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New Food Choices Free of Trans Fats Better Align U.S. Diets With Health Recommendations

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Abstract

Federal agencies that are charged with giving dietary advice to consumers—the U.S. Department of Agriculture and the U.S. Department of Health and Human Services—recommend that consumers keep their intake of trans fatty acids as low as possible. To that end, Federal regulations now require food labels to say how many grams of trans fats are in each serving. In this report, we examine recent changes in the trans fats content of new food products and the use of "no trans fats" package claims. We find a marked decline in the trans fats content of new food products from 2005 to 2010, along with an increase in the use of "no trans fats" claims on product packages. We also find that only a small minority of foods that contain no trans fats make such claims even though the use of a "no trans fats" claim is associated with higher rates of successful market penetration in a majority of product categories. In addition, new products without trans fats generally contain less saturated fat, sodium, and calories, which suggests that the reduction of trans fats was not compensated by increases in these other nutrients.

Keywords: trans fats, new products, nutrition, claims, labels, information

Acknowledgments

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Summary

What Is the Issue?

The *Dietary Guidelines for Americans*, the Federal Government's quinquennial assessment of the linkage between diet and health, provides science-based advice on diet and physical activity to promote health and reduce the risk of major chronic diseases. In 2005 and 2010, that advice included the recommendation that Americans minimize their intake of trans fatty acids. While it is technically feasible to meet this goal, meeting the goal depends on consumers' willingness to make dietary changes to restrict intake of trans fats. As long as consumers are not averse to consuming food products containing trans fats, there are financial incentives for food manufacturers to continue using trans fats. Trans fats extend product shelf life and are cheaper than alternative fats.

The Federal Government has tried to create incentives for food manufacturers to reduce their use of trans fats. Federal dietary guidance provides consumers with information about the hazards of trans fats, and Federal food labeling regulations began requiring the identification of trans fats on Nutrition Facts panels in 2006. In this report, we examine whether food manufacturers are:

- reducing trans fats in foods in response to these changes.
- using trans fats-free claims on package labels as an advertising vehicle to inform consumers and increase sales.
- producing healthier foods.

What Did the Study Find?

Most new food products contain no trans fats or do not contain enough to require reporting trans fats on the Nutrition Facts panel (together described here as products free of trans fats). Further, trends over recent years show that trans fats content in food products has been falling.

- In addition to labeling trans fats content on the Nutrition Facts panel of newly introduced foods, manufacturers have voluntarily highlighted the absence of trans fats on the front of food packages.
    - Food product introductions displaying package claims about the absence of trans fats began appearing in substantial numbers in 2004 and increased every year through 2009.
    - The two categories of foods where front-of-package statements appear most frequently are foods that had substantial trans fats in the past (bakery products, prepared meals, and desserts) and in foods that are nearly free of trans fats (baby food and cereals).
    - Most new foods that contain no trans fats do not make package claims about the absence of trans fats.
- To calculate success rates of new products, products were deemed successful if available in at least 1 percent of the stores in our sample.

Success rates for new products that contain trans fats have been about the same as for products that do not contain trans fats. However, success rates for products that are free of trans fats and that also carry the "no trans fats" front-of-package statement have been higher than for trans fats-free products that lack the "no trans fats" statement.

- New products without trans fats, including those that have front-of-package statements and those that do not have them, are likely to be lower in calories, sodium, and saturated fats than those containing trans fats. This suggests that food companies, when reformulating products to avoid trans fats, are generally substituting healthier ingredients for trans fats.

How Was the Study Conducted?

Using the Mintel Global New Products Database, we compared the average trans fats content of new food product introductions across 18 general food categories from 2006 to 2010. For five categories displaying the highest trans fats content, the average annual trans fats content from 2005 to 2010 was also tracked, where data from 2005 were lower bound estimates. Growth in all new food product introductions with a "no trans fats" claim from 2000 to 2010 was examined. Researchers also compared the extent to which "no trans fats" claims were used on product packages for the 18 food categories and several subcategories from 2004—the first year when a sizeable number of new food product introductions contained "no trans fats" claims—to 2010.

Mintel data were also aligned with data from SymphonyIRI Group (formerly Information Resources, Inc.), which tracks monthly retail sales. The combined data set allowed comparisons between success rates of new products with and without trans fats from 2006 to 2010. Among products free of trans fats, success rates for those that had a "no trans fats" claim were compared with those that did not. Information from each new product's Nutrition Facts panel was used to compare the per-serving nutrient content (sodium, sugar, saturated fat, and calories) of products containing trans fats with those that did not contain trans fats. For new products that were eligible to make "no trans fats" claims, nutritional comparisons were also made between products that made the claim versus those that did not make the claim.

Introduction

In recent years, the public health community has agreed that consumers ought to eat as little trans fats as possible without compromising dietary quality. That message has been repeatedly conveyed to consumers from many different sources. Since 1980, the U.S. Department of Health and Human Services and the U.S. Department of Agriculture have worked together to develop and disseminate the *Dietary Guidelines for Americans*, which provides information and advice based on a review of the most recent scientific evidence to help consumers choose a healthy eating pattern (Public Law 101-445, Title III, 7 U.S. Code 5301 et seq.). Federal nutrition education guides, such as MyPlate (replacing MyPyramid), are used to translate nutrition recommendations into recommendations that consumers can use to guide their daily food choices. The 2010 *Dietary Guidelines* (released in January 2011) offers clear-cut advice on trans fatty acid consumption:

> *Keep trans fatty acid consumption as low as possible, especially by limiting foods that contain synthetic sources of trans fats, such as partially hydrogenated oils, and by limiting other solid fats.*

The recommendation to minimize intake of trans fatty acids began with the *Dietary Guidelines for Americans*, 2005. At that time, the Food Guide Pyramid emphasized the benefits of reducing foods high in trans fatty acids. The 2005 *Dietary Guidelines* contain a recommendation similar to that in the 2010 *Dietary Guidelines*, but without the advice on how to minimize intake of trans fats:

> *Consume less than 10 percent of calories from saturated fatty acids and less than 300 mg/day of cholesterol, and keep trans fatty acid consumption as low as possible.*

The reasoning behind the recommendations was articulated by the Institute of Medicine (part of the National Academy of Sciences):

> *Trans fatty acids are not essential and provide no known benefit to human health. Therefore, no AI or RDA is set. As with saturated fatty acids, there is a positive linear trend between trans fatty acid intake and LDL cholesterol concentration, and therefore increased risk of CHD. A UL is not set for trans fatty acids because any incremental increase in trans fatty acid intake increases CHD risk.*[1] *Because trans fatty acids are unavoidable in ordinary, nonvegan diets, consuming 0 percent of energy would require significant changes in patterns of dietary intake. As with saturated fatty acids, such adjustments may introduce undesirable effects (e.g., elimination of commercially prepared foods, dairy products, and meats that contain trans fatty acids may result in inadequate intakes of protein and certain micronutrients) and unknown and unquantifiable health risks. Nevertheless, it is recommended that trans fatty acid consumption be as low as possible while consuming a nutritionally adequate diet.* (Institute of Medicine, 2005, pp. 423-24)

[1]AI, Adequate Intake, is defined as the recommended average daily intake level. RDA, Recommended Dietary Allowance, is defined as the average daily dietary nutrient intake level sufficient to meet nutrient requirements. UL, Tolerable Upper Intake Level, is defined as the highest average daily nutrient intake level that is likely to pose no risk of adverse health effects to almost all individuals in the general population. Coronary heart disease is abbreviated as CHD.

The recommendations pose a challenge for some food manufacturers. For many years, there were strong financial incentives for food manufacturers to make products containing trans fats. Trans fats were commonly used in food processing because food processors could employ a process called hydrogenation to raise the melting point of relatively inexpensive products containing polyunsaturated fatty acids, making the products solid at room temperature.[2] Foods that are higher in saturated fatty acids are more resistant to spoilage. The twin attractions of these synthetic trans fatty acids, found in partially hydrogenated oils, are reduced costs of food production and longer shelf life of products. Partially hydrogenated oils have been frequently used in margarines, snack foods, and prepared desserts, replacing saturated fatty acids.

[2]*Dietary Guidelines for Americans*, 2010, Part D Section 3: Fatty Acids and Cholesterol, p. D3-7.

The difficulty in solving the public health problem trans fats pose is that food manufacturers could reformulate their products to nearly eliminate trans fats from the food supply, but reformulation might require using alternative and more expensive oils and those alternative oils might compromise product quality. Production costs would rise and demand would fall as consumers reject the less tasty product. Thus, as long as consumers are not averse to eating trans fats, food manufacturers have a financial incentive to continue using trans fats in their recipes and are likely to be unwilling to reformulate foods to eliminate trans fats.

If consumers were aware of the health problems caused by trans fats—they might be healthier without trans fats—they might be willing to pay a price premium for foods that did not contain trans fats, compensating manufacturers for reformulating. In that case, suppliers might even compete among themselves to reformulate, and inform consumers that they have removed trans fats from their products. Food manufacturers could earn higher prices and net returns by eliminating trans fats if consumers valued avoiding trans fats, and if willingness to pay for reduced trans fats exceeded reformulation costs. In effect, social goals of having a healthier population and private financial incentives would be aligned to benefit consumers and food manufacturers. Of course, this outcome only occurs if consumers are aware of the health issue, demand trans fat-free products, and manufacturers can reformulate and inform consumers that the products they are offering are superior (no trans fats) either to what had been offered previously or to what the competition is offering. Otherwise, removing trans fats would not offer a manufacturer a competitive advantage and would not offer the possibility of receiving a positive return on reformulation.

The Federal Government has pursued two activities intended to reduce Americans' dietary intake of trans fats by:

1. informing consumers that they can reduce health risks they face by choosing fats other than trans fats.
2. requiring food manufacturers to label the trans fats content of foods.

That is, two types of Federal actions have been directed at reducing the consumption of trans fats. If consumers are aware that they ought to choose foods that do not include trans fats and know which foods to avoid, their diets might improve. If consumers have an incentive and the ability to avoid trans fats, food manufacturers' financial incentive to incorporate trans fats in foods might be reduced.[3]

[3]While consumers' use of food labels has been studied extensively, there are research gaps in understanding determinants of nutritional label use and the effect of label use on purchase and consumption behavior. See Drichoutis, Lazaridis, and Nayga (2006) for a review of empirical studies and an assessment of research needs.

