8

The Evolution of Advertising-Intensive Industries

8.1 Introduction and Summary

In this chapter, and in those that follow, we turn to the structure of advertising-intensive industries. The role of advertising in shaping several of these industries can be traced to the beginnings of modern advertising at the end of the nineteenth century. In the United States, for example, today's market leaders in several of these industries had established leading brands by the turn of the century [see, for example, soft drinks (chapter 9), prepared soups (chapter 9), and biscuits (cookies and crackers; appendix 12.2)], but the details of these histories are for the most part incompletely documented. For that reason, this chapter focuses on one of the few food and drink industries to have emerged in recent times, the frozen food industry, which came into being during the interwar years and only began to develop rapidly during the late 1940s. Its development is very fully documented, and it provides a useful starting point in examining the evolution of concentration in advertising-intensive industries.

The First Theme

This chapter develops two themes: the first of these relates to the central prediction of the theory, which states that increases in market size cannot lead to the emergence of a fragmented market structure in these industries. The argument underlying this prediction posits the existence of a simple mechanism that will induce the breakdown of any fragmented configuration, and the first theme of this chapter relates to the identification of this mechanism. This chapter, then,

provides a counterpoint to chapter 6, in which the corresponding mechanism characteristic of the exogenous sunk cost model was set out. As in that chapter, the underlying logic lies in an attempt to use industry histories as a way of exploring predictions based on the Nash equilibrium concept, this is, on models whose content lies in assertions that certain configurations cannot emerge, because some firm would, in such a setting, find it optimal to deviate. This chapter, then, explores these deviations.

Within advertising-intensive industries, then, what does the theory exclude? As market size increases, the theory permits an indefinite increase in the number of firms entering the industry. What it precludes, loosely stated, are configurations in which no firms advertise, or configurations in which all firms advertise a little, thus permitting a fragmented structure to emerge. The latter configuration might appear a perfectly reasonable outcome on intuitive grounds. It is possible to envisage a situation, for example, in which each firm needs to devote a fixed sum of advertising outlays in order to inform consumers of the virtues of its product. In such a setting, advertising might be treated as an exogenous sunk cost (see chapter 3), and convergence to a fragmented market structure could occur.

What the theory implies, however, is that some small set of firms must at some point emerge as high advertisers, whose combined market share exceeds some lower bound, however large the market becomes. A remaining fringe consisting of an indefinite number of firms that do little or no advertising may coexist with these market leaders at equilibrium.[1]

The viability of this large fringe of small firms will depend on a number of factors. First, it will depend on buyers' responsiveness to advertising outlays. Buyers in the nonretail sector are notoriously unresponsive to advertising outlays, and typically buy on price. The larger the size of the nonretail sector, the greater the maximal number of fringe firms. Second, the maximal number of fringe firms will be greater insofar as the level of setup costs is lower. In the frozen food industry, setup costs are extremely low, and the nonretail part of the market is significant, ranging from about one-fifth of the total sales

1. The split between the two groups need not necessarily be as sharp as this: if several distinct market segments exist, and if advertising spillovers between segments are weak, a firm might succeed by confining its operations to some specific market segment, say, and advertising at some level intermediate between those leading firms that sell across all segments and the fringe firms.

in the United Kingdom to over three-quarters in Japan. Thus the industry affords considerable scope for the emergence and viability of second-tier firms.

As to the predictions of the theory, however, all that is claimed is that a fragmented structure must break down, as market size increases, and that the collapse of such a fragmented structure will be driven by a competitive escalation of advertising outlays by some small number of firms. Beyond this, the theory tells us little . How will such a competitive escalation evolve? What factors will determine which firms will succeed? Will a number of firms vie for position over some period of time? Will firms avoid such a potentially costly process and achieve some kind of coordination, whereby an equilibrium outcome is achieved rapidly?

While the theory is consistent with many of these scenarios, the choice between them depends delicately on various nonobservables —notably, the firms' beliefs concerning both the eventual size of the market and the strategies of their rivals. While it will be easy to offer a plausible rationale within the context of the theory for the cross-country differences in experience documented below, it should be emphasized that there are no robust predictions to be had regarding the dynamics of this process.

In what follows, we begin by examining the U.S. and U.K. markets, in which the frozen food industry first developed. The evolution of structure in these two cases shows a quite remarkable degree of similarity. In each case, it is possible to identify a precise period at which a dual pattern emerged and hardened. During that period, escalating advertising outlays eroded the profitability of middle-ranking firms, thus making it increasingly unattractive for this group to persist with a high advertising strategy.

A strikingly different pattern emerged, however, in the German and Italian markets. These two markets developed relatively late, and in both cases the slow and costly battle for a leading niche in the market, which had marked the evolution of the industry in the United States and the United Kingdom, was avoided. Instead, a cooperative solution rapidly emerged between the two leading firms, whereby their interests were merged. This led both to an extremely high level of concentration and to a much more rapid convergence to a clear dual pattern.[2]

2. The Japanese and French markets have a number of special features; the French market is discussed in section 8.4, and the Japanese market in appendix 8.1.

The Second Theme

The second theme relates to those limitations of the theory discussed in the preceding chapter. The theory implies only the existence of a *lower bound* to equilibrium concentration and is consistent with a—possibly very wide—range of equilibrium outcomes. The multiplicity of outcomes emerging within the exogenous sunk costs framework, once (horizontal) product differentiation is present, was discussed in chapter 2. There it was pointed out that an extreme example of such multiplicity of equilibria arises when markets are subdivided into a number of more or less independent segments. In that setting, we may have both concentrated equilibria, in which the same set of firms operates in each segment, and other more fragmented equilibria, in which a different set of firms occupies each segment.

This same observation continues to hold good within the endogenous sunk cost model. The range of equilibrium configurations will depend delicately on the details of the model (in particular, on the extent to which advertising outlays supporting a firm's offerings in one market segment enhance the firm's brand image and so generate spillovers in respect of its offerings in other segments). A comparison between the current structure of the U.S. industry and that of the other countries studied here provides a striking illustration of this point. In the United States, a number of separate market segments can be defined, within each of which a different set of leading firms is active. Elsewhere, the same set of firms dominates all segments. This persistence of a segmented structure within the U.S. industry is one of the factors underlying the wide divergence in over-

Table 8.1
The frozen food industry by country

	Four-firm sales concentration ratio (retail only, %)	Number of firms	Relative market size (total sales)	Retail sales as a fraction of total sales
France	43	~70	~0.05	N.A.
Germany	81	~90	0.2–0.3	0.5
Italy	89	~70	0.1	0.75
Japan	46	~500	0.15	0.25
United Kingdom	37	50–100	0.2	0.76
United States	~40	1,500–1,600	1	N.A.

all concentration levels observed across the present set of countries (table 8.1).

Market Definition

Throughout, we follow the usual convention of defining the frozen food industry to include frozen fish, (prepared) meat, vegetables, and prepared meals and desserts. We exclude ice cream and frozen carcass meat.

8.2 The U.S. Frozen Food Industry

Today's most visible brand name in frozen food derives from the industry's founder, Clarence Birdseye, who formed a company in New York in 1923 to freeze fish fillets.[3] A number of other firms were already producing frozen food by that date, but Birdseye's innovation lay in realizing the advantage of freezing sufficiently rapidly to avoid damage to the cellular structure of the food. He also had the distinction of being the first to freeze food in a package designed to be sold at retail.

