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The Evolution of the Supermarket Industry: From A&P to Wal-Mart

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The Evolution of the Supermarket Industry From A&P to Wal-Mart*

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Abstract

This paper examines the evolution of the supermarket industry, from the birth of the chain store concept in the early 1900s to the recent rise of the Wal-Mart supercenter. The central message is that the major themes relevant today (the importance of scale and standardization, technological innovation, the introduction of new formats, and the rapt attention of anti-trust authorities) appear throughout its hundred year history. The goal of this paper is to provide a coherent context for current merger policy and broaden our understanding of the processes shaping the economic geography of retail trade.

*The first version of this paper was prepared for the Grocery Store Anti-Trust Conference organized by the Federal Trade Commission. I thank Michael Salinger and Christopher Adams for helpful comments and suggestions. All remaining errors and omissions are my own. All correspondence to: Paul B. Ellickson, University of Rochester, Rochester, NY 14627. Email: paul.ellickson@simon.rochester.edu.

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"Today in a city of any significant size, a grocery shopper can be served by a high-quality supermarket, a price-emphasis supermarket, a true discount store, a 'mom and pop' store, a quick-shop operation, or a large integrated shopping center." David Appel, 1972

According to the Food Marketing Institute (FMI), Americans spent just under 500 billion dollars in U.S. supermarkets in 2006, accounting for about of 6% of their total disposable income. The average supermarket now carries over 45,000 products in just under 50,000 square feet of space and the average customer visits a store just under twice a week (FMI). Despite playing such a central role in each of our lives, the supermarket industry constantly appears in a state of flux, with new formats cropping up left and right, the meteoric rise of Wal-Mart as a full-service grocer, and a spate of high profile mergers that are shaking up the competitive landscape. The goal of this paper is to present a detailed history of the evolution of the supermarket industry, from the chain store revolution that kicked off the twentieth century to the entry of Wal-Mart, ushering in the twenty-first. The central theme is that this state of constant change and continual evolution pervades the entire history of the industry, from the reactions of independent grocers (and anti-trust authorities) to the rise of the Great Atlantic & Pacific Tea Company (A&P) in the 1920s, to the response by incumbent chains to the introduction of the supermarket format in the 1940s, through to the current controversies surrounding Wal-Mart.

The modern era of food retailing essentially began in 1912 with A&P's introduction of the "economy" grocery store format. The introduction of standardization and scale revolutionized retailing, quickly catapulting A&P to national prominence. Indeed, many of the advantages we associate with Wal-Mart were first introduced in the grocery industry almost 100 years ago. So too was the controversy, as A&P quickly ran afoul of both politicians and rivals, prompting a slew of legislation aimed squarely at chains, culminating in the passage of the Robinson-Patman act. The next major innovation was the introduction of the supermarket format, which brought scale economies to the stores themselves. Again, much of the appeal of today's club stores is based on the same basic format introduced 50 years ago by pioneers in the food industry. The third major trend is the rise of computerization and the complementary explosion in product variety that occurred throughout the 1990s, laying the ground work for modern superstores and the entry of Wal-Mart.

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In a sense, each innovation has been about the same thing - getting products to consumers as cheaply and efficiently as possible. Sometimes the innovations were driven by external demographic shifts, other times by the firms themselves. What seems clear is that this was and will continue to be a highly competitive industry in which a small number of firms - but no single firm - compete to provide the widest array of products at the lowest possible prices. Hopefully this historical overview will provide some perspective on how we can expect this industry to evolve over time.

This paper, which tracks the evolution of the supermarket industry chronologically, is organized as follows. Section 1 describes the chain store revolution, which was led by A&P and introduced standardization and scale to the retail food industry. Section 2 describes the introduction of the supermarket format, which changed the scale of the stores themselves, and shifted the comparative advantage back toward smaller firms. Section 3 covers the post war expansion of the supermarket industry, the march toward saturation, and the rise of alternative store formats. Section 4 details the information revolution that greatly expanded the number of products carried, the size of individual stores, and the need for careful coordination throughout the supply chain. Section 5 discusses the rise of Wal-Mart and cautions against overstating its impact. Finally, Section 6 concludes with a brief discussion of the future of the retail food industry.

