United States Department of Agriculture

USDA

Economic Research Service

Economic Research Report Number 105

October 2010

# How Much Lower Are Prices at Discount Stores?

## An Examination of Retail Food Prices

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Recommended citation format for this publication:

Leibtag, Ephraim, Catherine Barker, and Paula Dutko. *How Much Lower Are Prices at Discount Stores? An Examination of Retail Food Prices*, ERR-105, U.S. Dept. of Agri., Econ. Res. Serv. September 2010.



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# How Much Lower Are Prices at Discount Stores?

## An Examination of Retail Food Prices

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**Paula Dutko**

## Abstract

Nontraditional stores, including mass merchandisers, supercenters, club warehouse stores, and dollar stores, have increased their food offerings over the past 15 years and often promote themselves as lower priced alternatives to traditional supermarkets. How much lower *are* food prices at these stores? In order to better understand nontraditional stores' impact on the cost of food, ERS analysts evaluate food price differences between nontraditional and traditional stores at the national and market level using 2004-06 Nielsen Homescan data. Findings show that nontraditional retailers offer lower prices than traditional stores even after controlling for brand and package size. Comparisons of identical items, at the Universal Product Code (UPC) level, show an expenditure-weighted average price discount of 7.5 percent, with differences ranging from 3 to 28 percent lower in nontraditional stores than in traditional stores. Nontraditional stores in metro areas where such stores have a higher-than-average market share have smaller and less frequent price discounts than those in areas where such stores have a lower market share.

**Keywords**: retail food prices, price variation, Nielsen Homescan, supercenter, club warehouse store, dollar store, traditional food retailers, nontraditional food retailers

Coauthors Catherine Barker and Paula Dutko were ERS interns when this report was prepared.

## Acknowledgments

The authors thank Christopher Davis, ERS/USDA; Geoffrey Pofahl, Arizona State University; and Charles Courtemanche, University of North Carolina-Greensboro, for their helpful suggestions and comments. Thanks also to Priscilla Smith (editor) and Susan DeGeorge (designer) for their excellent assistance.

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# Summary

## What Is the Issue?

Food prices vary across different parts of the United States. One factor that may lead to differences in food prices is the types of stores in a given market or neighborhood. Nontraditional discount food retailers, including supercenters, mass merchandisers, wholesale club stores, and dollar stores, have gained a substantial portion of the retail food market over the past 15 years. Previous studies have shown that prices for some items are lower in nontraditional than in traditional stores. But those earlier studies were generally limited in the number of items compared, the detail level of comparison, and the geographic areas studied. This study compares prices for a wide range of foods at a finer level of detail than earlier studies, at both the national and geographic market levels, in order to quantify the difference in food prices across store formats.

## What Are the Major Findings?

- Nationally, 86 percent of broad food groups had lower prices in nontraditional stores than in traditional stores. Even after controlling for differences in brand and package size by comparing identical Universal Product Code (UPC) items, prices were lower for 82 percent of UPC products.

- Expenditure-weighted average prices were 7.5 percent lower in nontraditional stores at the UPC level, with prices for individual food items ranging from 3 to 28 percent lower in nontraditional stores. This indicates that factors other than brand and package size, such as differences in store costs and pricing strategies, play a role in explaining price differences between store types.

- At the market level, price differences between traditional and nontraditional stores were smaller and less frequent in areas with a high market share of nontraditional retailers. Atlanta and San Antonio—which are cities with a high share of nontraditional retailers—had the fewest products with significantly lower prices in nontraditional stores and an average price discount of just 5.3 percent, while cities with a low share of nontraditional retailers (Philadelphia and the New York City metro area) had an average price discount of 11.5 percent.

- Smaller price differences between store types may be due to some higher priced traditional retailers' exiting markets in which nontraditional retailers gain a large market share, with the remaining traditional retailers' lowering their prices in response to increased competition. Such an outcome would result in a decrease in average prices in traditional stores. Alternatively, the smaller differences could be due to nontraditional retailers' raising prices once they have a large enough market share to do so.

Results for specific food groups and items include:

- Meat items had the largest average price discounts in nontraditional stores, while grain-based products had the greatest variation in price differences between nontraditional and traditional stores.

- All canned products were priced significantly lower in nontraditional stores, even at the UPC level.
- Private-label (store-brand) items had larger price differences between store types than did national-brand goods.

## How Was the Study Conducted?

The study analyzed 2004-06 Nielsen Homescan data, which includes all food-at-home purchases for about 40,000 households in 52 markets and selected nonmetropolitan areas**.** (Nielsen defines "nonmetropolitan areas" as areas outside the 52 largest metropolitan areas in the United States). The study compared price differences at the national and market level for four broad food groups—dairy, meat, fruits and vegetables, and grains. These food groups were divided into four levels of aggregation for each year with the most commonly purchased products compared at each aggregation level:

- broad food categories, such as low-fat milk
- products of the same brand or a narrower subgroup of the broad categories (for items that do not have national brands, such as most fresh fruit)
- products with the same individual package sizes, such as 6-ounce containers of yogurt
- products with the same UPC

A linear regression model was used to control for other factors that may influence the average price for a given food item or group of foods, such as region and calendar quarter when purchased. When estimating food price differences between store types at the market level, we focused on six markets: Philadelphia and New York (with low shares of nontraditional retailers); Chicago and Baltimore/Washington (with medium shares of nontraditional retailers); and Atlanta and San Antonio (with high shares of nontraditional retailers).

# Introduction

With retailers such as Wal-Mart, Costco, Target, and Family Dollar increasing their food offerings and share of consumer food expenditures over the past 15 years, the retail market for food has changed. In 2003, Wal-Mart passed Kroger as the largest supermarket chain in the United States and has come to dominate many major U.S. markets, particularly in the South and Midwest. By the end of 2005, Wal-Mart was within 5 miles of 46 percent of American homes and within 15 miles of 88 percent (Basker, 2007). However, Wal-Mart supercenter growth is not the only catalyst for change in the retail environment. In 2008, 50 percent of the U.S. population shopped at warehouse club stores, including Costco, Sam's Club, and BJ's (*NielsenWire*, 2009). In addition, dollar stores have increased food offerings and have grown in popularity at a faster rate than other retail store types over the past decade (Maestri and Baertlein, 2009). From 2001 to 2008 the number of dollar stores grew by 52 percent, and by 2008, 64 percent of U.S. households shopped at dollar stores in that year (*NielsenWire*, 2009). Why have consumers chosen to shift a large share of their food-purchase dollars to nontraditional retailers? It is often claimed that consumers shift food purchases to these stores due to lower prices. However, research that compares a wide range of food products both nationally and in a number of U.S. markets has not been conducted previously due to data constraints. With better data now available, we can quantify exactly how much lower prices are in these stores and determine whether the differences in prices between store formats vary across markets.

In this study, we improve on the previous literature by comparing prices not only for a wider range of food categories, but also by comparing specific individual food items within each category. We quantify the extent to which food prices are lower in nontraditional stores at both the national and market level by addressing two questions related to price variation between nontraditional and traditional food stores:

1. Are national food prices statistically significantly lower in nontraditional stores compared with traditional stores even after controlling for specific product characteristics at the universal product code (UPC) level?

2. Do market-level price differences vary with the relative market share of nontraditional retailers in a given market?

Addressing these two questions provides insight into how much consumers could save depending on where they choose to shop and what retail markets that currently have low nontraditional market share may experience in the future if nontraditional market share were to increase.

Nontraditional retailers usually sell a wider range of nonfood items than do traditional supermarkets, so their growth in market share means traditional supermarkets face a new type of competition. What effect does this have on prices and sales? Basker and Noel (2009) found that Wal-Mart's price advantage over competitors for 24 grocery products was approximately 10 percent, while Capps and Griffin (1998) found that Wal-Mart was responsible for about a 21-percent reduction in sales at a conventional grocery store

chain in rural areas surrounding Dallas, suggesting that traditional stores face considerable competition from nontraditional stores. Carpenter and Moore (2006) found that people shop at a particular retail format due to a combination of factors such as price, inventory cost, and travel cost. Nontraditional stores may appeal particularly to large, low-income households—income, education, and household composition and size were all found to be significant variables affecting what format of retail store consumers chose. Finally, Kinsey and Senauer (1996) found that the average grocery retailer had operating costs equal to 21.8 percent of sales, while Wal-Mart's operating costs were only 17.5 percent of sales. However, even if nontraditional stores have lower aggregate prices because they have lower operating costs, they may provide fewer services and varieties of products, so a more comprehensive comparison is warranted.

For some items in some markets, previous studies have shown that prices in nontraditional stores are lower than prices in traditional stores. For example, when comparing dairy products of similar package sizes, Leibtag (2006) found that prices were 5 to 25 percent lower in nontraditional retailers than traditional retailers from 1998 through 2003. When looking at Wal-Mart in particular and taking into account demographics and market conditions, Volpe and Lavoie (2007) found that prices were 6 to 7 percent lower for national-brand goods and 3 to 8 percent lower for store-brand goods in 2004 based on data for the New England region.

One concern with many previous studies on food price differences is that the lower prices observed in aggregated comparisons of broad food groups across stores were due to differences in the quality[1] or package size of specific products sold in nontraditional outlets. Very large differences in price found in aggregate data are often confounded by this fact. In addition, for consumers shopping on a tight budget, the mere existence of lower per-unit prices does not necessarily imply affordability since the potential savings comes at the cost of having to buy larger package sizes or products of lower quality. In order to address this concern, we compare product price differences across four levels of aggregation (broad food group, more specific food group, same package size, and same UPC) to differentiate between the effects on price of quality and package size characteristics as opposed to other store-based factors including operating costs and purchasing power. Our comparisons quantify how much of a difference remains in prices after controlling for the fact that not all stores sell the same items in every food category.

Another area of improvement found in our research is the focus on multiple markets with varying degrees of nontraditional market share. Researchers have previously compared prices in only one or two market areas, without accounting for different market conditions across the United States. We extend our national-level analysis to look at six specific markets to estimate the extent to which prices are lower in nontraditional stores in a given market and whether this difference depends on nontraditional retailer market share.

[1]Quality differences exist due to differences in the underlying ingredients and materials used by different companies when producing food products. In our analysis, we control for quality differences by comparing items produced by the same manufacturer as well as by comparing identical UPCs.

## Organization of Data and Product Comparison Groupings

We use 2004-06 Nielsen Homescan data in our analysis. Homescan data is household-based scanner data in which households scan the UPC of each item after every food shopping trip.[2] For each of the years, the data sample includes about 40,000 households in 52 markets and selected nonmetro areas. In addition to describing each purchase's product details, such as brand name and flavor, the dataset includes household demographic information, such as income level and marital status. One advantage of using Homescan data rather than store-based scanner data is that store-based scanner data are not available for certain retail store outlets, meaning that we would not be able to include all nontraditional store formats in our analysis using only store-based scanner data. Also, store-based scanner data include purchases for all intended uses, whereas household-based data are more representative of actual household purchases, which is useful for making consumer-based estimates.[3]

The first aim of our analysis is to test whether nontraditional stores offer significantly lower prices than do traditional stores for a variety of foods. Nontraditional stores are defined as mass merchandisers, such as Target; supercenters, such as Wal-Mart Supercenter; wholesale club stores, such as Costco; and dollar stores, such as Dollar Tree and Family Dollar. Traditional stores include all traditional grocery stores, such as supermarkets, combination food/drug stores, and military commissaries, that have a majority of their sales in food products.[4]

We compare product prices at four levels of aggregation in order to determine how price differences between store types vary as the comparison group narrows (see table 1 for a list of all of the food categories). The most frequently purchased items within each aggregation level are presented in this study in order to have a sufficient sample size for each step in the analysis.

### *First aggregation level*

Our first, and broadest aggregation level includes prices for foods in 22 of the 52 Quarterly Food-at-Home Price Database (QFAHPD) groups, groups that were constructed based on the 2005 Dietary Guidelines.[5] The 22 categories all fall under dairy, meat, fruit and vegetable, or grain food groups, and represent just under half of all food-at-home purchases nationally. We chose these 22 food groups for our analysis in order to have well-defined products for our disaggregated comparisons detailed below.

### *Second aggregation level*

The second level of aggregation compares more narrowly defined food categories within each of the broader food groups. We use two criteria when comparing prices for this aggregation—brand name and product module. Product modules are the 600+ food categories that Nielsen uses to organize the various foods reported purchased in the Homescan data. For example, frozen pizza, lunchmeat, and shredded cheese are all product modules. We compared prices by store type for the same branded item and/or product module, choosing the most frequently purchased brand in each

[2]A subset of Homescan households also record non-UPC-coded food purchases using a codebook.

[3]Einav et al., (2008) conduct a validation study of the Homescan data by comparing estimates from Homescan to store-based data. They found that quantities purchased are reported more accurately in Homescan than are prices. However, many of the price differences are a function of the way Nielsen imputes prices: when available, Nielsen uses store-level prices instead of the actual price paid by the household. Overall, the fraction of variance explained by the documented recording errors is in line with other research datasets in which cross-validation studies have been conducted. See Einav et al., (2008) for additional information on the description, accuracy, and usage of Homescan data.