In November 1999, the U.S. Food and Drug Administration (FDA) proposed a rule that would require the amount of trans fatty acids present in foods to be included in the product's Nutrition Facts panel. In 2001, the Office of Management and Budget (OMB) took the then-unique action of sending FDA a "prompt" letter asking the agency to give greater priority to the issue.[4] The letter, from OMB's Office of Information and Regulatory Affairs Administrator John D. Graham, urged the acceleration of ongoing rule-making. A second letter followed in 2003 (OMB, 2003). In 2003, the rule became final with requirements for labeling in 2006.

[4]The "prompt" letter was the first time that OMB publicly encouraged a new regulatory action rather than reviewing decisions initiated by agencies (OMB, 2001).

These actions—label regulations and dietary advice—were clearly intended to improve the quality of Americans' diets. Ultimately, success or failure rests on whether consumers demand foods without trans fats and reject foods that contain trans fats. Success was not guaranteed by the actions. Nothing required consumers to avoid trans fats. The actions did not ban trans fats from supermarkets. Unless consumers are aware of the health issues raised by consuming trans fats, consumer demands might not change, and food manufacturers might not see any reason to reformulate their products. To do so, consumers have to be informed that there is a reason to avoid trans fats.

Currently, it is not clear how much the trans fats content of foods has changed. Unnevehr and Jagmanaite (2008) considered the incentives for reducing trans fats in the food supply and examined outcomes through 2006. Today we have access to additional years of data and can retrospectively examine a more complete set of adjustments that occurred in the food supply following changes to the Nutrition Facts panel requirements.

In addition, why consumer and industry behavior changed in response to Government actions to reduce trans fats intake is only partially understood. Previous studies of similar, but not identical issues, found that new information, either through news media or through the Nutrition Facts panel, influenced consumers' food choices (Chern, Loehman, and Yen, 1995; Kim, Nayga, and Capps, 2000). Extrapolating, one might conclude that the public health goal of reducing consumers' intake of trans fats could have been met in either of two ways. The Federal Government could have required disclosure of trans fats on the Nutrition Facts panel or it could have conducted an education campaign that would inform consumers through news media outlets. However, Kozup, Burton, and Creyer (2006) conducted a consumer knowledge experiment to ask whether an education effort would increase the salience of trans fats information that is provided to consumers. They concluded that, by itself, requiring food suppliers to disclose trans fats on the Nutrition Facts panel might not be very effective at changing consumer behavior. Their research highlighted the importance of information and education that would accompany and complement the new disclosure rules:

> *A comprehensive media campaign that serves to educate consumers about trans fats, the changes to the label, and the importance of the nutrition information contained within the Facts panel may have beneficial results.*

Following the Kozup, Burton, and Creyer suggestion about the importance of a media campaign, the next section examines the timing and volume of news in major news media about trans fats.

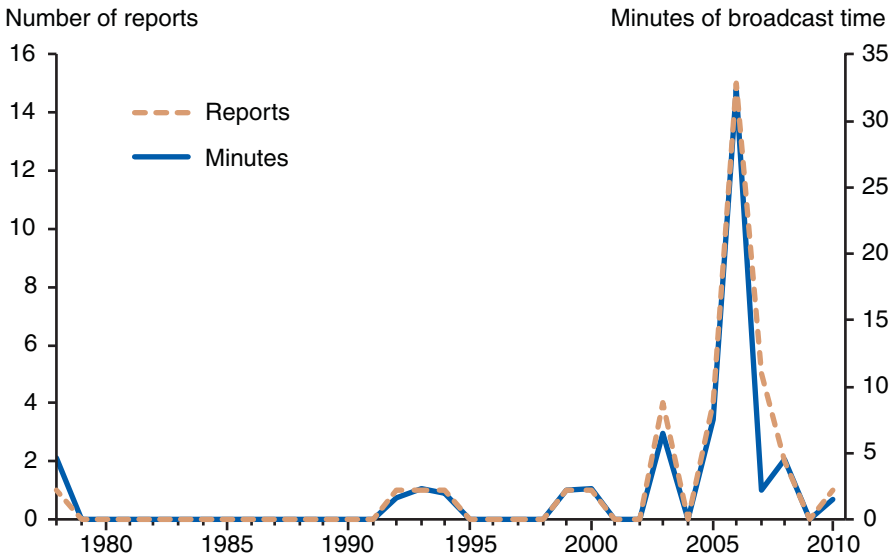
Trans Fats Coverage in the News Media

The release of the *Dietary Guidelines* has been designed so that recommendations could be easily conveyed through the news media. To gauge whether and when consumers might have become aware of reasons to minimize intake of trans fats, this section examines the time pattern of news consumers received about trans fats. News might not compel consumers to make different food choices, but without trans fats recommendations making their way into mainstream news media, the possibility of changing food choices seems remote.[5]

Two news sources were examined. The first source was the Vanderbilt Television News Archive, which provides access to the news broadcasts from the U.S. national television networks.[6] The archive is a searchable database of news abstracts and broadcast descriptions. The Vanderbilt Television News Archive has been recording, preserving, and providing access to television news broadcasts of the national networks since August 5, 1968. The archive began with three networks—ABC, CBS, and NBC—and added coverage of CNN in 1995 and FoxNews in 2004.

We searched the Vanderbilt Television News Archive for reports discussing trans fats during evening news broadcasts.[7] The search returned 37 reports beginning with an NBC evening news report in 1978. The trans fats issue was not discussed again on an evening news broadcast until 1992. One report aired on ABC in 1992, one on CBS on 1993, and another on CBS in 1994. Four reports aired in 2003, with ABC, CBS, and NBC reporting on July 9, 2003 on the trans fats label requirement. Four reports aired in 2005, with three networks reporting in August on the New York City government request for restaurants to stop using trans fats. The peak for coverage occurred in 2006, with 15 reports. Total minutes of coverage follow closely the pattern shown for the annual count of reports (fig. 1).

Figure 1
Number of reports and minutes of television evening news coverage of trans fats, 1978-2010



Source: USDA, Economic Research Service calculations based on Vanderbilt Television News Archive data.

[5]Media attention may also influence food suppliers' incentives, thereby reducing the size of the public health problem posed by trans fats. Unnevehr and Jagmanaite (2008) argued that media attention to the trans fats issue spurred lawsuits against major food industry firms by public interest groups and the New York City attempt to phase out synthetic trans fats in restaurant foods.

[6]See http://tvnews.vanderbilt.edu/.

[7]The keyword search was conducted using various spellings of trans fats and hydrogenation.

Year-to-year comparisons, along with identification of peaks in the series, have to be made cautiously. That is, as CNN and FoxNews reports were added to the archive many years after the archive began, one can ask whether the larger number of reports in later years might be the result of counting reports from more sources. Were consumers given more information about trans fats in more recent years? Or, are the greater numbers of reports in recent years the result of reports mirroring each other, simply splitting coverage among five instead of three sources?

The answer to the latter question is largely no, that more sources imply more distinct news reports. There were five reports in 2007, all from FoxNews. The 2006 peak for coverage would have been identified as a peak even without CNN and FoxNews, as the other three reported on trans fats 10 times.

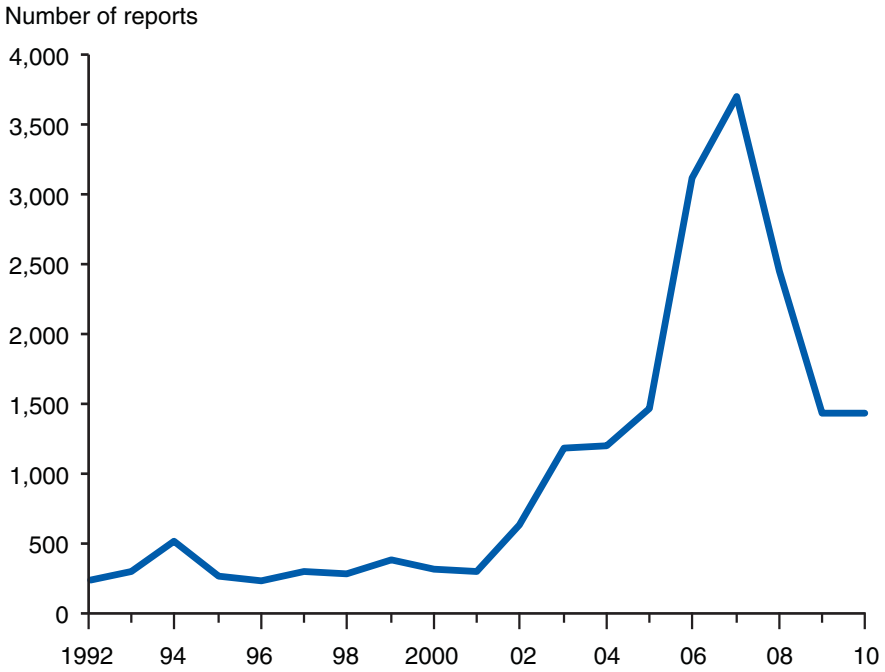
Even in 2006—the peak year of trans fats coverage—the range of issues raised was not wide. One of the most frequently reported stories was the attempt by the New York City Board of Health to phase out synthetic trans fats in all New York City restaurants and other foodservice establishments. On September 27, ABC, CBS, NBC, and FoxNews all reported on the proposal. NBC, FoxNews, and CNN all reported that on December 5, 2006, the New York City Board of Health approved the amendment to the city's Health Code. Five of the reports discussed the lawsuit by the Center for Science in the Public Interest demanding that KFC Corporation, a restaurant chain, stop using trans fats in oil used to fry chicken. Two reports discussed the new requirements for food labels: the Nutrition Facts Panel has to specify the per-serving quantity of trans fats. One report discussed Wendy's new fry oil that eliminated trans fats.

Clearly consumers do not get all their news and information from television evening news broadcasts. Despite their shrinking readership, consumers have used newspapers for many years as a news source. The second source we examined, NewsBank, inc.'s searchable database, is populated with the complete electronic editions of more than 2,000 newspapers from around the world. The oldest reports in the database come from *The Washington Post*, which has been included since January 1, 1977. Other newspapers were included in the NewsBank database in years following that date.