Birdseye's first venture ended in bankruptcy, but he went on to launch a new firm, General Seafoods Corp., with share capital of $60,000. The parent firm for Birdseye's company was known as General Foods Company. In 1929, the Postum Company, a rapidly diversifying firm, purchased Birdseye's company, paying $20 million for its patents and $2 million for its assets. The name of the company was immediately changed to General Foods Corporation. Throughout the 1930s the market grew slowly but steadily; by 1939 total industry production was still below 400 million pounds (a figure that doubled by the end of the war and increased tenfold by the mid-1950s). The main barrier to growth throughout the 1930s lay in the costs retailers faced in installing display cabinets; developed by C. V. Hill in 1929, these glass-fronted cases were extremely expensive —a small four-foot unit cost $400 during the Depression years. General Foods, trading under the Birds Eye brand name, developed a number of initiatives designed to circumvent the problem. In 1931

3. This account of the U.S. industry draws on the Federal Trade Commission report of 1962 and the 35th anniversary retrospective published as a supplement to the industry's leading trade paper, *Frozen Food Age* (1987).

it contracted with the Commercial Credit Company to finance retailers' purchases of display cases. In 1934 it contracted the American Radiator Corp. to manufacture a new, low-cost unit in the form of a closed chest. This sacrificed the display element, but the cost reduction (to $260) was substantial. It then proceeded to rent these new "Amerad" units to retailers at the modest rate of $7.50 a month.

Hand in hand with this strategy went the use of a sales force, not to take customer orders (these were phoned in by the retailer directly to the company's warehouses), but rather to oversee the retailer's sales strategy: ensuring that rented cases contained only Birds Eye products, talking to shoppers with the aid of charts designed to demonstrate the value offered by frozen foods, and educating the retailer's staff on selling the company's products. General Foods's lead was followed, over the course of the 1930s, by a number of large, diversified food firms, including most of those that would come to dominate the postwar industry.

General Foods specialized throughout the decade in marketing and distribution; much of its product was "bought in" from subcontractors that operated freezing plants in agricultural areas. With the coming of the Roosevelt administration in 1933, the company responded to the growing antitrust climate by licensing these subcontractors (or "copackers") to use its patented freezers on a royalty basis. More important, by the late 1930s the Birds Eye patents had become relatively unimportant as new types of freezing systems were developed, which involved freezing vegetables in loose form rather than in a block.

In this environment, many firms that had produced for Birdseye or distributed Birds Eye products were encouraged to set up independently. The first major breakaway involved two partners from Waterman & Co., one of New York's major food wholesalers, which had been distributing Birds Eye products to institutional buyers. In 1933 the company dropped the Birds Eye line and set up its own company, Honor Brand Frosted Foods. At first, Honor Brand focused its attention on the nonretail sector, but in 1937 it entered the retail market with a strategy somewhat different to that of General Foods. Rather than lease display cases, the company sold them outright to retailers, who could pay by installments over two years. On the distribution side, General Foods used two routes: it sold the majority of its retail volume through its own regional branches, while selling the remainder through a net of independent wholesale distributors

who were paid a percentage of sales revenue. Honor Brand, on the other hand, avoided developing its own expensive distribution network by selling its product outright to a number of exclusive wholesale distributors; many of these were dairy jobbers who already had refrigerated trucks and storage equipment. The resulting distribution net was patchy, relative to that of General Foods, but by 1939, Honor Brand's retail sales had risen to half the level of the market leader's. In the same year Stokely-Van Camp, one of the country's major canners, until then a minority shareholder, took complete ownership of Honor Brand. Stokely integrated Honor Brand into its own frozen food division in 1954.

Throughout the prewar period, however, the retail market remained very small, and it played a secondary role to the nonretail segment. The war years saw a substantial increase in total volume as the shortage of tinplate hit canners. The resurgence of the canning industry in the immediate postwar years led to a short-lived fall in frozen food sales, but then the industry entered a decade of steady growth.[4] In this decade the basic pattern of the industry took shape.

The Crucial Decades

In the late 1940s, signs were beginning to appear that the retail segment was to become a major mass market. One of the most significant trends concerned the demise of the independent distributor, who had played a pivotal role in the prewar industry. Most prewar entrants to the industry were canners, to whom frozen foods represented a minor sideline to their main business (FTC 1962, p. 57); they chose for the most part to sell their products through independent distributors. It was in the immediate postwar years that a new trend in marketing developed; the main innovator was Snow Crop, which subsequently became part of Minute Maid.

Snow Crop's founder was an ex-General Foods marketing manager, John I. Moone, who left to set up his own company in 1945. At first the company followed the established pattern in the industry of working through exclusive wholesale distributors. It relied, moreover, on outside processors for its entire supply of product, thus specializing purely in the marketing function. Snow Crop was, in effect,

4. Total sales volume stood at 700 million pounds in 1942, peaked at 1,486 million pounds in 1946, fell to a low of 1,132 million pounds in 1947, and thereafter grew steadily to reach 5,661 million pounds a decade later (FTC 1962).

a national marketing arm for the twenty-one contract freezing companies that supplied it, simply taking 6% of sales as its commission.

Snow Crop's key innovation lay in the central role it assigned to advertising: one-sixth of the revenue it received was devoted to an advertising fund, with an equal contribution being made to the fund by the distributors with which it worked. Snow Crop introduced TV advertising of frozen foods for the first time in 1949. The response was so strong, and the growth of the brand so rapid, that the company decided to begin producing for itself,[5] on the argument that it could earn a margin on its own product greater than the 6% commission it then earned on bought-in products. Moreover, it was felt that the company could produce at lower cost than it could buy in and so support a round of price reductions.

With growing competition for scarce display space in retail outlets, Snow Crop set out to use price cuts to raise its share of space. A second element in its attempt to cut costs, in order to underpin this strategy, was to bypass the well-established distribution route via independent wholesalers and to market directly to retail chains. It tested the new policy in 1946 with First National Stores in Boston and A & P in Chicago. The latter chain reported a tripling in sales within ninety days on price reductions of 16%–17%. The new high advertising/low price policy pursued by Snow Crop led to an extremely rapid rise in the company's market share and sparked off a wave of competitive advertising.[6] Throughout the 1950s Snow Crop emerged as General Foods's main rival, and as brand competition intensified, a new pattern began to emerge in the industry.

Looking back over the period in its 1962 report on the industry, the Federal Trade Commission distinguished three groups of firms among the 270 firms covered by its 1959 survey.

(i) Somewhat over one-third of the firms (101) were established before 1940. These were mostly canning companies that had diversified into frozen foods, and these accounted for 53.2% of total sales.

5. The immediate impetus for the move was provided by the decision of Vacuum Foods Corp., Snow Crop's supplier of frozen orange juice, to begin marketing under its own label and cease supplying Snow Crop. Vacuum Foods Corp. was subsequently renamed Minute Maid.

6. Minute Maid's answer was to hire Bing Crosby to sing on radio five times a week. In return he received, inter alia, an issue of shares on favorable terms, as well as an exclusive sales franchise to eight Western states, for which he put up a $50,000 stake. The singer's name became synonymous with Minute Maid for a decade.

(ii) The next major group of seventy-five firms had entered in the immediate postwar period 1945–1949, and these accounted for 31% of 1959 sales.

(iii) The sixty-seven firms that had entered the industry in 1950–1958 accounted for a mere 7.8% of industry sales. These new firms were almost all small, highly specialized concerns for which frozen food production was the main or sole activity, and which confined themselves to some small specialized market niche. As the FTC report noted, "their operations can be classified as 'fringe'. They generally produced only one or a few minor products, rather than large volume products; they generally were not diversified into related activities; they generally were limited to local markets" (FTC 1962, p. 6).

