RETAIL INDUSTRY STRUCTURE: 1977 - 1992

Louis H. Amato, University of North Carolina Charlotte
Christie H. Amato, University of North Carolina Charlotte

ABSTRACT

This paper offers descriptive evidence regarding the trend toward increasing concentration in U.S. retailing industries. The data cover prominent retail industries including general merchandise stores, grocery stores, and drug stores for the years 1977 to 1992. Concentration is measured by conventional four-firm concentration ratios and by the percentage of total industry receipts and total assets contributed by firms from the largest asset size class contained in the Internal Revenue Service: Corporate Statistics of Income data. The descriptive findings presented in this paper are relevant for the teaching of economics and potentially for antitrust policy. From a teaching perspective, a trend toward increasing concentration in retailing suggests that retail examples should be included with examples drawn from manufacturing when presenting oligopoly models. The findings are relevant from an antitrust perspective because increasing retail concentration suggests the need for antitrust enforcement agencies to more carefully scrutinize proposed mergers between large retail firms.

INTRODUCTION

Coverage of imperfectly competitive output markets in principles of economics texts has traditionally treated retail markets as monopolistically competitive, while confining the discussion of structure measures and oligopoly models to manufacturing. Colander (1995) and Parkin (1998) exemplify authors who offer only manufacturing examples to illustrate structure measures. Both provide Hirschman-Herfindahl index measures for selected manufacturing industries; Colander also includes four-firm concentration ratios. Authors of leading texts such as McConnell and Brue (1999), Boyes and Melvin (1999), and Hall and Lieberman (1998) present retail industries that contain large national firms as examples of monopolistically competitive industries. Specifically, McConnell and Brue cite dining out, Boyes and Melvin consider retail clothing stores including The Gap, The Limited and Limited Express, while Hall and Lieberman identify food

markets among the industries that fit the structural conditions of monopolistic competition. The implicit assumption of these and most other economics texts is that retailing industries are too atomistic for coordinated pricing to occur and that relevant pricing models for retailing should posit independent behavior.

While a dichotomy that describes retailing as monopolistic competition and manufacturing as oligopoly was appropriate for most of the last forty years, recent changes have made it more difficult to sell students on the notion that retail markets are the province of small independent firms. Students who routinely shop in the Gap and the Limited for clothing, eat regularly at McDonalds, Burger King and Pizza Hut, and accompany their parents on weekend excursions to Home Depot find it difficult to square their perception of the retail landscape with the theoretical models being taught in economics classes. Moreover, by ignoring retail industries in our discussions of market concentration and large firm dominance, we deny students the opportunity to relate structure measures to the very markets that they find most familiar.

The purpose of this paper is to provide descriptive evidence regarding recent trends in retailing industries. By incorporating these descriptive data into textbooks and the discussion of market structure, faculty teaching economic principles can build a foundation for structure measures and the extent of large firm market domination using industries that are relevant for college students. Moreover, by demonstrating that many retail markets are highly concentrated, the data can be used as a foundation for analyzing portions of the retail sector using models of oligopoly rivalry instead of the more traditional analysis of retailing as monopolistically competitive.

DISCUSSION

Considerable empirical evidence supports the notion that retail markets are becoming more concentrated and that retailing, once dominated by local and regional players, has witnessed a gradual evolution toward national firms. Successful retail firms tend to evolve from players in local and regional markets to national chains (Miller, 1981). Research by Cotterill and Mueller (1980) provides empirical evidence of the trend for the grocery business. Cotterill and Mueller find that the market share of the twenty leading grocery chains increased from 26.9 percent in 1958 to 37 percent in 1975. Finally, Thomas Rauh, director of retail consulting for Ernst and Young, argues in a 1989 *Fortune* article that in the future each retail category will have no more than half a dozen and perhaps as few as two merchants accounting for as much as 60 percent of retail sales.

An examination of basic descriptive structure measures also provides support for a trend toward increasing concentration in at least some retail industries. Furthermore, several industries have reached concentration levels that would suggest

a market structure that is beginning to resemble oligopoly rather than monopolistic competition. Table 1 contains four-firm concentration ratios for thirteen Enterprise Statistic industries for the period 1977 to 1992. The industries include retail industries whose industry definitions remained constant over the sample period.

