

WHAT CAN WE LEARN FROM FOOD ADVERTISING POLICY OVER THE LAST 25 YEARS?

*Pauline M. Ippolito*¹

INTRODUCTION

Marketing is a prominent feature of modern consumer goods markets. Advertising, labeling, and other forms of promotion, are the way sellers speak to potential consumers. Today, this commercial speech² has considerable legal protection, though not as much protection as is given to political speech. While the Constitution does not distinguish types of speech,³ the courts provided no constitutional protection for commercial speech until 1976. In a case dealing with a Virginia statute that essentially prohibited pharmacists from advertising prices of prescription drugs,⁴ the Supreme Court held that such commercial speech was entitled to protection under the First Amendment. Since that time, the courts have issued a number of rul-

¹ The author is Associate Director, Bureau of Economics, Federal Trade Commission. The views expressed in this paper are those of the author and do not represent the views of the Federal Trade Commission or its commissioners. The author would like to thank Thomas Pahl, Paul Pautler and Maureen Ohlhausen for comments and Michael Madigan for research assistance.

² Legally, the core notion of commercial speech is speech which does no more than propose a commercial transaction. *See Va. State Bd. of Pharmacy v. Va. Citizens Consumer Council, Inc.*, 425 U.S. 748, 762 (1976). Determining whether a particular expression is commercial speech may involve considerations of a combination of characteristics, such as whether the expression is conceded to be an ad, whether it refers to a specific product, and whether the speaker has a commercial motivation. *Bolger v. Youngs Drug Prods. Corp.*, 463 U.S. 60, 66-68 (1983).

³ The First Amendment states that "Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances." U.S. CONST. amend. I.

⁴ *Va. State Bd. of Pharmacy*, 425 U.S. at 771.

ings⁵ providing additional guidance on how government should review any proposals to limit commercial speech.⁶

In the early commercial speech cases, the courts explicitly recognized the value of advertising for consumers and for competition.

Advertising . . . is . . . dissemination of information as to who is producing and selling what product, for what reason, and at what price. . . . It is a matter of public interest that [private] economic decisions, in the aggregate, be intelligent and well informed. To this end, the free flow of commercial information is indispensable. . . . And if it is indispensable to the proper allocation of resources in a free enterprise system, it is also indispensable to the formation of intelligent opinions as to how that system ought to be regulated or altered. Therefore, even if the First Amendment were thought to be primarily an instrument to enlighten public decision-making in a democracy, we could not say that the free flow of information does not serve that goal.⁷

But advertising is controversial. Many doubt that advertising provides much information useful to consumers or competition.⁸ Some fear that without strong legal and regulatory constraints, the selling intent behind advertising will lead to considerable deception and consumer harm, and that competitive forces will not fill in important missing information.⁹

Federal and state governments typically have general laws against deceptive claims in marketing, as typified by Section 5 of the Federal Trade Commission Act.¹⁰ The Supreme Court has allowed government bans of deceptive or misleading commercial speech as consistent with the First Amendment.¹¹ Current policy debates typically revolve around what is de-

⁵ See, e.g., *Cent. Hudson Gas & Elec. Corp. v. Pub. Serv. Comm'n of N.Y.*, 447 U.S. 557 (1980), in which the Supreme Court articulated a four-part test for courts to apply in evaluating whether government restrictions on commercial speech are constitutional; *Pearson v. Shalala*, 164 F.3d 650 (D.C. Cir. 1999), a case involving health claims for supplements, in which the court held that the government had not met its burden in restricting claims unless the science underlying them meets the Food and Drug Administration's (FDA) "significant scientific agreement" standard of evidence; and *Thompson v. W. States Med. Ctr.*, 535 U.S. 357 (2002), in which the Supreme Court held that the FDA's ban on pharmacists' advertising legally compounded drugs violated the First Amendment.

⁶ For a more complete assessment of the development of commercial speech law, see, for example, Fred S. McChesney, *De-bates and Re-bates: The Supreme Court's Latest Commercial Speech Cases*, 5 SUP. CT. ECON. REV. 81 (1997).

⁷ *Va. State Bd. of Pharmacy*, 425 U.S. at 765.

⁸ See, e.g., WILLIAM S. COMANOR & THOMAS A. WILSON, *ADVERTISING AND MARKET POWER* (Harvard University Press 1974).

⁹ See, e.g., Bruce Silverglade, *Debate: Health Claims on Food Labels and in Ads*, 1 CONSUMER PROTECTION UPDATE, Summer 1991, at 5.

¹⁰ 15 U.S.C. § 45; Deception Policy Statement, appended to *Cliffdale Assocs.*, 103 F.T.C. 110 (1984); see also the review in FEDERAL TRADE COMMISSION, BEFORE THE DEPARTMENT OF HEALTH AND HUMAN SERVICES FOOD AND DRUG ADMINISTRATION, IN THE MATTER OF REQUEST FOR COMMON ON FIRST AMENDMENT ISSUES (2002).

¹¹ *Cent. Hudson Gas & Elec. Corp. v. Pub. Serv. Comm'n of N.Y.*, 447 U.S. 557, 566 (1980); *In re R.M.J.*, 455 U.S. 191, 200 (1982) ("False, deceptive, or misleading advertising remains subject to restraint . . .").

ceptive or misleading; how important truthful, but incomplete, information is in marketing claims; when claims are sufficiently incomplete to be deceptive; and what the appropriate balance is between the risk of allowing claims that will turn out to be false and banning claims that will turn out to be true.¹²

Providing evidence on the effects of advertising¹³ and policies affecting advertising is difficult. Data on the amount and content of advertising is not readily available. Measurement of consumer and producer behavior potentially affected by the advertising under different regulatory conditions is also difficult. The changing legal environment and the policy shifts it encouraged provide a valuable opportunity to collect important evidence on these issues.

Food advertising and labeling is one of the areas where the policies have changed substantially in the last 25 years. Claims on food labels are primarily regulated by the Food and Drug Administration,¹⁴ and claims in food advertising by the Federal Trade Commission. Both agencies have made significant changes in their policies governing claims, especially health and nutrition-related claims, and these policies continue to evolve.¹⁵ This Essay will review a few key questions about advertising and regulatory policies, using original data collected from food advertising during the years 1977 to 1997. Part I describes the advertising data and changes in the regulatory landscape. Part II examines several advertising issues, including the information content of advertising, firms' responses to advertising policy shifts, the trade-off inherent in requiring added disclosures, and the role of market forces in shaping claims in advertisements. Part III summarizes these findings.

¹² See, e.g., *In re Pfizer, Inc.*, 81 F.T.C. 23 (1972) (laying out factors to be considered in the balancing test for substantiation of such claims). This is a key issue where scientific uncertainty exists. For instance, should firms be prohibited from discussing the potential link between vitamin C and cancer, if there is good scientific support for the relationship, but it is not yet proved? Is it possible to qualify the claim sufficiently to convey the scientific uncertainty to consumers? See, e.g., *Pearson v. Shalala*, 164 F.3d 650 (D.C. Cir. 1999).

¹³ I will focus on advertising in this discussion, but the arguments typically apply equally to labeling or other marketing.

¹⁴ The main exception is labels for meat and poultry products, which are regulated by the U.S. Department of Agriculture. See *Animals and Animal Products, Labeling, Marking Devices and Containers*, 9 C.F.R. § 317.2 (2004).

¹⁵ Recent court rulings, e.g., *Whitaker v. Thompson*, 248 F. Supp. 2d 1 (D.D.C. 2002), have found constitutional problems with the current regulations, and the FDA has recently reopened the comment period for proposed changes to its rules concerning certain nutrient content and health claims in food labeling. See *Food Labeling: Nutrient Content Claims, General Principles; Health Claims, General Requirements and Other Specific Requirements for Individual Health Claims; Reopening of the Comment Period*, 69 Fed. Reg. 24,541 (May 4, 2004) (to be codified at 21 C.F.R. pt. 101) [hereinafter *Food Labeling, Reopening of the Comment Period*].