To count consistently, the newspapers selected for search were those in the NewsBank database from January 1, 1992, through December 31, 2010. Without imposing this condition, the year-by-year expanding number of newspapers included in the NewsBank database would lead to an annual count that would be biased toward concluding that news coverage of trans fats was increasing over time. That is, the count of newspaper articles examining the trans fats issue might appear to rise just because there were more newspapers from which to draw articles. The starting date of January 1, 1992, is meant to be comparable with the Vanderbilt Television News Archive data. In that archive, the pre-1992 period shows only one television news report on trans fats. A few newspapers dropped out over time, leaving 109 U.S. newspapers from major cities across the United States with complete coverage 1992-2010 (fig. 2).

The observed peak in newspaper coverage of trans fats issues occurred in 2007 with 3,703 reports, higher than the 2006 total of 3,123. The volume of news was not uniform across 2006-07. Like the television news, one of the most frequently reported stories was the New York City Board of Health's

Figure 2
U.S. newspaper reports mentioning trans fats, annually, 1992-2010



Source: USDA, Economic Research Service calculations based on NewsBank, inc., data from 109 newspapers.

approval of an amendment to the city Health Code. On a monthly basis, the peak in news reports discussing trans fats occurred in January 2007 with 599 news reports (5.5 stories per newspaper, on average) as newspapers reported that several State and municipal governments considered following the lead of New York City. At that time, newspapers reported that Girl Scout cookies had been reformulated to eliminate trans fats, McDonald's had adopted a fry oil blended to eliminate trans fats, the J.M. Smucker Company had introduced a trans fats-free version of its Crisco shortening, Starbucks was reducing trans fats in its baked goods, and doughnut makers were searching for a way to reduce trans fats.

Across the 19-year period, there were 19,801 reports discussing trans fats (through December 31, 2010). The issue never disappeared from the newspapers. There were some reports every month (minimum of six).

Reporting on trans fats has been persistent over many years, but sharply peaked about the same time as Federal regulations made it mandatory to label the trans fats content of foods. Tallying trans fats reports in newspapers and television news broadcasts demonstrates that issues raised by trans fats in Americans' diets were given significant coverage and attention. Although this is not a comprehensive list of news sources, it does suggest that there were multiple avenues through which consumers might become informed about the hazards of consuming trans fats. Further, with trans fats labeled on every food product, consumers had the means to avoid trans fats. These conditions raise the question whether consumers made use of the information and whether their food choices changed, altering the financial incentives for food manufacturers to reformulate and introduce new food products free of trans fats.

Data for Tracking Reformulation, Nutrition Claims, and Retail Sales in the United States

Consumer demand for trans fats-free food could have increased due to increased awareness of the health issues and due to consumers' increased ability to differentiate between products with and without trans fats. Some food suppliers could have benefitted from this increased demand by reformulating products and by bringing greater attention to reformulated foods. To track these two possible effects, we used Mintel's Global New Product Database (GNPD).[8] This database allows users to track new products carrying specific product claims across 19 food and beverage product categories and associated subcategories from June 1996 to present (see Appendix 1, "Mintel's Data Collection Procedure"). Mintel GNPD data contain detailed information on new consumer packaged goods introduced in the United States and 47 other countries, including new products, new variety extensions, new formulations, new packaging, and relaunches. GNPD is updated with new product information each business day.

Mintel has also partnered with SymphonyIRI Group (formerly Information Resources, Inc., and denoted here as IRI) to provide sales information on some products in Mintel's GNPD. IRI tracks in 34,000 grocery stores, drug stores, and supermarkets, with the important exception of Walmart stores. Sales data are available beginning in January 2005. New products are tracked when they reach 1-percent distribution (percent of stores selling products). Each record contains sales data for weeks 1 through 13, and then ongoing sales data for a maximum of 104 weeks. GNPD reports sales for 24 percent of the products introduced in 2005-10.

[8]Mintel is a privately owned, London-based market research firm with corporate offices in Chicago, New York, Belfast, Shanghai, Tokyo, and Sydney.

Nutritional Content of New Products Introduced in the United States

In 2006, Federal regulation required food manufacturers to identify the trans fats content in each food in the Nutrition Facts panel. Before 2006, such identification was voluntary. Here, we categorize the entire set of new food product introductions in the Mintel database for 2006-10. Each new food product introduction is included in one of 18 general food product categories. We use the classification scheme developed by Mintel, but exclude the Alcoholic Beverages category. Each product was categorized as containing trans fats or not, based on whether the Nutrition Facts panel reported positive or no trans fats.[9] Products that did not report positive levels of trans fats on the Nutrition Facts panel are denoted here as free of trans fats. Among those products containing trans fats, the trans fats content was tallied. As most new product introductions did not contain trans fats, there are two distinct ways to characterize typical trans fats content of these foods: a simple average across all new product introductions and averages for those foods that contain positive quantities of trans fats.

Average Trans Fats Content of New Food Product Introductions

Table 1 shows that among new product introductions, trans fats are relatively small components of foods, and it is unusual to have any trans fats in foods. The left numerical column—average trans fats content—is a simple average of grams per serving across all new product introductions in each of 18 broad categories of foods. Calculated averages are relatively small for two reasons. First, as the second column shows, it is relatively rare for any new product introduction to contain trans fats. The category denoted Meals and Meal Centers (which include sandwiches/wraps and prepared meals) showed the lowest rate at which new product introductions were free of trans fats, 85.3 percent (14.7 percent contained trans fats). That is, among 2,607 new product introductions in this category, 2,224 did not contain trans fats and 383 contained trans fats. Most other categories showed higher rates of new product introductions free of trans fats. Among the 231 new product introductions of Baby Food, there was not one that contained trans fats.

Second, average trans fats content is a relatively small share of recommended fat intake. That is, when we compare the average trans fats content of foods with the recommended fat intake, each serving appears to be a very small share of daily fat intake. For example, the Bakery category has the largest amount of trans fats per serving, equaling 0.22 grams. For an adult on a 2,000-calorie daily diet, recommended daily fat intake is 20 to 35 percent of calorie intake,[10] equivalent to 400-700 calories. At 9 calories per gram of fat, a serving randomly drawn from all new products introductions of Bakery category items[11] would contain 2 calories from trans fats. That is, an average serving contains trans fats that amount to no more than half of 1 percent of the recommended daily fat intake.

Even if a person chose only Bakery category items that contained trans fats, the results would still suggest that a serving contributes small amounts to

[9]Some products contain trans fats, but in smaller quantities than reporting requirements (see box, "New Product Introductions That Qualify for a 'No Trans Fat' Claim on the Package"). We could account for this uncertainty in trans fats content by calculating a range for average trans fats content, with imputations of 0 leading to the lower end and imputations of 0.49 grams/serving (just under reporting requirements) leading to the upper end. Here, we only report averages with imputations of 0. Doing so may underestimate the average, but the 0.49 grams/serving imputation would certainly overestimate average trans fats levels. The latter imputation would imply that products that never had trans fats do contain trans fats and would imply that products that were reformulated to eliminate trans fats contain trans fats.

[10]See "Table 2-4, Recommended Macronutrient Proportions by Age," in *Dietary Guidelines for Americans*, 2010, p. 15.

[11]Note that this argument is about averages and typical fat consumption. As such, the depth of the American food supply makes the argument about entirely hypothetical choices; it would be physically impossible for a consumer to face such choices. Only a small fraction of new product introductions are successful in the marketplace, and no store stocks all items that are available.

Table 1
Average trans fats content for all new product introductions and for those containing positive levels of trans fats, by product category, 2006-10

Category	Average trans fats content	Share of products with no trans fats	Average trans fats content for products containing trans fats	Total new product introductions
	Grams per serving	*Percentage*	*Grams per serving*	*Count*
Baby food	0.00	100.0	0.00	231
Bakery	0.22	86.3	1.67	5,289
Breakfast cereals	0.00	99.7	0.88	1,169
Chocolate confectionery	0.05	96.2	1.40	2,169
Dairy	0.04	96.3	1.32	2,349
Desserts and ice cream	0.12	91.7	1.43	1,908
Fruits and vegetables	0.00	99.7	0.50	1,288
Meals and meal centers	0.21	85.3	1.41	2,607
Nonalcoholic beverages	0.01	99.2	1.06	3,684
Processed fish, meat, and egg products	0.08	92.9	1.17	2,945
Sauces, seasonings	0.01	99.4	1.70	4,023
Savory spreads	0.03	97.0	1.07	462
Side dishes	0.05	97.2	1.76	1,469
Snacks	0.08	96.2	2.06	4,294
Soup	0.05	94.8	1.03	638
Sugar, gum confectionery	0.02	98.2	1.14	2,138
Sweet spreads	0.01	99.5	1.13	806
Sweeteners and sugar	0.00	100.0	0.00	159
All new food product introductions	0.08	94.7	1.52	37,628

Meals and meal centers = instant noodles, pasta, rice, meal kits, pastry dishes, pizzas, prepared meals, salads, and sandwiches/wraps.
Source: USDA, Economic Research Service calculations based on Mintel Global New Product Database data.

daily fat intake. If a random draw were made among the subset of foods in the Bakery category that contain trans fats, a serving would be expected to contain 1.67 grams of trans fats, equivalent to 15 calories or less than 4 percent of daily fat intake.

The question these statistics raise is how fast new product introductions are replacing older products, possibly containing larger shares of trans fats. Assuming that new product introductions have or will soon replace older products, trans fats intake per serving appears to be small.

Recent Trends in Trans Fats Content

The simple average trans fats content in new product introductions may seem relatively small. The same might be said for averages conditional on having

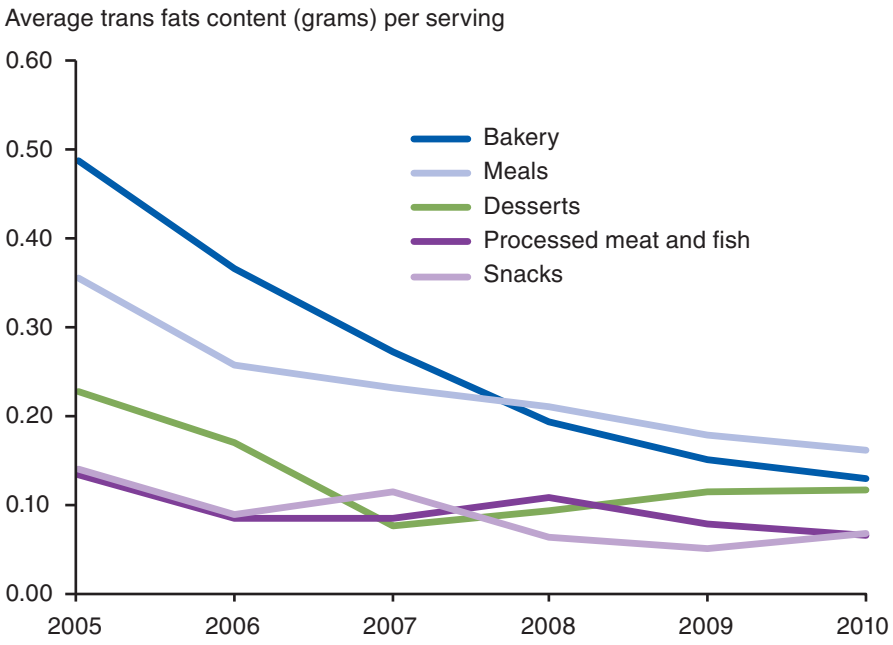
positive trans fats content. Examining the averages over time reveals that levels have been generally diminishing.

