoppin' Bag store opened, King Soopers lowered prices on thousands of grocery items to meet or beat Shoppin' Bag prices. Shoppin' Bag sales dropped by about one-half, resulting in substantial losses. It was on the verge of closing the store when an FTC investigation led King Soopers to raise its prices.

Multi-store economies, including advertising. Industry witnesses in the Grand Union case testified that multiple store entry was necessary for a supermarket chain that intended to become a competitive "factor" in an SMSA. The size of the SMSA is positively related to the number of stores necessary for effective entry. William Stewart, a former president of Colonial and former vice president of Grand Union, estimated the number of conventional supermarkets necessary for profitable entry ranged from a low of two in Fayetteville, North Carolina, to a high of twelve in Atlanta, Georgia (Federal Trade Commission, 1981b).

Multi-store economies accrue from the costs and effects of advertising in medium and large SMSAs. In addition, the reactions of incumbents, such as zone pricing, is better borne by stores

entering with multiple stores. In those cases where a new entrant provides a combination of products, prices and services that fill an unmet need in the market, it may have little difficulty attracting customers from established stores. In the normal situation, however, advertising is a major vehicle to attract the sales necessary for an entrant to operate its stores at low unit costs. However, area wide newspaper advertising (or television) is very expensive, particularly in large metropolitan areas. New entrants can expect to spend as much as 5 percent of sales on advertising for their first year(s) in such a market, placing them at a substantial cost disadvantage relative to established firms, which are more likely to spend about one percent of sales on advertising. New entrants must rapidly increase store numbers and total sales if they are to eliminate this cost disadvantage. But, to do so requires taking sales from incumbent firms. Thus, economies of scale in advertising requires new entrants to have a significant displacement effect, particularly in large SMSAs.

In addition, the leading firms in a market can more fully take advantage of advertising allowances offered by manufacturers than fringe firms or new entrants. This accentuates the advertising cost disadvantage faced by entering firms. Alternative advertising media, such as hand bills and direct mail, can be used but are often considered to have less consumer impact per dollar of cost.

The advertising costs and difficulty of quickly building a sufficient sales base over which to spread these costs can be a major reason why regional chains will not attempt to enter a large SMSA. This was the main reason given by the General Manager of Ingles Markets for not attempting to enter Atlanta (Federal Trade Commission, 1981b, p. 40). Grand Union executives indicated that advertising per dollar of sales in their expansion areas (Baltimore and west coast of Florida) were two and one-half times that in areas where Grand Union was established (Federal Trade Commission, 1981b, p. 41).

Capital costs and risk. In order to open a new 25,000 to 30,000 square foot supermarket in 1980, between $500,000 and $1 million was required to equip and stock the store (Federal Trade Commission, 1981c, p. 216). In addition, supermarket firms must obligate themselves for leases on new stores; this liability is approximately $3.0 to $3.5 million per store. Thus, a total of roughly four million dollars per new store is at risk.

Drawing on the estimates of industry members in the Grand Union case, I will assume nine stores are necessary for effective de novo entry into the Atlanta SMSA core; nine times $4 million is $36 million at risk. These are not all sunk costs. If attempted entry is unsuccessful, these commitments have some salvage value. These figures do not include advertising and promotional expenditures incurred during entry, which are sunken costs.

The magnitude of capital costs and investment risk are generally a direct function of the SMSA size. Whereas Atlanta may require an at risk commitment of $36 million ±, Fayetteville or Gainesville may require only $4 to $8 million for effective entry.

Store sites. A major element in attracting sales to a store is a good location. Store sites for supermarkets are mostly made available through developers. The best sites are usually in or adjacent to shopping centers where customer traffic is concentrated. It is a typical practice for developers to sign a supermarket tenant before they attempt to recruit other tenants and often before obtaining financing. The supermarket may be used as a selling point. The leading chain in the market is the most proven traffic builder in that area. New entrants are often uncertain traffic builders and represent substantial risk. If a new entrant

fails, leaving its site in the shopping center closed for a time, the entire shopping center will be hurt. Because of this risk, a new entrant able to get a site in a shopping center is likely to pay higher rental costs than the leading chains in the market. Where the new entrant has something unique to offer that has proven highly successful in other markets, the above may not be true (e.g., a warehouse store in a market without any). However, this is relatively rare.