[4]We calculate separate prices for purchases from drug and convenience stores since those stores offer a different combination of products and services as compared with both traditional and nontraditional stores. Drug and convenience store prices are available from the authors upon request (contact the authors at eleibtag@ers.usda.gov).

[5]For more information on the QFAHPD, see Todd et al. (2010).

of the 22 broad categories for 2006. Then, we narrowed the sample by the most frequently purchased product module, provided that the sample was still large enough for comparison across store types. Since some items do not have brands, the broad food group categories for these products were narrowed only by product module. For example, most fresh fruits, like many other non-UPC (random-weight) products, do not have national brands, so price comparisons were made for apples and bananas, the most frequently purchased product modules in the fresh fruits category, instead. These prices provide a more narrow comparison of price differences between nontraditional and traditional stores by controlling for product-specific characteristics not accounted for in the more broad food group comparisons. We compare both private-label (store-brand) products and nationally branded products across store types since the pricing behavior of these products may differ given the difference in pricing power that retailers have for store-brand vs. nationally branded products. This helps to determine whether privately labeled items have bigger, smaller, or similar price differences between store types than do nationally branded products.

### *Third aggregation level*

The third aggregation level controls for the individual package size of the product purchased by comparing prices for items with the same unit weight. Controlling for weight is important because some nontraditional stores, such as warehouse club stores, have lower unit prices since they often sell larger sized items. For example, traditional stores may carry both half-gallon and gallon containers of milk, but nontraditional stores may only sell gallon containers. Some products, however, cannot be compared by weight since they are not sold in fixed-weight packages (random-weight products). Fresh produce, delicatessen meat, and seafood items are assigned a final price at the store based on the total purchased package weight. Nontraditional stores may have bigger packages, but weight price comparisons for these products do not tell much about price differences between store types since customers, not stores, decide how much of the random-weighted variable to purchase. We therefore only compare random-weight products by brand and/or product module as described above.

### *Fourth aggregation level*

The final and most specific aggregation level for comparison is at the UPC level. UPCs are used to identify all nonrandom-weight items purchased. The UPC products chosen are based on the frequency of purchases in the 2006 sample.[6] For some products, the UPC product was of the same brand, product module, and/or size as in the second and third aggregation levels of comparison. However, there were also cases in which a certain brand was the most commonly purchased brand in the broadest sample, but the most commonly purchased UPC was of a different brand. The UPC level of comparison is unique since exact products are not expected to have as large a price difference between store types given the fact that these are identical items sold at all stores. If there are still significantly lower prices in nontraditional stores at the UPC level, then other factors, in addition to brand and package size differences, must account for nontraditional stores' lower prices.

[6]If a given food group was too large and varied to identify one UPC that was the most frequently purchased, the sample was narrowed by product module or brand first. If a UPC product did not exist for 1 year, then the second or third most popular UPC product was chosen. For example, frozen whole-grain purchases increased by 72 percent from 2004 to 2005 and by 56 percent from 2005 to 2006. Due to this large growth, the most commonly bought UPC product in 2006 did not exist in 2004. In order to have all 3 years of comparison, the third most commonly purchased UPC in 2006 was chosen, which also happens to be the most commonly purchased UPC in 2004 and 2005.

It should be noted that the UPC comparison alone is not necessarily a sufficient measure of price differences between store types since each UPC product accounts for such a small share of overall food-at-home expenditures, but in conjunction with the information at the other aggregation levels, the UPC-level analysis can shed light on price differences between store types. In general, there is a tradeoff between the specificity of food products compared and the ability to find the exact food product for comparison in multiple markets across stores, so by including results for four aggregation levels, our aim is to provide a robust presentation of price differences.

We use a linear regression model to control for factors other than the store from which the item was purchased that may influence the average price for a given food item or food group. For all four aggregation comparison levels for each product, we control for region, time, household income, size and race. Using the Homescan data, we calculate the average food price by unit weight by dividing the total dollars paid[7] by the total quantity (in ounces) purchased during a given shopping trip. To control for other differences across space, time, and demographics, we use dummy variables for the four U.S. regions, households' race, and for the quarter the product was purchased. Since Homescan does not collect exact household income, but instead has 19 income levels ranging from below $5,000 to above $200,000 per year, we use the midpoint of each income range as our household-income variable (in thousands of dollars). The household-size variable in the Homescan data is continuous, ranging from one-person households to nine-person households. The model is then as follows,

$$P_{ijt} = F(S_{jt}, R_{it}, I_{it}, H_{it}, A_{it}, T_t) \qquad i = \text{household, } j = \text{store, } t = \text{date}$$

with unit prices (P), store type (S), region (R), household income (I), household size (H), race (A), and quarter purchased (T) for each item for a given household from a specific store on a specific day.

For the dummy variables used in these regressions, the defaults are traditional store type, East for region, White for race, and 1st quarter for quarter purchased. Almost all of the independent variables are significant for a majority of the regressions, with higher prices being associated with the East, higher incomes, and smaller households. An example of a regression at the UPC aggregation level for yogurt is presented in table 2.[8] As in all of the national-level regressions in this study, we control for region, time, and demographics in order to estimate how much of a difference in prices can be explained by the store format chosen. In this yogurt UPC example, we find that prices are 12 percent lower in nontraditional stores as compared with traditional stores and over 30 percent higher in drug and convenience stores. Other statistically significant determinants of price are income (+), household size (-), Asian (+), and 4$^{th}$ quarter (+).

[7]The total-dollars-paid amount is a final transaction price taking into account loyalty-card member discounts, sales specials, and coupons.

[8]Additional regression results available from the authors upon request (contact the authors at eleibtag@ers.usda.gov).

## National Price Differences Between Nontraditional and Traditional Stores

We calculate price differences between nontraditional stores and traditional stores and the share of each product's expenditures in nontraditional stores for every product aggregation level and present the results in four tables, one for each major food group— dairy, meat, fruit and vegetable, and grains (see tables 3, 4, 5, and 6). For all levels of aggregation, the price differences were highly significant with many significant at the 1-percent level and almost all at the 5-percent level. Ninety-eight percent of products across all levels of aggregation show equal or higher average package sizes in nontraditional stores as compared with traditional stores, highlighting the importance of making comparisons at more specific aggregation levels.[9]

### Broad Aggregation-Level Comparisons

The broad food category comparisons in dairy, meat, fruit, vegetable, and grain food groups are comprehensive in that many products are included in each group, but may overstate actual price differences because the composition of items sold at each store within each broad category may vary quite a bit. Therefore the comparisons at this level provide a benchmark with which to compare to the other aggregation levels. Not surprisingly, almost all products broadly aggregated have lower prices in nontraditional stores. For all 3 years, 21 out of 22 products have significantly lower prices in nontraditional stores. Prices range from 69 percent lower in nontraditional stores (whole grain flour in 2006) to 6 percent more expensive in nontraditional stores (fresh/frozen select-nutrient vegetables[10] in 2006).

On average, meat products at the broad aggregation level tend to have larger overall discounts in nontraditional stores than do dairy, fruit and vegetable, and grain products. An expenditure-weighted average price difference between store types shows that meat products' prices are about 12 percent lower in nontraditional stores, while for dairy as well as produce products the average expenditure-weighted price difference is 11 percent. For grain products, consumers save about 6 percent in nontraditional stores.

### Brand and Product Module-Specific Comparisons

The second level of aggregation for our price comparisons, by brand name and product module, controls for differences in the characteristics of products within a broad category. We compared some items only by brand since the sample would be too small otherwise or the sample already was comprised of just one product module (for example, yogurt), while items that are usually not branded, such as fruits and vegetables, were compared at just the product-module level. Comparing prices of products with the same product module may provide a more accurate depiction of price differences by store type since some nontraditional retailers offer a different mix of products than do traditional stores. On average for all 3 years, about 82 percent of products show significantly lower prices in nontraditional stores as compared with traditional stores when comparing more specific products. Within each of the four major food groups, we find that 80 percent of dairy products show significantly lower prices with as much as 15 percent lower prices found

[9]All of the UPC-level comparisons are the same package size across all stores, except if they are random-weight products. If package sizes are not the same for the other comparison levels, it means that in some stores, the products are sold in multipacks.

[10]Select-nutrient vegetables are vegetables other than dark green, orange, and starchy varieties that are a source of eight selected nutrients as listed in USDA/Health and Human Services' *Dietary Guidelines*. Examples of vegetables included in this category are avocados and tomatoes; the eight nutrients are: potassium; vitamin E; iron; vitamin A; magnesium; vitamin C; dietary fiber; and calcium.

in nontraditional stores. For grain products, about 78 percent of products have significantly lower prices in nontraditional stores and price discounts range from 4 percent to 67 percent. Just as we saw with the broad group comparisons, grain products at the brand and product module level have the biggest range in price differences as compared with the other food groups. About five-sixths of fruit and vegetable products of the same brand and/or product module show significantly lower prices in nontraditional stores, and discounts range from 3 percent lower prices for Tropicana juices to 25 percent lower prices for store-brand canned pineapple.

The comparisons for meat products show that about 80 percent of meat categories have significantly lower prices in nontraditional stores for all 3 years. Of the products that showed significantly lower prices, the range in price differences was from 13 to 47 percent. The main exception to the general findings for meat products was that the national-brand (Oscar Mayer) bacon had statistically significant higher prices in nontraditional stores for 2 of the 3 years. This result highlights the differences that can exist between different levels of aggregation since the broad comparison level for this category, as well as some of the more specific comparisons made within this category, showed significantly lower prices in nontraditional stores.

## Same Individual-Package-Size Comparisons

When we compare prices of fixed-weight products with the same volume weight, we find that about 92 percent of products with the same weight show significantly lower prices in nontraditional stores compared with traditional stores. When controlling for unit weight, 93 percent of dairy products have significantly lower prices in nontraditional stores with prices ranging from no price difference to 13 percent lower in nontraditional stores. All 4 meat products[11] show significantly lower prices in nontraditional stores, with a range from 5 percent to 32 percent lower prices in nontraditional stores. Similar to the meat category, fruits and vegetables had four products compared at the weight aggregation level, and prices were significantly lower in nontraditional stores for all of the products in 2005 and 2006. For 2004, only the half-gallon size of the national-brand (Tropicana) fruit juice showed higher prices in nontraditional stores, yet insignificantly so. The range in price discounts varies from 2 to 23 percent lower prices in nontraditional stores. Finally, all grain products have significantly lower prices in nontraditional stores at this comparison level, and prices range from 1 percent to 58 percent lower in nontraditional stores.

[11] There are only four meat products compared at this aggregation level, as one of the five most commonly purchased meat product categories is a random-weight product.

## UPC-Level Comparisons

The final set of national level comparisons is for identical UPC-level items. Comparing products with identical UPCs controls for all possible product-specific differences between store types and shows how big of a role size and brand differences play in explaining price variation across stores, when compared to the results presented above. About 82 percent of UPC-specific products have lower prices in nontraditional stores as compared with traditional stores. The expenditure-weighted average price discount for all 3 years was about 7.5 percent, with average discounts of 5 percent in 2006, 8 percent in 2005, and 9 percent in 2004.

Looking at items within each of the four major food groups, we find that all but one UPC grain product have significantly lower prices in nontraditional stores, with discounts ranging from 3 to 28 percent, while 80 percent of UPC meat and dairy products show significantly lower prices in nontraditional stores and 78 percent of fruit and vegetables have significantly lower prices in nontraditional stores.

Looking across all four levels of price comparisons, the following general findings should be noted:

1. Comparing results across the four major food groups, we find that meat products tend to have the largest price discounts in nontraditional stores overall, while grains have the largest range of price differences.

2. Canned items show significantly lower prices in nontraditional stores, which could be due to nontraditional stores supplying more of these items relative to other foods, procuring them at lower costs, or because nontraditional store customers have more elastic demand for canned food products, or some combination thereof.

3. When the level of comparison narrows in specificity, fewer products show significantly lower prices in nontraditional stores. Since the number of items with significantly lower prices in nontraditional stores falls as the level of specificity increases, it is evident that characteristic differences between specific food items within a broad category are partially responsible for the price differences observed across store types.[12]

4. At the UPC level, more than half of the products are still significantly lower priced in nontraditional stores for all 3 years with a range from 3 to 28 percent lower prices. This means that differences in quality and size of products are not the only factors that drive price differences between nontraditional and traditional stores.

[12]However, it appears that controlling for the individual package size of products does not fully explain price differences between store types since nearly 93 percent of these items have significantly lower prices in nontraditional stores.

## Some Unexpected Results

There are a few unexpected results and interesting observations from these national-level price comparisons. As the products narrow in specificity, we expect to see smaller price differentials between store types and a consistent pattern of lower prices, higher prices, or no price differences between store types. However, only about half of the 22 categories show declining price differences in all three of the more specific aggregation-level comparisons. In the case of yogurt, price difference between store types increases when controlling for brand and volume. These unexpected results could be due to a variety of factors. First, a large number of products at the brand comparison level show bigger price differences than at the broad level, which may mean that the brand type has a significant role in price differences between store types. Second, many other products that do not follow the expected trend are UPC-level products. Since a specific UPC is such a small share of an overall category and price differences can vary quite a bit between UPC products, having contrary results at the UPC level is not too surprising. By presenting price differences at four aggregation levels in this study, we mitigate the effects from comparing prices with too broad or too narrow of a sample.