While inclusion of trans fats levels on the Nutrition Facts panel was made mandatory in 2006, many food manufacturers voluntarily included the information in 2005. Calculating an average trans fats content from 2005 to 2010 using the voluntarily reported trans fats content would have underestimated the average for that time period. That is, many products containing positive quantities of trans fats would not report their trans fats contents, and calculations would inappropriately posit zero trans fats for these products.

However, data from 2005 is useful in looking at trends exactly because it underestimates typical trans fats content. The underestimated average trans fats content in 2005 is substantially higher than succeeding annual averages. While the trend lines—including averages from 2005—decline, the underestimate for 2005 implies that the actual decline was steeper still. Time plots of average trans fats content thus highlight the relatively large reductions in trans fats content that occurred over 2005 to 2010.

Figure 3 shows 2005-10 trends for the five product categories displaying the highest average trans fats content: Bakery; Meals and Meal Centers; Desserts; Processed Fish, Meat, Egg Products; and Snacks. The underestimated average trans fats content for the Bakery category in 2005 was 0.49 grams per serving. The unbiased average for 2010 was 0.13 grams per serving, a decline of at least 73 percent. For the other categories, the underestimated decline was approximately 50 percent. We can conclude that by 2010 there was a significant decline in amounts of trans fats in new products.

Figure 3
Trends in trans fats content for product categories with the highest trans fats content, 2005-10



Source: USDA, Economic Research Service calculations based on Mintel Global New Product Database data.

What Have Food Manufacturers Done To Inform Consumers About Trans Fats Content?

FDA regulates the statements that food companies may make on product packages that characterize the level of particular nutrients in the food. So far, FDA has no regulation defining nutrient content claims that describe trans fats levels, such as "free" or "low" (Brandt, Moss, and Ferguson, 2009). However, a package may contain a claim about the amount, such as "0 g trans fats per serving," since it is a statement of fact that can be verified by the Nutrition Facts panel. FDA allows manufacturers to put 0 grams of trans fats on a Nutritional Facts panel if the product has less than 0.5 grams of trans fats per recommended serving.

Trends in Trans Fats Package Claims

Mintel tracks new products that make claims about trans fats content much as it has tracked claims about other fats. Mintel set up its system to tally product claims about trans fats when on-pack terms highlight a decreased amount of trans fats content, including terms such as low trans fats, reduced trans fats, or trans fats-free. It would also count a product as making a low/no/reduced trans fats claim if the product claims to have reduced its hydrogenated oil content or claims to be free of hydrogenated fat. Data reveal that manufacturers have adopted terms such as "trans fats free," "0 g trans fats per serving," "no trans fats," and "no trans fatty acids." Here, we assume that consumers interpret all these claims as if they were the same.[12]

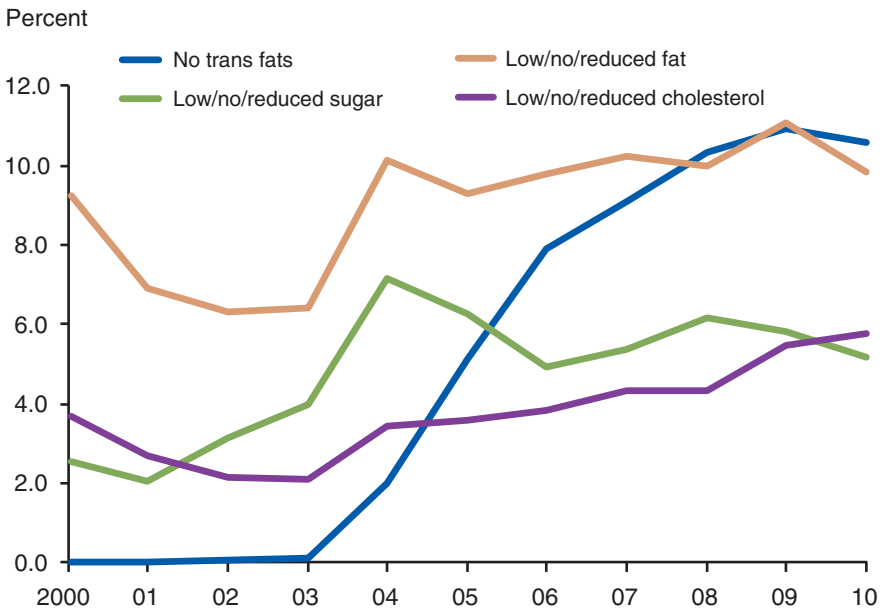
Prior to 2004, such claims were rarely made, but food and beverage products with a "no trans fats" claim showed a marked upward trend beginning in 2004. FDA issued the regulation requiring disclosure of trans fats on the nutrition label in 2003 (to be implemented in 2006). While companies were not required to eliminate trans fats, many reformulated products to meet the FDA's per-serving standard for zero grams of trans fats prior to the 2006 disclosure deadline. Some replaced trans fats with more healthy unsaturated fats, while others replaced trans fats with saturated fats. These reformulations allowed companies to introduce a wave of new products with claims of zero trans fats in response to consumers' demand for products free of trans fats. Expressed as a percentage of all food and beverage products introduced, those with a "no trans fats" claim became an increasingly important component of all product introductions, peaking at 10.9 percent in 2009 (fig. 4).[13] Compared with the number of other commonly used nutrient claims made on food packages, "no trans fats" claims surpassed low/no/reduced cholesterol claims in 2004 and low/no/reduced sugar claims in 2005. Moreover, in 2008, the percentage of new products with a "no trans fats" claims exceeded those with no/low/reduced fat claims for the first time.

Clearly, the growing number of new products with a "no trans fats" claim suggests that the returns to marketing products with this claim were high. However, after 2006—the first year that the regulation was implemented—the upward trend in new products with a "no trans fats" claim began to slow. Any answer to the question why the rate of growth in the percentage of new products with "no trans fats" claims declined after 2006 has to be speculative. Perhaps as more and more products became free of trans fats, consumers

[12]Our assumptions are convenient for identifying and tallying new product introductions that highlight the absence of trans fats for consumers. Note, however, that the assumption that all such claims have identical impacts is in dispute. Some argue that a "0 trans fats" statement is misleading to consumers (Covington & Burling LLP, 2010).

[13]This compares with 12 percent of products with a statement about trans fats on the label that were purchased at retail stores throughout the United States, 2006 to 2007 (Brandt, Moss, and Ferguson, 2009).

Figure 4
Percentage of new products with a "no trans fats" claim compared with other leading nutrient claims, annually, 2000-10



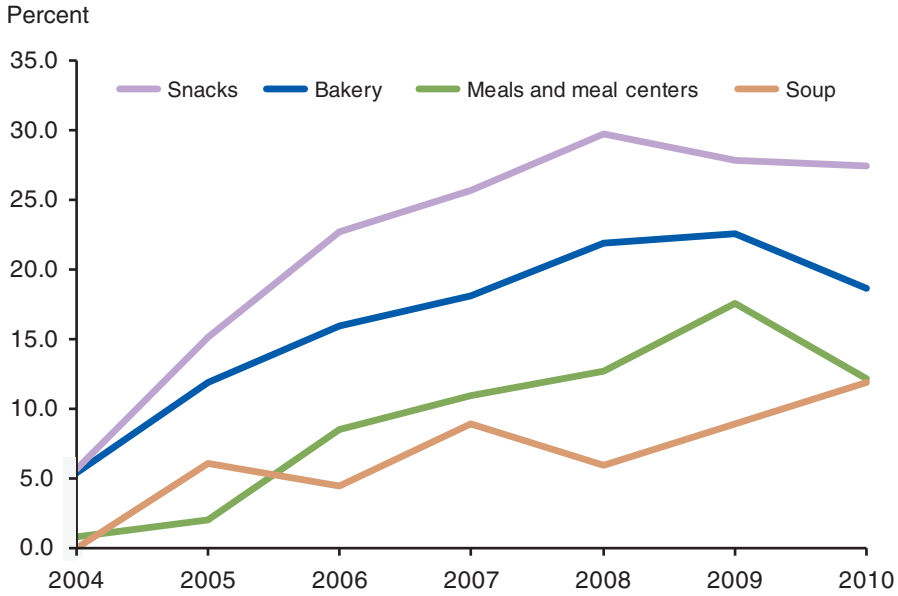
Source: USDA, Economic Research Service calculations based on Mintel Global New Product Database data.

lowered their expectations of finding trans fats in food products. If that were the case, producers' returns from differentiating products by using the "no trans fats" claims would be smaller than when consumers more frequently expected trans fats in foods. In addition, the decrease could be the result of increasing difficulty of finding suitable alternative oils. For example, early adoption of some oils pushed up prices, which made it difficult for other companies to follow suit (Pressler, 2004). Since 2008, the trendline has flattened, and the percentage of products with "no trans fats" claims fell for the first time in 2010 since the rise began.

In appendix 2 table 1, a tally of new products introduced from 2004 to 2010 that bear a statement suggesting that the product contains "no trans fats" are broken down by the 18 product categories defined by Mintel. The tally is further broken into several leading subcategories. Most categories showed continual increases in the percentage of new products with a "no trans fats" claim before declining either in 2008 or 2009, which is reflected in the overall pattern of food product introductions. Snacks (snack bars, potato-, corn-, and grain-based snacks; popcorn; hors d'oeuvres/canapés; nuts; and other snacks) and bakery products (cookies, bread products, crackers, cakes, and baking ingredients) led the way in percentage of new products with "no trans fats" claims, equaling 27.4 percent and 18.6 percent of all new products in 2010, respectively (fig. 5). This is consistent with results from an earlier study of products purchased at retail stores throughout the United States. (Brandt, Moss, and Ferguson, 2009). The percentage peaked in 2008 for snacks and in 2009 for bakery products. In 2010, meals and meal centers[14] and soup accounted for the third- and fourth-highest percentage of products with a "no trans fats" claim at 12.1 and 11.8 percent, respectively. Meals and meal centers also peaked in 2009, while the percentage of new soup products increased over 2008 to 2010, reaching its highest level in 2010. Products

[14]Meals and meal centers include instant noodles, pasta, rice, meal kits, pastry dishes, pizzas, prepared meals, salads, and sandwiches/wraps.

