

INTRODUCTION

THE FOOD INDUSTRY AND “EAT MORE”

THIS BOOK IS ABOUT HOW the food industry influences what we eat and, therefore, our health. That diet affects health is beyond question. The food industry has given us a food supply so plentiful, so varied, so inexpensive, and so devoid of dependence on geography or season that all but the very poorest of Americans can obtain enough energy and nutrients to meet biological needs. Indeed, the U.S. food supply is so abundant that it contains enough to feed everyone in the country nearly twice over—even after exports are considered. The overly abundant food supply, combined with a society so affluent that most people can afford to buy more food than they need, sets the stage for competition. The food industry must compete fiercely for every dollar spent on food, and food companies expend extraordinary resources to develop and market products that will sell, regardless of their effect on nutritional status or waistlines. To satisfy stockholders, food companies must convince people to *eat more* of their products or to eat their products instead of those of competitors. They do so through advertising and public relations, of course, but also by working tirelessly to convince government officials, nutrition professionals, and the media that their products promote health—or at least do no harm. Much of this work is a virtually invisible part of contemporary culture that attracts only occasional notice.

This book exposes the ways in which food companies use political processes—entirely conventional and nearly always legal—to obtain government and professional support for the sale of their products. Its twofold purpose is to illuminate the extent to which the food industry

determines what people eat and to generate much wider discussion of the food industry's marketing methods and use of the political system.

In my 30 years as a nutrition educator, I have found that food industry practices are discussed only rarely. The reasons for this omission are not difficult to understand. Most of us believe that we choose foods for reasons of personal taste, convenience, and cost; we deny that we can be manipulated by advertising or other marketing practices. Nutrition scientists and practitioners typically believe that food companies are genuinely interested in improving health. They think it makes sense to work with the industry to help people improve their diets, and most are outraged by suggestions that food industry sponsorship of research or programs might influence what they do or say. Most food company officials maintain that any food product can be included in a balanced, varied, and moderate diet; they say that their companies are helping to promote good health when they fund the activities of nutrition professionals. Most officials of federal agriculture and health agencies understand that their units are headed by political appointees whose concerns reflect those of the political party in power and whose actions must be acceptable to Congress. Members of Congress, in turn, must be sensitive to the concerns of corporations that help fund their campaigns.

In this political system, the actions of food companies are normal, legal, and thoroughly analogous to the workings of any other major industry—tobacco, for example—in influencing health experts, federal agencies, and Congress.¹ Promoting food raises more complicated issues than promoting tobacco, however, in that food is required for life and causes problems only when consumed inappropriately. As this book will demonstrate, the primary mission of food companies, like that of tobacco companies, is to sell products. Food companies are not health or social service agencies, and nutrition becomes a factor in corporate thinking only when it can help sell food. The ethical choices involved in such thinking are considered all too rarely.

Early in the twentieth century, when the principal causes of death and disability among Americans were infectious diseases related in part to inadequate intake of calories and nutrients, the goals of health officials, nutritionists, and the food industry were identical—to encourage people to eat more of all kinds of food. Throughout that century, improvements in the U.S. economy affected the way we eat in important ways: We obtained access to foods of greater variety, our diets improved, and nutrient deficiencies gradually declined. The principal nutritional problems among Americans shifted to those of *overnutrition*—eating too much

food or too much of certain kinds of food. Overeating causes its own set of health problems; it deranges metabolism, makes people overweight, and increases the likelihood of “chronic” diseases—coronary heart disease, certain cancers, diabetes, hypertension, stroke, and others—that now are leading causes of illness and death in any overfed population.

People may believe that the effects of diet on chronic disease are less important than those of cigarette smoking, but each contributes to about one-fifth of annual deaths in the United States. Addressing cigarette smoking requires only a single change in behavior: Don’t smoke. But because people must eat to survive, advice about dietary improvements is much more complicated: Eat this food instead of that food, or eat less. As this book explains, the “eat less” message is at the root of much of the controversy over nutrition advice. It directly conflicts with food industry demands that people eat more of their products. Thus food companies work hard to oppose and undermine “eat less” messages.