Table 1
Four-Firm Concentration Ratios
Selected Retail Industries

Industry	*1977*	*1982*	*1987*	*1992*
General Merchandise (Department) Stores	37.7	35.6	37.4	47.3
Grocery Stores	17.4	16.4	17.4	16.1
Eating and Drinking Establishments	3.9	5.0	7.6	7.9
Motor Vehicle Dealers	1.4	0.9	1.0	1.5
Other Automotive Dealers	0.9	1.3	2.0	2.4
Apparel and Accessory Stores	9.1	13.0	20.7	17.9
Furniture and Home Furnishing Stores	4.5	5.7	7.4	9.7
Drug Stores and Proprietary Stores	9.8	18.7	23.4	24.7
Hardware Stores	6.7	7.9	8.3	9.7
Building Materials Stores	5.1	6.4	7.1	21.3
Other Food Stores	11.4	12.9	9.7	12.0
Gasoline and Service Stations	5.1	6.4	7.1	7.2
Liquor Stores	9.8	8.6	8.5	8.2

Data Source: Census of Retail Trade, 1992

Seven of the thirteen industries saw concentration increase for all three time periods: 1977-1982, 1982-1987 and 1987-1992. Four industries, Apparel and Accessory Stores, Drug Store and Proprietary Stores, Building Materials Stores, and General Merchandise Stores experienced significant increases in concentration over the 1977 to 1992 time period. For apparel, the concentration ratio increased from 9.1 percent to 20.7 percent over the 1977 to 1987 time period, before declining to 17.9 for 1992. For the Drug Store and Proprietary Stores industry, concentration

increased from 9.8 percent to 23.4 percent over the 1977 to 1987 period, eventually rising to 24.7 percent for 1992. Concentration in the Building Materials Stores industry increased rather modestly from 5.1 percent to 7.1 percent over the period from 1977 to 1987, but rose sharply to 21.3 percent in 1992. Concentration in the General Merchandise Stores industry experienced a modest decline from 1977 to 1982 (37.7 percent in 1977 to 35.6 percent in 1982) before rising sharply to 47.3 percent in 1992.

Five industries had concentration levels that exceeded 15 percent in 1992: General Merchandise Stores (47.3 percent), Drug and Proprietary Stores (24.7 percent), Building and Materials Stores (21.3 percent), Apparel and Accessory Stores (17.9 percent), and Grocery Stores (16.1 percent). It is important to note that these concentration levels are the percentage of national sales for the four largest firms; concentration was undoubtedly much higher in some regional markets. Concentration in the General Merchandise Stores industry is of particular interest; a four-firm concentration ratio of 47.3 percent is indicative of a moderately concentrated oligopoly industry. Moreover, a four-firm concentration of 47 percent would place the General Merchandise retailing industry substantially above the median concentration ratio for the 505 manufacturing industries listed by the Census of Manufacturers for 1987 (Martin, 1994).

While concentration data provide insight into recent trends, limiting the analysis to the four largest firms makes it impossible to assess the full impact of large firm dominance in retail industries. Table 2 shows the percentage of total industry sales and assets contributed by firms in the largest IRS size class, a grouping consisting of firms with $250 million or more in total assets. Examination of Table 2 for the 1987 sample year reveals that of the eight industries containing firms with $250 million or more in total assets, the largest size class in five of those industries contained at least 35 percent of total industry assets for their industry. The 1992 decline in total assets reflects the omission of Drug and Proprietary Store sales as required by government data disclosure regulations that protect the privacy of individual firms. For the 1992 data, the largest size class accounts for at least 25 percent of total industry assets in five industries including values of 92.3 percent of total industry assets in General Merchandise Stores, 74.4 percent of total industry assets in Grocery Stores, and 69.4 percent of total industry assets in Apparel and Accessory Stores.

Examination of the data for the percentage of total industry receipts contributed by firms from the largest size class reveals similar patterns. The percentage of industry receipts attributed by the largest General Merchandise Stores increased from 19 percent in 1982 to 30.5 percent in 1987, with a very sharp increase to 89.2 percent in 1992. For the Grocery Stores industry, the percentage of total industry receipts from the largest size class increased from 40 percent in 1982 to 62.9 percent in 1992. Comparable percentages in the Apparel and

Accessory Stores industry were 24.4 percent in 1982 rising to 61 percent in 1992. From the IRS data, it is clear that the extent of large firm dominance in retailing is much greater than the picture painted by concentration ratios alone.