In the new climate of the 1950s, with intensifying brand competition led by Birds Eye and Snow Crop, the only recent entrants that could effectively compete across the board were a handful of major food producers that had diversified into the area during the early postwar years. Among them was Libby, McNeil & Libby, which began national distribution in 1948.[7]

By the 1950s, then, the barriers to entry that marked the early phase of development had collapsed: the FTC's 1962 report found that entry to the industry had long been easy and postwar market growth had been accompanied by a steady inflow of new firms. The new pattern of competition that had emerged in the retail market rested on marketing and advertising expenditures; entry was easy—but competing with the market leaders across the board was not.

Competition in Advertising

By 1959, the pace was being set by General Foods (Birds Eye) and Minute Maid. As the FTC report concluded, "these two firms were clearly in an advertising class of their own; they spent $9.8 million in advertising during 1959, which was 46.2 percent of the total advertising expenditure of the industry, and 6.1 percent of their combined packer label[8] sales" (FTC 1962, p. 99).

7. Established in the mid-nineteenth century, the company ranked as one of the country's leading canners, and its brand image was well established in both canned foods and tomato juice.

8. That is, their sales under their own (Birds Eye and Minute Maid) brands, as opposed to own-label supplies to retail chains.

This ratio of advertising to sales was characteristic only of a small group of leading firms; the FTC cited a ratio of advertising to (total) sales of 5.2% for the largest six firms, of 2.2% for the next twelve, and of 2.7% for the industry as a whole. The leading firms also accounted for most of the other promotional expenditures: the top five spent $6 million on customer promotion deals in 1959—71% of all such expenditures by the industry.

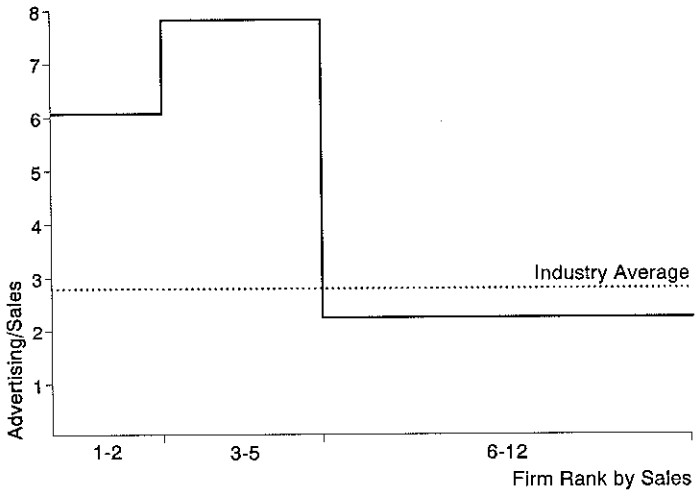
As the role of advertising changed the shape of the retail market, a clear difference in pattern vis-à-vis the nonretail segment became evident. The four-firm concentration ratio, as reported by the FTC for 1959, was 35% overall; in the retail segment it was 39%, but if own-label products are excluded, the top four brands accounted for 52% of the total. Most own-label product was supplied by small firms who supplied the larger retail chains. The nonretail segment remained more fragmented, and the smaller firms specializing in nonretail sales remained relatively profitable compared to those firms of similar size that faced severe competition from the majors in the retail segment, where profit rates were strongly and positively related to firm size.[9]

The small number of firms that competed on a more or less equal basis with the two market leaders found it increasingly difficult to do so throughout the decade (figure 8.1). The third- to fifth-largest sellers each spent over $1 million on advertising in 1959; whereas their absolute spending levels lay far below that of the two leaders, it nonetheless represented a higher advertising to sales ratio.[10] As the FTC remarked, however,

> This heavier advertising burden for the third to fifth packer-label leaders apparently did not generate a sufficient total revenue to permit these firms to earn a very high rate of profit. Their before taxes profit rate of 0.6 percent was considerably lower than the before taxes ratio of 5.1 percent for the two leaders. . . .
>
> Advertising expenditures for the two leaders . . . were only slightly higher than their before tax profits but the other three firms among the five leaders spent nine times as much on advertising as they received in profits.

9. The FTC noted: "Financial Data indicated that not only large freezers, but also those selling primarily to the non-retail market had more favorable profit ratios than those selling primarily to the retail market. The group of 58 of the latter firms, with sales less than $1 million, reported net operating losses on sales of frozen fruits and vegetables" (FTC 1962, p. 5).

10. 7.8% of their packer label sales, as opposed to 6.1% for the two leading firms.



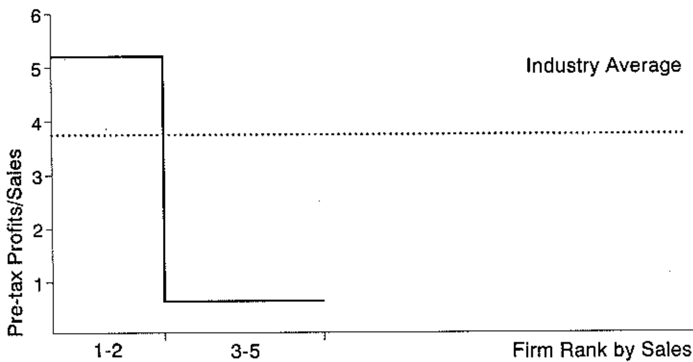


Figure 8.1
Advertising/sales ratios and profit rates by firm rank in the U.S. frozen food industry, 1959. The dotted line in each diagram shows the average value for the industry as a whole. The advertising/sales ratio relates to packer label sales only, for firms ranked 1–5, but to all sales for firms ranked 6–12. All these firms sold most of their output in the retail market. The average profit rate of firms ranked sixth to twelfth was not recorded by the FTC, but the average for the top thirteen firms in the industry was 4.2%, slightly higher than the industry average of 3.8% (FTC 1959, pp. 105, 107, 109–110).

This indicates that even relatively large firms found it difficult to make advertising-created product differentiation pay for itself. Since there was an inverse relationship between the relative burden of advertising expenditures and the size of firms, it appears that the advertising requirements alone could provide an effective barrier to new entry into the packer-label sector of the industry. (FTC 1962, p. 109).

Price Competition and Consolidation

As this new structural pattern developed throughout the 1950s, price competition intensified as leading brands sought to combine high advertising[11] and low prices in an effort to capture market share. The pace was set by PictSweet,[12] whose strategy was based on using only a small number of price classes across a wide range of product lines (most vegetables carried a retail price of 19 cents, for example). The disadvantages of such a policy, which was followed by others in the industry,[13] were seen to be outweighed by the fact that retailers were encouraged to shelve products by price band rather than by type, and so PictSweet built up increased visibility in supermarkets, which carried long continuous facings of PictSweet lines. The strategy, in combination with heavy advertising (shared between Pict Sweet and the retailers), led to an impressive growth of sales. By the late 1950s, however, others had followed to such a degree that the 19-cent pack was no longer a novelty, and this so-called group pricing strategy survives today only in a few small special categories of frozen food. A second feature of price competition in the 1950s, was a steady decrease in pack size as sellers attempted to offer lower and lower retail prices; the process went so far that vegetable packs reached sizes of 8 ounces. At this point the trend reversed in favor of the slightly larger 9–10 ounce packs, which became an industry standard.

The price competition of the 1950s represented in one way, however, an important turning point. Consumers could now buy grade-A

11. The industry history prepared by the leading trade journal *Frozen Food Age* on its 35th anniversary cites one contemporary observer as remarking, "At times it seems that they're selling advertising, rather than frozen food" (p. 62).