Figure 5
Percentage of new products with a "no trans fats" claim, by product category, 2004-10



Meals and meal centers = instant noodles, pasta, rice, meal kits, pastry dishes, pizzas, prepared meals, salads, and sandwiches/wraps.

Source: USDA, Economic Research Service calculations based on Mintel Global New Product Database data.

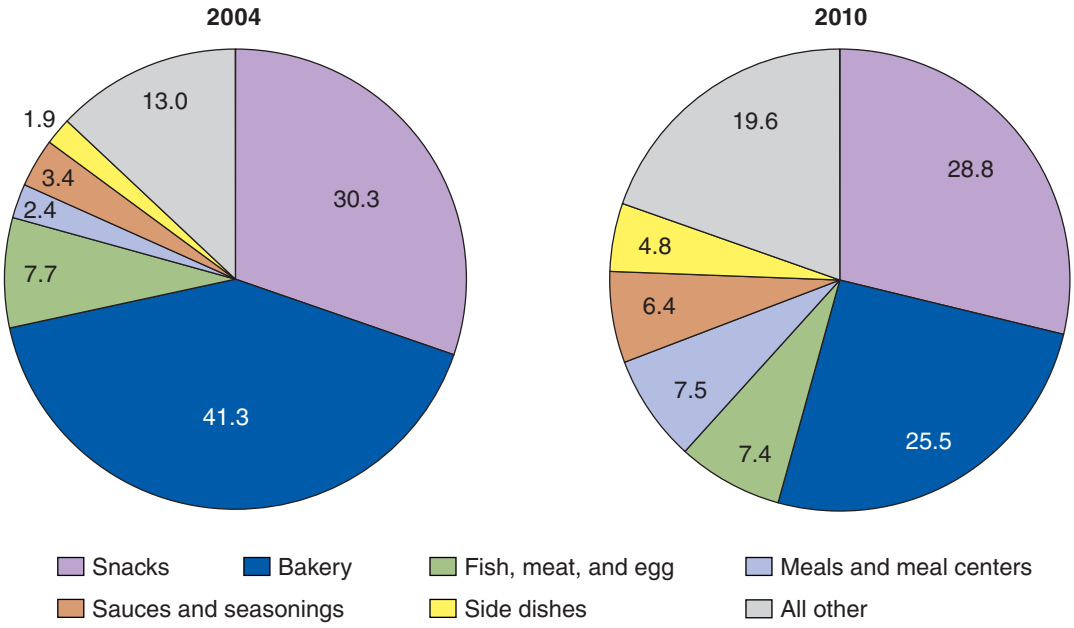
with a "no trans fats" claim were relatively less important for sweeteners and sugar, fruit and vegetables, nonalcoholic beverages, and chocolate confectionery products, accounting for less than 3 percent of all new products introduced in these categories in 2010.

Several of the leading subcategories showed a higher propensity to make a "no trans fats" claim in 2004-10 (see appendix 2 table 1). For example, margarine and other blends with a "no trans fats" claim accounted for 53.1 percent of all products introduced in the category. Other subcategories with a high percentage of new products carrying a "no trans fats" claim included potato (46.1) and corn (40.3) snacks, nut spreads (e.g., peanut butter) (33.2), wheat snacks (31.2), crackers (27.1), bread (25.5), and popcorn (24.4). Most of these categories were important sources of trans fatty acids in the U.S. diet (Unnevehr and Jagmanaite, 2008), which suggests that incentives may have been greater for making a "no trans fats" claim for these products. For the remaining subcategories, the percentage of products making a "no trans fats" claim varied from 1.3 percent for Other sweet spreads to 17.1 percent for sandwiches/wraps. Cakes and pastries, which are more difficult to reformulate by substituting for partially hydrogenated oils, showed larger percentage point increases in "no trans fats" claims after the nutrition labeling deadline in 2006 (Unnevehr and Jagmanaite, 2008).

Appendix 2 table 2 shows the percentage of all new "no trans fats" claims accounted for by the various food and beverage categories from 2004 to 2010. Snacks and bakery products were by far the leading product categories, accounting for nearly 55 percent of all "no trans fats" claims in 2010 (fig. 6). These results are consistent with findings of Unnevehr and Jagmanaite (2008). Meals and meal centers and processed fish, meat, and egg products

Figure 6

Percentage of all new food product introductions with a "no trans fats" claim accounted for by select product categories, 2004 and 2010



Meals and meal centers = instant noodles, pasta, rice, meal kits, pastry dishes, pizzas, prepared meals, salads, and sandwiches/wraps.

Source: USDA, Economic Research Service calculations based on Mintel Global New Product Database data.

ranked third and fourth, accounting for 7.5 percent and 7.4 percent of "no trans fats" claims, respectively.

Five of the 18 categories accounted for a smaller percentage of new "no trans fats" claims in 2010 compared with 2004. The reduction in the percentage of "no trans fats" claims accounted for by bakery products is especially notable, falling from 41.3 percent to 25.5 percent, with most of the reduction coming in 2005.[15] Product categories that accounted for a larger share over time included meals and meal centers, sauces and seasonings, and side dishes.

[15]For food and beverage products introduced in the United States, there were 208 total trans fats claims in 2004 and 1,069 in 2010.

Is There a Relationship Between Trans Fats Content and "No Trans Fats" Claims?

As long as consumers want to avoid trans fats, the best situation for a food manufacturer would be one in which the manufacturer has a food that is free of trans fats and all competitive products are high in trans fats. When a manufacturer can offer consumers relatively large reductions in trans fats intake, consumers will have more difficulty trading off health concerns against taste; the demand for the trans fats-free product is more likely to rise than in the case of less difference in trans fats content. Then, we would expect the trans fats-free food to be advertised as such; the "no trans fats" claim might offer a manufacturer the ability to differentiate a product from all others, taking market share from competitors. Generally, one might expect to see a greater frequency of "no trans fats" claims among qualifying products when product categories are generally higher in trans fats (see box, "New Product Introductions That Qualify for a "No Trans Fats" Claim on the Package").

As part of their analysis of food company efforts to reduce trans fats, Unnevehr and Jagmanaite (2008) matched new food product introduction categories claiming "no trans fats" to product categories that are major dietary sources of trans fats. They found that most of the "no trans fats" claims were concentrated in foods that are components of Mintel's snacks

New Product Introductions That Qualify for a "No Trans Fats" Claim on the Package

To quantify the number of new product introductions that are considered to qualify for a "no trans fats" claim on the product package, we include three categories of new products:

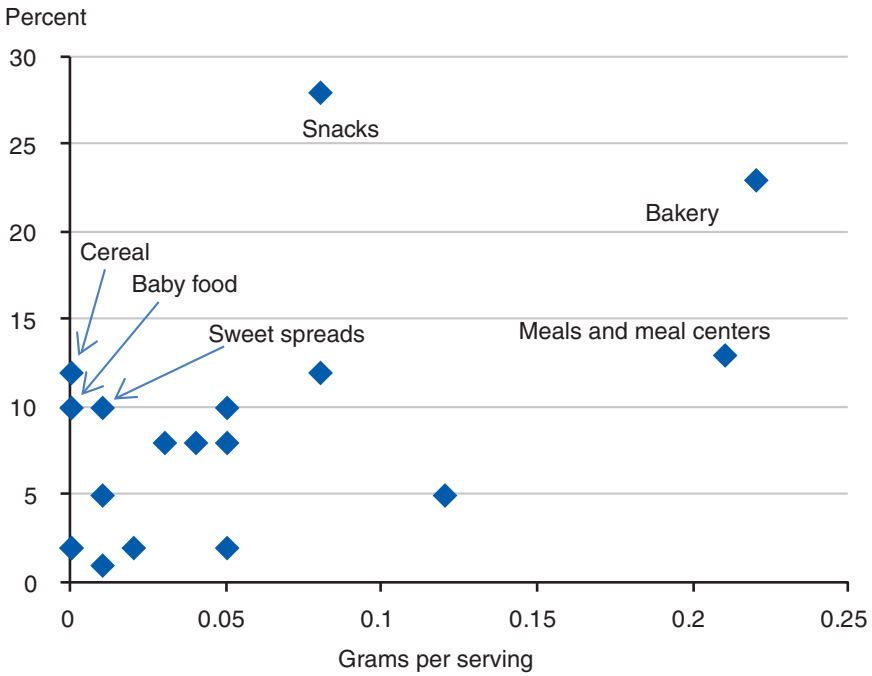
- products that declare 0 trans fats in the Nutrition Facts panel.
- those that declare less than 0.5 grams per serving of trans fats in the Nutrition Facts panel.
- products that do not make a declaration about trans fats in the Nutrition Facts panel (FDA, 2010a).

In 1990, Congress amended the Food, Drug and Cosmetic Act of 1938 by enacting the Nutrition Labeling and Education Act, which authorized the U.S. Food and Drug Administration (FDA) to regulate nutrition labeling and disclosure statements on product packaging. USDA's Food Safety and Inspection Service (FSIS) established nutrition labeling regulations for processed meat products consistent with those issued by FDA. Thus, the mechanical way we are filtering data may not in every case yield answers equivalent to results of FDA's or FSIS's judgment. That is, the agencies may consider "no trans fats" claims on some products that we consider to qualify for the claim to be in violation of these regulations. Thus far, FDA challenges to claims about trans fats have been limited to warning letters distributed to five food manufacturers. In each case, FDA ruled that the front panel showed that the product had no trans fat, but failed to disclose to consumers that the product had significant levels of saturated fat and total fat (FDA, 2010b).

and bakery product categories. While most of the trans fats consumed come from bakery products and margarine, they found a smaller percentage of products with "no trans fats" claims in these categories. In comparison, this study covers data from more recent years, and covers a wider array of foods. No clear relationship between trans fats content and "no trans fats" claims emerges from the Mintel data (fig. 7). For example, products in the meals and meal centers category contain 0.21 grams per serving of trans fats on average, while snacks contain 0.08 grams per serving. Yet, 28 percent of foods in the snacks category that are eligible for a "no trans fats" claim made the claim, while 13 percent of qualified meals and meal centers items made a "no trans fats" claim. In only two categories, snacks and bakery items, did the percentage of qualified products that made a "no trans fats" claim exceed 13 percent.