Another unexpected result is that for some products, one aggregation level shows significantly lower prices in nontraditional stores, yet another aggregation level shows significantly higher prices in nontraditional stores. The UPC comparison for low-fat cheese has significantly higher average prices in nontraditional stores even though the broader categories show significantly lower prices in nontraditional stores, implying some very large differences for store-brand, low-fat cheese products in contrast to the national-brand differences.

## Market-Level Analysis Between Nontraditional and Traditional Stores

Nationally, nontraditional stores have lower prices than traditional stores for a clear majority of products in dairy, meat, fruit and vegetable, and grain categories, even when controlling for the brand, size, and exact UPC of the products. However, analysis of price differences on a national level does not show the actual price differences between store types that consumers face within a specific market. Therefore, we now examine price differences between nontraditional and traditional stores at the market level in order to determine if market-level results differ from the national results and to see if there is a discernable pattern based on nontraditional retailer market share in a given market.

We focus on six U.S. markets with varying levels of nontraditional market share (see table 7), ranging from under 10 percent in New York to 30 percent in Atlanta, to determine whether the price differences between nontraditional and traditional stores are smaller in areas with high nontraditional retail market share as compared with markets with low nontraditional retail market share. Smaller differences might be observed because traditional stores that survive the original entry and expansion of nontraditional stores in a given market remain competitive by lowering relative prices in response to the increased competition, thereby lowering overall average prices. Alternatively, the smaller differences may be due to nontraditional retailers raising prices once they have large enough market share to do so, thereby raising overall average prices.[13]

We calculated average prices for each of the six markets using the same method described above, but included more broad categories for price comparisons at the market level than at the national level. The additional broad categories at the market comparison level are eggs, nuts, fresh fish, canned fish, fresh/frozen orange vegetables, canned orange vegetables, canned dark greens, fresh/frozen starchy vegetables, canned starchy vegetables, and regular-fat yogurt. We included more broad categories for comparison at the market level because narrowing the aggregation levels for comparison sometimes leaves the sample size too small to test in a given category at the market level. One broad category, frozen whole grains, was removed from the market-level analysis due to insufficient sample size. In total, we have 31 broad categories in all four food groups for the market-level comparisons.

Broad categories' unit price differences between nontraditional and traditional stores were estimated using the same linear model described above.[14] We also calculated price differences for products grouped at the brand aggregation level for each market. Unfortunately, the brand aggregation level was the narrowest level of comparison possible. The sample sizes were too thin and varied across markets to do a UPC-level comparison. The brands selected were the most commonly purchased brands within each broad category for all six markets in 2006. For 19 categories, the store brand was the most commonly purchased brand and for 10 categories, a national brand was the most commonly purchased brand. Two categories, fresh fruit and fresh select-nutrient vegetables (see footnote 10 for definition), did not have a brand constituting more than 5 percent of the categories' expenditure share since

[13]Distinguishing between these two possibilities requires additional analysis beyond this study's scope.

[14]The only variables excluded from the market-level regression models were the region dummy variables, since it is unnecessary to control for region at the market level.

these products are usually random-weight products that are not branded. Therefore, the broad sample was narrowed by product module rather than brand. Bananas were the most commonly purchased type of fruit in 2006, and tomatoes were the most commonly purchased type of fresh select nutrient vegetable. Table 8 lists the broad categories and the brands used in the market-level price analysis, tables 9 and 10 summarize the expenditure-weighted average price differences for each market at the broad and brand levels of aggregation, respectively, and tables 11-16 show the price difference results at the broad and brand aggregation levels for each market.

## Price Differences in Markets With High Nontraditional Retailer Market Share

In Atlanta, about 67 percent of products showed significantly lower prices in nontraditional stores, with price discounts ranging from 1 to 74 percent at the broad level (table 11). Dark green vegetables (2005) are the only product that showed significantly higher prices in nontraditional stores, and about one-third of products had no price difference between store types. Fruits and vegetables had lower prices in nontraditional stores most frequently. For example, in 2006, about 73 percent of fruit and vegetables, 66 percent of meat/protein products, 60 percent of grains, and 33 percent of dairy products showed significantly lower prices in nontraditional stores. A clear majority of canned products, 83 percent, showed significantly lower prices in nontraditional stores. Even though two-thirds of national-brand items had significantly lower prices as compared with 53 percent for store-brand items, store-brand goods' price discounts were 2 percent larger on average for all 3 years. These results suggest that even though national-brand products are less expensive in nontraditional stores more often than store-brand goods, store-brand goods have slightly larger price discounts in nontraditional stores.

In San Antonio, only about 54 percent of food categories showed significantly lower prices in nontraditional stores, the lowest percentage of items with lower prices in nontraditional stores in any of our six markets. Price discounts ranged from 4 to 73 percent, with about 4 percent of products showing significantly higher prices in nontraditional stores and 42 percent with no price difference between store types. Just as in Atlanta, a whole-grain product had the biggest price discount in nontraditional stores and dark green vegetables had the biggest price markup in nontraditional stores. Meat products had price discounts most often (table 12). For example, in 2006, 78 percent of meat/protein products, 56 percent of dairy products, 45 percent of fruit and vegetable products, and 20 percent of grain products showed significantly lower prices in nontraditional stores. Sixty-three percent of canned products in 2006 and 2005 and 50 percent in 2004 showed significantly lower prices in nontraditional stores.

Fifty-three percent of store-brand goods and 78 percent of national-brand goods had significantly lower prices for at least 2 of the 3 years. Store brand goods' average price discount, however, was 19.2 percent while for national-brand products, it was 17.7 percent. National-brand goods had significantly lower prices in nontraditional stores more often than store-brand goods, but store-brand goods had a greater average price discount in nontraditional stores than did national-brand goods.

Taking the average of Atlanta and San Antonio, 62 percent of products at the broad aggregation level have lower prices in nontraditional stores for all 3 years, which is the lowest percentage of all three market categories. Also, the average price discount in nontraditional stores is much smaller in these two markets than the other markets. At the brand and product module level, the average of price discounts in Atlanta and San Antonio reveal that price discounts are smaller by about half as compared to other markets and discussed below.

## Price Differences in Markets With Medium Nontraditional Retailer Market Share

In the Baltimore/Washington market, about 90 percent of products showed significantly lower prices in nontraditional stores, the highest percentage of products with lower prices in nontraditional stores, with the remaining 10 percent having no price difference between store types. Price discounts ranged from 5 to 76 percent (table 13). In 2006, all meat/protein and grain products, 67 percent of dairy, and 91 percent of fruit and vegetables showed significantly lower prices in nontraditional stores. Seventy-five percent of canned products had significantly lower prices in nontraditional stores in 2006, while 88 percent had significantly lower prices in 2004 and 2005. From 2004 to 2005, national-brand goods had bigger price discounts in nontraditional stores than store-brand goods, and there were more national-brand goods than store-brand goods with price discounts in nontraditional stores. In 2006, however, there were more store-brand goods with price discounts and these price discounts were larger on average than national-brand goods' price discounts.

In Chicago, about 71 percent of products showed significantly lower prices in nontraditional stores, with price discounts ranging from 4 to 64 percent, while 3 percent of products showed significantly higher prices and the rest had no difference in prices between store types (table 14). Just as in Baltimore/Washington, canned poultry and whole-grain flour products had the largest price discount in nontraditional stores. For 2006, 78 percent of meat products, 83 percent of dairy products, 73 percent of fruit and vegetables, and 60 percent of grains showed significantly lower prices in nontraditional stores. Seventy-five percent of canned products on average from 2004 to 2006 showed significantly lower prices in nontraditional stores. National-brand products had significantly lower prices in nontraditional stores 76 percent of the time, while store-brand goods had significantly lower prices in nontraditional stores only 46 percent of the time. The average price discount for store-brand goods was 22 percent, while for national-brand goods, the average price discount was 29 percent. These results suggest that national-brand goods not only have price discounts in nontraditional stores more often, but also by bigger amounts than do store-brand goods. At the broad aggregation level, Baltimore/Washington and Chicago had the highest average price discounts in 2004 and 2006. However, at the product module level in 2004 and 2005, the average price discounts and average percent of products with lower prices in nontraditional stores in Baltimore/Washington, and Chicago are in between the averages for markets with low and high nontraditional retailer market share.

## Price Differences in Markets With Low Nontraditional Retailer Market Share

In Philadelphia, about 71 percent of products had lower prices in nontraditional stores, with price discounts ranging from 6 to 57 percent, while the remaining products had no price difference between store types at the broad aggregation level (table 15). In 2006, 89 percent of meats/proteins, 83 percent of dairy, 60 percent of grains, and 73 percent of fruit and vegetables had significantly lower prices in nontraditional stores. In 2004 and 2006, 75 percent of canned products showed significantly lower prices in nontraditional stores, while 88 percent showed significantly lower prices in 2005. On average, national-brand goods had price discounts in nontraditional stores more often than store-brand goods, while store-brand goods had bigger price discounts on average than national-brand goods, except in 2005.

Finally, in New York, about 81 percent of products showed significantly lower prices in nontraditional stores, ranging from 7 to 55 percent at the broad aggregation level. Only 2 percent of products had higher prices in nontraditional stores, and 17 percent had no price difference between store types (table 16). In 2006, 100 percent of dairy products, 91 percent of fruit and vegetable products, 67 percent of meat/protein products, and 60 percent of grain products showed significantly lower prices in nontraditional stores. Canned products had significantly lower prices in nontraditional stores 88 percent of the time in 2006, 75 percent in 2005, and 100 percent in 2004. Store-brand goods had bigger price discounts in nontraditional stores than national-brand goods, but only by about 1 percent. Also, 83 percent of national-brand goods had price discounts in nontraditional stores, while only 55 percent of store-brand goods showed price discounts in nontraditional stores. At the brand and product module level, the average price discounts in New York are larger than any other market. Philadelphia and New York, on average, had the largest price discounts in 2005 and 77 percent of products with lower prices in nontraditional stores for all 3 years.

## Cross-Market Comparison

As predicted, there are significantly lower prices in nontraditional stores as compared with traditional stores in all six major markets for a majority of products. The price differences between store types for each product category were adjusted by expenditure weights per market in order to estimate the aggregate average price differences for each market. Table 9 summarizes the expenditure-weighted price differences[15] and the percent of products with significantly lower prices in nontraditional stores for each market from 2004 to 2006 for the broad aggregation level. Table 10 shows the same percentages at the brand and product module level. In support of our hypothesis, markets with high nontraditional retailer market share, Atlanta and San Antonio, showed the smallest and least frequent price discounts in nontraditional stores, even when controlling for brand and package size. The average price discount at the broad aggregation level for these markets ranged from 5.7 percent to 6.4 percent, and at the brand and product module level, the price discount range was from 4.7 percent to 5.7 percent.

The markets with the highest nontraditional retailer market share, Atlanta and San Antonio, had the fewest products at the broad aggregation level, with

[15]Product categories that showed insignificant price differences between store types counted as a 0-percent difference in price.

significantly lower prices in nontraditional stores and smaller price differences between store types than other markets. Even when controlling for the brand and type of product, these markets had the smallest price discounts in comparison to the other two market categories for all 3 years. We expected the markets with low nontraditional market share, Philadelphia and New York, to have the biggest price discounts in nontraditional stores, but this was only true in 2005 for the broad aggregation level and for 2004 and 2005 at the brand and product module level. The results for medium nontraditional retailer market share are very similar to those for low nontraditional retailer market share. By looking at the averages for each of the three categories (high, medium, and low nontraditional retailer market share), a general pattern supporting our hypothesis is discernable.

Markets with high nontraditional retail market share had the smallest price differences between store types by a significant amount at the broad aggregation level. At the brand and product module level, the price discounts are half of the price discounts shown in the other markets. Medium nontraditional retailer markets had larger average price differences than did low nontraditional retailer markets at the broad aggregation level in 2004 and 2006, while in 2005, both market types had the same average price difference between store types (11.1 percent). Also, from 2004 to 2006, markets with high nontraditional retail market share had the fewest number of products with significantly lower prices in nontraditional stores. The difference in the amount of products having lower prices in nontraditional stores between low and medium nontraditional retail market share areas is about 20 percentage points.

These results show that areas with high nontraditional retailer market share have fewer products with lower prices in nontraditional stores and smaller price differences between store types than areas with medium and low nontraditional retailer market share. This cross-sectional price convergence could be due to nontraditional stores raising prices or traditional stores lowering prices, or some combination of the two. Nontraditional stores could be placing greater pressure on other stores to lower prices as they gain market share or smaller stores could be closing down or just not opening in areas with many nontraditional retailers due to the high level of competition.

It is important to note, however, that price differences between store types for markets with medium nontraditional retailer market share are similar to the price differences shown in markets with low nontraditional retailer market share. This may indicate that there is only strong price competition between nontraditional stores and traditional stores once nontraditional stores have gained a substantial share of the retail food market. The smaller price gap shows that there are higher levels of price competition between store types as there is greater nontraditional retailer presence.