12. Known originally as Bozeman Canning Company, the company had become one of the top three or four fruit and vegetable processors by 1952. The company name had been changed to PictSweet in 1946.

13. The "19-cent band" was introduced by a group of food brokers, Ayres & Roberts. This strategy was not supported by an exclusive dealer net, however, and when Birds Eye distributors carried it, General Foods revoked their franchises. What caused the demise of 19-cent brand, however, was the emergence of the new PictSweet strategy.

frozen vegetables at prices equal to those of leading canned brands. From this point forward, the trend was set for the long-term decline of the canning industry (see chapter 7). It was against this background of intensifying price competition and tightened margins that the frozen food industry experienced its first major wave of consolidations.

For the period 1950 to 1959, a total of sixty-two acquisitions (of which forty-four were of food-processing facilities) were recorded by thirty-one of the frozen food firms covered by the FTC report of 1962. Most of the acquired companies were small; of the fifty-seven for which asset data were available, forty had assets below $1 million. Many of the important acquisitions were undertaken by leading firms: of the forty-four food-processing facilities acquired, fourteen were acquired by the eight leading companies in the industry. The first of the big mergers occurred in 1954, when Stokely-Van Camp acquired PictSweet. By far the most important acquirer, however, was Minute Maid, whose two acquisitions accounted for 42.3% of all assets acquired.

In 1954, Minute Maid Corp., hitherto a frozen juice specialist, acquired all assets of the Snow Crop Division of Clinton Foods Inc., thus bringing the company into the mainstream frozen vegetable area and making it second only to the Birds Eye brand in the frozen food industry. Minute Maid's new venture sparked off a price war with the two leading brands in frozen vegetables, Birds Eye and Seabrook Farms. Prices to retailers were cut by up to 60 cents per dozen, and Seabrook carried the war into Minute Maid's home territory by offering its concentrated orange juice for 5 cents a can if purchased with a Seabrook vegetable. As the *Frozen Food Age* retrospective on the industry remarks, "Fundamentally, the battle was lost before it began. Minute Maid had entered the fruit and vegetable field too late. Competitive brands were too deeply dug in" (p. 70). In 1957 Minute Maid capitulated, selling the rights to its Snow Crop fruit and vegetables to Seabrook Farms. But it was Minute Maid's key market, frozen orange juice, that attracted most attention.

As the country's leading producer of frozen citrus juice concentrates, Minute Maid accounted for 20% of industry capacity and 15% of sales. Snow Crop held a further 15% of industry capacity. As a result of an FTC complaint, Minute Maid divested itself in 1960 of the frozen orange juice production facilities acquired from Clinton Foods. In the same year, Minute Maid merged with the Coca-Cola

Company, which had, shortly before, launched its Fanta orange drink (see chapter 9). This merger, the FTC noted in 1962, "eliminated as an independent firm an innovator that was willing to try new products, new processing techniques, and new packaging methods" and "brought to an end any rivalry that existed or might have developed between the Coca-Cola Co. and Minute Maid" (FTC 1962, p. 124).

Later Developments: 1960–1986

Throughout the 1950s, a small number of companies that had entered the industry in its early days retained their strong share position, building their first-mover advantage via heavy brand-promotion activity. By the end of the decade, high absolute outlays on advertising had become crucial to building a major position in the retail segment. Most new entrants aimed to enter, and confine themselves to, a particular niche of the market, and all but a few remained small.

Over the next quarter-century, the dual structure of the industry remained in place. The number of firms has increased from less than 300 in 1960 to over 1,500 today. The scale of the industry has grown enormously; retail sales alone accounted for about $14 billion in 1985. Nonetheless, a small number of highly visible, well-promoted brands dominate retail sales. The smaller producers concentrate on supplying products to the majors, selling to the nonretail sector, or selling within special retail categories at the local or regional level. However, underlying this continuity, a number of major structural changes have impinged on the pattern of industry leadership.

- As the size of the industry and the range of frozen food categories expanded, some of the firms that entered small, new segments of the market in its early days have grown with the market to become some of today's leading firms. The most notable example is C. A. Swanson & Sons, which introduced the "TV dinner" in 1953, and Stouffer Foods, which began producing frozen entrees in the same year.

- The pattern of entry set in the 1950s, whereby entrants began small and stayed small, was sometimes broken. The last entrant to rapidly establish itself as a leading seller in an established market segment—other than through an acquisition—was Pillsbury, which in 1962 introduced its Green Giant brand into the frozen vegetables area.

Following a failed attempt to enter the market some years before, the company hit upon a new approach, offering prepared frozen vegetables (i.e., the vegetables were combined with a seasoned butter sauce). The new category succeeded rapidly, at a time when branded frozen vegetables were coming under increased threat from own-label suppliers. Pillsbury responded to this challenge with a heavy, steady stream of advertising support and a continual flow of new product lines. Several leading retailers withdrew their own-label lines of frozen vegetables, and by 1970 a pattern emerged that has remained stable ever since: in regular frozen vegetables, own-label products account for over half of all sales, but their share in prepared frozen vegetables remains very low.

• Although market growth attracted a large number of major food processors into the area, few followed Pillsbury's strategy. The other majors that have entered in recent years did so by acquisition. All three leading firms in the highly concentrated prepared meals segment were acquired by food industry leaders: Campbell acquired Swanson in 1955, Nestlé acquired Stouffer in 1973, while Banquet, owned by RCA, was acquired by ConAgra in 1980. By 1985, the three majors had over 80% of sales in the segment (which accounted for annual sales of around $4 billion, as compared with $13 billion for frozen foods as a whole).

• Continuing competition between the majors accentuated the dual structure of the industry, as majors returned to increased reliance on small "coprocessors" (subcontractors) for their supply of product. General Foods has moved strongly in this direction; its current philosophy is that production should be dropped in favor of coprocessing wherever product can be bought in more cheaply than it can be produced in-house. The role of General Foods is seen as being that of contributing what is described in the trade press as the "marketing magic" associated with the Birds Eye brand.

• Some of the "Big Eight" that dominated the market in the 1950s still enjoy a major presence (Birds Eye, Minute Maid, Seabrook Farms, Simplot). Others have survived in spite of ownership changes. (Stokely-Van Camp sold its PictSweet brand to United Foods, now one of the top names in frozen vegetables. Stokely was later bought by Quaker Oats, which sold the canned vegetable business to Oconomowoc, a Wisconsin canner now known as Stokely U.S.A., which markets under the Stokely brand.) Libby exited from the market,

selling its frozen food interests to Winter Garden, another of the Big Eight of the 1950s.

Current Structure

Overall, the degree of concentration in the U.S. frozen food industry as a whole appears very modest by international standards. This, however, reflects the fact that different firms dominate different segments, in striking contrast to the picture found in the other countries described below. The structure of the U.S. market is one in which high levels of concentration within various segments, combined with a differing pattern of market leadership across segments, produces an overall level of concentration that appears relatively low.