I. EVIDENCE ON FOOD ADVERTISING

One of the fundamental difficulties in assessing advertising's effects is the limited data available on advertising. In several earlier studies, we examined food consumption using detailed consumer survey data from the U.S. Department of Agriculture on what people eat.¹⁶ These studies demonstrated that consumer diets improved during periods when the policies towards health- and nutrition-related claims were relaxed, compared to policy periods when more of these claims were prohibited. Data on new product introductions in the cereal market also showed that firms introduced more nutritious products when explicit health-related claims were allowed.¹⁷

But there is no systematic data on food advertising that would allow us to examine the types of claims actually made in advertising as the policies changed. Explicit evidence that the content of the advertising changed as the policies changed would provide more direct support for the hypothesis that advertising is the reason for the changes observed in diet.

To develop evidence on the types of claims made in food advertising, Janis Pappalardo and I undertook a major data collection effort.¹⁸ Television is the primary medium for food advertising,¹⁹ but unfortunately, no archives of television advertising exist that would allow systematic study. Magazines are the second most predominant medium for food advertising.²⁰ Since advertising themes are generally carried across the various media used, we expect changes in advertising claims in magazines to at least generally reflect overall advertising content.

The sample was drawn from five leading women's magazines and three leading general readership magazines, as shown in Table 1. The sample includes all food advertisements, except baby food and alcoholic beverages,²¹ from the February, June, and October issues each year from 1977 to 1997. The sample contains 11,647 advertisements.

¹⁶ See Pauline M. Ippolito & Alan D. Mathios, *Information, Advertising and Health Choices: A Study of the Cereal Market*, 21 RAND J. ECON. 459, 464 (1990); PAULINE M. IPPOLITO & ALAN D. MATHIOS, FED. TRADE COMM'N, INFORMATION AND ADVERTISING POLICY, A STUDY OF FAT AND CHOLESTEROL CONSUMPTION IN THE UNITED STATES, 1977-1990 (1996).

¹⁷ PAULINE M. IPPOLITO & ALAN D. MATHIOS, FED. TRADE COMM'N, HEALTH CLAIMS IN ADVERTISING AND LABELING: A STUDY OF THE CEREAL MARKET (1989) [hereinafter IPPOLITO & MATHIOS, CLAIMS IN ADVERTISING AND LABELING].

¹⁸ For a more detailed description of the data, see PAULINE M. IPPOLITO & JANIS K. PAPPALARDO, FED. TRADE COMM'N, ADVERTISING NUTRITION & HEALTH: EVIDENCE FROM FOOD ADVERTISING: 1977-1997 (2002).

¹⁹ *Id.* at 20.

²⁰ *Id.*

²¹ Baby food and alcoholic beverages are not governed by the labeling rules that apply to other foods. Food Labeling, Nutrient Content Claims, 21 C.F.R. § 101.13 (b)(3) (2004); Alcohol & Tobacco Tax & Trade Bureau, Dep't of the Treasury, 27 C.F.R. §§ 4-7 (2004).

Claims in the advertisements were extracted using manifest content analysis, which measures explicit advertising claims.²² In this technique, coders are given specific instructions on how to code the words in the advertisements, and to a limited extent, particular symbols or pictures. Coders are not asked to interpret what the words or pictures mean in a particular context.

Each advertisement was coded independently by two coders using a computerized coding instrument.²³ Any discrepancies were resolved by a third independent coder. These resolved data are used here.

A. *Nutrition-Related Claims in Advertising: Basic Definitions*

Regulations sometimes make distinctions among different types of nutrition-related claims. To reflect these differences, we define several classes of claims. First, *disease and affiliated claims*, sometimes called *health claims*, are defined to include all claims that specifically mention a disease. *Disease and affiliated claims* also include three types of claims closely affiliated with diseases: (1) *heart claims*, which are claims that mention “heart” but are not specific as to disease (e.g., “heart smart”), (2) *serum cholesterol claims*, which are closely affiliated with heart disease (e.g., “concerned about your cholesterol level?”),²⁴ and (3) *blood pressure claims* (e.g., “diets low in sodium can help control blood pressure”).

The second category of nutrition-related claims is *nutrient content claims*, which are defined as any statement or term in an ad that refers to a specific nutritional characteristic of a food (e.g., “low fat,” “high fiber,” “no

²² Content analysis is a technique used in many disciplines to collect objective, systematic, quantitative, and generalizable descriptions of communication content. The technique has been used to study advertising since at least the 1970s. In recent years, researchers have begun to use content analysis to investigate changes in the use of nutrition and health information in food advertising. See, e.g., Beth Wallace Hickman et al., *Nutrition Claims in Advertising: A Study of Four Women's Magazines*, 25 J. NUTRITION EDUC. 227 (1993); Janis Kohanski Pappalardo & Debra Jones Ringold, *Regulating Commercial Speech in a Dynamic Environment: Forty Years of Margarine and Oil Advertising Before the NLEA*, 19 J. PUB. POL'Y & MARKETING 74 (2000); John B. Lord et al., *The Bandwagon Isn't Rolling . . . Yet*, 28 J. ADVERTISING RES. 40 (1988); John B. Lord et al., *Health Claims in Food Advertising: Is There a Bandwagon Effect?*, 27 J. ADVERTISING RES. 9 (1987); Charlotte A. Pratt & Cornelius B. Pratt, *Comparative Content Analysis of Food and Nutrition Advertisements in Ebony, Essence and Ladies Home Journal*, 27 J. NUTRITION EDUC. 11 (1995). The technique has also been used to collect food labeling claims during the 1990s and that data generally parallels the information we find in advertising during those years. See Julie A. Caswell et al., *The Impact of New Labeling Regulations on the Use of Voluntary Nutrient-Content Claims and Health Claims by Food Manufacturers*, 22 J. PUB. POL'Y & MARKETING 147 (2003).

²³ See IPPOLITO & PAPPALARDO, *supra* note 18, at 9-11, 174-82 for additional description of claim coding and a copy of the coding instrument.

²⁴ Note that serum cholesterol claims do not include cholesterol content claims, such as “no cholesterol.”

cholesterol,” “contains vitamin E,” etc). The third category of nutrition-related claims includes the more qualitative, nonspecific nutrition-related terms often seen in marketing. These *general nutrition claims* are defined as any express statement or term, other than a nutrient content claim or health claim, that indicates a potential health or nutrient benefit of an advertised food. For instance, this category includes terms such as “healthy,” “good for you,” and “wholesome.”

B. *Changes in the Regulatory Landscape*

Nutrition-related claims have been the subject of considerable regulatory and enforcement scrutiny during the twenty year period from 1977 to 1997. Both the FTC and the FDA initiated major rulemakings during the years of our sample.²⁵ This paper focuses on five key regulatory events that represent major milestones in the changing environment.

1. FTC Food Rule Decisions: April 1980 (“Event 1”) and December 1982 (“Event 2”)

The first two events are associated with the FTC’s Food Rulemaking of the late 1970s and early 1980s. The first event occurred in April 1980, when the FTC ended Part II of the Food Rule, which would have regulated general nutrition claims, such as *health food* claims, and emphatic nutrition claims, such as “lots of fiber.” The Commission also directed its staff to continue with an effort to define conditions for fatty acid and calorie claims, heart-related health claims, and some other nutrient and general claims. On December 17, 1982, the Commission voted to end the remaining portions of the Food Rulemaking, opting instead to proceed on a case-by-case basis under its general deception authority. Thus, by early 1983, it was clear that the FTC would not challenge nondeceptive claims about nutrition issues, including explicit health claims. It is in this environment that Kellogg initiated planning for its fiber-cancer advertising campaign that first aired in October 1984.²⁶

2. FDA Health Claim Proposal: August 1987 (“Event 3”)

Health claims also raised the risk of legal action at the FDA, which prior to 1987 essentially banned all diet-disease claims on food labels. After

²⁵ The USDA adopted regulations for meat and poultry labeling that largely parallel the FDA labeling rules. I will not discuss them separately.