Overall, the market results generally support the national results in that for a majority of products, prices are lower in nontraditional stores than traditional stores, even when controlling for brand and package size. The results at the market level that do not follow this pattern may be due to unobservable or unmeasured factors that affect price differences between store types at the market level, such as the cost of living in each market. For all of the markets other than New York, meat/protein products had the most items with significantly lower prices in nontraditional stores. Meat products at the national

comparison level showed the biggest price discounts in nontraditional stores. In congruence with the results at the national level, canned products had significantly lower prices in nontraditional stores more often than any other type of product for each market.

## Conclusions and Implications

Our analysis shows that even after controlling for brand, weight, region, quarter purchased, household size, income, and race, food prices are still significantly lower in nontraditional stores, and those differences persist even at the UPC level. Although the price gap between store types narrows for almost all products as the aggregation level narrows in specificity, the gap is still substantial. National average prices are significantly lower in nontraditional stores for 86 percent of the products at the broadest level of comparison on average, while at the UPC comparison level, 82 percent of products show significantly lower prices in nontraditional stores with an average price discount of 7.5 percent. One factor that may explain price differences between store types is the lower procurement costs faced by nontraditional stores as they often buy large quantities of items in bulk and provide a smaller assortment of goods, as compared to traditional stores. Also, the marginal operating costs of a nontraditional store may be less than that of a traditional store due to fewer services offered within a given store.

On a national level, our results show that meat products had the biggest expenditure-weighted price discounts in nontraditional stores and grains had the biggest range in price differences between store types. Interestingly, our analysis also suggests that there is not that great of a difference in price discounts between store types for low-fat versus regular-fat items, but a majority of whole-grain items have bigger price differences between store types than do refined-grain products. Store-brand goods have significantly lower prices in nontraditional stores as often as national-brand goods, but store-brand goods have bigger price differences between store types than do national-brand goods.

At the market level, areas with high nontraditional retailer market share, Atlanta and San Antonio, showed the smallest expenditure-weighted price differences between store types and the smallest percentage of products with lower prices in nontraditional stores. The average price difference within these markets was about 6 percentage points lower and the percent of products with lower prices in nontraditional stores was about 7 percentage points lower than that for markets with low nontraditional retailer market share. However, there is only about a 2-percentage-point difference between medium nontraditional retail markets and low nontraditional retail markets in terms of the percent of products with lower prices in nontraditional stores.

Future analysis could explore five issues as extensions to this analysis. First, why are prices significantly lower in nontraditional stores? We find that brand, product characteristics, and package size partially explain price variation between nontraditional and traditional stores, but there are other factors as well, since the majority of UPC products are also significantly lower priced in nontraditional stores. Focusing on startup and operating costs between store types and calculating a variable for the distance from point of production to stores may help explain some price variation. Secondly, since some items are discounted more than others in nontraditional stores, analyzing consumers' food-purchasing behavior and the nutritional quality of purchased items as consumers' knowledge of and choices based on perceived "good nutrition" relates to food prices would be a worthwhile extension of

this analysis. Third, high-quality and premium items were not included in the study as they are not the most frequently purchased items nor are they largely represented in nontraditional stores. However, further studies may want to examine price differences between high-quality products of various comparison levels of specificity.

Extensions to this analysis also could focus on price differences between nontraditional retailers and specific types of traditional retailers, such as large chains. Since the biggest supermarket-chain retailers share some of the competitive advantages that nontraditional retailers have, price differences might be smaller between those store types. Along those same lines, researching drugstore and convenience-store prices could shed light on how much people who shop mostly at drugstores and convenience stores pay for the same goods bought by their counterparts who shop at nontraditional or traditional food retailers. Lastly, food-price trends over time between store types could be examined. Many products showed price convergence from 2004 to 2006, and the market-level analysis showed that areas with higher levels of nontraditional retailer market share also have smaller price differences between store types. Understanding which retailer type, nontraditional or traditional, is responsible for this price convergence will be important when analysts weigh the costs and benefits of nontraditional retail growth in the long run.

Our work highlights the importance of what and how price comparisons are made. The fact that differences in food prices are robust to both product-specific detail and market-level analysis implies that the additional affordability of food bought at nontraditional retailers should be considered when analyzing issues related to food access and food choices.

Table 1

**Food groups included in national-level price analysis**

| Type of product | Broad food group | Specific food group (product module/brand) | Same weight | Same UPC |
|---|---|---|---|---|
| Dairy | Low-fat milk | Store brand | Gallon | Lactaid-100 Non-Fat Milk Vitamin A&D (half-gallon) |
| | Regular-fat milk | Store brand | Gallon | Carnation Vitamin D Milk |
| | Low-fat cheese | Breakstone's | Store brand 24 oz | Kraft Free Shredded Cheddar (8oz) |
| | Regular-fat cheese | Borden brand | Borden 12 oz | Kraft Singles American Single-Sliced |
| | Low-fat yogurt | Yoplait brand | Yoplait 6 oz | Yoplait Low-Fat Original Fruit Yogurt Strawberry (6 oz) |
| Meat | Fresh/frozen low-fat meat | Oscar Mayer brand | Oscar Mayer 9 oz | Oscar Mayer Turkey Breast (9 oz) |
| | All fresh/frozen regular-fat meat | Oscar Mayer Bacon (1)<br>Oscar Mayer Sliced Lunchmeat (2) | n/a | Oscar Mayer Salami (16 oz) |
| | Canned regular-fat meat | Armour brand | 12 oz | Hormel Spam C (12 oz) |
| | Fresh/frozen poultry | Perdue<br>Random-weight chicken | n/a | Random-weight chicken breast |
| | Canned poultry | Store brand | 12.5 oz | Valley Fresh Chicken Chunk White (5 oz) |
| Fruit and vegetable | Fresh/frozen fruit | Bananas (1)<br>Apples (2) | n/a | Random-weight conventionally grown bananas |
| | Canned fruit | Store brand canned pineapple | Canned pineapple 20 oz | Dole Pineapple Chunk in Juice (20 oz) |
| | Fruit juice | Tropicana brand | Tropicana half-gallon | Tropicana Orange Juice (half-gallon) |
| | Fresh/frozen dark green vegetables | Frozen broccoli (1)<br>Dole lettuce (2) | n/a | Random-weight broccoli |
| | Fresh/frozen other vegetables | Nonrandom-weighted tomatoes (1)<br>cauliflower (2) | n/a | Fresh grape tomatoes |
| | Canned other vegetables | Store brand canned tomatoes | Canned tomatoes 14.5 oz | Rotel Diced Tomatoes (10 oz) |
| Grain | Packaged whole grains | General Mills Cheerios | Whole-grain cereal 15 oz | General Mills Whole-Grain Cheerios Cereal (15 oz) |
| | Whole-grain flour/mixes | Bob's Red Mill All-Purpose Flour | 5 oz | King Arthur All-Purpose Flour |
| | Frozen whole grains | Rhodes Frozen Biscuits/Rolls/Muffins (1)<br>Frozen biscuits/rolls/muffins (2) | n/a | Weight Watchers Choco-Choco Chip Muffin |
| | Packaged refined grains | Pepperidge Farm Bread (1)<br>Barilla Pasta (2) | n/a | Kellogg Special-K Strawberry Cereal |
| | Refined grain flour/mixes | Store brand all-purpose white wheat flour | All-purpose white wheat flour 5oz | Gold Medal White Wheat All-Purpose Flour (5 oz) |
| | Frozen refined grains | Pillsbury Grands Biscuits (1)<br>Frozen New York Bread (2) | n/a | Pillsbury Regular Pie Crust |

n/a = not available.
oz = ounce(s).
Note: All low-fat products were classified based on the product description codes in Nielsen Homescan.
Source: USDA, Economic Research Service selections from the ERS Quarterly Food-at-Home Price Database (QFAHPD) and Nielsen Homescan.

Table 2

**Regression results for Yoplait Original Low-Fat Strawberry Yogurt 6 oz[1], 2006**

| Dependent variable: Price per UPC product | Parameter estimate | Standard error | t-statistic |
|---|---|---|---|
| Independent variables: | | | |
| Store format | | | |
| Traditional stores | Default store type | | |
| Nontraditional stores | -0.011 | 0.001 | -15.92 |
| Drug/convenience stores | 0.029 | 0.008 | 3.56 |
| Region | | | |
| East | Default region | | |
| Central | -0.002 | 0.002 | -1.07 |
| South | -0.002 | 0.002 | -1.32 |
| West | 0.003 | 0.002 | 1.82 |
| Income | 0.000 | 0.000 | 5.93 |
| Household size | -0.001 | 0.000 | -3.39 |
| Race | | | |
| White | Default race | | |
| Black | 0.000 | 0.001 | 0.06 |
| Asian | 0.005 | 0.002 | 2.28 |
| Other | 0.001 | 0.002 | 0.38 |
| Hispanic | 0.002 | 0.002 | -0.67 |
| Quarter purchased | | | |
| First | Default quarter | | |
| Second | 0.000 | 0.001 | 0.08 |
| Third | 0.001 | 0.001 | 1.14 |
| Fourth | 0.002 | 0.001 | 2.33 |
| Constant | 0.096 | 0.005 | 18.61 |

Note: Observations: 5910; R-squared: 0.1168; mean of the dependent variable: 0.092 (9.2 cents/ounce).

[1]As measured by Universal Product Code (UPC); oz = ounce(s).

Source: USDA, Economic Research Service estimates using Nielsen Homescan.

Table 3

**Dairy price differences between nontraditional and traditional stores, 2004-06**

| Product and level of aggregation (I-IV) | Price difference in nontraditional stores | | | Expenditure share of nontraditional stores, 2006 |
|---|---|---|---|---|
| | 2004 | 2005 | 2006 | |
| | *Percent* | | | |
| Low-fat milk | | | | |
| I. All | -12.2 | -6.1 | -6.8 | 22.3 |
| II. Store brand | -12.5 | -7.1 | -6.7 | 27 |
| III. Gallon | -8.7 | -4.9 | -2 | 36 |
| IV. Lactaid-100 Non-Fat Milk Vit A&D (half-gallon) | -11.3 | -9.2 | -12.7 | 15.4 |
| Regular-fat milk | | | | |
| I. All | -4.9 | -2.4 | -2.4 | 22.7 |
| II. Store Brand | -2.2 | -2.1 | Negative, insignificant | 27.5 |
| III. Gallon | -3.4 | -1.3 | Negative, insignificant | 25.6 |
| IV. CarnationVitamin D Milk | -6.6 | -7.3 | -6.3 | 22 |
| Low-fat cheese | | | | |
| I. All | -5.7 | -3.8 | -6.3 | 18.1 |
| II. Breakstone's | -7.3 | -8.3 | -15.3 | 31.2 |
| III. Store brand 24 oz | -4.7 | -3.9 | -4 | 22.7 |
| IV. Kraft Free Shredded Cheddar (16 oz) | 3.2 | 11.7 | 9.8 | 27 |
| Regular-fat cheese | | | | |
| I. All | -17.7 | -16.3 | -17.4 | 25 |
| II. Borden | -4.9 | Positive, insignificant | Positive, insignificant | 35.1 |
| III. Borden 12 oz | -8.1 | -5.4 | -6.4 | 16.4 |
| IV. Kraft Singles American Cheese | -11.6 | -11.8 | -6.9 | 17.6 |
| Low-fat yogurt | | | | |
| I. All | -9.0 | -7.1 | -8.2 | 21.3 |
| II. Yoplait | -13 | -13.6 | -12.2 | 27.2 |
| III. Yoplait 6 oz | -12.6 | -13.4 | -12.2 | 26.6 |
| IV. Yoplait Low-Fat Original Fruit Yogurt Strawberry (6 oz) | -14.3 | -13.9 | -12 | 21.2 |

oz = ounce(s).

Note: All low-fat products were classified based on the product description codes in Nielsen Homescan.

Source: USDA, Economic Research Service estimates using QFAHPD (see definition, table 1) and Nielsen Homescan.