I first became aware of the food industry as an influence on government nutrition policies and on the opinions of nutrition experts when I moved to Washington, DC, in 1986 to work for the Public Health Service. My job was to manage the editorial production of the first—and as yet only—*Surgeon General’s Report on Nutrition and Health*, which appeared as a 700-page book in the summer of 1988.² This report was an ambitious government effort to summarize the entire body of research linking dietary factors such as fat, saturated fat, cholesterol, salt, sugar, and alcohol to leading chronic diseases. My first day on the job, I was given the rules: No matter what the research indicated, the report could not recommend “eat less meat” as a way to reduce intake of saturated fat, nor could it suggest restrictions on intake of any other category of food. In the industry-friendly climate of the Reagan administration, the producers of foods that might be affected by such advice would complain to their beneficiaries in Congress, and the report would never be published.

This scenario was no paranoid fantasy; federal health officials had endured a decade of almost constant congressional interference with their dietary recommendations. As I discuss in Part I, agency officials had learned to avoid such interference by resorting to euphemisms, focusing recommendations on nutrients rather than on the foods that contain them, and giving a positive spin to any restrictive advice about food. Whereas “eat less beef” called the industry to arms, “eat less saturated fat” did not. “Eat less sugar” sent sugar producers right to Congress, but that industry could live with “choose a diet moderate in sugar.” When released in 1988, the *Surgeon General’s Report* recommended “choose

lean meats” and suggested limitations on sugar intake only for people particularly vulnerable to dental cavities.

Subsequent disputes have only reinforced sensitivities to political expediency when formulating advice about diet and health. Political expediency explains in part why no subsequent *Surgeon General's Report* has appeared, even though Congress passed a law in 1990 requiring that one be issued biannually. After ten years of working to develop a *Surgeon General's Report on Dietary Fat and Health*—surely needed to help people understand the endless debates about the relative health consequences of eating saturated, monounsaturated, trans-saturated, and total fat—the government abandoned the project, ostensibly because the science base had become increasingly complex and equivocal. A more compelling reason must have been lack of interest in completing such a report in the election year of 2000. Authoritative recommendations about fat intake would have had to include some “eat less” advice if for no other reason than because fat is so concentrated in calories—it contains 9 calories per gram, compared to 4 each for protein or carbohydrate³—and obesity is a major health concern. Because saturated fat and trans-saturated fat raise risks for heart disease, and the principal sources of such fats in American diets are meat, dairy, cooking fats, and fried, fast, and processed foods, “eat less” advice would provoke the producers and sellers of these foods to complain to their friends in Congress.

Since 1988, in my role as chair of an academic department of nutrition, a member of federal advisory committees, a speaker at public and professional meetings, a frequent commentator on nutrition issues to the press, and (on occasion) a consultant to food companies, I have become increasingly convinced that many of the nutritional problems of Americans—not least of them obesity—can be traced to the food industry's imperative to encourage people to *eat more* in order to generate sales and increase income in a highly competitive marketplace. Ambiguous dietary advice is only one result of this imperative. As I explain in Part II, the industry also devotes enormous financial and other resources to lobbying Congress and federal agencies, forming partnerships and alliances with professional nutrition organizations, funding research on food and nutrition, publicizing the results of selected research studies favorable to industry, sponsoring professional journals and conferences, and making sure that influential groups—federal officials, researchers, doctors, nurses, school teachers, and the media—are aware of the benefits of their products.

Later sections of the book describe the ways in which such actions affect food issues of particular public interest and debate. Part III reviews

the most egregious example of food company marketing practices: the deliberate use of young children as sales targets and the conversion of schools into vehicles for selling “junk” foods high in calories but low in nutritional value. Part IV explains how the supplement industry manipulated the political process to achieve a sales environment virtually free of government oversight of the content, safety, and advertising claims for its products. In Part V, I describe how the food industry markets “junk” foods as health foods by adding nutrients and calling them “functional” foods or “nutraceuticals.” The concluding chapter summarizes the significance of the issues raised by these examples and offers some options for choosing a healthful diet in an overabundant food system. Finally, the Appendix introduces some terms and concepts used in the field of nutrition and discusses issues that help explain why nutrition research is so controversial and so often misunderstood.

Before plunging into these accounts, some context may prove useful. This introduction addresses the principal questions that bear on the matters discussed in this book: What are we supposed to eat to stay healthy? Does diet really matter? Is there a significant gap between what we are supposed to eat and what we do eat? The answers to these questions constitute a basis for examining the central concern of this book: Does the food industry have anything to do with poor dietary practices? As a background for addressing that question, this introduction provides some fundamental facts about today’s food industry and its marketing philosophies and strategies, and also points to some common themes that appear throughout the book.