²⁶ See IPPOLITO & MATHIOS, CLAIMS IN ADVERTISING AND LABELING, *supra* note 17.

much public discussion, in August 1987 the FDA proposed a rule that would allow nondeceptive health claims on labels under a reasonable basis/*ex post* standard.²⁷ This proposal was widely viewed as reducing firms' legal risk in making certain health claims.²⁸

3. FDA Rescinded 1987 Proposal: February 1990 ("Event 4")

After considerable public debate, the FDA rescinded its 1987 proposal in February 1990. This was followed in July 1990 by publication of a more restrictive FDA proposal for food claims, and in November 1990 by passage of the *Nutrition Labeling and Education Act of 1990* ("NLEA"), legislation which imposed standards for revising food labeling rules. The events of 1990 are broadly perceived as restricting producers' freedom to use health and other nutrition claims and setting the stage for revising labeling rules under the NLEA.²⁹

4. FTC Food Policy Statement / Final NLEA Rules Effective: May 1994 ("Event 5")

Following the enactment of the NLEA, the FDA developed extensive regulations covering all nutrition-related aspects of the food label. This was a period of considerable uncertainty as rules were proposed, revised, and finalized. The major proposal was issued in November 1991. Label regulations governing health claims became effective in May 1993 and nutrition claims in May 1994. Also in May 1994, the FTC issued a policy statement harmonizing food advertising policy with the new food labeling rules, essentially announcing that the FTC would not challenge the FDA-allowed claims in advertising. In December 1995, the FDA also issued a proposed rule to clarify key features of the NLEA regulations and to ease some health claim rules, but this proposal has not been finalized.³⁰

Key features of the NLEA-based rules included a listing of approved nutrition claims, a prohibition of unapproved nutrition claims, explicit requirements for nutrient content claims, triggered disclosures in some cases

²⁷ Under such a standard, the scientific substantiation for a claim is evaluated in light of the claim that is made and does not require pre-approval by the regulating agency.

²⁸ See, e.g., *Food and Drug's Health Claims Initiative Could Be In Trouble*, FOOD INSTITUTE REPORT, Dec. 12, 1987, at 9-10.

²⁹ See, e.g., *Health Claims Regulatory 'Retreat' Hit in Comments*, FOOD CHEMICAL NEWS, May 21, 1990, at 41.

³⁰ Food Labeling: Nutrient Content Claims, General Principles; Health Claims, General Requirements and Other Specific Requirements for Individual Health Claims, 60 Fed. Reg. 66,206 (Dec. 21, 1995) (to be codified at 21 C.F.R. pt. 101). Recently, the FDA reopened the comment period for the proposed rule. See Reopening of Comment Period, 69 Fed. Reg. 24541 (May 4, 2004).

(e.g., for comparative claims such as “less fat,” and provisions for a limited number of health claims, with specific restrictions on which foods can make such claims).³¹

II. WHAT CAN WE LEARN FROM FOOD ADVERTISING?

The changing regulatory environment and our detailed data on advertising claims allow us to provide evidence on several basic advertising issues. These include the following.

A. *Advertising is a Significant Source of Information for Consumers*

Economic theory indicates that advertising should be a source of information for consumers.³² As consumers search among available products in making purchase decisions, firms have an incentive to try to draw consumers to consider their products, especially consumers who would ultimately become regular customers. By providing product information through spending on advertising, firms can attract consumers who find these advertised characteristics desirable. Firms with products that deliver the advertised characteristics are more likely to get the repeat business necessary to make the advertising worthwhile. This simple mechanism is the fundamental force underlying the information theory of advertising.

In a variant of this information theory, a firm’s large public advertising expenditures can sometimes credibly “signal” a commitment to produce high quality goods, even when consumers cannot judge quality at purchase. The firm risks losing its advertising investment if enough consumers are not satisfied with the product and do not buy again; thus, firms have an incentive to provide promised quality.³³ In this signaling theory, it is the

³¹ For summaries of the major provisions, see Pauline M. Ippolito & Alan D. Mathios, *New Food Labeling Regulations and the Flow of Nutrition Information to Consumers*, 12 J. PUB. POL’Y & MKTG. 188 (1993) or the FDA’s Center for Food Safety and Applied Nutrition web site at <http://www.cfsan.fda.gov/label.html> (last visited Oct. 11, 2004).

³² See generally Gerard R. Butters, *Equilibrium Distributions of Sales and Advertising Prices*, 44 REV. ECON. STUD. 465 (1977); Sanford J. Grossman, *The Informational Role of Warranties and Private Disclosure About Product Quality*, 24 J.L. & ECON. 461 (1981); George J. Stigler, *The Economics of Information*, 69 J. POL. ECON. 213 (1961).

³³ This literature is typified by Phillip Nelson, *Advertising as Information*, 82 J. POL. ECON. 729 (1974); Phillip Nelson, *Information and Consumer Behavior*, 78 J. POL. ECON. 311 (1970). See also Pauline M. Ippolito, *Bonding and Nonbonding Signals of Product Quality*, 63 J. BUS. 41 (1990); Richard E. Kihlstrom & Michael H. Riordan, *Advertising as a Signal*, 92 J. POL. ECON. 427 (1984); Benjamin Klein & Keith B. Leffler, *The Role of Market Forces in Assuring Contractual Performance*, 89 J. POL. ECON. 615 (1981).

public expenditures, rather than the specific claims, that are the important information.

Empirical studies have attempted to assess the effects of advertising by examining, for example, whether prices are lower or higher in markets where advertising is allowed. This work is typified by the Benham and Bond *et al.* studies of prices for optometric services.³⁴ Benham found that prices were lower in states that allowed advertising compared to those states that did not,³⁵ and the Bond *et al.* study of the same market found that prices are lower and the quality of services comparable in states that allow advertising.³⁶

But these tests, and others like them,³⁷ are all indirect tests of the roles played by advertising. This empirical work does not directly address the question of whether advertising contains specific claims about products, or works through more indirect methods, like signaling. In large part, the difficulty of obtaining data on the types of claims actually made in advertising inhibited research through more direct tests.³⁸

The advertising claims data described above allows us to examine this issue directly. I will focus on two measures of specific nutrition-related information in ads. The first, labeled *Main nutrients*, identifies every advertisement in the sample that contains a specific claim about at least one of the following nutritional features of foods: total fat, saturated fat, monounsaturated fat, polyunsaturated fat, cholesterol, sodium, fiber, calcium, any other vitamin or mineral, carbohydrates, protein, and calories. The second, labeled *Specific nutrient, health, fat, oil or calorie claims*, adds to this list any advertisement that contains any specific health claim (e.g., “heart

³⁴ See Lee Benham, *The Effect of Advertising on the Price of Eyeglasses*, 15 J.L. & ECON. 337 (1972); RONALD S. BOND ET AL., EFFECTS OF RESTRICTIONS ON ADVERTISING AND COMMERCIAL PRACTICE IN THE PROFESSIONS: THE CASE OF OPTOMETRY (1980).

³⁵ See Benham, *supra* note 34.

³⁶ See BOND ET AL., *supra* note 34. But see Philip M. Parker, *Sweet Lemons: Illusory Quality, Self-Deceivers, Advertising and Price*, 32 J. MARKETING RES. 291 (1995) (questioning the finding of comparable quality).

³⁷ See John Cady, *An Estimate of the Price Effects of Restrictions on Drug Price Advertising*, 14 ECON. INQUIRY (1976) (prescription drugs); Amihai Glazer, *Advertising, Information and Prices: A Case Study*, 19 ECON. INQUIRY 661 (1981) (grocery prices during a newspaper strike); Alex R. Maurizi, *The Effect of Laws Against Price Advertising: The Case of Retail Gasoline*, W. ECON. J. 321 (1972) (retail gasoline); Jeffrey Milyo & Joel Waldfogel, *The Effect of Price Advertising on Prices: Evidence in the Wake of 44 Liquormart*, 89 AMER. ECON. REV. 1081 (1999) (liquor prices in Rhode Island before and after a legal decision removing an advertising ban).

³⁸ To our knowledge, no public datasets have systematic information on the claims made in advertising. However, several papers in the marketing literature do contain content information collected directly by the authors to address topics under study by them. See Pappalardo & Ringold, *supra* note 22; Grahame R. Dowling, *Informational Content in U.S. and Australian Television Advertising*, 44 J. MARKETING 34 (1980); David N. Laband, *The Durability of Informational Signals and the Content of Advertising*, 18 J. ADVERTISING 13 (1989); A.J. Resnik & B.L. Stern, *An Analysis of Information Content in Television Advertising*, 41 J. MARKETING 50 (1977).

smart” or “helps prevent cancer”), other specific nutrition-related claims (e.g. “lactose free” or “contains wheat germ,” and fat and oil claims, such as “made with canola oil”³⁹). Advertisements that contain only general nutrient claims, as typified by the terms “nutritious,” or “healthy,” are not included in either measure.