Table 4

**Meat price differences between nontraditional and traditional stores, 2004-06**

| Product and level of aggregation (I-IV) | Price difference in nontraditional stores | | | Expenditure share of nontraditional stores, 2006 |
|---|---|---|---|---|
| | 2004 | 2005 | 2006 | |
| | *Percent* | | | |
| Fresh/frozen low-fat meat | | | | |
| I. All | -17.4 | -16.9 | -14.8 | 28.6 |
| II. Oscar Mayer | -16.7 | -13.1 | -15.6 | 36.2 |
| III. Oscar Mayer 9 oz | -5.1 | -5.7 | -7.9 | 32.3 |
| IV. Oscar Mayer Turkey Breast (9 oz) | -7 | -6.1 | -5.9 | 27.6 |
| Fresh/frozen regular-fat meat | | | | |
| I. All | -13.0 | -10.5 | -9.4 | -13.0 |
| II. Oscar Mayer Bacon | Negative, insignificant | 16 | 13.7 | 25.1 |
| III. Oscar Mayer Sliced Lunchmeat | -16.5 | -8.9 | -6.8 | 26.6 |
| IV. Oscar Mayer Salami Regular | -9.5 | -3.6 | Negative, insignificant | 31.5 |
| Canned regular-fat meat | | | | |
| I. All | -20.8 | -21.6 | -20.8 | 37.6 |
| II. Armour | -19.6 | -31.7 | -28.1 | 42.6 |
| III. 12 oz canned meat | -15.6 | -14.1 | -10.7 | 38.4 |
| IV. Hormel Spam (12 oz) | -10.9 | -10.7 | -9.6 | 29.6 |
| Fresh/frozen poultry | | | | |
| I. All | -12.0 | -11.1 | -7.6 | 22.1 |
| II. Perdue | -26.4 | -22.8 | -10.1 | 13.5 |
| III. Random-weight chicken | -13.5 | -13 | -3.4 | 11.2 |
| IV. Random-weight chicken breast | -6.5 | Negative, insignificant | Positive, insignificant | 9.8 |
| Canned poultry | | | | |
| II. All | -34.2 | -34.3 | -31.6 | 62.7 |
| II. Store brand | -45.2 | -47.1 | -37.2 | 84.5 |
| III. 12.5 oz canned poultry | -32.1 | -29.3 | -27.9 | 89.4 |
| IV. Valley Fresh Chicken Chunk White (5 oz) | -17.3 | -15.7 | -16.7 | 23.3 |

oz = ounce(s).

Note: All low-fat products were classified based on the product description codes in Nielsen Homescan.

Source: USDA, Economic Research Service estimates using QFAHPD (see definition, table 1) and Nielsen Homescan.

Table 5

**Fruit and vegetable price differences between nontraditional and traditional stores, 2004-06**

| Product and level of aggregation (I-IV) | Price difference in nontraditional stores | | | Expenditure share of nontraditional stores, 2006 |
|---|---|---|---|---|
| | 2004 | 2005 | 2006 | |
| | *Percent* | | | |
| Fresh/frozen fruit | | | | |
| I. All | -9.7 | -10.5 | -15.5 | 38.1 |
| II. Bananas | -6.8 | -7.9 | -8.8 | 11.8 |
| III. Apples | 4.9 | 4.2 | 7.5 | 33.6 |
| IV. Random-weight bananas | -11.2 | -12.6 | -13.3 | 11.8 |
| Canned fruit | | | | |
| I. All | -18.2 | -13.6 | -12.7 | 25.1 |
| II. Store brand canned pineapple | -25 | -19.6 | -17 | 20.8 |
| III. Canned pineapple 20 oz | -16.9 | -14.4 | -11.5 | 22.4 |
| IV. Dole Pineapple Chunk in Juice (20 oz) | -14.3 | -17.1 | -11.5 | 12.8 |
| Fruit juice | | | | |
| I. All | -12.6 | -14.3 | -13.2 | 24.7 |
| II. Tropicana | 1.7 | -3.3 | -8.4 | 25.3 |
| III. Tropicana (half-gallon) | Positive, insignificant | -2.1 | -4.6 | 19.1 |
| IV. Tropicana Orange Juice (half-gallon) | -5.4 | -2.6 | -4.4 | 10.1 |
| Fresh/frozen dark greens | | | | |
| I. All | -10.6 | -11.4 | -13.9 | 24.6 |
| II. Frozen broccoli | -14.6 | -14.9 | -15.6 | 23.2 |
| III. Dole lettuce | -22.8 | -19.2 | -18.1 | 41.8 |
| IV. Random-weight broccoli | Negative, insignificant | Negative, insignificant | Negative, insignificant | 3.6 |
| Fresh/frozen select nutrients | | | | |
| I. All | Positive, insignificant | Positive, insignificant | 6.0 | 22.7 |
| II. Nonrandom- weight tomatoes | Positive, insignificant | Negative, insignificant | -6.4 | 29 |
| III. Cauliflower | Negative, insignificant | 4.2 | 3.9 | 11.2 |
| IV. Fresh grape tomatoes | -12.4 | -16.7 | Positive, insignificant | 17.5 |
| Canned select nutrients | | | | |
| I. All | -17.2 | -15.7 | -16.6 | 22.7 |
| II. Store brand canned tomatoes | -8.3 | -9.8 | -9.6 | 23.7 |
| III. Canned tomatoes (14.5 oz) | -18.1 | -19.4 | -17.9 | 22.5 |
| IV. Rotel Diced Tomatoes (10 oz) | -14.3 | -11.5 | -10.7 | 32.4 |

oz = ounce(s).

Source: USDA, Economic Research Service estimates using QFAHPD (see definition, table 1) and Nielsen Homescan.

Table 6

**Grain price differences between nontraditional and traditional stores, 2004-06**

| Product and level of aggregation (I-IV) | Price difference in nontraditional stores | | | Expenditure share of nontraditional stores, 2006 |
|---|---|---|---|---|
| | 2004 | 2005 | 2006 | |
| | *Percent* | | | |
| Packaged whole grains | | | | |
| I. All | -10.1 | -6.6 | -5.2 | 26.7 |
| II. General Mills Cheerios (all package sizes) | -19 | -18.2 | -20.3 | 31.6 |
| III. Whole-grain cereal 15 oz | -6.2 | -2.5 | -1.2 | 20.4 |
| IV. General Mills Cheerios Cereal 15 oz | -8.5 | -6.1 | -3.6 | 18.7 |
| Whole-grain flour/mixes | | | | |
| I. All | -46.7 | -55.6 | -68.8 | 9.2 |
| II. Bob's Red Mill All-Purpose Flour | 10.1 | 19.6 | -67.2 | 9.7 |
| III. Whole-grain flour/mixes 5 oz | -13.3 | -16.4 | -17.1 | 16.1 |
| IV. King Arthur All-Purpose Flour | -22.9 | -19.1 | -28 | 18.5 |
| Frozen whole grains | | | | |
| I. All | -67.6 | -11.2 | -25.4 | 13.3 |
| II. Rhodes frozen biscuits/rolls/muffins | -15.3 | -26 | -8.7 | 6 |
| III. Frozen biscuits/rolls/muffins | -57.9 | -22.3 | -48.9 | 13.7 |
| IV. Weight Watchers Choco-Choco Chip Muffins | NA | -19.1 | -20.6 | 5.4 |
| Packaged refined grains | | | | |
| I. All | -6.2 | -4.3 | -4.5 | 23.1 |
| II. Peppridge Farm Bread | -4 | Negative, insignificant | 2.6 | 19.3 |
| III. Barilla Pasta | -9.5 | -8.5 | -5.1 | 26.9 |
| IV. Kellog Special-K Strawberry cereal | -3.5 | -3.1 | -3.8 | 26 |
| Refined-grain flour/mixes | | | | |
| I. All | -5.4 | -11.7 | -18.1 | 24.1 |
| II. Store brand all-purpose white wheat flour | -21.2 | -20.3 | -19.2 | 20.3 |
| III. All-purpose white wheat flour 5 oz | -10.5 | -10.3 | -8.1 | 18.8 |
| IV. Gold Medal White Wheat All-Purpose Flour 5 oz | -7.9 | -6.8 | Positive, insignificant | 15.2 |
| Frozen/ready-to-cook refined grains | | | | |
| I. All | -9.7 | -8.7 | -8.5 | 21.6 |
| II. Pillsbury Grands Biscuits | -11.3 | -10.6 | -10.7 | 16.7 |
| III. Frozen New York Bread | -9.4 | -7.8 | -6 | 22.3 |
| IV. Pillsbury Regular Pie Crust | -10.1 | -12.7 | -11.3 | 15.5 |

oz = ounce(s).

Source: USDA, Economic Research Service estimates using QFAHPD (see definition, table 1) and Nielsen Homescan.

Table 7

**Nontraditional food expenditures as share of total food expenditures**

| Market type and location | 2004 | 2005 | 2006 |
|---|---|---|---|
| | | *Percent* | |
| High nontraditional retailer share | | | |
| Atlanta | 27.6 | 29.4 | 30.8 |
| San Antonio | 20.9 | 24.1 | 24.8 |
| Medium nontraditional retailer share | | | |
| Baltimore/Washington | 18.7 | 20.5 | 20.0 |
| Chicago | 13.3 | 15.2 | 15.5 |
| Low nontraditional retailer share | | | |
| Philadelphia | 11.7 | 13.0 | 14.3 |
| New York | 9.4 | 10.7 | 12.3 |

Source: USDA, Economic Research Service estimates using Nielsen Homescan.

Table 8

**Food groups in market-level price analysis**

| Product type | Broad food group | Specific food group (brand) |
|---|---|---|
| Dairy | Low-fat milk | Store brand |
| | Regular-fat milk | Store brand |
| | Low-fat cheese | Store brand |
| | Regular-fat cheese | Store brand |
| | Low-fat yogurt | Yoplait brand |
| | Regular-fat yogurt | Dannon brand |
| Meat/protein | Fresh/frozen low-fat meat | Oscar Mayer brand |
| | Fresh/frozen regular-fat meat | Oscar Mayer brand |
| | Canned regular-fat meat | Libby's brand |
| | Fresh/frozen poultry | Perdue brand |
| | Canned poultry | Store brand |
| | Fresh/frozen fish | Store brand |
| | Canned fish | Bumble Bee brand |
| | Raw and processed nuts | Store brand |
| | Eggs | Store brand |
| Fruit and vegetable | Fresh/frozen fruit | Bananas |
| | Canned fruit | Store brand |
| | Fruit juice | Store brand |
| | Fresh/frozen dark green vegetables | Store brand |
| | Canned dark green vegetables | Store brand |
| | Fresh/frozen orange vegetables | Store brand |
| | Canned orange vegetables | Libby's brand |
| | Fresh/frozen starchy vegetables | Store brand |
| | Fresh/frozen other vegetables | Tomatoes |
| | Canned other vegetables | Store brand |
| Grain | Packaged whole grains | Store brand |
| | Whole-grain flour/mixes | King Arthur brand |
| | Packaged refined grains | Store brand |
| | Refined grain flour/mixes | Store brand |
| | Frozen refined grains | Pillsbury brand |

Note: All low-fat products were classified based on the product description codes in Nielsen Homescan.
Source: USDA, Economic Research Service selections from QFAHPD (see definition, table 1) and Nielsen Homescan.

Table 9

**Expenditure-weighted average price differences of products with significantly lower prices in non-traditional stores at the broad aggregation level**

| Market type and location | Average price difference | | | Products with lower prices in nontraditional stores, 2006 |
|---|---|---|---|---|
| | 2004 | 2005 | 2006 | |
| | *Percent* | | | |
| High nontraditional retailer share | | | | |
| Atlanta | -5.9 | -7.1 | -5.9 | 68.8 |
| San Antonio | -6.3 | -5.7 | -5.5 | 54.8 |
| Average | -6.1 | -6.4 | -5.7 | 61.8 |
| Medium nontraditional retailer share | | | | |
| Baltimore / Washington | -17.3 | -15.1 | -15.7 | 89.2 |
| Chicago | -13.2 | -7.1 | -7.8 | 74.2 |
| Average | -15.3 | -11.1 | -11.8 | 81.7 |
| Low nontraditional retailer share | | | | |
| Philadelphia | -11.9 | -8.9 | -9.6 | 70.9 |
| New York | -17.6 | -13.2 | -13.2 | 82.8 |
| Average | -14.8 | -11.1 | -11.4 | 76.9 |

Source: USDA, Economic Research Service estimates using QFAHPD (see definition, table 1) and Nielsen Homescan.

Table 10

**Expenditure-weighted average price differences of products with significantly lower prices in non-traditional stores at the brand aggregation level**

| Market type and location | Average price difference | | | Products with lower prices in nontraditional stores, 2006 |
|---|---|---|---|---|
| | 2004 | 2005 | 2006 | |
| | *Percent* | | | |
| High nontraditional retailer share | | | | |
| Atlanta | -7.8 | -6.5 | -6.4 | 56.5 |
| San Antonio | -3.7 | -2.9 | -4.4 | 52.7 |
| Average | -5.7 | -4.7 | -5.4 | 54.6 |
| Medium nontraditional retailer share | | | | |
| Baltimore / Washington | -8.1 | -7.8 | -14.4 | 67.7 |
| Chicago | -10.8 | -8.2 | -12.7 | 52.1 |
| Average | -9.5 | -8.0 | -13.5 | 59.9 |
| Low nontraditional retailer share | | | | |
| Philadelphia | -6.9 | -8.1 | -10.5 | 59.1 |
| New York | -15.0 | -13.5 | -15.0 | 64.5 |
| Average | -11.0 | -10.8 | -12.8 | 61.8 |

Source: USDA, Economic Research Service estimates using QFAHPD (see definition, table 1) and Nielsen Homescan.