1 A&P and the Chain Store Revolution (1913–1930)

Prior to 1900, American shoppers purchased their groceries through a wide array of specialty shops and general stores. Meat was purchased from a butcher, fish from a fishmonger, bread from a baker, and produce from a vegetable stand. These stores were mostly sole proprietorships and often run in a haphazard manner. There were literally tons of them (probably well over half a million, although accurate historical statistics do not exist), since they needed to be located very close to their customers. Because most people arrived on foot, the stores often delivered what was purchased and sold on credit. The small sales volume of these tiny shops led to high costs and sizable markups. Furthermore, the shop owners purchased their own supplies from a Byzantine collection of jobbers and middle men that was rife with corruption, adding additional costs to an already expensive distribution

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system. The Great Atlantic & Pacific Tea Company (A&P) changed all of this. Although A&P began as a mail order tea business in 1859, it was the move to grocery stores in the late 1800s that changed the nature of retailing. The brainchild of brothers John and George Hartford, A&P's "economy" store format did for retailing what Henry Ford's Model-T did for automobiles, introducing both scale and standardization. The economy format was a standardized store, selling branded products produced in A&P factories and delivered through a vertically integrated supply chain of factories, warehouses, and trucks. A&P quickly abandoned customer delivery and scaled back on credit, converting groceries to a cash and carry business. This move alone yielded significant cost savings. They introduced modern accounting practices and scientific management principles (e.g. Taylorism), yielding efficiencies in both back and front end operations. Their investments quickly paid off; from 1914 to 1919 A&P went from operating 650 to 4,224 outlets (Lebhar, 1952). This number would double again by 1923.

As noted by Tedlow (1990), A&P introduced several key innovations. Apart from the switch to cash and carry and the standardization of store layouts and product offerings, A&P integrated backwards into both distribution and manufacturing. Like the modern supermarket firms we observe today, A&P operated its own network of warehouses and delivery trucks, bypassing the middle men and independent jobbers that supplied their rivals and eliminating a prime source of double marginalization. They also produced many of their own products, specializing in what would later be known as store brands and private labels. They conducted careful traffic studies to aid in site selection, studied efficient store design, and constantly streamlined their logistical operations. Investments in quality control and inventory management meant that their offerings were not only cheaper, but fresher, higher quality, and less apt to be out of stock. Moreover, their massive scale meant they had buying power with other manufacturers and input suppliers, providing yet another cost advantage over their typically single-unit rivals. Of course, A&P was not the only firm to exploit the chain format - Kroger, American Stores, and Safeway were all among the early adopters of this new business model. Not surprisingly (with the benefit of hindsight), chain stores quickly came to dominate the grocery business. Between 1919 and 1932, the share of the top 5 firms in the U.S. increased from 4.2% to 28.8% (see Table 1).

Due at least in part to decreases in transportation costs, chains were able to create a large

Table 1: The Chain Store Revolution

Year	A&P	Kroger	Am. Stores	Safeway	F. National	C_5
1919	4,224		1,175			4.2%
1920	4,600	799	1,243			5.6%
1921	5,200	947	1,274			6.3%
1922	7,300	1,224	1,375	118		7.1%
1923	9,300	1,641	1,474	193		8.0%
1924	11,400	1,973	1,629	263		9.3%
1925	14,000	2,599	1,792	330		11.5%
1926	14,800	3,100	1,982	673		13.6%
1927	15,600	3,564	2,122	840	1,681	16.9%
1928	15,100	4,307	2,548	1,191	1,717	20.4%
1929	15,400	5,575	2,644	2,340	2,002	24.5%
1930	15,700	5,165	2,728	2,675	2,549	27.6%
1931	15,670	4,884	2,806	3,264	2,548	29.3%
1932	15,427	4,737	2,977	3,411	2,546	28.8%
1933	15,131	4,400	2,882	3,306	2,705	
1934	15,035	4,352	2,859	3,228	2,653	
1934	14,926	4,250	2,826	3,330	2,623	25.7%
1936	14,746	4,212	2,816	3,370	2,556	
1937	13,314	4,108	2,620	3,327	2,473	

Source: Lebhar (1952)

network of stores which could take advantage of quantity discounts on the products they didn't produce themselves and economies of scale on those they did. The chain stores also benefited from the network externalities associated with information processing. The large number of stores and intricate distribution network allowed the chains to better forecast demand and thus plan inventories and site selection more effectively. They were also able to centralize accounting. The resulting cost savings were passed on to consumers in the form of lower prices. Various price studies performed in the late 1920s and early 1930s found that chain store prices were 4.5-14% lower than their independent counterparts (Tedlow, 1990). While the distribution system they employed was quite new, the physical stores operated by the chains were not much different from their independent counterparts: delivery and credit were still common in many locations and consumers continued to be served by a clerk who would retrieve items and suggest others. The chains also did not significantly advertise or build larger stores.