Figure 1 presents evidence on the percentage of advertisements in each year that contain a claim captured in these two measures. Using either measure, it is clear that a substantial portion of food advertising during this period contains specific claims about the nutritional features of products. Moreover, both measures show a sustained increase in the percentage of advertisements that include specific nutrition-related claims during the first half of our period. For instance, between 1977 and 1989, the percentage of ads with main nutrient claims rose from 18% to 49%, and the percentage of ads with claims from the broader class of specific nutrition-related claims rose from 28% to 62%. Since the late 1980s, the percentage of ads with nutrition claims has stabilized; approximately 40-50% of ads include claims about main nutrients, and approximately 50-60% include claims from the broader class of specific nutrition-related claims.

Other evidence in the advertising data on other types of claims also supports the hypothesis that advertising has substantial amounts of information. For instance, over 40% of the ads provide suggestions for using the product (e.g., recipes or other ideas), and over 50% of the ads include information about available varieties of the product (e.g., flavors, sizes, etc).⁴⁰

Taken together, these results provide compelling evidence that advertising is a substantial source of information about advertised products. Also, the evidence indicates that more advertisers focused on nutrition-related features of foods as knowledge of diet-disease issues spread in the 1970s and 1980s, and as the regulatory climate changed to be more open to such claims. Advertisers did not increase the focus on nutrition further in the 1990s following the NLEA-based regulatory changes.

B. *The Rules Matter: Firms Change Ads in Response to Policy Changes*

Assuming that producers believe that the content of their advertising matters, the claims in the ads should change systematically in response to changes in advertising rules and policy. This is due to profit maximization. If the changes create profitable opportunities, the firms will use them by making claims. The regulatory changes described above are most stark for

³⁹ See IPPOLITO & PAPPALARDO, *supra* note 18, at 133-36, for a more detailed discussion of the claims included in this measure.

⁴⁰ See IPPOLITO & PAPPALARDO, *supra* note 18, at 139 for additional evidence on specific product claims from other categories.

health claims, providing us a good opportunity to test the strength of producers' responses to regulatory changes.

The major regulatory events are described above and are summarized in Table 2. I will focus on the implications for the use of health claims. In 1978, the presiding officer of the FTC's food rulemaking issued a report recommending that heart disease claims be allowed in advertising. The FTC's decision in April 1980 not to close the health claims portion of the rulemaking would have been perceived as a negative event for advertisers interested in using health claims. Use of health claims would be expected to fall as the agency conducted further inquiry into the issue. In contrast, the FTC's decision in December 1982 to close the remaining portions of the food rulemaking made it clear that the Commission was willing to allow nondeceptive health claims. Advertisers would be expected to increase their use of health claims in response to this decision.

In the early 1980s firms using health claims in advertising also faced considerable risk from the FDA because the FDA could impute claims in ads to the label, if other claims on the label related to the ad claims in some way. As a result, the FTC's decisions might not have made much difference in advertisers' assessment of the risks inherent in using health claims in ads. If so, the FDA's August 1987 proposal to allow health claims under a standard similar to the FTC's reasonable basis/deception standard should have been a positive event for advertisers, removing the remaining regulatory concern in using nondeceptive health claims in ads.

This positive event for health claims was reversed in February 1990, when the FDA withdrew its 1987 proposal. This began the multi-year process of arriving at the final NLEA rules for health claims, which became effective in May 1993 and allowed a more limited number of pre-approved health claims. The FTC's *Enforcement Policy Statement on Food Advertising* in May 1994 clarifies that the label rules have implications for advertising. These events should once again have increased producers' use of health claims.⁴¹ These predicted effects on the use of health claims are noted in the last column in Table 2.

Figure 2 illustrates the evidence on the use of health claims in each year between 1977 and 1997.⁴² The figure also indicates when the events occurred. Note that the evidence is clearly consistent with the predictions in Table 2. Advertisers' use of health claims fell when the rules were tightened, as in Events 1 and 4, and rose when the rules were more open to such claims, as in Events 2, 3, and 5. Regression estimates relating the use of health claims to these regulatory events show the relationships are statisti-

⁴¹ Note, in particular, that we focus on the FTC's enforcement statement as the key post-NLEA event, but the results do not change significantly if we use the May 1993 effective date for the FDA health claims rules instead.

⁴² Note that the year indications in the figure mark the end of the year and the percentages are based on year-end totals.

cally significant.⁴³ Figure 2 also includes evidence on the percentage of food ads that include a claim about heart disease or serum cholesterol. Clearly, most health claims during these years were about heart issues.

Taken together, these results are consistent with the view that advertisers respond to the regulatory rules they face in making claims. Given sufficient consumer interest, changes in the regulatory rules can lead to significant and relatively quick changes in advertising claims. The easing of the rules governing health claims in the mid 1980s, in particular, had a substantial and significant effect on whether producers focused on diet-disease issues in their advertising. Thus, this evidence suggests that the rules governing label and advertising claims can have a substantial effect on the information flowing to consumers.

C. *Added Disclosures and Other Requirements Involve a Trade-off*

Claims that lack important information can be deceptive, and requiring additional information can remedy this possibility. But requiring additional information in claims also raises the firm's cost of making the claims, and the "clutter" of the added requirements may make the claims less effective as a marketing tool. If these effects are significant, they reduce firms' incentives to make the claims at all. Thus, policy must confront an inherent trade-off: requiring disclosures results in fewer claims. Whether this effect is large or not is an empirical issue.

Comparative claims are a subset of nutrient content claims that explicitly or implicitly compare the level of a nutrient to that in other foods, such as "less fat" or "fewer calories." Under the NLEA rules, comparative claims on labels are required to meet a number of additional restrictions and to disclose more information as part of the claim. In particular, producers are required to disclose the comparison product, the percentage (or fraction) that the nutrient is reduced, and the actual amount of the nutrient for both the product and the comparison food.⁴⁴ The NLEA rules also place additional constraints on allowed comparisons. Products must have at least 25% less (or more) of the nutrient in question. Products can only be compared to allowed reference foods, as defined by regulation,⁴⁵ and the reference food cannot already have a low (or high) level of the nutrient. Theoretically, these added disclosures and conditions in the NLEA rules increase the in-

⁴³ See IPPOLITO & PAPPALARDO, *supra* note 18, at 98.

⁴⁴ Food Labeling, Nutrient Content Claims, 21 C.F.R. § 101.13(j)(2)(ii)-(iv) (2003). In the labeling rules, the first two pieces of information must be immediately adjacent to the claim, but the actual amounts of the nutrient may be adjacent to the most prominent claim or on the same panel as the nutrition label. *Id.* Thus, under the NLEA regulations, a claim of "less fat" would become "25% less fat than our regular product, 8 grams of fat per ounce versus 11 grams per ounce."

⁴⁵ For instance, for "less" and "more" claims, the regulations allow comparisons only to foods in the same product category. *See id.* § 101.13 (j)(1)(i)(A).

formation in comparative claims that are made, but they also reduce the incentive to make comparative claims. While advertisers are not directly bound by the FDA labeling rules, FTC policy guidance states that claims not in compliance with the FDA rules receive careful scrutiny from the FTC.⁴⁶

To assess the likely effects of the NLEA rules on the use of comparative claims, Table 3 presents linear ordinary least squares regression results relating the use of comparative claims for major nutrients to the key regulatory events.⁴⁷ The coefficients in the table for each event basically indicate the added (+) or reduced (-) probability that an advertisement had a comparative claim for a given nutrient after the event. So, for instance, the probability that an ad has a comparative claim about sodium increased incrementally by .005, .011, and .024 after regulatory Events 1, 2, and 3, respectively, and fell by .003 and .023 after the NLEA-related Events 4 and 5, from the base level of .001.