Table 11

**Atlanta price differences between nontraditional and traditional stores**

| Food group category | Price difference in nontraditional stores | | | Expenditure share of nontraditional stores, 2006 |
|---|---|---|---|---|
| | 2004 | 2005 | 2006 | |
| | *Percent* | | | |
| Fresh/frozen fruit | -10.3 | -11.0 | Positive, insignificant | 27.8 |
| Banana | Positive, insignificant | Positive, insignificant | Positive, insignificant | 23.7 |
| Canned fruit | -1.1 | -16.3 | -17.9 | 27.3 |
| Store brand | -12.2 | -14.6 | -19.4 | 22.4 |
| Fruit juice | -7.3 | -11.2 | -16.2 | 30.3 |
| Store brand | Positive, insignificant | Positive, insignificant | Negative, insignificant | 21.6 |
| Dark green vegetables | -20.3 | 19.2 | -21.3 | 24.1 |
| Store brand | Positive, insignificant | 32.8 | -32.2 | 13.3 |
| Canned dark greens | -6.6 | -11.2 | Negative, insignificant | 24 |
| Store brand | -16 | Negative, insignificant | Negative, insignificant | 36.2 |
| Fresh/frozen orange vegetables | -7.2 | -8.6 | Positive, insignificant | 19.6 |
| Store brand | -31 | -36.3 | -34.4 | 1.3 |
| Canned orange vegetables | Positive, insignificant | -12.4 | -6.1 | 19.1 |
| Libby's brand | -20.2 | -17.7 | -13.5 | 21.2 |
| Fresh/frozen starchy vegetables | -8.5 | -14.8 | -12.1 | 23.9 |
| Store brand | Positive, insignificant | Positive, insignificant | Positive, insignificant | 11.6 |
| Canned starchy vegetables | Positive, insignificant | -6.7 | -10.8 | 22.5 |
| Store brand | -10.1 | -7.9 | -11.1 | 15.7 |
| Fresh/frozen select-nutrient vegetables | -16.1 | -14.7 | -5.4 | 21 |
| Tomato | -7.1 | -13.1 | -6.7 | 15.2 |
| Canned select-nutrient vegetables | -6.3 | -12.6 | -14.9 | 22.9 |
| Store brand | -9.8 | -14.5 | -14.2 | 20.1 |
| Packaged whole grains | Negative, insignificant | Positive, insignificant | Positive, insignificant | 29.9 |
| Store brand | Positive, insignificant | Positive, insignificant | Negative, insignificant | 10.5 |
| Whole-grain flour/mixes | -49.9 | -61.1 | -73.7 | 11.7 |
| King Arthur brand | NA | -18.4 | Negative, insignificant | 25.8 |
| Packaged refined grains | Negative, insignificant | Negative, insignificant | Negative, insignificant | 27.5 |
| Store brand | -19.4 | -14.7 | -9.8 | 21.8 |

*continued*

Table 11

**Atlanta price differences between nontraditional and traditional stores, continued**

| Food group category | Price difference in nontraditional stores | | | Expenditure share of nontraditional stores, 2006 |
|---|---|---|---|---|
| | 2004 | 2005 | 2006 | |
| | *Percent* | | | |
| Refined grains flour/mixes | Positive, insignificant | -13.3 | -23.0 | 25.3 |
| Store brand | -26.8 | Negative, insignificant | Negative, insignificant | 24.7 |
| Frozen refined grains | -11.4 | -11.9 | -11.8 | 25.7 |
| Pillsbury brand | -18.9 | -13.8 | -5.8 | 21.7 |
| Low-fat milk | Negative, insignificant | Negative, insignificant | -9.4 | 25.8 |
| Store brand | Negative, insignificant | Negative, insignificant | -9 | 23.5 |
| Low-fat cheese | -17.2 | Negative, insignificant | Positive, insignificant | 28.7 |
| Store brand | Negative, insignificant | Negative, insignificant | Negative, insignificant | 37.6 |
| Low-fat yogurt | Negative, insignificant | -7.4 | Negative, insignificant | 30.6 |
| Yoplait brand | -8.1 | -15.9 | -13.5 | 38 |
| Regular-fat milk | Negative, insignificant | Positive, insignificant | Positive, insignificant | 29.5 |
| Store brand | Positive, insignificant | Positive, insignificant | Negative, insignificant | 25.3 |
| Regular-fat cheese | -13.0 | -12.8 | -15.3 | 27.5 |
| Store brand | -14.7 | -13.8 | -11.4 | 17.9 |
| Regular-fat yogurt | -11.3 | Negative, insignificant | Positive, insignificant | 22.5 |
| Dannon brand | Negative, insignificant | Positive, insignificant | 12.8 | 21.5 |
| Low-fat fresh/frozen meat | -9.6 | -9.7 | -12.4 | 29 |
| Oscar Mayer brand | -6.5 | -6.4 | -5.7 | 37.2 |
| Regular-fat fresh/frozen meat | Negative, insignificant | -4.5 | Negative, insignificant | 24.8 |
| Oscar Mayer brand | Negative, insignificant | Positive, insignificant | 21.5 | 27.3 |
| Canned regular-fat meat | Negative, insignificant | -14.7 | -21.5 | 31.2 |
| Libby's brand | Negative, insignificant | -20.3 | -23.3 | 34.8 |
| Fresh/frozen poultry | Negative, insignificant | --6.5 | Negative, insignificant | 19.8 |
| Perdue brand | Negative, insignificant | Positive, insignificant | -19.2 | 20.7 |
| Canned poultry | -27.5 | -21.4 | -18.1 | 63.9 |
| Store brand | -26.2 | -34.7 | -28.4 | 87.5 |

*continued*

Table 11

**Atlanta price differences between nontraditional and traditional stores, continued**

| Food group category | Price difference in nontraditional stores | | | Expenditure share of nontraditional stores, 2006 |
|---|---|---|---|---|
| | 2004 | 2005 | 2006 | |
| | *Percent* | | | |
| Fresh/frozen fish | -11.2 | -9.2 | -7.7 | 29.3 |
| Store brand | -14.8 | -19 | -11.7 | 20.6 |
| Canned fish | -12.6 | -9.7 | -13.2 | 33.3 |
| Bumble Bee brand | -22.3 | Negative, insignificant | -23.6 | 37.4 |
| Raw and processed nuts | -14.3 | -6.2 | -9.6 | 40.8 |
| Store brand | -11.6 | Negative, insignificant | -12.1 | 41 |
| Eggs | -7.2 | Positive, insignificant | Positive, insignificant | 29.4 |
| Store brand | -7.2 | Positive, insignificant | 8.3 | 1.4 |

Note: All low-fat products were classified based on the product description codes in Nielsen Homescan.
Source: USDA, Economic Research Service estimates using QFAHPD (see definition, table 1) and Nielsen Homesca

Table 12

**San Antonio price differences between nontraditional and traditional stores**

| Food group category | Price difference in nontraditional stores | | | Expenditure share of nontraditional stores, 2006 |
|---|---|---|---|---|
| | 2004 | 2005 | 2006 | |
| | *Percent* | | | |
| Fresh/frozen fruit | Negative, insignificant | Negative, insignificant | Negative, insignificant | 22.2 |
| Banana | Positive, insignificant | Negative, insignificant | -4.1 | 17.5 |
| Canned Fruit | -10.7 | -11.5 | -13.5 | 31.5 |
| Store brand | -12.5 | -10.5 | -13.6 | 25.9 |
| Fruit juice | -15.4 | -18.5 | -14.1 | 27.2 |
| Store brand | Negative, insignificant | -16.5 | -8.1 | 29 |
| Dark green vegetables | 34.2 | 37.6 | 31.6 | 25.7 |
| Store brand | Positive, insignificant | 30.4 | -17.5 | 7.4 |
| Canned dark greens | Negative, insignificant | Negative, insignificant | Negative, insignificant | 25.8 |
| Store brand | -9.9 | Negative, insignificant | Positive, insignificant | 22.8 |
| Fresh/frozen orange vegetables | Negative, insignificant | Negative, insignificant | Negative, insignificant | 15.3 |
| Store brand | -35.5 | -38.1 | -38.5 | 0.9 |
| Canned orange vegetables | Positive, insignificant | -6.5 | -8.3 | 23 |
| Libby's brand | -8.1 | -9.8 | Negative, insignificant | 29.4 |
| Fresh/frozen starchy vegetables | Negative, insignificant | -7.9 | -7.5 | 19.2 |
| Store brand | 17.6 | Negative, insignificant | 10.1 | 6.9 |
| Canned starchy vegetables | Positive, insignificant | Negative, insignificant | Negative, insignificant | 22.4 |
| Store brand | Negative, insignificant | Negative, insignificant | Negative, insignificant | 15.2 |
| Fresh/frozen select-nutrient vegetables | Negative, insignificant | Negative, insignificant | Positive, insignificant | 19.7 |
| Tomato | -7.4 | Negative, insignificant | Negative, insignificant | 12.1 |
| Canned select-nutrient vegetables | -9.7 | -6.6 | -10.4 | 25.9 |
| Store brand | Negative, insignificant | -8.2 | -19.3 | 22.6 |
| Packaged whole grains | -4.9 | Positive, insignificant | Positive, insignificant | 27 |
| Store brand | 18.4 | 32 | 15.4 | 8.2 |

*continued*

Table 12

**San Antonio price differences between nontraditional and traditional stores, continued**

| Food group category | Price difference in nontraditional stores | | | Expenditure share of nontraditional stores, 2006 |
|---|---|---|---|---|
| | 2004 | 2005 | 2006 | |
| | *Percent* | | | |
| Whole-grain flour/mixes | -38.3 | -54.4 | -72.4 | 12.7 |
| King Arthur Brand | -15.7 | -34.3 | -30.9 | 22.6 |
| Packaged refined grains | 5.4 | Positive, insignificant | 4.3 | 24.5 |
| Store brand | Positive, insignificant | Positive, insignificant | 7.7 | 19.3 |
| Refined grains flour/mixes | Positive, insignificant | -20.3 | Negative, insignificant | 25.2 |
| Store brand | Negative, insignificant | Negative, insignificant | Negative, insignificant | 16.3 |
| Frozen refined grains | Positive, insignificant | Negative, insignificant | Positive, insignificant | 20.7 |
| Pillsbury brand | -7.5 | -11.8 | -9.9 | 20.5 |
| Low-fat milk | Negative, insignificant | Negative, insignificant | Positive, insignificant | 26.3 |
| Store brand | Negative, insignificant | Negative, insignificant | Negative, insignificant | 21.9 |
| Low-fat cheese | -23.3 | -26.0 | -15.0 | 19.3 |
| Store brand | -24.6 | -17.1 | -15.9 | 27.5 |
| Low-fat yogurt | -8.0 | Negative, insignificant | -7.8 | 25.5 |
| Yoplait brand | -6.2 | -5.7 | -4.3 | 27.6 |
| Regular-fat milk | -11.3 | Negative, insignificant | Positive, insignificant | 23 |
| Store brand | Positive, insignificant | Positive, insignificant | Positive, insignificant | 17 |
| Regular-fat cheese | -21 | -17.4 | -20.6 | 25.8 |
| Store brand | -22.2 | -23.2 | -25.5 | 16.9 |
| Regular-fat yogurt | -11.3 | Negative, insignificant | -8.5 | 18.8 |
| Dannon brand | Negative, insignificant | Positive, insignificant | Positive, insignificant | 25.9 |
| Low-fat fresh/frozen meat | -14.5 | -14.8 | -17.9 | 22.6 |
| Oscar Mayer brand | -13.7 | -6.6 | -12.7 | 28.7 |
| Regular-fat fresh/frozen meat | -7.1 | Negative, insignificant | Negative, insignificant | 20.2 |
| Oscar Mayer brand | Positive, insignificant | Positive, insignificant | Positive, insignificant | 30 |
| Canned regular-fat meat | Negative, insignificant | -10.2 | Negative, insignificant | 34.3 |
| Libby's brand | -15.4 | -20.5 | -9.3 | 25.9 |

*continued*

Table 12

**San Antonio price differences between nontraditional and traditional stores, continued**

| Food group category | Price difference in nontraditional stores | | | Expenditure share of nontraditional stores, 2006 |
|---|---|---|---|---|
| | 2004 | 2005 | 2006 | |
| | *Percent* | | | |
| Fresh/frozen poultry | -17.0 | -17.7 | -9.2 | 15.8 |
| Perdue brand | NA | NA | NA | NA |
| Canned poultry | -25.7 | -20.1 | -21.3 | 59.7 |
| Store brand | -38.7 | -36.2 | -40.6 | 81.7 |
| Fresh/frozen fish | -7.6 | -18.0 | -23.9 | 23.4 |
| Store brand | Negative, insignificant | -20.9 | -31.9 | 41 |
| Canned fish | -13.6 | -17.0 | -23.7 | 31.2 |
| Bumble Bee brand | -62.6 | -53.8 | Positive, insignificant | 0.7 |
| Raw and processed nuts | -9.7 | -9.8 | -9.2 | 43.5 |
| Store brand | -11.5 | -15.1 | Negative, insignificant | 52.3 |
| Eggs | -15.5 | -21.7 | -13.9 | 21.4 |
| Store brand | -6.9 | -20.8 | -13.1 | 0.6 |

Note: All low-fat products were classified based on the product description codes in Nielsen Homescan.
Source: USDA, Economic Research Service estimates using QFAHPD (see definition, table 1) and Nielsen Homesca