Table 2
Percentage of Total Industry Assets and Receipts
Contributed by Largest Firms in the Industry, Selected Years

Industry	***% of Total Industry Assets***				***% of Total Industry Receipts***			
	1977	***1982***	***1987***	***1992***	***1977***	***1982***	***1987***	***1992***
General Merchandise (Department) Stores	NA	15.7	45.3	92.3	NA	19	30.5	89.2
Grocery Stores	47.5	49.4	65.7	74.4	41.8	40	50	62.9
Eating and Drinking Establishments	7.9	32.6	53.7	52.4	5.3	16.2	26.2	24.8
Motor Vehicle Dealers	NA	NA	1.8	NA	NA	NA	.6	NA
Other Automotive Dealers	NA	NA	9.7	NA	NA	NA	6.7	NA
Apparel and Accessory Stores	NA	30.3	38.8	69.4	NA	24.4	34.2	61.0
Furniture and Home Furnishing Stores	NA	NA	21.8	29.9	NA	NA	15.9	18.7
Drug Stores and Proprietary	17	52	66.7	NA	16.6	55	60.1	NA

Percentages are the percentage of total industry values contributed by firms from the largest asset firm size class, firms with $250 million or more in total assets.

Data Source: Internal Revenue Service: Sourcebook of the Corporate Statistics of Income years, 1977, 1982, 1987 and 1992.

NA = Not Available

It is important to emphasize that all of the data presented here are aggregated at the national level. While these data cannot directly measure concentration or large firm dominance for individual metropolitan areas, it is

inconceivable that data such as these could occur without substantial corporate level dominance of retailing industries in a number of metropolitan areas. While it is undoubtedly true that individual establishments continue to control a small percentage of industry sales in metropolitan markets, it is difficult to make a case that the numerous retail outlets of the same retail chain exhibit the independent pricing required by models of monopolistic competition.

Examining retail concentration data also demonstrates the importance of market definition. Table 3 contains four-firm concentration ratios for two broad retail groupings, General Merchandise Stores and Apparel and Accessory Stores, at alternative levels of aggregation. The concentration ratios reported at lower levels of aggregation provide clear evidence regarding the importance of market definition in determining whether we judge industries as either tight or loose knit oligopoly. The implications of these alternative market definitions for antitrust should also be clear.

Table 3
Four-Firm Concentration Ratios for Selected Industry Groupings
Alternative Levels of Aggregation

Industry	CR4	Industry	CR4
General Merchandise Stores	47.3	Apparel and Accessory Stores	17.9
Department Stores	53.1	Men's and Boy's Clothing/Accessories	20
Conventional Department Stores	55.9	Women's Accessory and Specialty Stores	27.4
Discount or Mass Merchandising	78.7	Women's Clothing Stores	7.6
National Chain	100	Women's Accessory and Specialty Stores	37.7
		Family Clothing Stores	35.3
		Shoe Stores	38.6
		Men's Shoe Stores	35.6
		Women's Shoe Stores	45.2
		Family Shoe Stores	43.9
		Athletic Shoe Stores	68.8

Data Source: Census of Retail Trade, 1992

The General Merchandise Stores industry offers the most striking example regarding the importance of market definition. The four-firm concentration for the broadly defined industry is 47.3 percent. A somewhat narrower definition, Department Stores, results in a concentration ratio of 53.1 percent, while the concentration ratio for Discount or Mass Merchandizing Stores is 78.7 percent. The narrowest industry definition from the general merchandise category, National Chain, has a four-firm concentration ratio of 100 percent. Concentration in the general merchandise store category thus ranges from 47.3 percent, a level that would generally be regarded as moderately concentrated to 100 percent, clearly a highly concentrated level, depending upon how one defines the relevant market. These data provide students with a clear example of the importance of market definition in judging the level of concentration necessary to warrant antitrust scrutiny.

A similar, although less dramatic, pattern is observed for the Apparel and Accessory Stores industry. The broadest market definition, Apparel and Accessory Stores, has a four-firm concentration level of 17.9 percent as compared to 20 percent for Men's and Boy's Clothing and Accessories; 27.6 percent for Women's Accessory and Specialty Stores; 35.3 percent for Family Clothing Stores and 37.7 percent for Women's Accessory And Specialty Stores. For the shoe store categories within Apparel and Accessories, Shoe Stores have a four-firm concentration of 38.6 percent; Women's Shoe Stores a CR4 of 45.2 percent, and Athletic Shoe Stores a CR4 of 68.8 percent. Once again, we see evidence of the importance of market definition in determining how concentrated and thus how tightly oligopolized we view an industry.

It is important to note that comparisons such as these are generally not possible with publicly available manufacturing data, since the Census Bureau generally publishes four-firm concentration ratios in manufacturing exclusively at the four digit SIC level. The retailing data, by providing four-firm concentration ratios for alternative levels of aggregation, thus offer the opportunity to demonstrate to students using real world data, the consequences of market definition for determining measured concentration as well as for making antitrust policy decisions.