The results indicate that the use of comparative claims rose significantly as the rules were relaxed in the pre-NLEA periods. Six of 8 coefficients are significant after both Event 2 and the Event 3, and 11 of the 12 significant coefficients are positive. These results suggest increases in direct competition on the nutritional features of foods as the rules were relaxed.

Following the NLEA, the trends changed markedly. After Event 4, 5 of 8 coefficients are significant, and after Event 5, 6 of the 8 are significant, but only 3 of these 11 significant coefficients are positive. Most notably, after 1994, when the NLEA rules became final and FTC issued its statement harmonizing FTC policy with FDA's implementing rules, 7 of the 8 coefficients are negative (6 are significant), and the only exception is for fat, which exhibits a small, insignificant rise.

Thus, one of the most consistent changes in food advertising observed in the post-NLEA period is the systematic reduction in the use of comparative nutrient content claims. With the exception of fat, the use of comparative claims is lower for all of the major nutrients in the post-NLEA period relative to the years preceding its passage. In fact, the evidence indicates

⁴⁶ The FTC's Enforcement Policy Statement on Food Advertising, issued in May 1994, summarizes the agency position on comparative claims as follows: "In summary, the Commission ordinarily will not challenge comparative nutrient content claims that comply with FDA's regulations, and will carefully scrutinize comparative nutrient content claims that characterize nutrient differences in ways that do not comply with FDA's regulations." Enforcement Policy Statement on Food Advertising, 59 Fed. Reg. 28,388 (F.T.C. June 1, 1994).

⁴⁷ Probit regression results are consistent with the linear results. The linear regression equation is $Y = a + b D_{5/1980} + c D_{1/1983} + d D_{8/1987} + e D_{2/1990} + f D_{5/1994}$, where $Y = 1$ if the ad has the claim, and 0 otherwise, and $D_t = 1$ if the date of the ad is after event date t , 0 otherwise, and a through f are the estimated coefficients.

that comparative claims are virtually eliminated by 1997 for all nutrients except fat.⁴⁸

The evidence does not allow us to determine precisely why comparative claims fell so consistently under the NLEA rules. The added disclosures required to make such claims under the rules, or the added conditions for using them, may make the claims less effective or sufficiently costly that producers abandon them. But the evidence clearly indicates a large reduction in direct comparative claims under the NLEA rules and illustrates that the trade-off regulators must face is not a trivial one. In the case of comparative nutrient claims in the post-NLEA environment, the reductions have been sizable and suggest a potentially important reduction in head-to-head competition on the nutritional features of foods.

Research would be valuable to help determine whether the effects of these reductions on consumer behavior, and on firms' incentives to develop and promote nutritionally preferred foods, have been beneficial or harmful. If the earlier claims were misleading to consumers, their elimination should lead to dietary improvements for consumers. If the earlier claims were not misleading but provide useful comparative information to consumers, or useful invitations to compare the products,⁴⁹ their loss should slow dietary improvements for consumers and reduce firms' incentives to make food improvements. But whatever the effects, the evidence indicates that policies that place significant burdens on claims can substantially reduce firms' incentives to compete using those types of claims.

D. *Market Forces Also Play an Important Role in Shaping Ad Claims*

Whatever the regulatory and legal principles governing advertising claims, market forces create incentives that cannot be ignored. For instance, the market should limit many types of deceptive claims. Firms that risk damaging their reputations and losing customers. This force should provide incentives to limit many types of deceptive claims.⁵⁰

Similarly, market forces limit some types of truthful advertising regardless of the regulatory rules. If it is not profitable to advertise particular products, or particular features of products, firms will not advertise them. For example, the typical apple grower has little incentive to spend substantial resources advertising the nutritional benefits of apples because the information would apply to all apples, and the grower would receive only a

⁴⁸ See IPPOLITO & PAPPALARDO, *supra* note 18, at 39-49 figs. 4.2, 4.3, 4.6-4.9 (presenting evidence on the use of comparative claims after the NLEA).

⁴⁹ Throughout these years, standardized nutrition labeling was required on any product making a nutrition-related claim.

⁵⁰ For a more complete discussion of market reputation incentives, see, for example, Klein & Leffler, *supra* note 33.

small portion of any increased sales from the advertising.⁵¹ Regulatory efforts to increase particular types of advertising (e.g., limiting competitors' ability to advertise) may have little effect if the advertising itself is not profitable.

The next two sections present evidence from food advertising showing that market discipline⁵² and underlying market incentives to advertise are important features of advertising, and merit attention in crafting legal and regulatory rules.

1. Market Forces and Deception Policy Appear Effective in Limiting Health Claims in Key Food Categories Where Deception Is a Concern

A number of provisions in the NLEA rules are motivated by a concern that producers of empty or otherwise nutritionally deficient foods would use health claims in marketing their products. Under the NLEA rules, for instance, health claims are limited to foods that are "best" on the dimensions relevant to the particular health claim, "not bad" on other key dimensions, and "nutritious" in the sense that they provide a minimum level of nutrition on at least one of six specified nutrients (without supplementation).⁵³ The third requirement is commonly called the "jelly bean rule," because it is designed to ensure that an advertiser of jelly beans (or other sugar-based products) would not be able to make, for example, a heart disease claim under NLEA rules, even though the product is low in fat and saturated fat, and contains no cholesterol, and thus would meet all the other conditions for a heart-healthy claim. In the late 1980s, when the health claim debate was most vigorous, the prospect of oat bran potato chips with heart claims, or fiber enriched donuts with cancer claims, was regularly invoked as part of the rationale for stricter regulation.

The extent to which advertisers of desserts and snack foods would indeed make health claims that would mislead consumers depends in large part on whether manufacturers believe that such claims would be credible with consumers and therefore profitable, and whether the claims would be judged to be deceptive under standard deceptive advertising enforcement

⁵¹ This feature of commodity markets provides the rationale for the agricultural marketing programs, which allow producers of agricultural commodities to jointly market their goods under an exemption to the antitrust laws.

⁵² At least in the presence of normal deception policy enforcement.

⁵³ See Food Labeling, Nutrient Content Claims, 21 C.F.R. § 101.14 (2003) for general requirements for health claims on labels, or see Ippolito and Mathios (1993), *supra* note 27, for a summary of the requirements. For example, for a food product to mention sodium's role in hypertension, the product must be "low" in sodium (less than 140 mg per serving); it must contain less than 13 g fat, 4 g saturated fat, 60 mg cholesterol, and 480 mg sodium per serving; and without fortification, it must contain at least 10% of the Daily Reference Value for vitamin A, vitamin C, iron, calcium, protein, or fiber.

policy.⁵⁴ If these claims are not a significant concern, the sharp restrictions in the NLEA rules designed to limit potential deception from them may not be justified in light of the truthful claims they preclude.⁵⁵

I examine directly the extent to which dessert and snack food producers used health claims in their advertising before the NLEA restrictions were implemented. To this end, I focus on two food categories: (1) Drinks, which excludes juice or milk but includes all carbonated soft drinks, all fruit-flavored beverages and other beverages such as coffee, tea and water, and (2) Desserts/Snacks, which includes all desserts, sweets, donuts, danishes and other sweet breads, salty snacks, such as potato chips and pretzels, and related items. Most so-called “junk foods” are included in these two categories, along with many foods that have positive nutritional value.

Table 4 presents the percentage of advertisements in each year with a health claim in the two categories. First, note that for all but three years in the Dessert/Snack category, and all but one year in the Drink category, no advertisements contained health claims. Thus, throughout the regulatory periods, before and after the NLEA, health claims are not a significant phenomenon in these categories.

Moreover, the occasional exceptions are either likely to be allowed under the NLEA or are marginal claims picked up by our coding system, which may or may not have been seen as health claims by consumers. In the latter category are the 1985 advertisements for a peanut butter with the tag line “good nutrition straight from the heart” and the 1997 advertisement for a rice cake product providing publicity for a walk to raise funds for breast cancer research. Recall that our coders are not allowed to judge the intent of any claim in the context of an ad, but are required simply to code the presence of any disease-related words in the advertisements, hence the heart and cancer claims in these cases. The 1989 advertisements are for a low fat oat bran muffin mix with the claims “as part of a low fat, low cholesterol diet, can help to reduce cholesterol” and as much fiber “as a bowl of fruit-bran cereal.” It is impossible to judge from the advertisement whether the product would meet all the current requirements for an oat bran-heart disease claim, but certainly that is possible. The 1980 advertisements in the Drink category are ads for a low calorie lemonade drink highlighting the absence of an artificial sweetener, which had “been determined to cause cancer in laboratory animals.” In the late 1970s and early 1980s, concern about artificial sweeteners led to claims of this type in a few product categories.