Table 13

**Baltimore/Washington price differences between nontraditional and traditional stores**

| Food group category | e Price difference in nontraditional stores 2004 | 2005 | 2006 | Expenditure share of nontraditional stores, 2006 |
|---|---|---|---|---|
| | *Percent* | | | |
| Fresh/frozen fruit | -7.1 | -7.6 | -9.1 | 19.4 |
| Banana | -9.2 | -6.3 | -9 | 11.2 |
| Canned fruit | -18.3 | -9.4 | -12.5 | 21.2 |
| Store brand | -18 | Negative, insignificant | -17.4 | 16.3 |
| Fruit juice | -21.7 | -17.7 | -25.7 | 18.8 |
| Store brand | Negative, insignificant | Negative, insignificant | -19.3 | 22.1 |
| Dark green vegetables | Negative, insignificant | 21.5 | 69 | 15.6 |
| Store brand | 29.6 | 32.5 | -34.3 | 4.5 |
| Canned dark greens | -12.9 | -11.4 | Negative, insignificant | 18.5 |
| Store brand | -23.9 | -29.2 | -23 | 10.1 |
| Fresh/frozen orange vegetables | -17.2 | -11.9 | -11.4 | 11.5 |
| Store brand | -48.8 | -26.3 | -18.6 | 2.8 |
| Canned orange vegetables | -13.9 | -17.4 | -16.2 | 17.2 |
| Libby's brand | -20.3 | -20.6 | Negative, insignificant | 23.4 |
| Fresh/frozen starchy vegetables | -24.2 | -11.7 | -16.6 | 13.3 |
| Store brand | Negative, insignificant | Negative, insignificant | -7.9 | 5.7 |
| Canned starchy vegetables | -21.7 | -15.4 | -20.7 | 19.7 |
| Store brand | -20.6 | -15.5 | -9.4 | 13 |
| Fresh/frozen select-nutrient vegetables | -12.7 | -10.4 | -6.2 | 15 |
| Tomato | -14 | -16.3 | -15.8 | 4.9 |
| Canned select-nutrient vegetables | -23.5 | -26.2 | -30.4 | 17.5 |
| Store brand | -12.6 | -14 | -18.4 | 16.7 |
| Packaged whole grains | -13.2 | -9.3 | -5.1 | 18.6 |
| Store brand | Negative, insignificant | Positive, insignificant | 8 | 8.3 |
| Whole-grain flour/mixes | -40.9 | -64.5 | -76 | 4.5 |
| King Arthur brand | Negative, insignificant | -30.3 | Negative, insignificant | 8.3 |
| Packaged refined grains | -5.9 | -4.5 | -7.2 | 18.8 |
| Store brand | -15.4 | -15.1 | Negative, insignificant | 20.8 |

*continued*

Table 13

**Baltimore/Washington price differences between nontraditional and traditional stores, continued**

| Food group category | Price difference in nontraditional stores | | | Expenditure share of nontraditional stores, 2006 |
|---|---|---|---|---|
| | 2004 | 2005 | 2006 | |
| | *Percent* | | | |
| Refined grains flour/mixes | -23.1 | Negative, insignificant | -15.4 | 18.3 |
| Store brand | Positive, insignificant | Negative, insignificant | Positive, insignificant | 21.8 |
| Frozen refined grains | -11.7 | Negative, insignificant | -13.6 | 12.6 |
| Pillsbury Brand | -14 | Positive, insignificant | -11 | 11.9 |
| Low-fat milk | -24.7 | -16.5 | -23.8 | 19 |
| Store brand | Negative, insignificant | -17.1 | -25.2 | 17.6 |
| Low-fat cheese | Negative, insignificant | Positive, insignificant | Negative, insignificant | 15 |
| Store brand | -27.6 | -13 | -11.4 | 9.6 |
| Low-fat yogurt | -7.8 | -7.1 | -7.0 | 15.4 |
| Yoplait brand | -14.3 | -7.2 | Negative, insignificant | 28.3 |
| Regular-fat milk | -12.5 | -12.0 | -14.1 | 16.5 |
| Store brand | -9.4 | -12.5 | -11.8 | 16.6 |
| Regular-fat cheese | -25.0 | -21.8 | -24.9 | 19.7 |
| Store brand | -21.3 | -19.6 | -25.7 | 13.9 |
| Regular-fat yogurt | Negative, insignificant | -10.1 | Negative, insignificant | 11 |
| Dannon brand | -10.8 | -13.7 | Negative, insignificant | 8.5 |
| Low-fat fresh/frozen meat | -20.5 | -27.0 | -19.3 | 21.6 |
| Oscar Mayer brand | -23.6 | -29.5 | -25.6 | 25 |
| Regular-fat fresh/frozen meat | -22.8 | -21.1 | -18.0 | 18.2 |
| Oscar Mayer brand | -36.9 | Negative, insignificant | Negative, insignificant | 20.1 |
| Canned regular-fat meat | -30.4 | -30.6 | -28.5 | 36.2 |
| Libby's brand | -32.3 | -30.5 | -28.5 | 40.1 |
| Fresh/frozen poultry | -30.4 | -29.7 | -24.4 | 12.6 |
| Perdue brand | -40.4 | -49.6 | -34.4 | 10.9 |
| Canned poultry | -35.2 | -41.1 | -36.3 | 53.7 |
| Store brand | -37 | -57.6 | -37.8 | 91.7 |
| Fresh/frozen fish | -13.0 | -14.8 | -12.6 | 18.7 |
| Store brand | Negative, insignificant | -11.6 | -18.6 | 19.2 |

*continued*

Table 13

**Baltimore/Washington price differences between nontraditional and traditional stores, continued**

| Food group category | Price difference in nontraditional stores | | | Expenditure share of nontraditional stores, 2006 |
|---|---|---|---|---|
| | 2004 | 2005 | 2006 | |
| | *Percent* | | | |
| Canned fish | -17.5 | -13.1 | -16.6 | 23.5 |
| Bumble Bee brand | -12.9 | Negative, insignificant | Negative, insignificant | 24.8 |
| Raw and processed nuts | -22.0 | -17.0 | -18.7 | 39.7 |
| Store brand | Negative, insignificant | 11.5 | Positive, insignificant | 55.5 |
| Eggs | -20.6 | -14.5 | -14.0 | 20.8 |
| Store brand | -24.8 | -11 | Negative, insignificant | 4.1 |

Note: All low-fat products were classified based on the product description codes in Nielsen Homescan.
Source: USDA, Economic Research Service estimates using QFAHPD (see definition, table 1) and Nielsen Homesca

Table 14

**Chicago price differences between nontraditional and traditional stores**

| Food group category | Price difference in nontraditional stores | | | Expenditure share of nontraditional stores, 2006 |
|---|---|---|---|---|
| | 2004 | 2005 | 2006 | |
| | *Percent* | | | |
| Fresh/frozen fruit | Positive, insignificant | 26.7 | -5.2 | 13.6 |
| Banana | Negative, insignificant | Positive, insignificant | -10.8 | 2 |
| Canned fruit | -20.3 | Negative, insignificant | Negative, insignificant | 15.3 |
| Store brand | -11.4 | Negative, insignificant | Negative, insignificant | 3.3 |
| Fruit juice | Negative, insignificant | -18.2 | -14 | 14.6 |
| Store brand | Positive, insignificant | Negative, insignificant | Negative, insignificant | 9.5 |
| Dark green vegetables | -11.0 | Negative, insignificant | Negative, insignificant | 11.5 |
| Store brand | Positive, insignificant | 545 | Positive, insignificant | 4.4 |
| Canned dark greens | -15.7 | Negative, insignificant | -17.7 | 10.4 |
| Store brand | -47.9 | Negative, insignificant | -28.4 | 13.5 |
| Fresh/frozen orange vegetables | -17.9 | -10.7 | -7.2 | 7.1 |
| Store brand | Negative, insignificant | Negative, insignificant | -20.2 | 0.2 |
| Canned orange vegetables | -9.8 | -11.5 | -20.8 | 7.5 |
| Libby's brand | -25.3 | -17.8 | -22.3 | 9.2 |
| Fresh/frozen starchy vegetables | -11.6 | Negative, insignificant | Negative, insignificant | 7.5 |
| Store brand | Positive, insignificant | Positive, insignificant | -14.9 | 2.5 |
| Canned starchy vegetables | -18.3 | -9.2 | -13.3 | 13.2 |
| Store brand | Negative, insignificant | -8.9 | -6.4 | 3.3 |
| Fresh/frozen select-nutrient vegetables | 11.8 | 16.6 | 18.0 | 10.2 |
| Tomato | Negative, insignificant | Negative, insignificant | Negative, insignificant | 0.7 |
| Canned select-nutrient vegetables | -19.6 | -18.4 | -21.4 | 8.7 |
| Store brand | Positive, insignificant | Positive, insignificant | Positive, insignificant | 5.4 |
| Packaged whole grains | -13.4 | Negative, insignificant | Negative, insignificant | 18.3 |
| Store brand | Positive, insignificant | Positive, insignificant | -15.5 | 3.6 |

*continued*

Table 14

**Chicago price differences between nontraditional and traditional stores, continued**

| Food group category | Price difference in nontraditional stores | | | Expenditure share of nontraditional stores, 2006 |
|---|---|---|---|---|
| | 2004 | 2005 | 2006 | |
| | *Percent* | | | |
| Whole-grain flour/mixes | Negative, insignificant | -53.0 | -63.6 | 2.1 |
| Store brand | NA | NA | -75.5 | |
| Packaged refined grains | -15.7 | Positive, insignificant | -4.4 | 12 |
| Store brand | -21.1 | -19.6 | Negative, insignificant | 7.6 |
| Refined grains flour/mixes | -15.7 | Negative, insignificant | -14.3 | 13.6 |
| Store brand | Negative, insignificant | Negative, insignificant | Negative, insignificant | 13.1 |
| Frozen refined grains | -15.2 | Negative, insignificant | Positive, insignificant | 10.2 |
| Pillsbury brand | -12.2 | -14.5 | Negative, insignificant | 5 |
| Low-fat milk | -40.8 | -30.8 | -21.0 | 14.5 |
| Store brand | -34.6 | -18.6 | -39.5 | 17.4 |
| Low-fat cheese | 21.4 | Positive, insignificant | -20.9 | 7.6 |
| Store brand | Positive, insignificant | Positive, insignificant | 21.4 | 8.8 |
| Low-fat yogurt | -11.6 | Positive, insignificant | -7.8 | 10.8 |
| Yoplait brand | -15.1 | -7.1 | -11.3 | 9.4 |
| Regular-fat milk | -22.5 | -35.1 | -32.5 | 13.7 |
| Store brand | -35.6 | -28.7 | -23.4 | 18.6 |
| Regular-fat cheese | -20.9 | -14.4 | -15.6 | 12.9 |
| Store brand | Negative, insignificant | -7.5 | -20.8 | 3.5 |
| Regular-fat yogurt | -10.8 | Negative, insignificant | Positive, insignificant | 13.9 |
| Dannon brand | -19.3 | Negative, insignificant | -11 | 3.1 |
| Low-fat fresh/frozen meat | -21.3 | -20.4 | -12.9 | 17.4 |
| Oscar Mayer brand | -28.9 | -33 | -21.2 | 19.3 |
| Regular-fat fresh/frozen meat | -17.7 | -12.5 | Negative, insignificant | 12.3 |
| Oscar Mayer brand | Negative, insignificant | Positive, insignificant | -17.2 | 9.3 |

*continued*

Table 14

**Chicago price differences between nontraditional and traditional stores, continued**

| Food group category | Price difference in nontraditional stores | | | Expenditure share of nontraditional stores, 2006 |
|---|---|---|---|---|
| | 2004 | 2005 | 2006 | |
| | *Percent* | | | |
| Canned regular-fat meat | -24.5 | -18.5 | -20.8 | 22.1 |
| Libby's brand | -36.6 | -91.7 | -77.6 | 49.7 |
| Fresh/frozen poultry | -17.5 | -27.6 | -15.2 | 9.8 |
| Perdue brand | Negative, insignificant | Negative, insignificant | Positive, insignificant | 0.1 |
| Canned poultry | -51.7 | -47.2 | -37.4 | 61.9 |
| Store brand | -36.3 | -38.8 | -29.7 | 91.3 |
| Fresh/frozen fish | -10.4 | Positive, insignificant | Negative, insignificant | 18.2 |
| Store brand | Positive, insignificant | 20.2 | -14 | 17.1 |
| Canned fish | -25.6 | Negative, insignificant | -17 | 18.1 |
| Bumble Bee brand | -21.3 | -25.5 | -26 | 7.4 |
| Raw and processed nuts | -21.1 | -10.2 | -13.7 | 28.7 |
| Store brand | 15.9 | 10.8 | -21.2 | 24.5 |
| Eggs | -11.3 | -11.7 | -8.9 | 12.4 |
| Store brand | -29.6 | -19 | -10.9 | 1.2 |

Note: All low-fat products were classified based on the product description codes in Nielsen Homescan.
Source: USDA, Economic Research Service estimates using QFAHPD (see definition, table 1) and Nielsen Homesca