WHAT IS A “HEALTHY” DIET?

To promote health as effectively as possible, diets must achieve balance: They must provide *enough* energy (calories) and vitamins, minerals, and other essential nutrients to prevent deficiencies and support normal metabolism. At the same time, they must not include *excessive* amounts of these and other nutritional factors that might promote development of chronic diseases. Fortunately, the optimal range of intake of most dietary components is quite broad (see the Appendix). It is obvious that people throughout the world eat many different foods and follow many different dietary patterns, many of which promote excellent health and longevity. As with other behavioral factors that affect health, diet interacts with individual genetic variation as well as with cultural, economic, and geographical factors that affect infant survival and adult longevity. On a

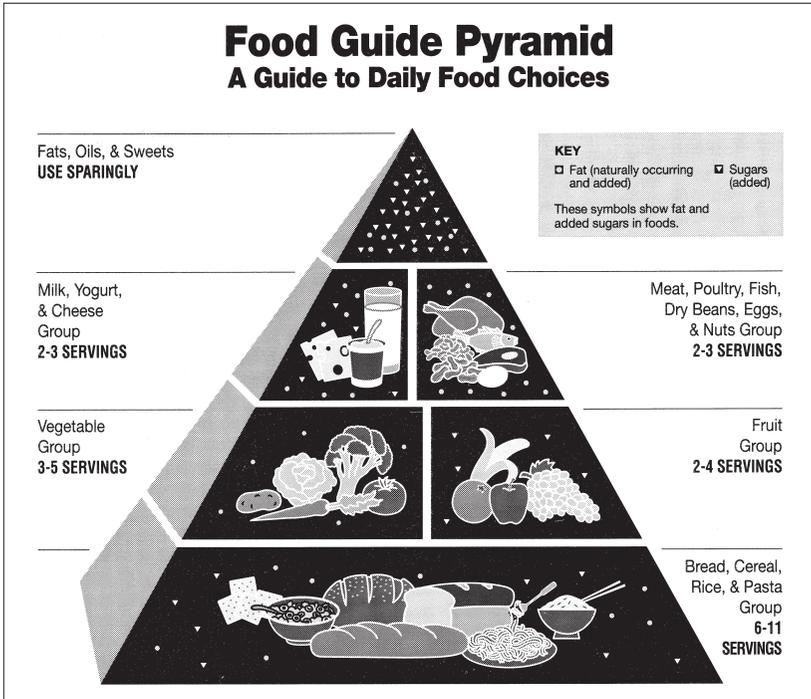


FIGURE 1. The 1992 USDA *Food Guide Pyramid* recommends a hierarchical—and therefore controversial—dietary pattern based mainly on foods of plant origin, as discussed in Part I.

population basis, the balance between getting enough of the *right* kinds of nutrients and avoiding too much of the *wrong* kinds is best achieved by diets that include large proportions of energy from plant foods—fruits, vegetables, and grains.

The longest-lived populations in the world, such as some in Asia and the Mediterranean, traditionally eat diets that are largely plant-based. Such diets tend to be relatively low in calories but high in vitamins, minerals, fiber, and other components of plants (phytochemicals) that—acting together—protect against disease. Dietary patterns that best promote health derive most energy from plant foods, considerably less from foods of animal origin (meat, dairy, eggs), and even less from foods high in animal fats and sugars. The *Food Guide Pyramid* of the U.S. Department of Agriculture (USDA) is meant to depict a plant-based diet that

promotes optimal health (see Figure 1). Chapter 2 describes the extent to which this *Pyramid* fails to illustrate an optimal dietary pattern, however, and explains the food industry's role in that failure.

DOES DIET MATTER?

In addition to consuming largely plant-based diets, people in long-lived populations are physically active and burn up any excess calories they obtain from food. An active lifestyle helps mitigate the harmful effects of overeating, but the evidence for the importance of diet in health also is overwhelming. Disease by chronic disease, scientists consistently have demonstrated the health benefits of diets rich in fruit and vegetables, limited in foods and fats of animal origin, and balanced in calories. Comprehensive reports in the late 1980s from the United States and Europe documented the evidence available at that time, and subsequent research has only strengthened those conclusions.⁴