Certainly, these data do not support the hypothesis that absent strict regulatory restraints, health claims would be widely used by producers of

⁵⁴ Of course, I should be clear that there may be truthful, nonmisleading health-related statements that could be made in advertising for some dessert or snack products.

⁵⁵ For instance, these NLEA rules for health claims ended the competition on the health reasons to choose one fat or oil over another. *See* IPPOLITO & PAPPALARDO, *supra* note 18, at 149-59.

nutritionally vacuous or significantly deficient products. In part, this lack of claims may reflect advertisers' concerns about normal advertising enforcement against deceptive or misleading claims. Alternatively, such claims may not be effective with consumers, who presumably might be skeptical of claimed health benefits of oat bran potato chips or the like. Whatever the cause, the evidence indicates that both before and after the NLEA, health claims have not been a significant phenomenon in the Desserts/Snacks or Drinks categories.

Finally, I also examined data on the amount of advertising in these two categories. The Desserts/Snacks category is large and has considerable advertising, averaging more than 50 advertisements per month in the early years of the sample. However, the amount of advertising in the Desserts/Snacks category fell significantly in the late 1980s, the period before the NLEA rules, and this reduced level of advertising did not change in the post-NLEA period. The number of advertisements in the category fell by approximately one-third during the late 1980s. For Drinks, the number of advertisements slowly declined over the whole period from approximately 21 advertisements per month in the late 1970s to approximately 12 advertisements per month in the post-NLEA period, approximately a 40% reduction. The decline does not appear to be associated with any of the regulatory periods.

Thus, both the Desserts/Snacks category and the Drinks category exhibit less advertising over time, but these declines do not seem to be associated with the NLEA or its implementing regulations. In fact, the substantial reduction in the Desserts/Snacks category coincides with the period of greatest health claim activity in the late 1980s, before the passage of the NLEA.

Overall, the available advertising evidence does not support the conclusion that inappropriate health claims in advertising were an important issue for either the Desserts/Snacks category or the Drinks category before the NLEA. Nor does it appear that the added constraints implemented in the NLEA rules, and that presumably affect advertising through the FTC's Food Policy Statement, were important factors in constraining such claims or in reducing the amount of advertising in these categories after the NLEA.

2. "Good Foods" Do Not Advertise More Post-NLEA

As described above, the NLEA rules limit health claims to the "best" foods on the nutritional dimensions relevant to the claim. By limiting health claims to what might be considered "good foods," the supporters of the rules hoped that producers of these foods would find it more profitable to promote the foods, and as a result, would have greater success in getting consumers to include these foods in their diets in place of less desirable foods. If these presumptions are correct, these NLEA rules should increase

the amount of advertising of “good foods,” increase the use of health claims to promote the foods, and together, these changes could lead to improvements in consumer diets.

The hypothesis that added regulatory restrictions on health claims in the post-NLEA period would make it easier and more profitable for firms selling “good foods” to advertise, leading to more advertising by these types of foods, can be examined with my data. Table 5 presents simple linear regressions relating the number of advertisements per month to the key regulatory events for nine food categories⁵⁶ that cover all the food ads in our database.⁵⁷

Prior to 1987, coefficients for the regulatory variables are generally not significant, with only one exception: Event 1 for the Poultry/Fish/Grain category. These results indicate that the number of advertisements does not change significantly in the pre-1987 environment. Between 1987 and 1990, when the FDA labeling rules were relaxed and health claim advertising was at its peak, the number of advertisements in the listed food categories also showed no significant increases or decreases, again with only one exception, the Desserts/Snacks category, where the number of ads fell by 34%.

Finally, in the post-NLEA period, 8 of the 9 coefficients for Event 4 are negative (the exception is an insignificant positive for Desserts/Snacks). Three of these decreases are significant, for the Vegetables/Fruit/Juice, Cereal/Bread, and Fats & Oils categories. For the final NLEA event in May 1994, 6 of 9 coefficients are negative, and 2 are significant, for Fats & Oils and Fruit/Vegetables/Juice. Three of the coefficients are positive, but they are all of the same magnitude and opposite in sign from their corresponding 1990 coefficients, indicating no net change for all three in the post-NLEA period.

Thus, at this level of aggregation, there is no evidence of increased advertising in “good food” categories in the post-NLEA period, but some

⁵⁶ More detailed descriptions of which foods are in each category can be found in IPPOLITO & PAPPALARDO, *supra* note 18, at 26. Basically, foods are allocated to a given food category based on the primary ingredient in the food. Thus, for instance, spaghetti with meat sauce would be in the Poultry/Fish/Grain category, because pasta, a grain product, is the primary ingredient.

⁵⁷ Other regression specifications that allowed for an overall time trend or control for the cost of magazine advertising do not change the findings reported here. None of the food categories have a significant time trend in those specifications. The coefficients in Table 5 for each event indicate the average number of advertisements added or subtracted from the base during that regulatory period. Thus, for instance, for the Dessert/Snacks category, the base number of ads is 49.9 per month, and the average increases by 8.23 ads per month after April 1980, falls by 6.98 ads per month after December 1982, falls by an additional 17.64 ads per month after August 1987, and then rises and falls by 3.33 and 4.20 ads per month after the two post-NLEA events. Only the 17.64 drop after August 1987 is significant, as indicated by the asterisks.

evidence of reduced advertising in certain food categories.⁵⁸ The reductions in advertising post-NLEA are significant in one category targeted for reduced consumption (Fats & Oils), as well as one “good food” category targeted for increased consumption (Fruit/Vegetables/Juice).

The Fruit/Vegetable/Juice category is, of course, the primary example of a “good food” category that proponents of the NLEA restrictions hoped would benefit from the restrictions placed on other foods’ ability to use health claim advertising. However, as discussed above, fruit and vegetable producers’ incentives to advertise are limited by the commodity nature of their products. Frozen and canned fruit and vegetable producers, such as Birds’ Eye and Del Monte, do advertise their brands. Also, a number of federal- and state-authorized entities, such as the Florida Citrus organization or the California almond producers also advertise for their growers.

Given the importance of the Fruit/Vegetable/Juice category, and the evidence contrary to the NLEA restrictions hypothesis, I examined the evidence for this category in more detail. First, the drop in the amount of advertising was large. Between 1977 and 1990, my sample averages approximately 100 ads per year, with no discernible trend. After 1990, the number of advertisements per year fell by approximately 50% to about 50 ads per year.⁵⁹

Moreover, a detailed assessment of the underlying advertising data does not indicate any large advertisers, or particular classes of fruit and vegetable producers, who systematically stopped advertising between 1990 and 1993. In particular, I did not find the drop concentrated among the marketing order producers, which I checked in light of the litigation against marketing orders during this period.⁶⁰

I also examined the use of health claims in the category because these were also predicted to increase under the NLEA rules. Here again the evidence is not very supportive of the “good food” hypothesis underlying the labeling rules for health claims.

⁵⁸ Nutritionists generally argue that there are good diets and bad diets, but that all foods can be consumed at some level. I am using the term “good foods” here to indicate foods generally recommended for increased consumption in the U.S. diet.

⁵⁹ Food advertising overall experiences a modest downward trend over the years of our sample. If we examine the category as a percentage of all food advertising, the results are qualitatively the same, but the reduction in the post-NLEA period is approximately 35% instead of 50%.