Table 15

**Philadelphia price differences between nontraditional and traditional stores**

| Food group category | Price difference in nontraditional stores | | | Expenditure share of nontraditional stores, 2006 |
|---|---|---|---|---|
| | 2004 | 2005 | 2006 | |
| | *Percent* | | | |
| Fresh/frozen fruit | Negative, insignificant | Negative, insignificant | -8.7 | 12.4 |
| Banana | -25.4 | -20.7 | -24.6 | 3.8 |
| Canned fruit | -17.5 | -13.9 | -11.3 | 11.4 |
| Store brand | -16.5 | -14.8 | Positive, insignificant | 7 |
| Fruit juice | -12.1 | Positive, insignificant | -8.5 | 12.5 |
| Store brand | Negative, insignificant | Positive, insignificant | -13.1 | 10 |
| Dark green vegetables | -12.2 | Positive, insignificant | Negative, insignificant | 11.3 |
| Store brand | 300 | Positive, insignificant | -28.4 | 4.1 |
| Canned dark greens | -13.1 | -11.1 | -19.2 | 7.2 |
| Store brand | -41.4 | -27.2 | -25.3 | 11.5 |
| Fresh/frozen orange vegetables | -9.6 | Negative, insignificant | Negative, insignificant | 5.4 |
| Store brand | Negative, insignificant | Negative, insignificant | -16.2 | 0.8 |
| Canned orange vegetables | Negative, insignificant | -14.4 | -12.1 | 9.5 |
| Libby's brand | -21.9 | -23 | -11.9 | 10.2 |
| Fresh/frozen starchy vegetables | Negative, insignificant | Positive, insignificant | -10.9 | 7 |
| Store brand | Positive, insignificant | Positive, insignificant | Positive, insignificant | 2.8 |
| Canned starchy vegetables | -20.5 | -17.4 | -13.1 | 14.1 |
| Store brand | -18.4 | -12.3 | -14 | 2.4 |
| Fresh/frozen select-nutrient vegetables | -8.2 | -6.8 | Negative, insignificant | 7.5 |
| Tomato | Negative, insignificant | -22.78 | -18.6 | 1.3 |
| Canned select-nutrient vegetables | -13.4 | -16.6 | -12.3 | 12.6 |
| Store brand | Positive, insignificant | Positive, insignificant | Positive, insignificant | 8.8 |

*continued*

Table 15

**Philadelphia price differences between nontraditional and traditional stores, continued**

| Food group category | Price difference in nontraditional stores | | | Expenditure share of nontraditional stores, 2006 |
|---|---|---|---|---|
| | 2004 | 2005 | 2006 | |
| | *Percent* | | | |
| Packaged whole grains | -12.8 | -7.8 | -5.7 | 14 |
| Store brand | -23.6 | Negative, insignificant | -15.6 | 4 |
| Whole-grain flour/mixes | Positive, insignificant | -56.8 | -49.5 | 0.9 |
| Store brand | -20.9 | -47 | Negative, insignificant | 2.4 |
| Packaged refined grains | Negative, insignificant | Negative, insignificant | Negative, insignificant | 11.7 |
| Store brand | -20.3 | -7.4 | -12.1 | 8.6 |
| Refined grains flour/mixes | Positive, insignificant | Positive, insignificant | Positive, insignificant | 13.1 |
| Store brand | Negative, insignificant | Positive, insignificant | Positive, insignificant | 5.8 |
| Frozen refined grains | -14.6 | -11.8 | -9.0 | 8 |
| Pillsbury brand | -26.5 | Negative, insignificant | -9.7 | 7.5 |
| Low-fat milk | Negative, insignificant | -12.4 | -9.9 | 10.1 |
| Store brand | Negative, insignificant | -10.8 | -10 | 5.5 |
| Low-fat cheese | -26.7 | Positive, insignificant | -24.0 | 5.9 |
| Store brand | -27.2 | Negative, insignificant | -14.4 | 3.7 |
| Low-fat yogurt | -11.3 | Negative, insignificant | -5.7 | 11.2 |
| Yoplait brand | Positive, insignificant | Negative, insignificant | -8.5 | 13.8 |
| Regular-fat milk | -11.1 | -13.1 | -23.7 | 14.4 |
| Store brand | Negative, insignificant | -14.2 | -14.7 | 11.6 |
| Regular-fat cheese | 21.6 | -19.7 | -20.6 | 11.7 |
| Store brand | -15.2 | -14.9 | -17.3 | 8.6 |
| Regular-fat yogurt | Negative, insignificant | Positive, insignificant | Negative, insignificant | 11 |
| Dannon brand | Negative, insignificant | Positive, insignificant | -7.74 | 9.9 |
| Low-fat fresh/frozen meat | -17.9 | -12.3 | -13.0 | 15.4 |
| Oscar Mayer brand | -19.2 | -12.8 | -9.2 | 18.9 |
| Regular-fat fresh/frozen meat | -22.6 | -15.1 | -11.1 | 11.5 |
| Oscar Mayer brand | -37.1 | Negative, insignificant | Positive, insignificant | 16.5 |

*continued*

Table 15

**Philadelphia price differences between nontraditional and traditional stores, continued**

| Food group category | Price difference in nontraditional stores | | | Expenditure share of nontraditional stores, 2006 |
|---|---|---|---|---|
| | 2004 | 2005 | 2006 | |
| | *Percent* | | | |
| Canned regular-fat meat | -15.9 | -22.2 | -12.5 | 19.6 |
| Libby's brand | Negative, insignificant | -34.8 | -32.7 | 14.7 |
| Fresh/frozen poultry | -22.8 | -20.9 | -20.0 | 9.5 |
| Perdue brand | -17.2 | Positive, insignificant | Positive, insignificant | 15.3 |
| Canned poultry | -30.2 | -35.4 | -31.5 | 50.3 |
| Store brand | -48.2 | -51.2 | -31.8 | 87.8 |
| Fresh/frozen fish | Positive, insignificant | Positive, insignificant | Positive, insignificant | 13.1 |
| Store brand | Positive, insignificant | Positive, insignificant | Positive, insignificant | 15.4 |
| Canned fish | -18.5 | -15.4 | -11.2 | 18.3 |
| Bumble Bee brand | -18.2 | -18.1 | Negative, insignificant | 15.2 |
| Raw and processed nuts | -17.7 | -11.8 | -5.8 | 30.7 |
| Store brand | Negative, insignificant | Positive, insignificant | -19.4 | 31.8 |
| Eggs | -17.2 | -18.7 | -12.1 | 11.7 |
| Store brand | -23.1 | -12.9 | -4.5 | 2.6 |

Note: All low-fat products were classified based on the product description codes in Nielsen Homescan.
Source: USDA, Economic Research Service estimates using QFAHPD and Nielsen Homesca

Table 16

**New York price differences between nontraditional and traditional stores**

| Food group category | Price difference in nontraditional stores | | | Expenditure share of nontraditional stores, 2006 |
|---|---|---|---|---|
| | 2004 | 2005 | 2006 | |
| | *Percent* | | | |
| Fresh/frozen fruit | -23.8 | -13.3 | -12.8 | 14.5 |
| Banana | -27.8 | -19.3 | -23.7 | 1.9 |
| Canned fruit | -16.0 | -20.8 | -15.0 | 10 |
| Store brand | Negative, insignificant | -15.1 | -22.4 | 4 |
| Fruit juice | -15.7 | -13.1 | -12.4 | 13.4 |
| Store brand | Negative, insignificant | Positive, insignificant | Negative, insignificant | 11.9 |
| Dark green vegetables | Negative, insignificant | Negative, insignificant | -17.6 | 11.8 |
| Store brand | Positive, insignificant | Positive, insignificant | -23.6 | 3.3 |
| Canned dark greens | -40.2 | -44.3 | -26.3 | 1.2 |
| Store brand | NA | -46 | -44.8 | 1.7 |
| Fresh/frozen orange vegetables | -23.8 | -13.3 | -12.8 | 5.2 |
| Store brand | Negative, insignificant | Negative, insignificant | Negative, insignificant | 3.4 |
| Canned orange vegetables | -14.0 | -20.8 | -16.3 | 5 |
| Libby's brand | -26.9 | -15.2 | -16 | 11.9 |
| Fresh/frozen starchy vegetables | -13.4 | Positive, insignificant | -17.0 | 6.7 |
| Store brand | 62 | 33.5 | Positive, insignificant | 3.8 |
| Canned starchy vegetables | -12.3 | -17.5 | -15.5 | 12.9 |
| Store brand | -15.7 | -14.6 | -9.1 | 1.9 |
| Fresh/frozen select-nutrient vegetables | 8.0 | Negative, insignificant | 11.1 | 10.3 |
| Tomato | Positive, insignificant | -38.6 | -36.5 | 0.5 |
| Canned select-nutrient vegetables | -13.3 | Negative, insignificant | -21.5 | 8.2 |
| Store brand | Positive, insignificant | 42.4 | 53 | 18 |
| Packaged whole grains | -15.7 | -11.9 | -11.0 | 13.2 |
| Store brand | -42.1 | -16.7 | -17.5 | 4.9 |

*continued*

Table 16

**New York price differences between nontraditional and traditional stores, continued**

| Food group category | Price difference in nontraditional stores | | | Expenditure share of nontraditional stores, 2006 |
|---|---|---|---|---|
| | 2004 | 2005 | 2006 | |
| | *Percent* | | | |
| Whole-grain flour/mixes | -54.6 | Negative, insignificant | Negative, insignificant | 1.8 |
| Store brand | -34.7 | -47.2 | -34.8 | 1.4 |
| Packaged refined grains | -7.0 | Positive, insignificant | Negative, insignificant | 9.9 |
| Store brand | -18.5 | -14.7 | -15.1 | 10.7 |
| Refined grains flour/mixes | Positive, insignificant | -26.7 | -30.3 | 8.5 |
| Store brand | Negative, insignificant | Negative, insignificant | Positive, insignificant | 7.7 |
| Frozen refined grains | -13.4 | -19.0 | -15.0 | 4.7 |
| Pillsbury brand | -38.9 | -15.4 | -17.1 | 4.7 |
| Low-fat milk | -34.1 | -30.6 | -31.8 | 10.4 |
| Store brand | -30.1 | -28.9 | -31.9 | 14.6 |
| Low-fat cheese | Negative, insignificant | Negative, insignificant | -22.5 | 3.5 |
| Store brand | -33.5 | -36.7 | Negative, insignificant | 1.4 |
| Low-fat yogurt | -10.4 | -10.7 | -11.4 | 6.2 |
| Yoplait brand | -17.2 | -13.8 | -14.1 | 13.7 |
| Regular-fat milk | -24.5 | -26.0 | -20.0 | 10.3 |
| Store brand | -25.3 | -35.6 | -38.9 | 14.6 |
| Regular-fat cheese | -24.6 | -22.7 | -22.1 | 11.1 |
| Store brand | -16.7 | -17 | -23.1 | 6.7 |
| Regular-fat yogurt | -24.5 | -26.0 | -20.0 | 5.6 |
| Dannon brand | -33.1 | -31.2 | -28.3 | 3.5 |
| Low-fat fresh/frozen meat | -20.4 | -18.3 | -13.4 | 15.9 |
| Oscar Mayer brand | -33.3 | -17.6 | -17.3 | 13.2 |
| Regular-fat fresh/frozen meat | -18.0 | -15.5 | -15.4 | 9.4 |
| Oscar Mayer brand | -31.8 | Negative, insignificant | Negative, insignificant | 8 |
| Canned regular-fat meat | -22.4 | -22.1 | -33.6 | 15 |
| Libby's brand | -25.4 | -25.5 | -26.8 | 22.5 |
| Fresh/frozen poultry | -23.0 | -18.7 | -15.5 | 8.8 |
| Perdue brand | -21 | -14.1 | 18.9 | 13.3 |

*continued*

Table 16

**New York price differences between nontraditional and traditional stores, continued**

| Food group category | Price difference in nontraditional stores | | | Expenditure share of nontraditional stores, 2006 |
|---|---|---|---|---|
| | 2004 | 2005 | 2006 | |
| | *Percent* | | | |
| Canned poultry | -52.4 | -60.9 | -54.4 | 56.5 |
| Store brand | 78 | Negative, insignificant | Negative, insignificant | 84.7 |
| Fresh/frozen fish | -14.5 | -8.7 | Negative, insignificant | 16.7 |
| Store brand | -22.1 | -23.3 | Negative, insignificant | 43.5 |
| Canned fish | -9.0 | Positive, insignificant | Negative, insignificant | 14.8 |
| Bumble Bee brand | Negative, insignificant | Negative, insignificant | Positive, insignificant | 17.4 |
| Raw and processed nuts | -20.3 | -10.6 | Negative, insignificant | 29.9 |
| Store brand | Positive, insignificant | 16.4 | -10.8 | 52.8 |
| Eggs | -45.6 | -34.3 | -33.2 | 13.3 |
| Store brand | -41.2 | -34.1 | -29.1 | 7.1 |

Note: All low-fat products were classified based on the product description codes in Nielsen Homescan.
Source: USDA, Economic Research Service estimates using QFAHPD (see definition, table 1) and Nielsen Homesca

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