The 1920s and early 30s were a period of creative destruction, as the new business model supplanted the old, and the independent grocers either adapted or perished. Although many (perhaps more than 100,000) small firms exited the grocery business in this period, some of the survivors began to form cooperative associations with independent wholesalers to

combat the scale enjoyed by the major chains. By the late 1920s, the price differences between chains and independents began to shrink. Moreover, the profitability of the major chain stores declined throughout the late 1920's and 1930's as chains began to compete directly with one another. Several chains shifted to higher service formats, which increased marginal costs and narrowed the price gap with independent stores. Moreover, the chain stores began to attract the attention of politicians and anti-trust authorities. The Robinson-Patman act was aimed squarely at the chains, and an anti-chain ethos reminiscent of what we see with Wal-Mart today spread throughout the nation. Many states adopted stiff anti-chain ordinances and Wright Patman even proposed a "chain store death tax" that would levy a crippling tax on all units above a certain store count threshold. While A&P would receive some support from its unionized work force, their legal battles would drag on into the 1950s. However, this early attention was overshadowed (and to a large degree, made irrelevant) by the introduction of the supermarket format.

2 The Birth of the Supermarket (1930-1950)

At the same time that the chain format was diffusing through the retail landscape, major demographic shifts were occurring throughout the United States. Increased industrialization was drawing people to the cities and disposable incomes were rising. Transportation costs were falling as automobiles spread, roads were built, and rail lines were extended. Refrigerators began to spread to both commercial and residential use, allowing consumers to visit stores less frequently and purchase more each time they went. Radio (and later television) increased the appeal of national brands by facilitating large scale advertising campaigns. One of the earliest retailers to note this trend and foresee its impact on the grocery business was a Kroger employee named Michael Cullen[1]. In 1930, Cullen unveiled his plan for a new breed of huge, cash only, non-delivery, self-service stores. These new super stores would be located on the outskirts of town to take advantage of low rents. Furthermore, these stores would sell nationally advertised, branded goods and would advertise heavily. His proposal called for $\frac{1}{2}$% of sales (20% of net profit) to be spent on advertising.

[1] Piggly Wiggly in Memphis and Ralph's Grocery Company in Los Angeles had both introduced large, self-service format several years prior to Cullen's proposal, but lacked the emphasis on price and promotion that ultimately drove the supermarket's successful diffusion.

Although this figure is small by today's standards, it represented a substantial outlay in 1930. Cullen's plan was to operate on low margins and low expenses, making up the difference in volume. This was not unlike the formula favored by the chains, only Cullen was taking advantage of economies at the store rather than the distribution level, essentially turning warehouses into stores and mitigating one of the main advantages of the national chains. Among the most notable changes Cullen proposed were increased store size (5 to 10 times larger), low-cost warehouse district locations, the shift to self-service, and the emphasis on advertising. Supermarkets also benefitted from the growth in nationally advertised brands which the incumbent chains, who were heavily invested in their own brands, often refused to carry. This shift in consumer tastes eliminated the cost advantages of vertically integrating into manufacturing. Falling transportation and storage costs were key - the spread of the automobile and paved highways facilitated the supermarkets' strategy of locating on the outskirts of town, while advances in refrigeration allowed shoppers to make fewer trips and stores to hold larger inventories. The invention of the shopping cart helped shoppers to buy in bulk. Interestingly, the existing chains (including Kroger) were reluctant to adopt Cullen's proposal, so he struck out on his own and formed King Kullen supermarkets. Before long, other independent retailers followed suit.

Figure 1: A typical King Kullen supermarket

It's important to note that these early supermarkets were pretty crude by today's stan-

dards. Figure 1 shows a photograph of a typical King Kullen outlet, which doesn't look much like what we would call a supermarket today. Dismissively referred to as "cheapies", the early supermarkets occupied abandoned warehouses or factories and were located in low-rent commercial warehouse districts. They featured primitive shelving (often just crudely stacked pallets) and required consumers to serve themselves, which was quite a shock at the time.[2] However, they were very cheap, offering prices that were on average 13% below the conventional chains (Markin, 1968). From today's perspective, these early supermarkets were part club store, part superstore, and part dollar store. Moreover, they didn't just carry groceries. For example, King Kullen also sold tires and vacuum cleaners. Big Bear, one of the early success stories, made 34% of its sales on non-food items, not unlike the Wal-Mart supercenters we see today. Moreover, the supermarkets made a lot more money than the incumbent chain outlets, typically 10 to 20 times as much. King Kullen stores sold over $1 million in groceries per outlet in 1933 (at about $14m in today's dollars, this puts them right in line with the typical modern supermarket). Big Bear, on the other hand, made about $3.8 million per store ($53m today), squarely in line with a modern Wal-Mart supercenter. While commentators are quick to credit the supercenter model to Wal-Mart, it clearly dates much farther back. An interesting point to note here is that the supermarket format was initially championed by the smaller firms, since it did not require the type of scale that the incumbent chains relied upon. Moreover, these incumbent chains were sitting on a large portfolio of existing stores that were suddenly outdated by the changing demographic landscape of the United States. It is also important to note that the basic business models behind both the supermarket and supercenter formats date back at least 50 years, and the anti-chain sentiment of the 1930s was at least as strong as the movement against big box stores that we see today.