Health experts suggest conservatively that the combination of poor diet, sedentary lifestyle, and excessive alcohol consumption contributes to about 400,000 of the 2,000,000 or so annual deaths in the United States—about the same number and proportion affected by cigarette smoking. Women who follow dietary recommendations display half the rates of coronary heart disease observed among women who eat poor diets, and those who also are active and do not smoke cigarettes have less than one-fifth the risk. The diet-related medical costs for just six health conditions—coronary heart disease, cancer, stroke, diabetes, hypertension, and obesity—exceeded \$70 billion in 1995. Some authorities believe that just a 1% reduction in intake of saturated fat across the population would prevent more than 30,000 cases of coronary heart disease annually and save more than a billion dollars in health care costs. Such estimates indicate that even small dietary changes can produce large benefits when their effects are multiplied over an entire population.⁵

Conditions that can be prevented by eating better diets have roots in childhood. Rates of obesity are now so high among American children that many exhibit metabolic abnormalities formerly seen only in adults. The high blood sugar due to “adult-onset” (insulin-resistant type 2) diabetes, the high blood cholesterol, and the high blood pressure now observed in younger and younger children constitute a national scandal. Such conditions increase the risk of coronary heart disease, cancer, stroke, and diabetes later in life. From the late 1970s to the early 1990s, the prevalence of *overweight* nearly doubled—from 8% to 14% among

children aged 6–11 and from 6% to 12% among adolescents. The proportion of overweight adults rose from 25% to 35% in those years. Just between 1991 and 1998, the rate of adult *obesity* increased from 12% to nearly 18%. Obesity contributes to increased health care costs, thereby becoming an issue for everyone, overweight or not.⁶

The cause of overweight is an excess of calories consumed over calories burned off in activity. People gain weight because they eat too many calories or are too inactive for the calories they eat. Genetics affects this balance, of course, because heredity predisposes some people to gain weight more easily than others, but genetic changes in a population occur too slowly to account for the sharp increase in weight gain over such a short time period. The precise relationship between the diet side and the activity side of the weight “equation” is uncertain and still under investigation, in part because we lack accurate methods for assessing the activity levels of populations. People seem to be spending more time at sedentary activities such as watching television and staring at computer screens, and the number of hours spent watching television is one of the best predictors of overweight, but surveys do not report enough of a decrease in activity levels to account for the current rising rates of obesity.⁷ This gap leaves overeating as the most probable cause of excessive weight gain.

DO AMERICANS OVEREAT?

Overweight itself constitutes ample evidence that many Americans consume more calories than they burn off, but other sources of information also confirm the idea that people are eating too much food. The calories provided by the U.S. food supply increased from 3,200 per capita in 1970 to 3,900 in the late 1990s, an increase of 700 per day. These supply figures tend to overestimate amounts of food actually consumed because they do not account for wastage, but they do give some indication of trends (see the Appendix). Surveys that ask about actual dietary intake tend to underestimate caloric intake, because people find it difficult to remember dietary details, but easier to give answers that seem to please investigators. Even so, dietary intake surveys also indicate that people are eating more than they were in the 1970s. Then, people reported eating an average of about 1,800 calories per day. By 1996 they reported 2,000 calories per day. No matter how unrealistically low these figures may be and how imprecise the sources of data, all suggest a trend toward caloric intakes that exceed average levels of caloric expenditure.⁸

In addition to revealing how much people are eating, food supply and dietary intake surveys indicate changes in food habits over time. The increase in calories reflects an increase in consumption of *all* major food groups: more vegetables and more fruit (desirable), but also more meat and dairy foods, and more foods high in fat and sugar (less desirable). The most pronounced change is in beverage consumption. The supply of whole milk fell from 25.5 gallons per capita per year in 1970 to just 8.5 gallons in 1997. The supply of low-fat milk rose from 5.8 to 15.5 gallons during the same time, but that of soft drinks rose from 24.3 to 53 gallons. To reduce fat intake, people replaced whole milk with lower-fat varieties (same nutrients, fewer calories), but they undermined this beneficial change by increasing consumption of soft drinks (sugar calories, no nutrients). Despite the introduction of artificial sweeteners, the supply of calorie-laden sweeteners—sugars, corn sweeteners, and honey—has gone up. Because of the inconsistencies in data, the trend in fat intake is harder to discern. Fat in the food supply increased by 25% from 1970 to the late 1990s, but dietary intake surveys do not find people to be eating more of it. Although USDA nutritionists conclude that Americans are eating less fat, they also observe that people are eating more food outside the home, where foods are higher in fat and calories.⁹

