Final Remarks

Two approaches were used to measure nutritional quality change for food products offered for sale by manufacturers in the entrees, soup, salted snacks, cookies, and processed meats and bacon food categories in the mid-1990's. Based on the first approach, the Padberg index, changes in the mean values of the index for entrees and cookies were negative but insignificant from 1994 through 1997. On the other hand, for soup in 1995-97, salted snacks in 1994-97, and processed meats and bacon in 1992-97, changes in the indexes were positive but insignificant. In processed meats and bacon, the only category for which data were available for before and after implementation of mandatory nutrition labeling under the NLEA in 1994, the pace and direction of nutritional quality change was the same in the two periods. In this sense, this study confirms that changes in information may confer benefits on the market but that these benefits might be more limited in scope than previously theorized (Moorman, 1998), at least in terms of the mix of products offered for sale. Further, market-level (consumer and producer) responses to nutrition-labeling regulations and their timing might vary from one food product category to another and depend on the level of healthfulness of the entire category (Moorman, 1998; Myers and Alpert, 1977).

The second approach, nutrient-by-nutrient analysis of change, yielded results that supported the index analysis. The mean values for individual nutrient levels in soup, salted snacks, and processed meats and bacon suggested improved nutritional quality. The levels of undesirable nutrients, such as fat, saturated fat, and cholesterol, decreased, and the levels of desirable nutrients, such as vitamins, calcium, and iron, increased. However, most of the changes were statistically insignificant using the nonpooled t-test at the 95-percent and 90-percent levels of significance. If changes in nutrient content were significant, increases in desirable nutrients were offset by increases in undesirable nutrients or decreases in undesirable nutrients accompanied decreases in desirable nutrients.

In both approaches, our analysis focused mostly on the years 1994 through 1997 and did not include all products offered for sale in those years. While other time periods and totally complete coverage of products could yield different results, our snapshot results for the five categories and the years studied suggest that the nutritional content of products offered for sale did not change significantly in the mid-1990's. This result is not inconsistent with active levels of introduction of nutritionally improved products. For all of the food categories considered, both the entering and exiting brands had higher nutrition index values than the categories as a whole. In other words, the food products that entered and exited the market during this period were more nutritious than average brands. This helps to explain why the nutritional quality of the average product examined here did not change significantly as a result of new product entry.

In a preliminary analysis, the index values of individual brands were weighted by market sales shares in order to obtain measures of change in the nutritional quality of foods that were actually purchased by consumers. For our data set, the weighted index values were lower than their unweighted counterparts in all food categories. This shows that relatively less nutritious products had higher sales. Breaking up the entrees and cookie brands into products with above- and below-average nutritional quality provided evidence supporting a decline in the proportion of relatively more nutritious products sold in these food categories. On the other hand, the increase in the market share-weighted index values for soup, salted snacks, and processed meats suggests that the nutritional quality of products purchased increased for these categories. It was not possible to test the statistical significance of changes in the market share-weighted indexes.

Several studies have suggested rapid growth in the availability of food products with improved nutritional profiles in U.S. supermarkets during the 1990's. This report indicates that, for the five food categories of entrees, soup, salted snacks, cookies, and processed meats and bacon, this growth did not result in markedly improved average nutritional quality of food products offered for sale or purchased, at least in the time period of the mid-1990's. In many food product categories, the entry of products with improved nutritional profiles may be offset by exits of products with better than average nutritional quality.