3 Post War Boom & Malaise (1950 – 1970)

Supermarket growth was slow at first, but the format really took off after World War II and supermarkets quickly came to dominate the retail landscape. While the overall number of food stores decreased from about 400,000 to 162,000 from 1935 to 1982, the number of

[2] The shortage of labor brought on by World War II helped hasten the spread of self-service formats.

supermarkets increased from 386 to 26,640, and the share of overall grocery sales accounted for by supermarket firms expanded from 3.2% to 74.5%, roughly comparable to what it is today (Table 2). The incumbent chains were initially slow to adopt the supermarket format, for fear of cannibalizing their own sales, and often rolled out a second brand (e.g. Kroger's Pay 'n Takit line) to mitigate the perceived risk. However, by the late 1930s, most of the dominant chains had at least begun converting to the supermarket format. Nonetheless, the balance of power had shifted, at least temporarily, to more regional firms.

Table 2: Supermarkets Take Off

				Share of Grocery	
Year	Sales Cutoff	Supermarkets	Sales (M)	Stores	Sales
1935	302.9	386	202	0.1	3.2
1939	287.5	1,699	772	.4	10.0
1948	635.6	5,600	5,654	1.6	22.8
1954	703.4	10,506	14,214	3.8	41.3
1958	747.0	15,282	23,562	5.9	53.9
1963	762.9	21,167	31,484	8.6	59.9
1967	825.7	23,808	43,433	10.9	66.7
1972	1,000.0	27,231	64,960	14.0	69.6
1977	1,515.0	30,831	113,111	17.2	75.0
1982	2,265.6	26,640	175,655	14.4	74.5

The post war boom was a period of steady growth for the supermarket industry. There was plenty of virgin real estate on which to build stores and plenty of markets to convert from chain grocery store to supermarket. Although the smaller chains were the earliest adopters of the supermarket format, even A&P started converting over by the late 1930s. More importantly, the "cheapies" began to disappear as firms moved closer to the suburbs and "traded up" for less price conscious consumers. In keeping with their increasingly upscale clientele, stores started adding services, while shopping center locations replaced free-standing units. By the 1950s, firms were rolling out stores we'd recognize as supermarkets today (see Figure 2).

Figure 2: 1950s Safeway's Modern Look

Table 3: The Waning National Chain

Year	All	Chain Type					
		National	Regional	Sectional	Local	Wholesaler	Other
1948	34.5	18.7	3.9	3.1	5.6		3.2
1954	38.8	19.1	6.3	2.9	7.6		2.9
1958	46.7	20.9	8.7	4.5	11.1		1.5
1963	49.4	18.8	9.6	6.6	11.4	1.4	1.6
1967	51.4	16.2	8.5	6.6	13.4	1.6	5.1
1972	55.9	15.4	9.2	11.7	11.2	1.5	6.9
1977	58.7	15.4	10.1	11.1	14.5	1.3	6.3
1982	61.5	12.2	11.1	10.8	20.2	3.5	3.7
1987	63.5	13.3	12.7	6.8	23.5	2.7	4.5

The supermarket boom was led by the regional, sectional and local chains that were able to exploit local trends and expand through a mixture of acquisition and new store development (Table 3). At first, rising incomes and the growth of suburbs ensured a steady supply of new store locations, but as markets became saturated, firms increasingly turned to acquisition as an avenue for growth. From 1949 to 1958, 83 companies bought 415 chains, involving 2,238 stores (Appel, 1972). Table 4 contains a selection of high-profile transactions. Broadly speaking, merger was seen as a tool for mid-sized chains to grow, as firms started to covet the economies of scale enjoyed by the largest firms. However, the "acquisition wave" slowed in the 1960s due to pressure from the federal government, which continued to be distrustful of the expanding chains. The Federal Trade Commission put the major firms on notice, taking action against National Tea & Kroger in early 1960s and making it clear that any significant acquisitions would receive close scrutiny. The key case was DOJ vs. Vons in 1966, which involved a merger between the third and sixth largest

firms in Los Angeles, a transaction that would be unlikely to raise eyebrows today. The Food Distribution Merger Guidelines were established around the same time.