In comparison to the *Pyramid*, American diets clearly are out of balance, as shown in Figure 2. Top-heavy as it is, this illustration *underestimates* the discrepancy between recommended and actual servings. For one thing, the USDA's serving estimates are based on self-reports of dietary intake, but people tend to underreport the intake of foods considered undesirable and to overestimate the consumption of "healthy" foods. For another, the USDA calculates numbers of servings by adding up the individual components of mixed dishes and assigning them to the appropriate *Pyramid* categories. This means that the flour in cookies is assigned to the grain category, the apples in pies to the fruit group, and the potatoes in chips to the vegetable group. This method may yield more precise information about nutrient intake, but it makes high-calorie, low-nutrient foods appear as better nutritional choices than they may be. The assignment of the tomatoes in ketchup to the vegetable group only reinforces the absurdity of the USDA's famous attempt during the Reagan administration to count ketchup as a vegetable in the federal school lunch program.¹⁰

The comparison hides other unwelcome observations. USDA nutritionists report that the average consumption of whole-grain foods is just one serving per day, well below recommended levels. And although the

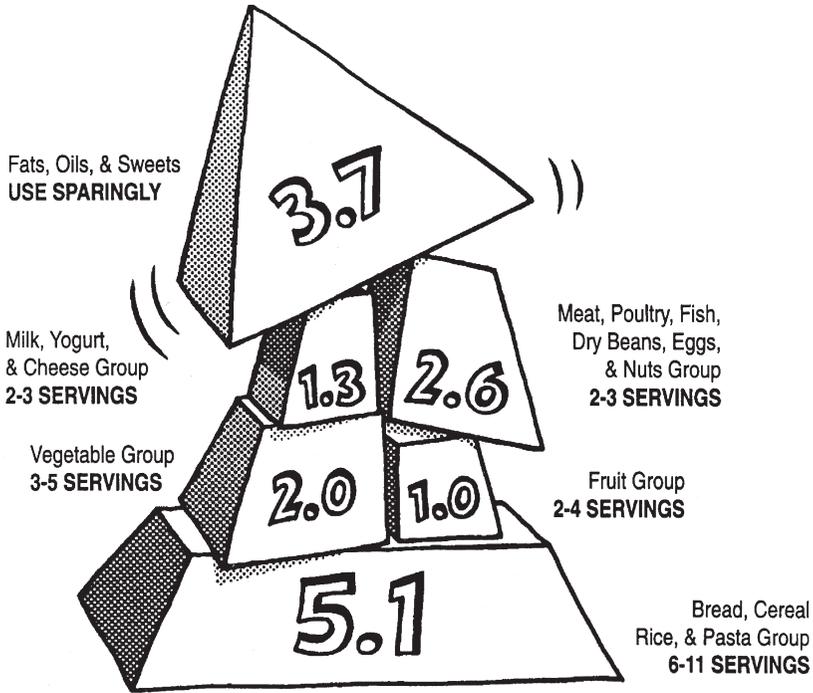


FIGURE 2. This “food consumption” pyramid compares the average number of servings consumed per day by the U.S. population in the mid-1990s to the servings recommended by the *Food Guide Pyramid*. (Courtesy National Cattlemen’s Beef Association)

number of vegetable servings appears close to recommendations, *half* the servings come from just three foods: iceberg lettuce, potatoes (frozen, fresh, and those used for chips and fries), and canned tomatoes. When fried potatoes are excluded from the count, vegetable servings fall below three per day. Even though the consumption of reduced-fat dairy products has doubled since 1970, half the dairy servings still come from high-fat, high-calorie cheese and whole milk. Servings of added fats are at least one-third higher than they should be, and servings of caloric sweeteners are half again as high. From such observations, we can conclude that the increased calories in American diets come from eating more food in general, but especially more of foods high in fat (meat, dairy, fried foods, grain dishes with added fat), sugar (soft drinks, juice drinks, desserts), and salt (snack foods).¹¹ It can hardly be a coincidence that these are just

the foods that are most profitable to the food industry and that it most vigorously promotes.