Entry-forestalling practices of established chains. Established firms lose sales and profits if a new firm enters the market and becomes established. The seriousness of the perceived threat will largely determine how established firms respond. If the new entrant fills a relatively small niche in the market and is not perceived as a major threat to conventional supermarkets, the response may be relatively mild. However, if established firms perceive the new entrant as a strong threat to their sales, they may attempt to forestall its successful entry or cause it to incur large costs, thereby impeding subsequent expansion. A new entrant is particularly vulnerable to an aggressive competitive response during its entry phase because its stores are on the sharply declining section of their average cost curves. If the established firms can successfully limit an entrant's sales growth in the initial phase, they can impose heavy losses on the entrant.

The costs and benefits to the established firms of undertaking aggressive action are generally related to its market position and the extent to which the entrant is expected to affects its sales. There are two entry forestalling practices that deserve comment. One is zone pricing, increased advertising and other tactical responses immediately prior to or after a new entrant opens its stores. The second is to prevent access to preferred new sites by building stores ahead of sales. The latter is a general preemptive strategy that is aimed at all new entrants. The former only takes place when a new entrant has one or more sites and has taken definite action to enter the market.

The action taken by incumbents depends upon the strategic group of which the entrant is expected to be a part. In some cases, incumbents may decide store remodellings are a better response than reducing prices. However, increased advertising and promotions and reduced prices are frequent tactics used to counter a new entrant. This is particularly likely in SMSAs with one or more dominant chains. These chains have a strong incentive to deter entry, and can employ zone pricing in stores near the new entrant to force the new entrant to carry low prices and sustain large losses while it tries to attract sales. Multi-store entry by large chains are less likely to be subjected to zone pricing by incumbents because the new entrants have the financial resources to withstand such actions; in addition, incumbents would have to drop prices more broadly in the market and possibly trigger a price war.

Occasionally, a price war results from new entry. Bill Saporito describes Kroger's entry into the San Antonio market:

> Like a thunderstorm off the Gulf of Mexico, it rolled in with 14 stores and a warehouse in two years. It was betting an estimated $100 million that it could take a big bite of the market . . . . Lo and behold, H. E. Butt Grocery Co. the then and present market leader, knew how to play defense Kroger-style. . . . [It] matched Kroger new store for new store, price for price, precipitating a price war the like of which the city had never seen. Two smaller chains went to the bottom. (Saporito, p. 80)

Importantly, four years later Kroger only held 11 percent of this market compared to H. E. Butt's market share of 26 percent (Metro Market Studies, 1984).

Entry forestalling tactics of this type raise the cost of entry and when used against a less formidable entrant than Kroger, may very well prevent successful entry (see earlier discussion of Shoppin' Bag's entry into Pueblo). These tactics can also serve an important strategic role in signalling other potential entrants that the incumbent firm greets new entrants like a grizzly bear. Thus, zone pricing, massive advertising campaigns and other aggressive responses to new entrants may not only be aimed at the entrant in question but intended as warning to future potential entrants (Spence 1981).

Another tactic to forestall entry in the supermarket industry is geographic preemption (Mallen and Haberman). Simply put, this is building stores ahead of sales. Since the growing parts of metropolitan areas are most susceptible to entry, it may be profitable in the long run for a leading firm to build stores in prime locations in anticipation of future population growth. Although substantial losses may be incurred for a year or so, this practice makes new entry more difficult and enables a leading firm to protect its market position.

Large chains can overcome all of these five barriers more easily than small. For example, "Grand Union management, in outlining a Florida West Coast Development Program for 1976-1980, anticipated operating their eighteen stores on the West Coast of Florida at a substantial loss for at least five years" (Federal Trade Commission, 1981c, p. 216). Large chains can cross subsidize from other markets and have greater total resources on which to rely during an entry attempt.