Table 4: Mergers Abound

	Acquisitions	Stores Acquired	Sales when Acquired
American Stores	5	93	$34, 443
Colonial Stores	10	99	$121, 906
Food Fair	6	67	$107, 731
Grand Union	15	128	$128, 417
Jewel Tea	2	43	$56, 234
Kroger	5	130	$174, 064
Lucky Stores	4	56	$72, 612
National Tea	24	485	$251, 612
Safeway	25	67	$33, 016
Winn-Dixie	11	306	$221, 070
Total	107	1, 474	$1, 201, 104

Source: Baer (1999)

In the 1970s, saturation met recession and supermarkets increasingly turned to new formats to increase profits. The first club stores and limited assortment superettes were both introduced in the late 1970's and early 1980's. In particular, the first Price Club ('76), the first Costco ('83), and the first Sam's Club ('83) were all opened during this era. The first Aldi was opened in 1976 and the first Save-A-Lot in 1977. At the other end of the spectrum, natural food stores and superettes like Whole Foods ('78) and Trader Joes ('66) began cropping up as well. Interestingly, these are the same firms and formats that dominate the headlines today, but all have roots in a much earlier era. Of course, it would be several years before many of these alternative formats would really take off (see Table 5).

Table 5: The Demise of the Conventional Store

	1980	1982	1984	1986	1988	1990	1992	1994
Conventional	73.1	47.9	49.7	47.4	42.9	35.3	30.3	27.4
Superstore	17.7	28.9	28.3	27.5	30.2	33.5	34.3	37.0
Food/Drug Combo	4.0	8.3	8.0	8.0	8.6	11.2	15.5	17.8
Warehouse or L.A.	4.2	14.9	11.9	12.3	12.2	12.6	12.2	9.5
Superwarehouse	1.0		1.7	3.2	3.9	4.8	5.1	5.6
Hypermarket			0.4	1.6	2.2	2.6	2.5	2.7

4 The Information Age: Brandwidth, Superstores & IT (1980-1995)

While the 1970s introduced a host of new store formats, the most significant innovations were the introductions of the UPC code and the scanning register, which would transform back end operations and radically expand the number of products carried in each store. The first bar code scanner was installed in a Marsh supermarket in Troy, Ohio in 1974. By 1986, scanning registers were installed in half the existing stores, and by the early 1990s adoption was essentially universal (Progressive Grocer). Clearly a tremendous labor saving device, scanning registers also gave retailers access to better information than the manufacturers, thereby shifting bargaining power in their favor as they now had a valuable asset (Messinger and Narasimhan, 1995). A new industry sprang up to support the processing of information. Information Resources Incorporated (IRI) was founded in 1978, beginning the era of test marketing and consumer panels and laying the groundwork for an explosion of new products. From 1974 to 1990, the number of products carried per store went from 9,000 to 30,000, while store size grew steadily at 1000 sqft per year. Figure 2, based on data from Progressive Grocer, shows the linear growth in store size alongside the even more frenetic growth in products.

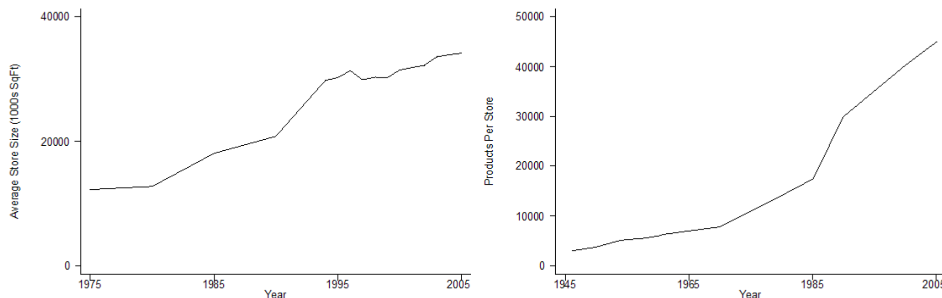

Figure 3: Stores Expand Alongside Products

Requiring greater space in which to stack all these new products, supermarkets increasing turned to superstore and supercenter formats (Table 5). However, the radical increase in product variety (brandwidth) also led to a renewed focus on logistics, since firms needed

to get an ever expanding product line efficiently onto their shelves. The increasing reliance on computerized inventory management systems and sophisticated logistical systems shifted the comparative advantage back to the larger chains. The diffusion of scanners meant access to scanner data, but created a greater need for coordination. Advanced back-end information technologies, such as Electronic Data Interchange (EDI) and just in time delivery, required increased coordination between upstream warehouses and downstream outlets. Finally, already an established expert in retail logistics, Wal-Mart started rolling out supercenters (combination grocery/discount store outlets) in 1988.