THE U.S. FOOD INDUSTRY

This book uses the term food industry to refer to companies that produce, process, manufacture, sell, and serve foods, beverages, and dietary supplements. In a larger sense, the term encompasses the entire collection of enterprises involved in the production and consumption of food and beverages: producers and processors of food crops and animals (agribusiness); companies that make and sell fertilizer, pesticides, seeds, and feed; those that provide machinery, labor, real estate, and financial services to farmers; and others that transport, store, distribute, export, process, and market foods after they leave the farm. It also includes the food service sector—food carts, vending machines, restaurants, bars, fast-food outlets, schools, hospitals, prisons, and workplaces—and associated suppliers of equipment and serving materials. This vast “food-and-fiber” system generates more than a trillion dollars in sales of food alone every year, accounts for 8% of the U.S. gross national product (GNP), and employs 12% of the country’s labor force. Of the \$1.1 trillion that the public spent directly on food and drink in 2005, alcoholic beverages accounted for about \$130 billion, and the rest was distributed among retail food enterprises (53%) and food service (47%).¹²

The U.S. food industry is the remarkably successful result of twentieth-century trends that led from small farms to giant corporations, from a society that cooked at home to one that buys nearly half its meals prepared and consumed elsewhere, and from a diet based on “whole” foods grown locally to one based largely on foods that have been processed in some way and transported long distances. These changes created a farm system that is much less labor-intensive and far more efficient and specialized. In 1900, 40% of the population lived on farms, but today no more than 2% do. Just since 1960, the number of farms has declined from about 3.2 million to 1.9 million, but their average size has increased by 40% and their productivity by 82%. Most farms today raise just a single commodity such as cattle, chickens, pigs, corn, wheat, or soybeans. Many are part of a system of “vertical” integration: ownership by one corporation of all stages of production and marketing. Chickens constitute an especially clear example. In the mid-1950s, chickens were raised in small flocks by many farmers; today, most are “factory-farmed” in massive numbers under contract to a few large companies.¹³

TABLE 1. Sales and advertising expenditures for the ten leading producers of packaged food products in the United States

Company and Examples	Food Sales [Total Sales], 1999 (\$ Billions)	Advertising, U.S., 1998 (\$ Millions)
Nestlé	34.9 [49.4]	534.4
Carnation foods		31.1
Lean Cuisine		16.4
Butterfinger candy		11.2
Unilever/Bestfoods*	32.4 [55.3]	
Unilever		1,015.0
Lipton's tea beverages		41.8
Wish-Bone salad dressing		15.2
Bestfoods		202.5
Thomas' English muffins		9.5
Skippy peanut butter		4.0
Philip Morris	27.8 [78.6]	2,049.3
Kraft Foods, Inc.		146.1
Jell-O desserts		65.6
Altoids mints		10.1
Pepsico	11.6 [18.7]	1,263.4
Pepsi and Diet Pepsi		145.2
Lay's potato chips		55.8
Tropicana fruit juices		23.3
Groupe Danone	9.8 [14.2]	*
H.J. Heinz	9.3	214.5
Nabisco	8.4	225.7
Kellogg	7.7	448.5
Cereals		278.7
Eggo frozen waffles		34.3
General Mills*	6.7	597.9
Cereals		296.7
Fruit-by-the-Foot snacks		10.3
Campbell Soup	6.2	336.8
Soups		108.0
Pepperidge Farm		37.2

PRINCIPAL SOURCES: Endicott RC. 44th annual 100 leading national advertisers. *Advertising Age* September 27, 1999:51-546. Hays CL. *New York Times* June 7, 2000:C1, C8. Thompson S. *Advertising Age* June 12, 2000:4.

*In 2000, Unilever purchased Bestfoods soon after acquiring Ben & Jerry's and Slim-Fast. General Mills bought the Pillsbury division of Diageo, making the combined company the fifth largest of U.S. foodmakers, with \$12.2 billion in annual sales. Danone was not among the top 200 U.S. advertisers in 1998, because the company's principal markets are in Europe.

Economic pressures force food and beverage companies to expand to tremendous size. In 2000, seven U.S. companies—Philip Morris, ConAgra, Mars, IBP, Sara Lee, Heinz, and Tyson Foods—ranked among the ten largest food companies in the world. Nestlé (Switzerland) ranked first, Unilever (U.K./Netherlands) third, and Danone (France) sixth. Other U.S.

companies such as Coca-Cola, McDonald's, PepsiCo, Procter & Gamble, and Roche (vitamins) ranked among the top one hundred companies worldwide. In the United States alone, just three companies—Philip Morris (Kraft Foods, Miller Brewing), ConAgra, and RJR-Nabisco—accounted for nearly 20% of all food expenditures in 1997. Table 1 lists the ten leading producers of packaged food products in the United States in 2000, along with their annual sales and advertising budgets. The largest companies generated more than \$30 billion each in annual sales, placing great pressure on smaller companies to merge. Such pressures also apply to supermarkets. Mergers among food and cigarette companies merit special interest. As described in Table 2, two of the four leading U.S. cigarette companies, R. J. Reynolds and Philip Morris, bought—and sometimes swapped—food and beverage companies in maneuvers designed to protect stockholders' investments against tobacco liability lawsuits.