Because de novo entry can be slow, costly and uncertain, entry via acquisition is often preferred by chains when antitrust laws and enforcement permit.

> The surest route around other San Antonios led to the acquisition of Dillon, the 11th largest U.S. chain, which has a lock on established markets, much like Kroger's own. At some $600 million in Kroger stock, Dillon was the priciest supermarket acquisition in history. But Everingham figures it was a bargain. To crack Denver from scratch, as it did in San Antonio, Kroger would have had to lay out $500 million, facing price wars and no guarantee of market share. (Saporito, p. 80)

Entry barriers are clearly higher in large SMSAs. All else the same, entry barriers are also higher in SMSAs in which: a) a high percentage of grocery store sales are held by supermarkets indicating that there is little unmet demand for supermarkets; b) supermarket sales are highly concentrated; c) there is one or more dominant supermarket chain in the market; d) there is little or no growth in SMSA grocery store sales.

Taken in total, I believe there is relatively strong evidence that the barriers to effective entry into the supermarket submarket are substantial. This is particularly true in large SMSAs. Entry forestalling behavior makes little sense if there are low barriers; a firm would be unable to gain the benefits of entry deterrence without attracting new entry. The positive relationship between price and seller concentration found in several empirical studies is also difficult to explain if there are low barriers.

Entry conditions vary for different strategic groups and different markets. As a new "mousetrap," warehouse and super warehouse stores have enjoyed a welcome response by consumers in several

markets. As their share of the market increases, entry by new warehouse stores will become more difficult. For example, a new warehouse store entrant into Minneapolis or Milwaukee will find it tougher to attract sales than the first entrants. With nearly half of the sales in these markets, warehouse type stores may be approaching their market potential. For at least some consumers, low prices are not the primary criterion for selecting a store. For example, Byerly's and Lund's, operators of large, luxurious superstores in Minneapolis report that their business has been unaffected by the growth of super warehouse stores in that market (Supermarket News, p. 32).

Conclusions

So--what does all this add up to? If there are significant entry barriers, as I believe there are--particularly in large SMSAs--then mergers can have an important effect on competition in food retailing. Significant horizontal mergers--especially involving the top two or three firms--are obviously of concern. However, the FTC has to be convinced that entry barriers are significant in the supermarket industry before it is likely to take much action.

In addition, I believe we need to rethink the pros and cons of large market extension mergers. As our present antitrust laws are written, such mergers are illegal only when the effects "may be substantially to lessen competition, or to tend to create a monopoly." There is no requirement that such mergers carry some social benefits. I see little redeeming social value from the Grand Union-Colonial, Kroger-Dillon or American Stores-Jewel mergers. These mergers were not made to salvage a company in trouble. They are unlikely to improve efficiency. If anything, inefficiency and unnecessary costs are likely to increase in larger organizations. Capital that could have been used to build new stores, install new equipment, and enter new markets--thereby enhancing efficiency and competition--has been used instead to buy other companies.

As sizeable companies are swallowed up through mergers, the number of firms is reduced that have the resources to enter large markets with high entry barriers. Small and medium companies, which from my experience are often the best run and most aggressive competitors, also are limited through a lax merger policy. Applebaums, Altermans, Star Markets in Rochester, and Purity Supreme are a few examples.

Since the total financial strength of a chain definitely affects its ability to overcome entry barriers, competition would probably be better served if mergers were channeled to small and medium size companies. This was done during 1965-74. Large chains were forced to enter new markets whether de novo or through toehold acquisitions, both of which tend to be pro competitive.

While I see no evidence that further consolidation among the largest supermarket chains will carry benefits either to the public or to the U.S. food marketing system, large mergers are unlikely to be challenged without a change in the law. This is unlikely at present. Thus, until the pendulum swings back to a stronger role for antitrust, perhaps the best that can be done is to develop more evidence on the factors affecting the competitive performance of grocery retailing.

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