⁶⁰ See, e.g., *Glickman v. Wileman Bros. & Elliott, Inc.*, 521 U.S. 457 (1997), *reh’g denied*, 521 U.S. 1145 (1997); *Cal-Almond, Inc. v. U.S. Dep’t of Agric.*, 14 F.3d 429 (9th Cir. 1993), *appeal after remand sub nom.* *Cal-Almond, Inc. v. Dep’t of Agric.*, 67 F.3d 874 (9th Cir. 1995), *subsequent appeal sub nom.* *United States v. Cal-Almond Inc.*, 102 F.3d 999 (9th Cir. 1996), *vacated and remanded sub nom.* *Dep’t of Agric. v. Cal-Almond, Inc.*, 521 U.S. 1113 (1997); John M. Crespi, *Promotion Checkoffs, Why So Controversial? The Evolution of Generic Advertising Battles*, NAT’L INST. FOR COMMODITY PROMOTION RESEARCH & EVALUATION, RESEARCH BULLETIN NO. 2001-04 (2001) (summarizing litigation in the area).

The first type of evidence is the number of different types of fruits and vegetables that make health claims in advertising. Orange juice producers are the most frequent users of health claims throughout the years of the study, but in the years after the NLEA rules, health claims in the category are used almost exclusively by orange juice producers.⁶¹ Prior to the NLEA rules, other fruit or vegetable producers made heart or cancer claims, including grapefruit juice producers, West Coast pear producers, California lima bean producers, and the California Prune Board. Prior to passage of the NLEA in 1990, 61% of advertising with a disease or affiliated claim in the Fruit/Vegetable/Juice category were for orange juice; after the NLEA rules were effective in May 1993, 95% of ads with these claims in the category were for orange juice. Thus, the evidence is not consistent with the hypothesis that the post-NLEA rules increase the number of different types of fruit and vegetable producers using health claims in their advertising; in fact, the opposite is true.

For the category as a whole, those producers who continue to advertise are more likely to use health claims. After 1990, use of health claims increased by 9.3 percentage points, compared to the pre-1990 period. However, this increase is due as much to the reduction in the number of ads in the category as it is to the increase in the number of (orange juice) ads making health claims.

3. Summary

Taken together, the evidence from the pre- and post-NLEA period indicates that it is difficult to induce advertising when market forces do not support it. The evidence also indicates that concerns about producers of nutritionally vacuous or even deleterious foods touting health benefits are not supported by the data in our sample; advertisements for junk foods did not make health claims before or after the NLEA.

CONCLUSION

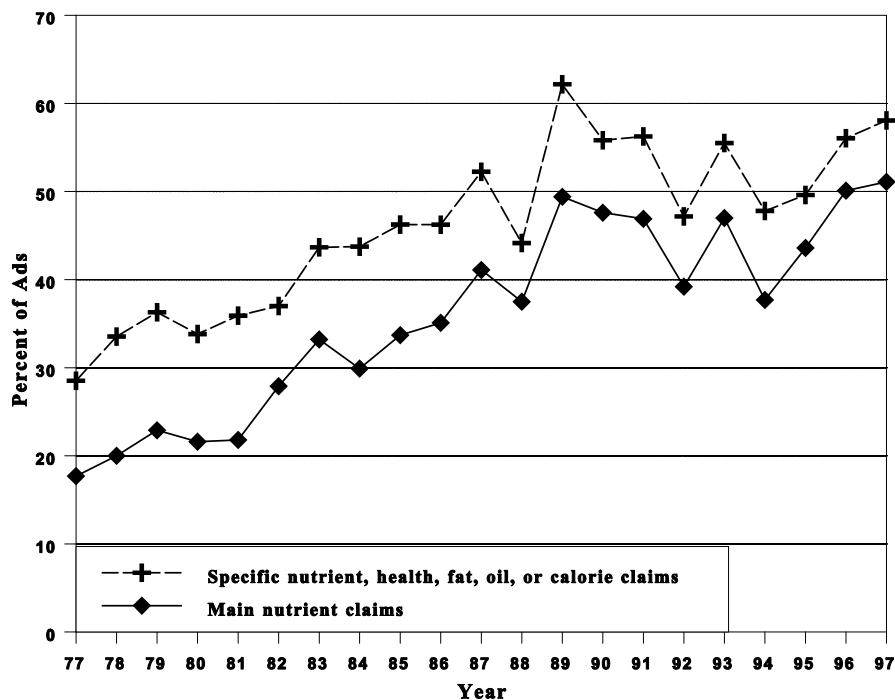
The legal protections given to commercial speech have changed markedly in the last 25 years. The shifting legal environment set the stage for major changes in the policies governing food advertising and labeling, creating a unique opportunity to examine the role of advertising in markets and to explore key issues underlying debates about how best to structure marketing policy.

⁶¹ After 1990, with only two exceptions, all advertisements in the category that have health claims are orange juice ads. One advertisement for Campbell's V8 juice includes a cancer and heart claim in 1996, and one advertisement for the California Dry Beans Association has a heart claim.

Using original data on the content of food advertising between 1977 and 1997, this paper provides evidence on several advertising issues. The data makes it clear that advertising is a significant source of information for consumers; as the restrictions on nutrition-related claims in marketing were relaxed, advertising turned increasingly to specific claims about the nutritional characteristics of foods. The evidence also makes it clear that the regulatory rules matter; as the rules governing health claims changed, firms increased or decreased their focus on health accordingly. The data also provides substantive evidence that the policy trade-off between more complete claims, but fewer of them is not a trivial matter; as the burdens on comparative nutrient claims were increased under the NLEA rules, the number of claims fell for all major nutrients except fat. Finally, the evidence makes it clear that market forces are important in shaping advertising. Firms will not advertise if it is not profitable to advertise, and market discipline and normal deceptive advertising laws appear effective in limiting certain types of potentially deceptive claims. The NLEA's efforts to increase advertising of "good foods" did not produce more advertising; for instance, fruit and vegetable advertising did not increase post NLEA—in fact, it fell. Similarly, the concerns about producers of "junk foods" touting health benefits are not supported by the evidence; advertisers of desserts, snacks, and soft drinks did not use health claims before or after the NLEA.

The legal protection of commercial speech has increased significantly in the last 25 years. Economic theory and a growing body of empirical evidence suggest that this is an important development. The ability of firms to speak to potential consumers about important product characteristics is an essential element of competition—it informs consumers and pushes firms to offer better products. The insights provided by the experience in food marketing affirm this view.

Figure 1 Percent of Advertisements with Specific Nutrition Claims⁶²



⁶² *Main nutrient claims* are specific claims about total fat, saturated fat, monounsaturated fat, polyunsaturated fat, cholesterol, sodium, fiber, calcium, any other vitamin or mineral, carbohydrates, protein, and calories. *Specific nutrient, health, fat, oil, or calorie claims* includes all claims in the specific nutrition-related claims portion of our coding scheme, including all ads with main nutrient claims, as well as specific health claims, other specific nutrition-related claims, such as *lactose free*, and other fat or oil claims, such as *made with canola oil*.

Figure 2 Percent of Advertisements with Health Claims

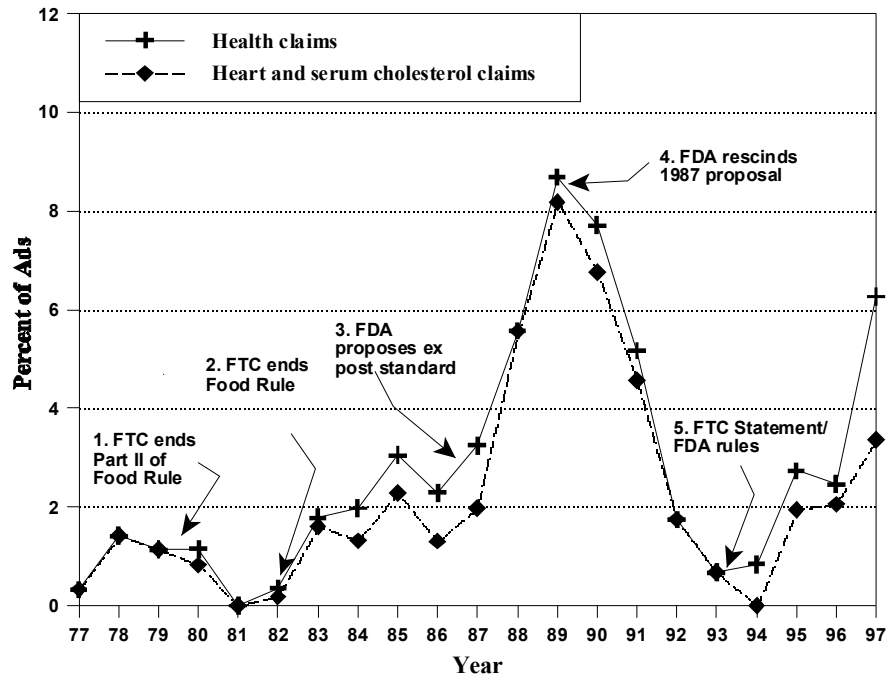


Table 1 Advertising Sample**Women's Magazines**

Better Homes and Gardens

Good Housekeeping

Ladies' Home Journal

McCall's

Women's Day

General Readership Magazines

Reader's Digest

Time

Newsweek

Months and Years Included

February, June, October 1977-1997

Foods Covered

All foods except baby foods and alcohol

Sample has 11,647 advertisements.**Table 2 Key Regulatory Events with Predictions for Health Claims**

