

Data

USDA has conducted periodic surveys of household and individual food consumption in the United States since the 1930s. The most recent surveys, the 1994-96 and 1998 Continuing Survey of Food Intakes by Individuals (CSFII), conducted by ARS, provide the basis for this study. Each year of the 1994-96 survey comprises a nationally representative sample of non-institutionalized persons residing in the 50 States and Washington, DC. As a supplemental survey to the 1994-96 CSFII, the 1998 CSFII was conducted to increase the 1994-96 CSFII sample for children. The 1994-96 and 1998 CSFII were conducted using the same methodology and can be combined for analysis. The CSFII data include a sample weight for each respondent, indicating the number of people the sample represents.

In the CSFII, 2 nonconsecutive days of dietary data for individuals of all ages were collected 3 to 10 days apart through in-person interviews using 24-hour recalls. The 1994-96 CSFII data set includes information on the food intakes of 15,303 individuals, while the 1998 CSFII data set includes 5,559 children up to age 9. The respondents in the CSFII provided a list of foods consumed as well as information on where and how much of each food was eaten. The locations where the food was purchased and eaten were coded into several categories. Various economic, social, and demographic characteristics were also collected for the respondent and his/her household.

After respondents in 1994-96 CSFII provided the first-day dietary data, an adult age 20 or above was randomly selected from each household to participate in the 1994-96 Diet and Health Knowledge Survey (DHKS). The DHKS questions covered a wide range of issues, including self-perceptions of the adequacy of intake levels of nutrients, awareness of diet-health relationships, perceived importance of following dietary guidance, use and perceptions of food labels, and behaviors related to fat intake and food safety. Out of 7,842 households eligible for DHKS, respondents from 5,765 households completed the survey. Since consumers' knowledge and attitudes about diet and health affect their food choices and consumption, the combined CSFII and DHKS data provide researchers a unique data set to examine the factors that affect food consumption.

In addition to food intake data, ARS also provides technical support documents, such as recipes and a Pyramid Servings Database (PSD), to support data

analysis. Recently, ARS created the Food Commodity Intake Database (FCID) for the Environmental Protection Agency (EPA). The FCID provides data on the edible amount of agricultural food commodities contained in each food reported eaten in CSFII. FCID was developed for the purpose of estimating human exposure to pesticide residues through the consumption of foods and beverages. Therefore, food intakes in FCID are expressed in terms of EPA-defined agricultural food commodities. For example, a piece of apple pie is translated quantitatively into the following commodities: wheat flour, peeled apple, sugar (from sugar cane or beet), cinnamon, and the specific vegetable oils comprising shortening. There are over 500 food commodities listed in the FCID.

Some of the EPA-defined food commodities have to be modified in order to provide useful information to the agricultural community. All dairy foods are translated into milk components (fat, nonfat solids, water, and sugar) in FCID, whereas the dairy industry is more interested in knowing future consumption of dairy products, including milk, cheese, and yogurt. ARS created the PSD to express food consumption in terms of the number of servings for comparison with dietary recommendations in USDA's Food Guide Pyramid. The PSD shows, for each food consumed, the number of servings from 30 food groups, including milk, cheese, and yogurt. In this study, the three dairy commodities are expressed in terms of servings.

Many EPA-defined food commodities are different products of a commodity. For example, apple is expressed in five different product forms: apple with peel, peeled apple, dried apple, apple juice, and apple-sauce. In order to project total apple consumption, these apple products have to be converted to the raw weight—apple with peel. As a part of this study, a conversion-factor database was developed to convert all EPA-defined commodities to the commodities reported by ERS (Putnam and Allshouse). Using the aforementioned data sources, we created a food-commodity translation database that enabled us to convert food consumption, in edible weight, to commodity consumption at the farm or retail level.

In this study we employed econometric modeling to estimate food consumption. As such, we limited the number of food groups to a manageable size. More than 7,000 foods were reported eaten in the 1994-96 and 1998 CSFII. ARS uses a list of 71 food groups and subgroups in reporting U.S. food consumption. In this

study, we collapsed ARS's list to 25 food groups: beef, pork, poultry, fish, other meat, meat mixture (e.g., hamburger), eggs, milk, cheese, yogurt, fats and oils, fruit juice, other fruits, fried potatoes, other potatoes, tomatoes, legumes and nuts, other vegetables, breakfast cereals, grain mixture (e.g., pizza), other grain products, sweeteners, coffee and tea, fruit drinks, and soft drinks.

Given projections of food consumption, we used the food-commodity translation database to derive projec-

tions of commodity consumption. For ease in reporting commodity consumption, we aggregated commodities into 22 commodity groups: beef, pork, poultry, fish, other meat, eggs, milk, cheese, yogurt, vegetable oils, citrus fruits, apples, grapes, other fruits, nuts and seeds, fried potatoes, other potatoes, tomatoes, lettuce, other vegetables, grains, and sugar. It should be mentioned that it is possible to project consumption of an individual commodity or product form (e.g., apple juice), as reported in the FCID and PSD.