5 Wal-Mart & the Mega-Mergers

A virtual non-entity in the grocery business in the early 1990's, Wal-Mart is now the largest supermarket firm in the United States (on the basis of total sales volume). Starting in 1988, Wal-Mart has averaged more than 100 superstores openings per year and currently operates more than 2,200 outlets. Figure 4 shows the sharp pace of their expansion. Not surprisingly, both the trade press and the existing supermarket chains declared a fundamental shift in the retail landscape. Wal-Mart is certainly a force to be reckoned with. Wal-Mart have been found to exert a significant negative effect on rivals' prices (Hausman and Leibtag, 2007; Basker and Noel, 2009), is cited in a large number of bankruptcy cases, and is widely viewed by the trade press as having fundamentally altered the balance of power. Echoing the earlier studies of chains and supermarkets, recent studies have found that Wal-Mart's prices may be as much as 17-39% below their competitor's prices (Currie and Jain, 2002). Basker and Noel (2009) find a more modest figure of 10%.

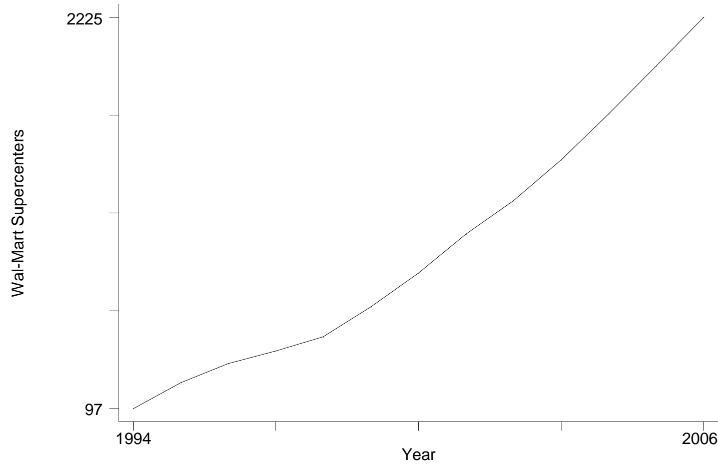

Figure 4: Wal-Mart's Expansion into Supercenters

Perhaps not surprisingly, Wal-Mart's steady growth has triggered a wave of "mega-mergers" between existing chains, sharply increasing national concentration and fueling speculation that the industry was on the verge of monopolization. The evolving four, eight, and twenty firm concentration ratios are depicted in Figure 5. In most of the merger cases, Wal-Mart was cited as a specific catalyst, along with the need to procure greater buying economies. It is likely that more lax attitudes toward these mergers are a direct result of Wal-Mart's entry.

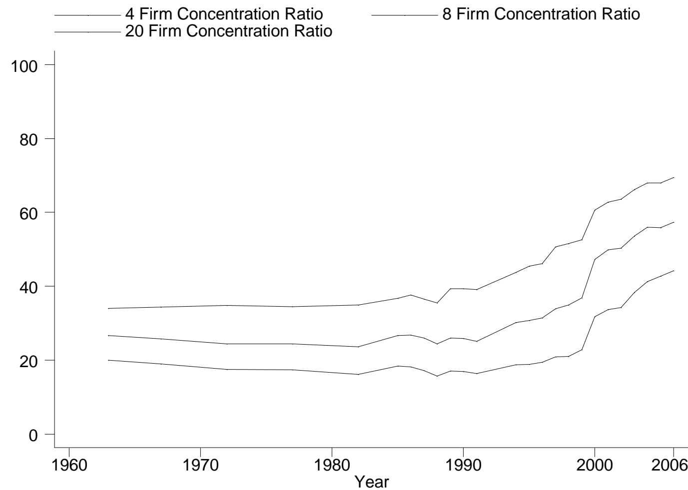

Figure 5: Wal-Mart and the Merger Wave

While there is no doubt that Wal-Mart is now a serious player in the grocery industry, a cautionary flag is clearly warranted. Although Wal-Mart has quickly shot up the ranks of the supermarket industry, its impact is somewhat overstated. While the trade press frequently claims that they control 23% of the market, the true figure is probably closer to 10%. There is a simple reason for this. Like Big Bear in the 1930s, Wal-Mart supercenters sell both groceries and assorted dry goods (like TVs and lawn mowers). Historically, about 40% of Wal-Mart's sales have come from groceries, while the rest are conventional dry goods. However, for the past several years, it appears that the major retail databases have been allocating almost all of these sales to the grocery business, overstating Wal-Mart's sales relative to conventional grocers by a factor of roughly 1.5. This is where the estimate of 10% comes from. It is certainly true that 10% is still a big fraction of the overall market, but there are some other mitigating factors to consider. First, Wal-Mart does not have much presence in the major cities. For example, only 62% of their supercenters are in designated Metropolitan Statistical Areas (MSAs), while the rest are sited in more rural locales. By contrast, the major supermarket chains site 83% of their stores in MSAs on average (Table 6). Second, their market share in small markets is twice as large as it is in bigger markets, suggesting that the bulk of their business is not coming from the major cities. This is