The major segments and their 1985 value shares are shown in table 8.2. In the largest segment, frozen prepared meals, the three leading firms account for about 80% of total sales (table 8.3). Even within this segment, some further specialization is evident: almost all of Campbell's sales are of complete dinners, whereas almost all of Nestlé's sales are of single-dish products. In the frozen vegetables sector, two brands dominate: Birds Eye (General Foods) and Green Giant. In

Table 8.2
Segment shares in the U.S. frozen food industry

Segment	1986 retail sales ($ billions)
Prepared meals (complete dinners)	2.8
Prepared meals (single dishes)	0.9
Other prepared foods (including pizzas)	1.4
Vegetables excluding potatoes (regular)	1.3
Vegetables excluding potatoes (prepared)	0.5
Potatoes	0.7
Meat and fish	1.0

Table 8.3
Market shares in frozen prepared meals in the United States

Firm	Share, 1987
Campbell Soup Co. (Swanson, Le Menu)	~40%
Nestlé (Stouffer, Lean Cuisine, etc.)	15%–20%
ConAgra (Banquet)	15%–20%

frozen potatoes, the Heinz subsidiary Ore-Ida accounts for about half of retail sales. Ore-Ida is strong both in retail and nonretail; its two major competitors, Simplot and Lamb-Weston, concentrate almost exclusively on the nonretail sector.

The most striking feature of this pattern of segmentation in the U.S. market relates to the evident difficulty market leaders have experienced in broadening their scope across segments. Minute Maid's early difficulties in moving out of its frozen juice specialty have already been noted. General Foods experienced similar difficulties in frozen potatoes, a market long dominated by an early entrant: Ore-Ida, acquired by H. J. Heinz in 1965, still retains a 47.5% retail share in spite of the appearance of many new entrants over the years. Birds Eye finally abandoned its attempt to build up a presence in that segment in 1985.

The appearance of this segmented pattern is consistent with the theory. Whether or not it constitutes an equilibrium pattern depends inter alia on whether the advertising incurred in one segment carries over effectively in supporting a firm's brand image in another. If such advertising spillovers are very weak, each segment can be treated as an independent market. Entry to the top of any segment is unattractive at equilibrium simply because it entails heavy incremental advertising outlays.

But if such advertising spillovers are strong, then cross-entry by market leaders to new segments would become less costly, and a segmented configuration would collapse. This alternative assumption is plausible a priori, and so it is interesting to ask whether the mechanism implicit in the model tells the whole story. One recent U.S. case is of interest, in that it suggests an additional reason for the continued segmentation of the U.S. industry.

The case in question relates to the battles between Stouffer and Sara Lee in the 1970s. By the early 1970s, Stouffer was the leading "quality" producer of frozen prepared meals, while Sara Lee was the market leader in frozen baked goods. Stouffer entered the frozen baked goods segment in the early 1970s, with an advertising campaign that invited customers to "try a delicious alternative to Sara Lee." Sara Lee retaliated by launching a new twelve-item line of frozen entrees within the segment dominated by Stouffer. The competition proved too costly to maintain; within a few years, both companies withdrew their new offerings (Sara Lee in 1975, Stouffer in 1979).

8.3 Frozen Food in the United Kingdom

In this section, we turn to the very similar pattern of development followed within the U.K. industry in its early stages, and we remark on the more recent erosion of concentration in the industry as own-label products came to compete with increasing effectiveness against leading brands.

The First Phase

Although small-scale quick freezing was initiated by several U.K. companies in the 1930s, the manufacture of consumer-size packs of frozen foods for national distribution through the retail trade was pioneered by Birds Eye in the immediate postwar years.[14] Birds Eye Foods Ltd. was incorporated in 1938, with Frosted Foods Ltd. holding 35% of the shares. Frosted Foods Ltd., incorporated in the United Kingdom earlier that year, was 85% owned by Frosted Foods Inc., the U.S. subsidiary of General Foods. In 1943, Unilever became the major shareholder in Frosted Foods Ltd., and four years later it bought out the minority shareholders, and the name of the company was changed to Birds Eye (Holdings) Ltd. (This led to the unusual situation whereby the leading Birds Eye brand is owned by General Foods in the United States, but by Unilever in the United Kingdom.)

With its ownership of the Frosted Foods patent rights and strong links with Unilever subsidiaries (Macfisheries, Bachelors Peas Ltd., Poulton and Noel Ltd.) as sources of supply, Birds Eye rapidly expanded throughout the late 1940s and 1950s. As in the United States, the early development of the market was limited by the lack of retail display space and the inadequacy of distribution channels. The retail market remained very small up to 1956; over the next five years, however, it grew at a rate of 36% per annum; from then on, until the mid-1970s, growth continued at a more modest rate (around 10% per annum).

It was during the crucial period of rapid growth of the 1950s that Birds Eye achieved a strong leadership position in the industry. Its strategy focused on the building up of a strong national distribution network, with its raw materials largely supplied by other Unilever

14. Monopolies and Mergers Commission 1976, Commission of the European Communities 1976.

subsidiaries. Its distribution was undertaken by another Unilever subsidiary, S.P.D. Ltd., a general distribution company whose refrigerated transport division acted solely for Birds Eye. As for retailer displays, Birds Eye persuaded two suppliers, Prestcold and Frigidaire, to design and market an open-top display cabinet in 1953–1954 and thereafter sought new business only with retailers that installed such cabinets. Birds Eye did not, however, normally provide cabinets to retailers.

By the end of the 1950s, Birds Eye accounted for 80% of total sales value[15] of quick-frozen foods in the United Kingdom. By then, however, the rapid growth of the market had begun to attract a stream of new entrants.

The Second Phase

The new entrants were of two kinds. The majority were subsidiaries of major food manufacturers that aimed to carve out a small presence in some specialized niche of the frozen food business. Two of the new arrivals, however, aimed to challenge Birds Eye across the board. Their experience offers some striking parallels with that of the second tier of leading firms in the U.S. industry of the 1950s (i.e., those ranked fifth to eighth; see figure 8.1).

The first of the new challengers was the Swedish company Findus, which began operations in the United Kingdom in 1956 and was acquired by Nestlé in 1962. By 1968, Findus, which had set out to create a high-quality image to rival Birds Eye, had attained an 8% market share, but was trading at a loss. In that year it merged with Fropax Eskimo Foods Ltd., which had itself been formed by the merger of three frozen food producers. Following its rationalization of production and of the brand mix (eliminating all but the Findus brand), the company achieved an 18% market share.

The second challenger to Birds Eye was Ross Group, a long-established fish merchanting business that had entered the frozen food business in the 1940s. In 1959, Ross Group acquired Young's, a firm specializing in fresh and frozen seafood; by 1965, the two companies together accounted for about 5% of retail sales and 12% of catering pack sales. In 1969, Ross Group was acquired by Imperial Group as part of the tobacco firm's drive into the food and drink

15. Its volume share was probably closer to 60%.

sector—a drive that inter alia led to the acquisition of Smedley's, the canning specialist, whose frozen food business was integrated with Ross Foods, with the consequent phasing out of the Smedley brand in frozen food. The growing importance of Findus and Ross constituted the main threat to Birds Eye throughout the 1960s. The small niche entrants, though numerous, had relatively little impact, whereas the own-label market accounted for little more than 5% of sales at the end of the decade.

The asymmetry in strength between Ross and Findus, on the one hand, and Birds Eye on the other, stood in marked contrast to the stronger position enjoyed by Birds Eye's closest competitors in the United States. One result of this was that the tendency toward a competitive escalation of advertising expenditures was more muted in the United Kingdom. Birds Eye, devoting around 2% of its sales revenue to (classical) advertising, had an absolute level of expenditure so far ahead of its main rivals that Ross Foods's parent company (Imperial Group) reported to the Monopolies and Mergers Commission (MMC) that it "considered massive brand support, aimed at achieving dramatic increases in sales, to be far beyond the means of its frozen food companies, and it had never sought to answer Birds Eye's intensive advertising in kind. In 1973 Ross Foods virtually ceased advertising its retail packs since advertising was not making it more competitive in the retail trade" (p. 44). (The basic mechanism involved here—that reduced access to retail outlets reduces the incentive to escalate advertising expenditure—recurs in chapter 14 in our examination of the difference in experience between the U.S. and U.K. beer industries.)