The increasing consumption of food outside the home also has implications for the food industry—and for health. Table 3 lists the leading U.S. food service companies by category: fast foods, restaurant chains, contract corporations, and hotel operations. The highest-selling food service chains are sandwich houses and fast-food chains. First among them is McDonald's; its 12,804 U.S. outlets brought in \$19.6 billion in 2000 sales, more than twice as much as its nearest competitor.

The greater efficiency, specialization, and size of agriculture and food product manufacture have led to one of the great unspoken secrets about the American food system: overabundance. As already noted, the U.S. food supply—plus imports less exports—provides a daily average of 3,900 calories per capita. This level is nearly twice the amount needed to meet the energy requirements of most women, one-third more than that needed by most men, and much higher than that needed by babies, young children, and the sedentary elderly. Even if, as the USDA estimates, 1,100 of those calories might be wasted (as spoiled fruit, for example, or as oil for frying potatoes), the excess calories are a major problem for the food industry: they force competition. Even people who overindulge can eat only so much food, and choosing one food means rejecting others. Overabundance alone is sufficient to explain why the annual growth rate of the American food industry is only a percentage point or two, and why it has poked along at that low level for many years. It also explains why food companies compete so strenuously for consumer food dollars, why they work so hard to create a sales-friendly regulatory and political climate, and why they are so defensive about the slightest suggestion that their products might raise health or safety risks.

TABLE 2. Cigarette companies' ownership of food and beverage companies: chronology

1969	Philip Morris, Inc. acquires 53% of Miller Brewing.
1970	Philip Morris buys the remaining 47% of Miller Brewing.
1978	Philip Morris acquires 97% of Seven-Up.
1985	R.J. Reynolds buys Nabisco Foods for \$4.9 billion, creating RJR-Nabisco, a public company. Philip Morris buys General Foods for \$5.6 billion.
1986	Philip Morris sells Seven-Up to PepsiCo.
1988	Philip Morris buys Kraft, Inc. for \$13.6 billion. RJR-Nabisco announces plans to "go private"; offers to buy outstanding public shares for \$17 billion.
1989	The investment firm Kohlberg Kravis Roberts leverages a buyout of RJR-Nabisco for \$24.9 billion, leaving the private company with \$20 billion in debt. Philip Morris combines Kraft and General Foods to form Kraft General Foods.
1990	Philip Morris acquires Jacobs Suchard, a Swiss coffee and confectionary company, for \$4.1 billion.
1991	Kohlberg Kravis Roberts sells stocks in RJR-Nabisco to the public. The bestseller <i>Barbarians at the Gate</i> (New York: HarperCollins, 1991) describes the takeover events.
1993	Kraft General Foods (Philip Morris) buys Nabisco ready-to-eat cereals from RJR-Nabisco for \$448 million.
1995	Kraft General Foods reorganizes into Kraft Foods, Inc. In an effort to shore up stock prices, RJR-Nabisco becomes a holding company for R. J. Reynolds (tobacco) and Nabisco Holdings (food); sells 19% of shares in Nabisco Holdings to the public.
1996	Philip Morris buys shares of Brazil's leading chocolate company, Industrias de Chocolate Lacta, S.A.; Kraft Foods acquires Taco Bell.
1999	RJR-Nabisco sells its international tobacco business; separates and renames its domestic tobacco (R. J. Reynolds Tobacco Holdings) and food businesses (Nabisco Group Holdings). This action leaves Nabisco Group Holdings with 81% of Nabisco as its sole asset (Nabisco Holdings has the remainder), only \$1 billion in debt, but with uncertain liability for tobacco lawsuits. Philip Morris said to be interested in buying Nabisco; acquires Philadelphia cream cheese; reports revenues exceeding \$78 billion.
2000	Philip Morris buys Nabisco Holdings for \$14.9 billion, creating a company that earned combined revenues of \$34.9 billion and profits of \$5.5 billion in 1999. This purchase leaves R.J. Reynolds Tobacco Holdings with \$1.5 billion in cash and the tobacco liability.
2003	Company restructures as Altria, now "parent" to Philip Morris and Kraft Foods.
2007	Altria authorizes sale of its Kraft shares.