Most categories contain less than 0.05 grams per serving of trans fats on average, so a "no trans fats" claim may not be an important selling point for these products. However, three categories, baby food, breakfast cereal, and sweet spreads, are almost free of trans fats, yet at least 10 percent of new qualified products are labeled as containing no trans fats. A common feature of these three categories is that they are popular among children. Baby food is particularly striking because, from 2005 to 2010, there was not a single product introduced containing trans fats. The media attention given to trans fats may have provided food companies in these categories with a marketing opportunity for informing concerned parents.

Figure 7
Average trans fats content and percentage of qualified products with a "no trans fats" claim, by product category, 2005-10



Meals and meal centers = instant noodles, pasta, rice, meal kits, pastry dishes, pizzas, prepared meals, salads, and sandwiches/wraps.

Source: USDA, Economic Research Service calculations based on Mintel Global New Product Database data.

Does a "No Trans Fats" Claim Influence New Product Success in the Marketplace?

For new products with a "no trans fats" claim to lead to improvements in consumers' diets, the new products must be purchased and consumed, replacing older products that contain large quantities of trans fats. Two problems make it difficult to measure the extent of these improvements. First, data are currently available for new product introductions, but not for old products that exit the market. Second, most new product introductions fail. Most do not reach many stores, and most are only offered for sale for a short time. Further, data offers only a limited view of sales of new product introductions. SymphonyIRI Group tracks the sales of a new product if the product is present in at least 1 percent of the stores in its sample.[16]

We use the fact that the data is censored in this way to indicate whether a product is being purchased and consumed. If a new product passes the 1-percent threshold, we will term the product to be "successful." Here, the "1 percent of stores" threshold is treated as an indicator that can be used to gauge whether diets are improving or not. With such an indicator, we can examine whether new products that are free of trans fats are more likely to be successful in the market than products containing trans fats. We can examine whether a "no trans fats" label is associated with market success. Of course, the indicator is not perfect as it excludes from consideration products that exit the market as well as the numerous products that do not cross the threshold.

Table 2 shows the percentage of successful new products with and without trans fats. For example, 29 percent of new products in the snack category without trans fats were successful, while 17 percent of new products in the snack category with trans fats were successful. The trans fats-free products were more successful in 9 of the 16 categories in which comparisons are possible.[17] Products with trans fats were more successful in fruits and vegetables, meals and meal centers, side dishes, sweet spreads, gum and confectionary. In the categories bakery and savory spreads, the products with and without trans fats had the same success rates.

Table 3 compares the success rates of trans fats-free products that advertise this fact on the front of the package ("claimers") and trans fats-free products that do not advertise this fact ("nonclaimers"). For example, 32 percent of "claimers" in the bakery category were successful, while only 22 percent of "nonclaimers" were successful. "Claimers" were more successful than "nonclaimers" in all but four categories: dairy; fruits, vegetables; nonalcoholic beverages; and sweeteners, sugar. Except for dairy, in these categories only a relatively small percentage of new products made "no trans fats" claims. The degree to which the success rate of "claimers" exceeds that of "nonclaimers" is especially notable in the baby food and breakfast cereal categories. One possible explanation for the greater success of products in these two categories is that when it comes to foods consumed by children, parents make distinctly different food choices. Parents' concerns about their children's nutrition might make them especially sensitive to health claims for these categories (see figure 7). Other evidence supports this claim, for example, Schor et al. (2010) find that parents are more likely to use front-of-the-package claims when shopping for their children. In general,

[16]SymphonyIRI tracks sales from 34,000 stores on a weekly basis across the grocery, drug, mass merchandiser, and convenience channels in the United States. If a product is present in 1,000 stores (1,000/34,000 = 2.9 percent of stores), then it is considered successful. If a product is present in only 200 stores (200/34,000 = 0.6 percent of stores), then it is considered unsuccessful.

[17]There were no new product introductions in the categories baby food and sweeteners, making the comparison impossible for these categories.

Table 2
Success rates of the products with and without trans fats, 2006-10

	Products with trans fats	Products without trans fats	Share of products with trans fats
Category	*Success rates*[1]		
	----------*Percent*----------		
Baby food	na	39.0	0.0
Bakery	23.9	24.3	15.0
Breakfast cereals	0.0	22.2	0.6
Chocolate confectionery	24.4	29.7	3.2
Dairy	12.5	19.8	3.4
Desserts, ice cream	21.9	30.3	8.9
Fruits, vegetables	50.0	15.5	0.3
Meals and meal centers	31.8	26.0	15.1
Nonalcoholic beverages	0.0	27.2	0.9
Processed fish, meat, and egg products	18.6	20.8	7.5
Sauces, seasonings	15.4	18.0	0.6
Savory spreads	20.0	19.6	3.0
Side dishes	26.2	17.8	3.7
Snacks	16.7	29.3	4.1
Soup	15.2	18.9	4.7
Sugar, gum confectionery	31.7	31.1	1.8
Sweet spreads	25.0	12.8	0.5
Sweeteners and sugar	na	14.6	0.0

[1]We define the product to be successful if it is sold in at least 1 percent of the stores tracked by IRI.

Meals and meal centers = instant noodles, pasta, rice, meal kits, pastry dishes, pizzas, prepared meals, salads, and sandwiches/wraps.

na = Shares cannot be calculated due to the absence of products with trans fats.

Source: USDA, Economic Research Service calculations based on Mintel Global New Products Database data and SymphonyIRI Group data.

these findings indicate that the "no trans fats" claim could be a successful marketing strategy for highlighting the absence of this unhealthy nutrient.

Note that the comparison of population means should not imply causality, as doing so ignores the possibility that many other factors that we do not observe could be responsible for observed relative magnitudes. Unfortunately, without observing sales and prices consumers face for new product introductions, we cannot estimate regression demand models that would measure the effect of trans fats content and claims on sales. Thus, we report comparison of the means, and any associations found should be treated as only suggestive.

Table 3

Percentage of new products containing no trans fats that are successful, with and without "no trans fats" labels, 2006-10

	"No trans fats" claimers	"No trans fats" nonclaimers	Share of qualified products with "no trans fats" claim
Category	*Success rates*[1]		
	----------*Percent*----------		
Baby food	60.9	36.7	9.5
Bakery	32.4	21.9	23.1
Breakfast cereals	38.2	20.0	11.9
Chocolate confectionery	41.8	29.4	2.4
Dairy	18.5	19.9	7.9
Desserts, ice cream	35.7	30.0	4.9
Fruits, vegetables	6.1	15.7	2.3
Meals and meal centers	33.6	24.8	13.4
Nonalcoholic beverages	12.5	27.4	1.5
Processed fish, meat, and egg products	31.7	19.3	12.0
Sauces, seasonings	25.6	17.6	4.8
Savory spreads	43.2	17.6	7.6
Side dishes	23.6	17.2	10.2
Snacks	37.1	26.4	27.5
Soup	30.4	17.9	8.4
Sugar, gum confectionery	35.7	31.0	1.9
Sweet spreads	26.3	11.4	9.6
Sweeteners, sugar	0.0	15.0	2.4

[1]We define the product to be successful if it is sold in at least 1 percent of the stores tracked by IRI.

Meals and meal centers = instant noodles, pasta, rice, meal kits, pastry dishes, pizzas, prepared meals, salads, and sandwiches/wraps.

Source: USDA, Economic Research Service calculations based on Mintel Global New Products Database data and SymphonyIRI Group data.

Are New Products With a "No Trans Fats" Claim Less Healthy?

It is conceivable that consumers are purchasing new products with lower levels of trans fats at the expense of beneficial nutrients or with higher levels of other undesired nutrients. Some have suggested that products reformulated to reduce trans fats content to qualify for a claim would include higher levels of unhealthy nutrients such as sugar, saturated fat, or sodium (Nestle and Ludwig, 2010; Colby et al., 2010; Silverglade and Heller, 2010). Unnevehr and Jagmanaite (2008) demonstrate that the substitution of trans fats with saturated fats in product reformulations varies by product category, depending on the technical capability of using healthier oil alternatives.

In table 4, we examine the nutritional profiles of products with and without trans fats. Products reformulated to reduce trans fats content may be compensated by an increase in saturated fat to preserve the taste of the product. However, we find that in all categories except sweet spreads, the products with trans fats have more saturated fats and more calories than the products without trans fats. This finding is consistent with that of Mozaffarian, Jacobson, and Greenstein (2010) who found that among major brand-name U.S. supermarket products reformulated to reduce their trans fats content, 52 of 58 ended up with lower levels of both trans fats and saturated fats. Producers could compensate for the reduction in trans fats with increases in sodium and sugar. We find that in all categories in which comparisons are possible, new products with trans fats have more sodium per serving size, while no clear pattern appears in the amount of sugar. This suggests that if the labeling regulations led companies to reformulate products to reduce trans fats, they did not compensate with higher levels of saturated fats, sodium, or calories.

In table 5 we compare the nutritional profile of "claimers" and "nonclaimers." Differences between claimers and nonclaimers vary by nutrient. Nonclaimers in 11 of the 18 product categories have fewer calories and less sodium than claimers. On the other hand, claimers have less sugar in 13 categories. Categories with less saturated fat were roughly evenly split between claimers with nine categories and nonclaimers with eight categories. So, we cannot generalize about the healthfulness of new "no trans fats" products that make the claim versus those that do not, since it depends on the nutrient.