consistent with their original business model, which was essentially about bringing big city variety (and low prices) to rural consumers, as opposed to the urban shoppers that constitute the bulk of supermarket sales. Third, cheaper "limited assortment" stores like Aldi and Save-A-Lot appear to be stealing their core business, courting low-income consumers with generic label products that are far cheaper than the national brands carried by Wal-Mart. I should emphasize that much of this is speculative (and the subject of my ongoing research with Paul Grieco (Ellickson and Grieco, 2011)), but it seems quite plausible that Wal-Mart's impact may be overstated, a claim that is bolstered somewhat by their recent lackluster performance relative to some of their rivals (and planned shift to smaller formats). This is not to say that Wal-Mart is an unimportant factor in the food industry, as it clearly is. However, it may not have quite as big an impact as the trade press seems to suggest.

Table 6: Comparing Markets

	% Stores in MSAs	Avg. Share in MSAs
Wal-Mart	62.4	31.5
SuperValu	89.0	9.3
Safeway	87.1	19.3
Publix	95.5	25.6
Kroger	83.7	23.4
Winn-Dixie	85.4	13.3
Lowes	71.6	7.9
Meijer	90.3	18
Hy Vee	51.5	31.8
Harris Teeter	91.4	9.3
A&P	97.9	6.2
Food Lion	68.4	15.4
H.E. Butt	81.8	43.2

6 Coda: The Era of Extreme Value?

A final trend that is interesting to note is the recent growth of what are now called "Extreme Value" formats. At the high end, these are firms like Whole Foods, Wild Oats, and Trader Joe's that cater to an upscale clientele who value organic produce and prepared meals. At the low end are limited assortment firms like Aldi and Save a Lot that cater to lower income families and recent immigrants. Although all of these firms have roots in the 1970s format expansion, they have clearly started to take off in the last 10 years (see Figure 5). It will be very interesting to see how the "middle 70", the firms that cater to the bulk of

Table 7: Gauging Wal-Mart's Impact

MSA Name	Reported Share	"Real" Share	MSA Name	Reported Share	"Real" Share
New York	1.3	0.5	Pittsburgh	19.3	7.7
Los Angeles	1.9	0.8	Portland	6.7	2.7
Chicago	4.0	1.6	Cincinnati	11.6	4.7
Washington	3.1	1.3	Sacramento	4.0	1.6
San Francisco	0.7	0.3	Kansas City	24.1	9.7
Philadelphia	1.9	0.8	Milwaukee	7.7	3.1
Boston	3.0	1.2	Orlando	30.7	12.3
Detroit	3.0	1.2	Indianapolis	26.5	10.6
Dallas	35.3	14.1	San Antonio	24.5	9.8
Houston	29.2	11.7	Norfolk	26.9	10.7
Atlanta	22.6	9.0	Las Vegas	25.9	10.4
Miami	11.9	4.8	Columbus	15.3	6.1
Seattle	3.5	1.4	Charlotte	23.8	9.5
Phoenix	21.3	8.5	New Orleans	39.6	15.9
Minneapolis	6.1	2.5	Salt Lake City	24.0	9.6
Cleveland	5.3	2.1	Greensboro	31.4	12.6
San Diego	0	0	Austin	19.7	7.9
St. Louis	15.0	6.0	Nashville	27.4	11.0
Denver	15.0	6.0	Providence	3.8	1.5
Tampa	21.3	8.5	Raleigh/Durham	15.6	6.2

the population, reacts to being squeezed from both ends. In closing, while these are clearly volatile times for the retail food industry, they are hardly unique. The following quote, which David Appel wrote in 1972, seems just as relevant today: "In the present inflationary period of 'tight money', the industry is tending to return to discount operations and lowered-margin, one-stop shopping centers. But even now, the supermarkets stressing quality, rather than price, are continuing to prosper and grow."

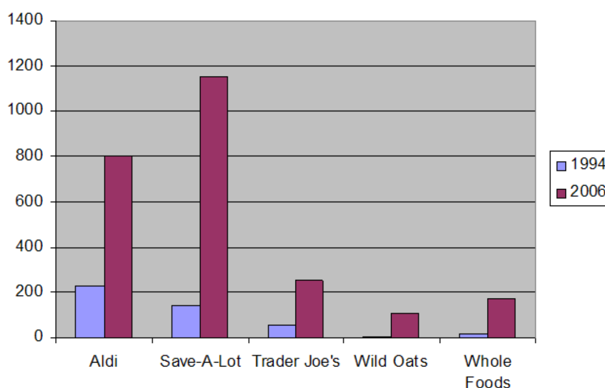

Figure 5: The Extreme Value Segment

References

Adelman, M.A. (1969) *A&P: A Study in Price-Cost Behavior and Public Policy*, Harvard University Press, Cambridge, MA.