PRINCIPAL SOURCES: Philip Morris Companies, Inc. Online: <http://www.kraftfoods.com/>. Accessed February 24, 1999. Hays CL. *New York Times* March 10, 1999:A1,C8, and July 2, 2000:C7. See www.altria.com.

TABLE 3. Where Americans eat: the top two U.S. food service chain companies in 2000 sales, by category and number of units

Chain Category	2000 Sales, (\$ Millions)	Number of Units, U.S.
<i>Sandwich</i>		
McDonald's	19,573	12,804
Burger King	8,695	8,064
<i>Pizza</i>		
Pizza Hut	5,000	7,927
Domino's	2,647	4,818
<i>Chicken</i>		
KFC (Kentucky Fried Chicken)	4,400	5,364
Chick-fil-A	1,082	1,958
<i>Grill Buffet</i>		
Golden Corral	968	452
Ryan's Family Steak House	745	324
<i>Family</i>		
Denny's	2,137	1,753
International House of Pancakes	1,199	925
<i>Dinner-House</i>		
Applebee's Neighborhood	2,625	1,251
Red Lobster	2,105	629
<i>Contract</i>		
Aramark Global	4,136	2,907
LSG/Sky Chefs	1,476	103
<i>Hotel Food Service</i>		
Marriott	1,045	248
Hilton	953	228

SOURCE: Liddle AJ. *Nation's Restaurant News* July 25, 2001:57-132.

MARKETING IMPERATIVES

To sell their products, companies appeal to the reasons why people choose to eat one food rather than another. These reasons are numerous, complex, and not always understood, mainly because we select diets within the context of the social, economic, and cultural environment in which we live. When food or money is scarce, people do not have the luxury of choice; for much of the world's population, the first consideration is getting *enough* food to meet biological needs for energy and nutrients. It is one of the great ironies of nutrition that the traditional plant-based diets consumed by the poor in many countries, some of which are among

the world's finest cuisines, are ideally suited to meeting nutritional needs as long as caloric intake is adequate. Once people raised on such foods survive the hazards of infancy, their diets (and their active lifestyles) support an adulthood relatively free of chronic disease until late in life.¹⁴

Also ironic is that once people become better off, they are observed to enter a “nutrition transition” in which they abandon traditional plant-based diets and begin eating more meat, fat, and processed foods. The result is a sharp increase in obesity and related chronic diseases. In 2000 the number of overweight people in the world for the first time matched the number of undernourished people—1.1 billion each. Even in an industrialized country such as France, dietary changes can be seen to produce rapid increases in the prevalence of chronic disease. In the early 1960s, the French diet contained just 25% of calories from fat, but the proportion now approaches 40% as a result of increased intake of meat, dairy, and processed foods. Despite contentions that the French are protected from heart disease by their wine consumption (a phenomenon known as the French Paradox), they are getting fatter by the day and experiencing increased rates of diabetes and other health consequences of overeating and overweight. The nutrition transition reflects both taste preferences and economics. Food animals raised in feedlots eat grains, which makes meat more expensive to produce and converts it into a marker of prosperity. Once people have access to meat, they usually do not return to eating plant-based diets unless they are forced to do so by economic reversal or are convinced to do so for reasons of religion, culture, or health.¹⁵

Humans do not innately know how to select a nutritious diet; we survived in evolution because nutritious foods were readily available for us to hunt or gather. In an economy of overabundance, food companies can sell products only to people who *want* to buy them. Whether consumer demands drive food sales or the industry creates such demands is a matter of debate, but much industry effort goes into trying to figure out what the public “wants” and how to meet such “needs.” Nearly all research on this issue yields the same conclusion. When food is plentiful and people can afford to buy it, basic biological needs become less compelling and the principal determinant of food choice is personal preference. In turn, personal preferences may be influenced by religion and other cultural factors, as well as by considerations of convenience, price, and nutritional value. To sell food in an economy of abundant food choices, companies must worry about those other determinants much more than about the nutritional value of their products—unless the nutrient content helps to entice buyers (see Parts IV and V).¹⁶ Thus the food industry's marketing