Table 4

Nutritional profile of new products containing no trans fats compared with those containing trans fats, 2006-10[1]

Category	With trans fats				Without trans fats			
	Calories	Sugar	Sodium	Saturated fat	Calories	Sugar	Sodium	Saturated fat
		Grams	*Milligrams*	*Grams*		*Grams*	*Milligrams*	*Grams*
Baby food	na	na	na	na	77	6.3	48.9	0.5
Bakery	193.5	13.9	192.2	3.0	149.6	9.2	171.2	2.0
Breakfast cereals	245.0	17.3	213.8	1.1	148.9	9.5	142.0	0.3
Chocolate confectionery	215.0	22.1	44.6	6.8	192.8	18.0	40.6	6.5
Dairy	105.6	4.0	170.6	3.9	101.3	7.5	146.3	3.1
Desserts, ice cream	316.2	24.7	174.0	9.9	144.8	15.8	68.8	3.8
Fruit, vegetables	160.0	8.8	402.5	3.1	72.0	6.9	147.0	0.2
Meals and meal centers	354.9	4.6	839.5	6.6	278.0	5.1	673.8	3.7
Nonalcoholic beverages	131.2	20.0	122.1	1.2	82.9	17.9	54.6	0.7
Processed fish, meat, and egg products	274.4	1.3	516.4	7.7	149.4	1.8	441.2	2.5
Sauces, seasonings	115.8	1.1	305.8	2.4	48.4	3.3	237.2	0.8
Savory spreads	63.9	0.9	176.4	1.4	57.8	1.4	171.7	1.3
Side dishes	210.5	2.5	480.6	3.3	183.3	2.0	268.9	1.0
Snacks	176.8	3.9	331.9	3.0	145.8	6.1	183.1	1.7
Soup	223.9	4.3	795.3	6.7	119.4	3.3	691.4	1.5
Sugar, gum confectionery	145.8	17.9	57.4	1.6	95.4	15.7	22.7	0.9
Sweet spreads	97.5	9.0	67.5	1.2	105.7	13.7	35.6	1.4
Sweeteners, sugar	na	na	na	na	14.9	4.4	0.4	0.0

[1]Table contains average nutrient content per serving size of products containing no trans fats (for both "claimers" and "nonclaimers") and the nutrient content of products containing trans fats. For baby food and sweeteners, there were no products with trans fats introduced in the period studied.

Meals and meal centers = instant noodles, pasta, rice, meal kits, pastry dishes, pizzas, prepared meals, salads, and sandwiches/wraps.

na = No new products containing trans fats.

Source: USDA, Economic Research Service calculations based on Mintel Global New Products Database data.

Table 5

Nutritional profile of new trans fat-free products with and without front-of-the-package claim about trans fats, 2006-10[1]

Category	Claimers				Nonclaimers			
	Calories	Sugar	Sodium	Saturated fat	Calories	Sugar	Sodium	Saturated fat
		Grams	*Milligrams*	*Grams*		*Grams*	*Milligrams*	*Grams*
Baby food	65.9	3.0	50.8	0.2	78.2	6.7	48.7	0.6
Bakery	143.2	7.3	184.6	1.6	151.6	9.8	167.2	2.2
Breakfast cereals	159.0	8.7	124.5	0.5	147.4	9.6	144.5	0.3
Chocolate confectionery	169.6	13.4	39.1	5.0	193.4	18.1	40.6	6.5
Dairy	76.2	4.6	116.5	1.9	103.4	7.7	148.9	3.2
Desserts, ice cream	160.9	14.9	91.5	4.3	144.1	15.9	67.7	3.7
Fruit, vegetables	79.0	7.1	161.9	0.4	71.8	6.9	146.6	0.2
Meals and meal centers	278.8	5.3	644.6	3.7	277.8	5.1	678.8	3.7
Nonalcoholic beverages	126.6	14.3	109.1	1.8	82.3	18.0	53.8	0.6
Processed fish, meat, and egg products	165.4	2.0	458.3	2.0	147.2	1.8	438.8	2.6
Sauces, seasonings	66.3	2.6	166.5	1.1	47.5	3.4	240.9	0.7
Savory spreads	62.8	1.6	147.0	1.0	57.3	1.4	174.0	1.3
Side dishes	179.7	1.9	327.0	1.1	183.7	2.0	261.8	0.9
Snacks	142.8	4.0	193.0	1.5	147.1	6.9	179.4	1.8
Soup	131.5	3.4	715.7	1.7	118.2	3.3	689.0	1.4
Sugar, gum confectionery	120.9	20.0	23.1	0.4	94.9	15.7	22.7	0.9
Sweet spreads	175.7	5.0	77.6	2.4	98.6	14.5	31.3	1.2
Sweeteners, sugar	30.0	29.0	0.0	0.0	14.5	4.2	0.4	0.0

[1]Table contains average nutrient content per serving size of products containing no trans fats (for both “claimers” and “nonclaimers”) and the nutrient content of products containing trans fats. For baby food and sweeteners, there were no products with trans fats introduced in the period studied.

Meals and meal centers = instant noodles, pasta, rice, meal kits, pastry dishes, pizzas, prepared meals, salads, and sandwiches/wraps.

Source: USDA, Economic Research Service calculations based on Mintel Global New Products Database data.

Conclusions

There was a marked reduction in the trans fats content of new products containing trans fats from 2005 to 2010. In this period, there were still some food products introduced that contained trans fats, but in the majority of the food categories, the products with trans fats were generally less successful. Surprisingly, even among the products free of trans fats, products carrying a "no trans fats" claim were more successful than products without such a claim. These results indicate that while consumers are trying to avoid products with trans fats, some consumers cannot fully utilize the information from the Nutrition Facts panel. These consumers rely on the front-of-the-package claims. This is supported by previous research that consumers prefer simple presentation of nutritional information and many consumers find Nutrition Facts panels too complicated (Borra, 2006).

A policy that would require a front-of-the-package warning about the trans fats content might benefit consumers who do not use the Nutrition Facts panel. However, such a policy may not be necessary because, even in the absence of this policy, trans fats are gradually disappearing from the new product introductions and probably from the overall food supply. The tabulations presented here suggest that consumers have responded to the mandated label changes and to the information the food industry voluntarily supplied. That is, some dietary improvements were accomplished with a new disclosure requirement, and without resorting to more coercive policies such as a regulation that would forbid the inclusion of trans fats in food.

Conceivably, the reduction in trans fats could present a new challenge for public health authorities if this reduction were compensated by increases in saturated fat, sugar, calories, and sodium. On average, we did not find such compensation to be the case. From 2006 to 2010, the average amounts of calories, sodium, and saturated fat found in new products without trans fats were below amounts contained in new products with trans fats.

The goal of improving the quality of food supply can be approached by targeting one nutrient such as trans fat or by targeting the whole nutritional profile. For example, nutritional rating might be accomplished with the Guiding Stars™ and NuVal™ nutritional information systems adopted by some U.S. supermarkets. Our results suggest that targeting of one nutrient may not lead companies to compensate by increasing levels of undesirable nutrients, resulting in improvements in the overall nutritional profile.

We found that the nutritional profile of products free from trans fats that featured a "no trans fats" claim was similar to the products without such a claim. The higher market success rates of products making a "no trans fats" claim could indicate a "halo" effect, that consumers are expecting more from the labeled product than it delivers. However, even if such an effect exists, similar nutritional profiles of these two groups of food products indicates that producers are not (on average) taking advantage of consumers' confusion by selling products with large amounts of saturated fat, sodium and sugar under cover of a "no trans fats" claim.

Our conclusions have to be tempered by the limits imposed by data availability. One limitation of our study is the focus on products introduced into the marketplace, rather than the complete set of products available to consumers on store shelves. Further, new food product introductions point to ways food prepared and eaten at home is changing, but offer no insight into changes made to meals eaten in restaurants. Our evidence is consistent with the hypothesis that producers are trying to reduce the amounts of trans fats in foods intended for home consumption. They are introducing products largely free of trans fats. Whether this effort will result in a trans fats-free food supply depends on how quickly consumers switch to these new products—an important question that still remains unanswered.

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Appendix 1—Mintel's Data Collection Procedure

Mintel field associates identify new products and document over 80 product characteristics, including company, brand, ingredients, nutritional information, and claims (e.g., low/no/reduced claims, whole grain, added calcium, added fiber). Field associates are provided with a list of stores they are to target for new products, and they shop on a weekly basis. Distribution channels monitored include supermarkets, mass market, drug stores, natural food stores, convenience stores, club stores, specialty stores, mail order/Internet, and some direct-to-consumer. New products are shipped to the Mintel offices. Mintel also monitors other sources of new product information including trade publications, trade shows, company websites, press releases, and online newsletters. A secondary coverage team creates a list of new product launches found through the other sources and sends them to the field associates for them to identify the high-priority products.

When a new product is identified, the product is cross-referenced with the Mintel Shopper Website to limit duplication of products that have already been identified. The product is then purchased and sent to Mintel's offices. The field associates enter basic product data into the Mintel Shopper Website, including company, brand, product, product description, ingredients, and nutritional information. They also translate any product information on the front, back, and sides of the package.

The products are then shipped to Mintel's London office for additional data entry, package photography, and several levels of quality control. The Mintel data entry team records pertinent information from the package, including product claims, barcodes, ingredients, nutritional data, and category information. Field associates are contacted about any quality control problems identified from the basic data entry by the field associate. The data entry team then analyzes all information from the package and enters the data. The products are then sent to be photographed. Each product record is quality checked by a team of editors before publication on the website. Other quality checks are conducted to identify needed reworks and retraining of field associates. Products appear in the database within approximately a month's time of launch or as close to launch as possible, including some products published before their official launch date. Product records in GNPD include a publication date (month/year), which indicates when the product was added.

A senior editor reviews, on average, 1,000 records per month as an additional quality control check. Other quality control concerns raised by the data entry team, GNPD consultancy teams, and feedback from clients are considered for possible reworks and retraining where necessary.

Sales information is collected by first matching bar codes in the GNPD and IRI databases. For most GNPD products that are populated from secondary sources such as press releases, Internet searches, and trade magazines, information on bar codes is not available. For these products, information on categories, company name, product, and brand name is compared with GNPD and IRI sources to provide a list of potential matches. Items that match the record are then manually selected, and the matching barcode is uploaded.

Once the main product record has been matched, product variants are identified. Product variants that appear in a GNPD record, such as flavor and positioning, do not carry a barcode since field associates purchase the main item and report on any variant that may have been launched at the same time. After the main product record has been matched, a list of similar products is generated based on category matching, company matching, similar barcode, and similar launch date. Items that match the variant list for a record are then tagged. Finally, any duplication (variants that appear in more than one record) is removed to ensure that variants are matched to the correct record.

Not all product records in GNPD will have sales data. Sales data are not included in a product record if the product is:

- classified as new packaging, relaunch, or reformulation.
- private label (store brand), found outside of stores not covered by IRI, including Walmart, club stores, convenience stores, health food stores, dollar stores, and Internet/mail order.
- priced over $24.99.
- sold in fewer than 1 percent of stores.