Overall, Findus and Ross found it extremely difficult to overcome the first-mover advantage enjoyed by Birds Eye, and their growing share of the market was achieved at the cost of extremely tight margins. By the early 1970s, the pattern of price competition had settled down to one of clear price leadership by Birds Eye in the retail sector. Evidence given by the companies to the Monopolies and Mergers Commission in 1976 indicated that neither Ross nor Findus could afford to overprice Birds Eye at retail, given the strong image of Birds Eye products. Moreover, both companies were operating on such thin unit margins that it was almost invariably worthwhile for them to price up to Birds Eye's level. The outcome was that Birds Eye's price changes were closely followed by its two main rivals. Birds Eye, in an effort to maintain share, however, tried to hold price rises

below the rate of increase of food prices generally. Birds Eye's return on capital employed, as estimated by the MMC, fell from 22.2% in 1967 to 15.9% in 1974 (for manufacturing industry as a whole, the rate of return over the same period rose from 12.0% to 17.4%).

If Birds Eye's profits were falling, however, its main competitors were faring worse again. The Commission summed up its comparison by remarking: "Findus and Ross Foods have consistently achieved lower returns on capital employed (on an historic cost basis) than has Birds Eye. The low profitability of Ross Foods and Findus is due, in part, to the cost advantages derived by Birds Eye from economies of scale in distribution, advertising and selling expenses" (MMC 1976, p. 60). In 1974, for example, while Birds Eye's return on capital stood at 15.9%, Findus earned 8.9% (frozen food only), while Ross Foods earned 4.3% (all operations). By the early 1970s it had become clear that the challenge to Birds Eye's position offered by Ross and Findus was a limited one. Unilever (via Birds Eye, and the very small Tempo company) retained a 60%–61% share of total sales, as against 18% for Findus and 8% for Ross.

Despite their well-developed distribution system,[16] both Ross and Findus faced considerable difficulty in obtaining display space in retail outlets. In January 1974, Ross Foods's market research data indicated that the Ross brand was represented in only 31% of grocery outlets, compared to 51% for Findus and 71% for Birds Eye.[17] The outcome of these events was that Ross began to focus, from the early 1970s onward, on the nonretail sector. A new but growing segment

16. Both Ross and Findus had succeeded in building up a national distribution system throughout the 1960s. By the early 1970s, Ross Foods operated primarily via its own two national distribution centers and twenty-five regional depots (though some of its sales were made via nine frozen food wholesalers by way of an exclusive franchise arrangement). Findus sold most of its output through Alpine Refrigerated Deliveries Ltd., which it owned jointly with J. Lyons & Co. Like Ross Foods, it also used franchise distribution arrangements with wholesalers to deal with areas not covered by its own system.

17. Retailers would often choose to carry only two lines—and Birds Eye was almost invariably one of the two. The introduction of a retailer's own-label would endanger the carrying of Ross or Findus, rather than Birds Eye. Partly for this reason, both companies had begun, by the early 1970s, to try to build up a significant presence in own-label sales. The difficulty involved in acquiring display space led both Ross and Findus to offer special arrangements to retailers. Ross Foods had about 8,000 refrigerated cabinets on free loan to retailers in the mid-1970s; these were lent on condition that they were used exclusively for Ross products. Findus offered free cabinets in order to gain entry to new retail outlets; it also operated a scheme with retail chains whereby it provided one cabinet free out of every eight installed, in return for a certain percentage of display space.

of the U.K. market was developing as consumers installed home freezers and purchased relatively large "home freezer" packs, usually from specialist outlets.[18] Ross's advertising, from 1974, was largely targeted toward this submarket.

The advertising expenditures of the "Big Three" during the 1970s illustrate the differences between their respective strategies: In 1974, Birds Eye's expenditure on advertising and sales promotion activities as a percentage of total sales stood at 3.6%. The equivalent figure for Ross Foods was 2.1% (almost all aimed at its new offerings for the home freezer submarket) and about 0.5% for Young's, Ross's sister company. Findus, too, decided to cut back on advertising in the early 1970s; advertising and sales promotion fell from 2.1% in 1973 to less than 1% in 1974.

Thus, the pattern of competition during the 1970s between Birds Eye, on the one hand, and Ross and Findus, on the other, closely parallels the competition between first- and second-tier producers in the U.S. market during the 1950s (figure 8.1). While small firms focused almost exclusively on the nonretail market (even Ross and Findus expanded in that area), the difference in structure between retail and nonretail segments began to harden. In 1974, Birds Eye estimated that its overall *volume* share in the U.K. market had fallen from 60% in the late 1950s to 49% in 1970 and 35% in 1974. In the retail market, however, in 1974 it still retained a volume share of 42% and a value share of over 60%. Birds Eye's value share in the catering submarket was probably less than 30% at the same period (MMC 1976, p. 19).

The Third Phase

The major trend that has shaped the market between the mid-1970s and the mid-1980s was the rise of retailers' own labels. Food retailing in the United Kingdom is highly concentrated, with a handful of major chains accounting for the larger part of food sales. The emergence and growth of these major retailing groups, led by Sainsbury's,

18. This growth of home freezer ownership might have been expected to stimulate the growth of freezer centers (specialist retail outlets selling larger packs). These outlets had represented, even in the mid-1970s, a relatively easy port of entry for the smaller firms. In fact, the number of freezer centers stabilized at around 1,000 in the mid-1970s, and from then on the centers found themselves under increasing competitive pressure from the major retail chains as the latter offered an ever widening range of products.

Marks and Spencer, and Tesco, has been accompanied by the increasing strength of their own-label products relative to leading brands. Own-label sales of frozen food accounted for a mere 6% of retail sales in 1972; by the mid-1980s, it accounted for 35%. By the latter period, the largest of the retailers' own brands had sales equivalent to those of leading manufacturers (Sainsbury's, with over 10% of the market, outsold both Ross and Findus).

This growth in own-label sales, above all, put pressure on the market leaders from the 1970s onward. By 1987, Birds Eye's share had fallen to just over 25% of total retail sales. It nonetheless remained strong across all segments, yielding its leading position in only one area (frozen potatoes, where international market leader McCain had a strong position). Findus suffered most heavily over the decade, slipping from second position to a clear third, while Ross maintained its 8% share. The Big Three did not yield their positions easily. Birds Eye maintained its high advertising levels in an attempt to preserve its brand image vis-à-vis increasingly prestigious own-labels, while attempting to constantly introduce new products, particularly in newer, high-value-added niches. As in the U.S. market, though to a dramatically lesser degree, the leading brands have fared better in these high-value-added areas; in frozen prepared meals, for example, Birds Eye retains a 37% share of retail sales (table 8.4).

At the other end of the product spectrum, the market leaders have fared less well. In the core product area of frozen vegetables, own-label now takes almost half of total sales, while Birds Eye's share has fallen to little over a fifth (table 8.5).

The decline in sales has left the majors in something of a dilemma regarding advertising expenditures. Given the externalities enjoyed by the major retailers, whose own-label products are highly visible

Table 8.4
Retail shares in quick frozen foods in the United Kingdom

	Market share (%)	
	1972	1987
Birds Eye	60	25
Ross	8	8
Findus	18	4
Own-label	6	35

Source: EEC 1976 and figures supplied by Unilever.