Artz, G. and K. Stone (2006) 'Analyzing the Impact of Wal-Mart Supercenters on Local Food Store Sales', Iowa State Technical Report 06-023.

Appel, D. (1972) 'The Supermarket: Early Development of an Institutional Innovation', Journal of Retailing, 48(1), pp. 39-53.

Baer, W. (1999) 'A Study of the Commission's Divestiture Process', Federal Trade Commission Report.

Basker, E. and M. Noel (2009) 'The Evolving Food Chain: Competitive Effects of Wal-Mart's Entry into the Supermarket Industry' *Journal of Economics and Management Strategy*, 18(4), pp. 977-1009.

Charvat, F.J. (1961) *Supermarketing* (New York: The Macmillan Company).

Cotterill, R.W. (1986) 'Market Power in the Retail Food Industry: Evidence from Vermont', *Review of Economics and Statistics*, pp. 379-386

Cotterill, R.W., and L.E. Haller (1992) 'Barrier and Queue Effects: A Study of Leading U.S. Supermarket Chain Entry Patterns', *Journal of Industrial Economics*, 40(4), pp. 427-440.

Currie, N., and A. Jain (2002) 'Supermarket Pricing Survey' UBS Warburg Global Equity Research.

Ellickson, P.B. (2007) 'Does Sutton Apply to Supermarkets?', *Rand Journal of Economics,* 38(1), pp. 43-59.

Ellickson, P.B. (2007) 'Quality Competition in Retailing: A Structural Analysis', *International Journal of Industrial Organization,* 24(3), pp. 521-540.

Ellickson, P.B. and P.L.E. Grieco. (2011) 'The Impact of Wal-Mart on the Grocery Industry', Working Paper: University of Rochester.

Federal Trade Commission (1966) *Economic Report on the Structure and Competitive Behavior of Food Retailing*, Federal Trade Commission.

Franklin, A.W. (2001) 'The Impact of Wal-Mart Supercenters on Supermarket Concentration in U.S. Metropolitan Areas', *Agribusiness*, 17(1), pp. 105-114.

Grinnel, G.E. et al. (1979) *Grocery Retailing Concentration in Metropolitan Areas, Economic Census Years 1954-72*, Federal Trade Commission, 1979.

Hausman, J, and E. Leibtag (2007) 'Consumer Benefits from Increased Competition in Shopping Outlets: Measuring the Effect of Wal-Mart' *Journal of Applied Econometrics*, 22(7), pp. 1157-1177.

Kaufman, P., D. Newton, and C. Handy (1993), 'Grocery Retailing Concentration in Metropolitan Areas, 1954-82', Commodity Economics Division, Economic Research Service, U.S. Department of Agriculture, Technical Bulletin No. 1817 (August).

Lebhar, G.M. (1952) *Chain Stores in America: 1859-1962*, Chain Store Publishing Corporation, New York.

Manchester, A. (1992) 'Rearranging the Economic Landscape: The Food Marketing Revolution, 1950-91', Commodity Economics Division, Economic Research Service, U.S. Department of Agriculture, Agricultural Economic Report No. 660 (September).

Markin, R.J. (1968) *The Supermarket: An Analysis of Growth, Development, and Change*, Pullman: Washington State University Press.

Mayo, J.M. (1993) *The American Grocery Store: The Business Evolution of an Architectural Space*, Greenwood Press: Westport, CT.

Messinger, P.R. and C. Narasimhan (1995) 'Has power shifted in the grocery channel?', *Marketing Science*, 14, pp. 189-223.

Sharkey, T. and K. Stiegart (2006) 'Impacts of Nontraditional Food Retailing Supercenters on Food Price Changes', FSRG Monograph 20.

Sharkey, T. and K. Stiegart (2007) 'Food Pricing, Competition, and the Emerging Supercenter', *Agribusiness*, 23(3).

Simpson, J.D. and D. Hoskin (1998) 'Are Retailing Mergers Anticompetitive? An Event Study Analysis', Working Paper, Federal Trade Commission.

Tedlow, R.S. (1990) *New and Improved: The Story of Mass Marketing in America*, (Basic Books, New York).

U.S. Department of Agriculture (1992) 'Food Marketing Review, 1991', Commodity Economics Division, Economic Research Service, U.S. Department of Agriculture, Agricultural Economic Report No. 657 (March).

Zimmerman, M.M. (1955) *The Super Market: A Revolution in Distribution*, (New York: McGraw-Hill Book Company, Inc.).