Appendix 2—New Food Product Introductions With a "No Trans Fats" Claim

Appendix 2 table 1

New food product introductions with a "no trans fats" claim, as a percentage of all new food product introductions, by product category, 2004-10

Category	2004	2005	2006	2007	2008	2009	2010	Total 2004-10
				Percent				
Snacks	5.7	15.1	22.7	25.6	29.7	27.8	27.4	21.9
Snack/cereal/energy bars	5.6	23.6	25.2	23.5	25.4	19.9	24.3	20.1
Potato snacks	7.0	27.5	44.0	65.5	56.9	72.9	52.3	46.1
Corn-based snacks	14.4	16.2	38.8	47.6	57.6	47.4	56.1	40.3
Wheat and other grain-based snacks	15.0	23.2	33.7	31.3	45.4	37.8	30.5	31.2
Popcorn	2.4	18.0	24.6	34.2	41.0	18.6	32.3	24.4
Hors d'oeuvres/canapés	0.9	2.2	18.4	17.6	20.4	27.9	27.2	15.4
Nuts	0.9	4.6	7.5	7.9	13.0	10.7	14.5	8.7
Other snacks	4.5	11.4	12.5	11.3	17.8	20.5	13.8	13.8
Bakery	5.3	11.8	15.9	18.0	21.8	22.5	18.6	15.8
Baking ingredients and mixes	2.5	5.2	8.8	11.4	14.0	9.7	10.3	8.8
Sweet biscuits/cookies	5.5	13.6	14.5	15.7	20.8	23.4	20.9	15.6
Bread and bread products	6.9	18.3	33.2	33.2	35.1	35.4	26.6	25.5
Savory biscuits/crackers	9.6	27.3	25.8	31.9	37.4	38.7	22.7	27.1
Cakes, pastries, and sweet goods	5.0	4.5	7.3	12.3	15.6	18.2	19.7	11.4
Processed fish, meat, and egg products	2.2	6.0	10.1	10.1	12.1	11.8	10.0	8.8
Fish products	0.5	9.8	13.2	15.1	20.8	13.1	11.7	11.9
Poultry products	1.7	7.0	13.8	15.5	15.8	21.9	18.2	13.4
Other processed fish, meat, and egg products	3.4	3.4	6.3	4.9	5.8	5.5	5.4	4.9
Meals and meal centers	0.8	1.9	8.5	11.0	12.7	17.6	12.1	9.2
Sandwiches/wraps	0.9	0.0	17.6	19.2	29.9	31.8	18.0	17.1
Prepared meals	1.0	2.1	4.7	9.9	7.9	17.1	9.9	6.8
Other meals and meal centers	0.4	2.6	8.7	8.7	8.5	12.9	11.6	8.1
Sauces and seasonings	0.7	1.8	2.8	4.4	3.8	4.3	5.0	3.3
Dairy	1.9	6.2	6.3	6.1	7.0	8.2	7.7	6.3
Margarine and other blends	17.4	62.5	65.0	63.0	61.5	55.6	50.0	53.1
Other dairy	1.1	3.3	4.1	3.4	5.8	6.1	6.4	4.5

--continued

Appendix 2 table 1

New food product introductions with a "no trans fats" claim, as a percentage of all new food product introductions, by product category, 2004-10--continued

Category	2004	2005	2006	2007	2008	2009	2010	Total 2004-10
				Percent				
Side dishes	1.2	3.3	7.5	7.7	9.9	14.0	11.5	7.9
Potato products	4.8	9.0	13.8	14.6	17.9	26.3	22.4	15.8
Other side dishes	0.0	1.6	5.2	5.3	6.6	9.5	7.7	5.1
Breakfast cereal	1.2	5.0	6.9	12.9	12.4	14.8	9.6	10.5
Chocolate confectionery	0.1	1.5	1.5	1.9	2.2	3.0	1.7	1.7
Sugar and gum confectionery	0.1	1.0	2.0	1.4	1.6	1.0	3.1	1.4
Desserts and ice cream	0.2	2.3	3.9	5.5	5.8	3.9	4.9	3.6
Sweet spreads	5.3	7.0	8.7	3.8	11.9	5.9	8.4	7.2
Nut spreads	27.8	38.5	29.2	20.0	48.5	25.0	44.9	33.2
Other sweet spreads	0.0	1.9	1.5	0.5	3.5	1.8	0.8	1.3
Nonalcoholic beverages	0.2	0.7	0.5	1.1	0.9	1.7	0.8	0.8
Soup	0.0	6.1	4.4	8.9	6.0	8.9	11.8	6.5
Savory spreads	0.0	1.0	6.5	7.3	12.6	12.6	6.9	6.7
Fruits, vegetables	0.0	1.7	1.6	2.0	2.0	2.5	2.8	1.8
Baby food	0.0	5.7	1.7	11.8	12.2	7.3	4.3	6.8
Sweeteners and sugar	0.0	2.1	6.7	0.0	0.0	2.0	0.0	1.4
All new food product introductions	2.0	5.1	7.9	9.1	10.3	10.9	10.6	5.6

Meals and meal centers = instant noodles, pasta, rice, meal kits, pastry dishes, pizzas, prepared meals, salads, and sandwiches/wraps.

Source: USDA, Economic Research Service calculations based on Mintel Global New Product Database data.

Appendix 2 table 2

New food product introductions with a "no trans fats" claim, as a percentage of all "no trans fats" claims, by product category, 2004-10

Category	2004	2005	2006	2007	2008	2009	2010	Total 2004-10
				Percent				
Snacks	30.3	30.9	30.2	30.7	32.5	26.2	28.8	29.9
Snack/cereal/energy bars	8.2	10.8	6.4	5.5	5.4	3.8	4.1	5.7
Potato snacks	3.4	4.3	5.3	8.0	5.5	5.9	4.1	5.5
Corn-based snacks	7.7	2.4	4.8	5.0	5.4	4.2	5.2	4.8
Wheat and other grain-based snacks	4.3	3.7	3.9	3.2	4.2	2.0	2.5	3.3
Popcorn	1.0	2.2	1.9	2.6	3.1	0.9	2.5	2.2
Hors d'oeuvres/canapés	0.5	0.6	2.3	1.6	1.8	2.8	3.1	2.1
Nuts	0.5	1.0	1.3	1.2	1.8	1.3	1.9	1.4
Other snacks	4.8	5.9	4.2	3.5	5.2	5.4	5.3	4.9
Bakery	41.3	30.7	28.3	26.8	26.7	27.3	25.5	27.8
Baking ingredients and mixes	4.3	3.0	3.7	4.2	4.1	2.9	3.7	3.7
Sweet biscuits/cookies	13.0	10.6	7.2	7.1	6.8	7.2	8.2	7.8
Bread and bread products	10.6	8.1	10.6	7.0	7.0	7.3	6.6	7.7
Savory biscuits/crackers	6.3	6.5	4.0	4.7	4.1	5.0	3.0	4.4
Cakes, pastries, and sweet goods	7.2	2.6	2.8	3.8	4.7	5.0	3.9	4.0
Processed fish, meat, and egg products	7.7	7.9	9.2	7.6	7.9	7.6	7.4	7.9
Fish products	0.5	3.3	2.9	3.0	3.6	2.0	2.2	2.7
Poultry products	1.4	2.4	3.6	2.8	2.4	3.9	3.2	3.0
Other processed fish, meat, and egg products	5.8	2.2	2.7	1.8	1.9	1.7	2.1	2.2
Meals and meal centers	2.4	2.2	7.1	7.8	7.9	10.7	7.5	7.4
Sandwiches/wraps	0.5	0.0	2.5	2.4	3.8	3.2	1.9	2.4
Prepared meals	1.4	1.2	1.7	2.7	1.7	3.8	2.0	2.2
Other meals and meal centers	0.5	1.0	2.9	2.8	2.4	3.7	3.6	2.8
Sauces and seasonings	3.4	4.1	4.0	5.0	3.3	4.2	6.4	4.5
Dairy	4.3	6.1	4.2	3.8	4.1	4.0	5.3	4.5
Margarine and other blends	1.9	3.0	1.6	1.7	0.8	1.2	1.0	1.4
Other dairy	2.4	3.1	2.7	2.1	3.3	2.9	4.3	3.1

--continued

Appendix 2 table 2

New food product introductions with a "no trans fats" claim, as a percentage of all "no trans fats" claims, by product category, 2004-10--continued

Category	2004	2005	2006	2007	2008	2009	2010	Total 2004-10
				Percent				
Side dishes	1.9	2.2	3.3	2.6	2.6	4.8	4.8	3.4
Potato products	1.9	1.4	1.6	1.2	1.3	2.4	2.4	1.8
Other side dishes	0.0	0.8	1.7	1.3	1.2	2.4	2.3	1.6
Breakfast cereal	1.4	2.2	2.3	3.7	3.1	3.2	2.7	3.4
Chocolate confectionery	0.5	2.2	1.2	1.4	1.5	1.8	1.0	1.4
Sugar and gum confectionery	0.5	1.4	1.8	1.1	1.1	0.6	1.5	1.2
Desserts and ice cream	0.5	2.6	2.8	2.9	2.2	1.6	1.9	2.2
Sweet spreads	4.8	2.6	1.9	0.9	2.0	1.4	2.2	1.9
Nut spreads	4.8	2.0	1.7	0.8	1.5	1.0	2.1	1.6
Other sweet spreads	0.0	0.6	0.2	0.1	0.5	0.3	0.2	0.3
Nonalcoholic beverages	1.0	1.6	0.8	1.5	1.2	2.1	0.9	1.3
Soup	0.0	1.6	0.8	1.4	0.8	1.4	1.9	1.3
Savory spreads	0.0	0.2	1.0	0.9	1.5	1.5	0.9	1.0
Fruits, vegetables	0.0	1.2	0.6	0.7	0.6	0.8	0.9	0.7
Baby food	0.0	0.4	0.1	0.9	0.9	0.5	0.4	0.5
Sweeteners and sugar	0.0	0.2	0.4	0.0	0.0	0.1	0.0	0.1

Meals and meal centers = instant noodles, pasta, rice, meal kits, pastry dishes, pizzas, prepared meals, salads, and sandwiches/wraps.

Source: USDA, Economic Research Service calculations based on Mintel Global New Product Database data