Table 8.5
Market shares by segment in quick frozen foods in the United Kingdom, 1987

	Prepared meals (%)	Frozen vegetables (%)
Birds Eye	37	21
Findus	9	1
Ross	12	9
Own-label	20	49

Source: Unilever.

to their huge clientele in the absence of any advertising support and have become increasingly well regarded vis-à-vis leading brands, what response is open to the majors in the face of declining sales? The advertising-sales ratio, which stood at around 2.5% in the late 1980s, showed no sign of falling, in spite of the weakening position of branded goods. Individual companies, however, had reacted in very different ways during the decade. Birds Eye's response was to maintain its traditionally high advertising-sales ratio. As its market share fell, its share of industry advertising also declined: in 1978, it accounted for 71% of total frozen food advertising; in 1984, its share of industry advertising fell below one half for the first time (to 42%). Findus, in contrast, responded to a very substantial decline in its market share by trying to maintain advertising levels and retain its traditionally strong image with consumers. Despite falling to third position in sales, it continued to rank as the second largest advertiser and even outran Birds Eye in certain categories during the 1980s.

The catering segment of the market, which accounts for only one-fifth or so of total frozen food sales in the United Kingdom, declined slowly in relative importance from the mid-1970s to the mid-1980s. Birds Eye's share of the catering segment remained small, while Ross still retained a major presence. Findus decided to quit the segment completely in the early 1980s.

An Interim Summary

At first glance, the U.S. and U.K. markets both appear to share a relatively low level of concentration when compared with the other markets studied here. This apparent similarity in structure, however, dissolves on closer examination. The origin of the low overall level of concentration in the United States can be traced to the fact that market leadership differs sharply across segments; concentration

within segments is relatively high. In the United Kingdom, the low level of overall concentration reflects quite a different phenomenon: the steady growth of retailers' own labels has gradually eroded the position of the market leaders across the board.

Thus, the recent history of the two markets has differed rather sharply—a fact to which we return at the end of the chapter. On the other hand, the early history of these two industries shows a remarkable similarity of experience. In each case, a new and steadily growing market both attracted a wave of new entrants and stimulated a number of leading firms to escalate their advertising outlays. This process came to a head as middle-tier firms found it increasingly unprofitable to vie with the industry leaders in creating successful retail brands. The process ended, in each case, with the emergence of a relatively clear division between a group of leading brands, and the others.

8.4 Frozen Food in France, Germany, and Italy

In this section, we turn to a group of countries in which the market developed later: by this juncture, experience gleaned by leading firms in the U.S. and U.K. markets may have played a major part in influencing the rather different pattern of events. The beginning of the modern frozen food industry in much of Continental Europe can be traced to the early 1960s, when both Unilever and Nestlé (Findus) began operations in several countries. In Italy, Nestlé remained unchallenged until 1969, when Unilever entered with its Langnese-Iglo brand and mounted a vigorous advertising campaign under the slogan "Let's take frozen food seriously." Within a year, the two companies had pooled their interests in Italy and Germany by way of a joint venture, in which Unilever held a 75% stake and Nestlé a 25% share. During the 1980s, Unilever bought out Nestlé's interests. Under the terms of this agreement, Unilever retained the Findus brand name in Italy, where the brand was relatively strong, and Nestlé agreed not to sell under the Findus label for a five-year period (1986–1991) within Germany, where Unilever markets under its own Langnese-Iglo brand.

The exception to this pattern of events arose in France, where the frozen food market was relatively slow to develop. Following an unsuccessful early attempt to enter via the ice cream market, Unilever

remained inactive in the market for some time, and Nestlé built up a strong leadership position that it still enjoys. Although these events preempted any escalation of advertising outlays akin to that found in the United States and the United Kingdom, they did not protect the new market leader, in either case, from later losses of market share to medium-size firms. The extent to which this occurred, however, was quite different in each country.

Italy

In Italy, the success of later entrants to the market was relatively limited. In the retail market, Unilever has followed a strategy of high, consistent advertising, which has allowed it to retain a strong position across all categories. A wide gap exists between Unilever's advertising level and that of its nearest competitors. The divergence of experience between the market leaders and the remaining firms is, as in most other countries, more evident in the high value added prepared meals sector. Unilever's share of total retail sales stood around 60% in the late 1980s; in frozen prepared meals, it stood at 75%.[19]

Unilever's main competitors include a number of early entrants that began producing in the late 1960s and early 1970s: Surgela (now owned by Italgel), Arena (now S.I.P.A. Arena), and Brena. During that period Findus still had a share exceeding 85% in an extremely small market (8,400 tons in 1965, as opposed to 320,000 tons in 1987). The strategies of these early entrants varied widely. Arena focused

19. At the other end of the spectrum, Unilever's position in the low-value-added frozen vegetables segment appears at first glance to be relatively strong: Unilever retains a 60%–63% share in this segment. It is helpful, however, to distinguish two subdivisions in this market, between which the pattern of competition differs greatly. The first relates to sales of the traditional small pack (carton) of frozen vegetables; this business is dominated by leading brands: Unilever, Surgela, Arena, and Brena. The second relates to sales of large (1-kilo) bags, which retail at two different price levels. Leading brands in the area (Unilever's Iglo brand and the French brand, Bonduelle) retail at prices per kilo about 20%–25% less than the traditional small pack. The less established brands of small sellers typically retail at around 40%–50% less, per kilo, than the small pack. It is in this latter (kilo bag) area of the market that Unilever faces the most serious competition, given the very large price differential that must be carried by its brand image in the segment.

Within the meat and fish submarkets, too, certain segments are extremely price competitive. In meat, for example, the hamburger segment remains brand sensitive, and Unilever retains a strong share. The same is true in coated fish products, such as fish fingers. In basic frozen fish fillets, however, its position is relatively weak.

its attention on the frozen poultry segment, and its major strength is still in that area. Surgela, on the other hand, set out to offer a broad range of frozen foods from the outset. None of these firms, however, succeeded in establishing a position commensurate with Unilever's in the retail market. The catering market, which accounts for one quarter of total sales, is the domain of medium-to-small firms. Unilever ranks fourth in the segment, behind three medium-size companies. The own-label segment, meanwhile, remains unimportant in the Italian market. The only major retailer with a long-standing own label is Esselungha, which introduced its brand in the 1970s.[20]

Germany

Unilever's relatively strong position on the Italian market contrasts with its much weaker position vis-à-vis its main rivals on the German market. This difference is at least partly due to the greater role played in Germany by medium-size domestic producers, whose main strength lies in the catering area—but whose products are also sold at retail, where they have in some cases succeeded in establishing a strong market position. (Nonretail sales account for 47% of total sales in Germany and 32% in Italy.)

Unilever remains a clear market leader within the retail area, where its share stands at around 35%, while its three major rivals each have a share in the 10%–17% range. Its most important rival, Bofrost, is a private company whose founder began by selling farm produce, and which grew to the point where, by the mid-1980s, it operated a fleet of 1,500 refrigerated trucks in a national distribution network. Within the high value added ready meals segment, Bofrost is now the leading seller (see table 8.6).

Unilever's second rival in the retail segment is Eisman, a company owned by an agricultural cooperative, which manufactures ice cream and frozen pastries. It buys in its other frozen food lines from a number of sources, including Hansa Tiefkühlmenu. The last of the "Big Four" in retailing is the Oetker Gruppe, a widely diversified German food firm with a strong quality image. Unlike Bofrost and Eisman, it operates only on the retail market. It is the only company

20. Several retailers, however, launched own labels during the 1985–1987 period. Both they, and Esselungha, buy in their supplies from small producers.