| Event Number | Date | Event | Predicted Change in Health Claims |
|---------------------|---------------|---|--|
| 1 | April 1980 | FTC ends Part II of the Food Rule; staff to develop health claim rules | H↓ |
| 2 | December 1982 | FTC ends Food Rule; health claims allowed if not deceptive, no prior approval | H↑ |
| 3 | August 1987 | FDA proposes similar ex post standard for health claims on labels | H↓ |
| 4 | February 1990 | FDA rescinds 1987 proposal; NLEA passed | H↑ |
| 5 | May 1994 | FTC Enforcement Statement; FDA/NLEA rules in effect | H↓ |

2004]

FOOD ADVERTISING POLICY OVER THE LAST 25 YEARS

963

Table 3 Regression Results for Nutrient Comparison Claims Across Regulatory Periods⁶³

| Nutrient | FTC ends Part II Food Rule April 1980 (1) | FTC ends entire Food Rule December 1982 (2) | FDA health claim proposal August 1987 (3) | FDA with- draws 1987 proposal /NLEA February 1990 (4) | FTC Policy Statement FDA/NLEA rules May 1994 (5) |
|---|---|--|--|---|---|
| Fat | .004 | -.005 | .024** | .041** | -.007 |
| Saturated Fat | .001 | .008** | .007** | .006* | -.011** |
| Cholesterol | .000 | .006 | .015** | .002 | -.026** |
| Sodium | .005 | .011** | .024** | -.003 | -.023** |
| Fiber | .002 | .008** | .014** | -.022** | -.009** |
| Calcium | -.003 | .014** | -.004 | -.002 | -.000** |
| Vitamin/Mineral | .002 | -.009** | -.001 | .016** | -.012** |
| Calorie/Diet | .021** | .021** | .018** | -.027** | -.051** |
| <i>Significant Coeffi- cients/Total</i> | 1/8 | 6/8 | 6/8 | 5/8 | 6/8 |
| <i>No. Positive/ No. Significant</i> | 1/1 | 5/6 | 6/6 | 3/5 | 0/6 |

⁶³ ** indicates significance at the 5% level in a 2-tailed test; * at the 10% level. Dependent variable equals 1 if ad has claim; 0 otherwise. Linear specification. Events described in text surrounding Table 2. Addition of a trend variable does not change qualitative results and trend is significant (positive) only for fiber and calcium and (negative) for vitamins. Probit estimates give comparable results. The constant terms in the linear estimates are .021 (fat), .000 (sat. fat), .005 (chol.), .001 (sodium), .007 (fiber), .003 (calcium), .012 (vit./min.), .023 (cal./diet). All are significant except for sodium and calcium.

Table 4. Percentage of Advertisements with Health Claims for Desserts/Snacks and Drink Categories

| Year | Desserts/Snacks ⁶⁴ | Drinks ⁶⁵ |
|------|-------------------------------|----------------------|
| 1977 | 0.0 | 0.0 |
| 1978 | 0.0 | 0.0 |
| 1979 | 0.0 | 0.0 |
| 1980 | 0.0 | 3.6 ⁶⁶ |
| 1981 | 0.0 | 0.0 |
| 1982 | 0.0 | 0.0 |
| 1983 | 0.0 | 0.0 |
| 1984 | 0.0 | 0.0 |
| 1985 | 0.5 ⁶⁷ | 0.0 |
| 1986 | 0.0 | 0.0 |
| 1987 | 0.0 | 0.0 |
| 1988 | 0.0 | 0.0 |
| 1989 | 2.2 ⁶⁸ | 0.0 |
| 1990 | 0.0 | 0.0 |
| 1991 | 0.0 | 0.0 |
| 1992 | 0.0 | 0.0 |
| 1993 | 0.0 | 0.0 |
| 1994 | 0.0 | 0.0 |
| 1995 | 0.0 | 0.0 |
| 1996 | 0.0 | 0.0 |
| 1997 | 1.2 ⁶⁹ | 0.0 |

⁶⁴ The Desserts/Snacks category includes all advertising for desserts, sweets, donuts, danish or other sweet breads, salty snacks, such as potato chips and related items.

⁶⁵ The Drinks category includes all advertising for carbonated soft drinks and all fruit-flavored beverages (but not juice or milk), along with other beverages such as coffee, tea, and water.

⁶⁶ These advertisements for a low calorie lemonade focused on the absence of an artificial sweetener, with a claim that the sweetener "had been determined to cause cancer in laboratory animals."

⁶⁷ An ad for peanut butter included the tag line "good nutrition straight from the heart."

⁶⁸ Ads for a low fat, low cholesterol oat bran muffin mix with the claim "as part of a low fat, low cholesterol diet, can help reduce cholesterol" and as much fiber "as a bowl of fruit-bran cereal."

⁶⁹ Ads for low fat rice cakes promoted a national walk to raise funds for breast cancer research.

2004]

FOOD ADVERTISING POLICY OVER THE LAST 25 YEARS

965

Table 5 Regression Results for Number of Ads per Month Across Regulatory Periods⁷⁰

| Food Category ⁷¹ | FTC ends Part II Food Rule April 1980 (1) | FTC ends entire Food Rule December 1982 (2) | FDA health claim proposal August 1987 (3) | FDA with- draws 1987 proposal/ NLEA February 1990 (4) | FTC Policy Statement FDA/ NLEA rules May 1994 (5) |
|---|--|---|---|---|--|
| Vegetable/Fruit/ Juice | -1.23 | 0.84 | 0.66 | -10.79** | -6.36* |
| Cereal/Bread | -4.18 | 0.95 | 0.30 | -4.88* | 4.50* |
| Dairy | 4.65 | -1.96 | 0.09 | -3.46 | 3.45 |
| Poultry/Fish/Grain | -9.58** | 5.23 | 0.52 | -1.79 | 1.96 |
| Meat/Eggs | -4.23 | 0.41 | 1.84 | -3.21 | -1.59 |
| Fats & Oils | -1.75 | 2.89 | 2.11 | -5.25** | -4.50** |
| Drinks | -3.35 | -3.32 | -1.18 | -1.00 | -0.34 |
| Sauces/Dressings/ Misc | 2.10 | -3.50 | -1.25 | -4.67 | -3.63 |
| Desserts/Snacks | 8.23 | -6.98 | -17.64** | 3.33 | -4.20 |
| <i>Significant Coefficients/Total</i> | 1/8 | 0/8 | 1/8 | 3/8 | 3/8 |
| <i>No. Positive/ No. Significant</i> | 0/1 | 0/0 | 0/1 | 0/3 | 1/3 |

⁷⁰ ** indicates significance at the 5% level in a 2-tailed test; * at the 10% level. Dependent variable equals the number of ads per month in the sample. Linear specification. Events described in text surrounding Table 2. Other specifications which include a time trend variable and control for the cost of magazine advertising do not change the findings reported here. The time trend is not significant for any of the food groups. The constant terms in the linear estimates are 32.6 (Veg.), 20.3 (Cereal), 17.6 (Dairy), 34.2 (Poultry), 18.6 (Meat), 12.5 (Fish), 21.1 (Drinks), 31.4 (Sauces), 49.9 (Desserts). All are significant.

⁷¹ More detailed descriptions of the food categories can be found in Ippolito and Pappalardo *supra* note 18 at 26.