Table 3 also provides a foundation for a discussion of the strategic group concept presented by Michael Porter (1979) and others. Porter defines strategic groups as consisting of clusters of firms that confront similar operating conditions. While Porter does not consider that strategic groups are necessarily the relevant unit of observation for policy decisions, he argues that firms within the same strategic group undoubtedly pursue strategies that are more similar than firms that are from the same industry but different strategic groups.

The concentration ratios and industry definitions presented in Table 3 provide a useful framework for discussing the strategic group concept. Although the appropriate industry in the general merchandise category may be either General Merchandise Stores or Department Stores, it could be argued that Discount Mass

Merchandizing provides a useful description of a strategic group within the industry. The Discount Mass Merchandizing grouping containing firms such as Wal-Mart, Sam's Club, and the Price Club compete with other General Merchandise Stores, nevertheless they confront operating environments that are somewhat different from non-mass merchandisers. Similarly, although athletic shoe stores compete with all firms within the broader category of shoe stores and with other non-shoe store retailers that sell athletic shoes, there are conditions specific to athletic shoe stores that make it reasonable to consider the separate athletic shoe sub-grouping to be a viable strategic group. Similarities and differences between firms from alternative industry definitions presented in the retail data (e.g. shoe stores vs. athletic shoe stores) can be related to how broadly we define the retail grouping. Students should easily see from these real world examples that the more narrowly defined market contains more similar firms and ceteris paribus, the greater the degree of rivalry among firms.

CONCLUSION

This paper provides empirical evidence that documents the emergence of large firms in selected retailing industries. Although textbook authors have generally recognized that retail firms may behave as oligopolists in small towns (e.g. McEachern, 1997), retail markets in large metropolitan areas have been treated as monopolistically competitive. The four-firm concentration ratios along with the data measuring proportions of assets and receipts contributed by firms in the largest IRS size class suggest that retail industries increasingly resemble oligopoly even in metropolitan areas. In light of these data, textbook authors may wish to update their presentations of imperfect competition to recognize the changing landscape of retail industries. It is obvious that large national firms are playing an increasingly important role in a number of retailing industries; the time has come to incorporate this reality in our principles of economics texts and courses.

The data presented in this paper are also useful for teaching the strategic group concept presented by Michael Porter and others. When retail data are grouped into several related industries, the differences in levels of concentration depend upon the level of aggregation for each industry definition. Discussions built around these data could focus on the importance of industry definition in determining the level of concentration as well as the importance of industry definition for antitrust policy. Moreover, alternative industry definitions for sellers of related products can provide useful descriptive examples for framing discussions regarding industries and the strategic groups within each industry.

Including these data provides a useful vehicle for matching classroom discussions of topics related to industry structure and strategic groups with students' experience. Students who are familiar with retail giants such as Wal-Mart, the Gap,

and the Limited and category killers such as Circuit City will question whether these retail players are representative of monopolistic competition or oligopoly. The descriptive analysis in this paper provides a vehicle for structuring this discussion.

REFERENCES

Boyes, W. & Melvin, M. (1999). *Economics,* (Fourth edition). Boston: Houghton Mifflin.

Colander, D. C. (1995). *Economics,* (Second edition*).* Chicago: Richard D. Irwin.

Cotterill, R. W. & Mueller, W. F. (1980). The impact of firm conglomeration on market structure: Evidence for the U.S. retailing industry. *Antitrust Bulletin*, *25*(3), 557-582.

Hall, R. E. & Lieberman, M. (1998). M*icroeconomics: Principles and applications*. Cincinnati: South-Western College Publishing.

Martin, S. (1994). *Industrial economics: Economic analysis and public policy,* (Second edition). Englewood Cliffs: Prentice Hall.

McConnell, C. R. & Brue, S. L. (1998). *Microeconomics: Principles, problems and policies,* (Fourteenth edition). Boston: Irwin McGraw Hill.

McEachern, W. A. (1997). *Economics: A contemporary introduction,* (Fourth edition). Cincinnati: South-Western. College Publishing.

Miller, R. (1981). Strategic pathways to growth in retailing. *Journal of Business Strategy*, *1*(3), 16-29.

Parkin, M. (1998). *Microeconomics,* (Fourth edition). Reading: Addison Wesley.

Porter, M. E. (1979). The structure within industries and company performance, *Review of Economics and Statistics*, *61*(2), 214-227.

Saporito, B. (1989). Retailing's winners and losers. *Fortune*, (December 18), 69-80.