Table 8.6
Market shares in frozen prepared meals in Germany (including nonretail sales)

Rank	Company	Market share (%)
1	Bofrost	26
2	Iglo (Unilever)	17–20
3	Eisman	16–17
4	Oetker	10
5	Hansa Tiefkühlmenu	8

Source: Company interviews.

besides Unilever that offers a full range of frozen food items at retail and is, in this sense, Unilever's main rival.

The catering market attracts both medium- and small-size firms; there is a small prepared meals segment, in which medium-size firms are prominent (table 8.6), but 95% of catering sales consist of basic commodity products (frozen vegetables, etc.), and here small firms play an important role. Many small firms specialize narrowly in particular lines, which they sell in the catering segment via brokers.[21] The own-label sector has, until recently, been relatively small. However, Germany's leading food retailer, Aldi, has now achieved a share of 20% for its own-label frozen food within its own outlets, and this is seen in the industry as indicating a serious potential threat to the leading brands in the long run. The most striking feature of the German market, then, is the way in which firms have built up a substantial position in the low-advertising, price-sensitive catering sector and have successfully built on this position to establish themselves as major rivals to Unilever on the retail market.[22]

21. Some small firms supply their product directly to leading firms: in frozen French fries, for example, where the leading international brand (McCain) has 40% of sales, its main rival Stoever sells both under its own label (Agrafrost), while also producing for Oetker, as well as for own-label sellers. The third firm in the segment, Scheekamp, produces for both Bofrost and Langnese Iglo.

22. Indeed, of Germany's six leading frozen food firms apart from Unilever, three confine themselves exclusively to the large catering sector. Gerbrüdde Bratzler, a private company, began as a caterer supplying prepared meals (to airlines, etc.) and subsequently moved into the frozen food area. Apetito, also a private company, was for a period owned by the major international catering group AEA. Hansa Tiefkühlmenu has wide interests in catering, with specialist ranges for institutional, industrial, and general food service. It also markets a range of items designed for the retail market, which it explicitly presents as a high-quality, low-cost alternative to the major brands.

France

Unilever first entered the French frozen food market by way of the closely related ice cream market, as it did in several other European countries. In the case of the French market, however, its ice cream venture proved a failure and it withdrew from the market in 1964. During the 1960s and 1970s, the French market developed slowly. The canned food industry, already in decline in many countries, remained very strong in France, and a wide variety of prepared meals became available in canned form. Many canners chose to freeze (less fresh) foods as an alternative to canning them, and the image of frozen foods suffered for a time. On the other hand, leading canners such as Bonduelle could develop well-regarded frozen food lines on the strength of a long-established brand image in canned foods.

It was only in 1970 that Unilever reentered the market, in a relatively slow and tentative manner, operating by way of its Belgian subsidiary. It was not until 1978, with its acquisition of the ice cream maker Motta, that it reestablished itself as a major presence in the market. Throughout the 1980s, its main focus was on building a successful operation in the ice cream market, and its frozen food interests played a secondary role.

Against this background, Nestlé faced much weaker competition from Unilever within frozen foods. Nestlé entered the market in the 1960s by way of the ice cream sector, purchasing the Gervais business.[23] Nestlé built up its position in the frozen food industry as the market developed slowly through the 1960s and 1970s, in competition with the leading canning companies, which remain among its main competitors today. Nestlé's main competitor in the French market is the ice cream maker Ortiz-Miko. The third-largest producer is the leading canned goods producer, Bonduelle, whose market share slightly exceeds that of Unilever.

8.5 Concluding Comments

The main aim of this chapter has been to explore the idea that a simple mechanism precludes the persistence of a fragmented structure

23. Which is now part of the BSN-owned Gervais-Danone, though Nestlé retains the Gervais brand for ice cream.

within advertising-intensive industries. The notion that a qualitatively distinct mechanism, involving the competitive escalation of advertising outlays, is at work in these industries represents a central theme. The evolution of concentration in the frozen food industry offers a clear illustration of this mechanism at work, and it also serves to illustrate the emergence of dual structure in industries of this kind.[24] It has been widely noted that many food and drink industries are typified by this twofold division of firms into high-advertisers and nonadvertisers. Within the theory, as noted in chapter 3, such a configuration emerges as an equilibrium outcome, once setup costs are low and some fraction of buyers have a relatively low degree of responsiveness to advertising outlays. Beyond these general features of equilibria, however, the simple static model employed in chapter 3 is relatively uninformative. As to the dynamics of industry evolution, it leaves matters open. A wide variety of dynamic stories, consistent with the model, could be formulated; their results, however, would depend delicately on the assumption made in regard to firms' beliefs about the eventual size of the market and the strategies of their rivals.

The cases examined here can be interpreted plausibly, if rather loosely and informally, as corresponding to two special polar cases. Within the United States and the United Kingdom, where the market first developed, a middle tier of firms suffered very low profits throughout a critical phase, as they vied for survival at the top end of the industry. Such actions may easily be rationalized by positing that the eventual winner will achieve long-run profits sufficient to

24. One feature of the frozen food industry that might seem to make it a rather special case is that the period of rapid expansion in sales in the United States and the United Kingdom coincided with a general upsurge in national television advertising. To what extent might the experience of this industry be no more than an artifact of that general movement? There are good reasons for believing that this line of argument is ultimately unconvincing. The experience of the frozen food industry mirrors the experience of a range of other industries that underwent the same pattern of development prior to the advent of television: for example, see the cases of soft drinks, biscuits (cookies and crackers), and soup. Most tellingly of all, the evolution of dual structure in the frozen food industry coincided with the decline of the canned vegetable industry. The latter, within the United States, had been one of the most heavily advertised products at the turn of the century, and the industry had evolved a clear dual structure closely analogous to that of the frozen food industry. The advent of television advertising coincided with its decline to commodity status.

The experience of the U.S. frozen food industry during the 1950s was not an accident of the "television age," but merely the most recent example of a long-existing phenomenon.

cover these losses. In other words, this intermediate phase of the industry's history has something of the character of a bidding game or a war of attrition in which firms accept short-run losses at the margin equal to the expected long-term gains to be achieved by winning.[25]

Nonetheless, such a game has a clear "prisoner's dilemma" character. If some way could be found of signaling who the eventual winners will be, losses by all parties could be avoided by moving immediately to the equilibrium configuration. It is arguable, at least, that this kind of learning is relevant to an understanding of the very different experience of the German and Italian industries. In both cases, the two established multinationals avoided an escalation of advertising outlays, while no domestic middle tier of firms emerged to challenge them at first. Indeed, insofar as domestic firms came to the fore, they did so by way of a slow accretion of reputation in the nonretail sector.

The difference in experience between the United States and the United Kingdom on the one hand and the Continental European markets on the other extends to several other industries. In each case, the product was first established in the United States and the United Kingdom, and the market developed only later in France, Germany, and Italy. In several such cases (notably pet food and RTE cereals), the prior success of the multinational brands generated a sufficiently strong signal to deter any major challenge from indigenous producers in the industry's early days. In such cases, the reputation of the multinational firm(s) may of itself be sufficient to allow it (them) to establish a leadership position without any costly escalation of advertising outlays. It is clear, at least, that first-mover advantages may play an important role in determining the dynamics of these interactions. It is to this topic that we turn in the next chapter.

25. Various games with this character are familiar in the recent literature. See Tirole 1989, for example.