Estimation Results

The eating-out equation was fitted with the 1994-96 and 1998 CSFII data, and the knowledge equation was fitted with the 1994-96 CSFII and DHKS data. The results are reported in table 2.

Eating-Out Equation

Many economic, social, and demographic variables were found to influence an individual's eating-out behavior. In this study, eating out was measured by the percent of food consumption, in terms of physical amounts, prepared away from home. Among the 20,487 individuals included in the analysis, 15,202 of them (74 percent) reported consuming foods that were prepared away from home.

As expected, eating out rose with household income. Also, an individual ate out more when he/she was employed or attending school. Eating out was found to exhibit an inverted U-shape relationship with the education level—those who did not complete high school were treated as the base. Those who went to college but did not complete a college degree ate out the most, and those who completed a college degree ate out the least. It is important to point out that eating out in this study is represented by the percent of food prepared away from home, not by the frequency of eating out or the percent of food expenditures spent away from home. The main purpose of the study is to project the consumption of food and commodities at home and away from home.

Those age 75 and above were treated as the base category for age. Eating out rose initially with age, peaked among those age 15-19, and then declined with age—an inverted U-shape relationship between eating out and age. Men ate out more than women. Compared with Whites, Blacks ate out more, and Hispanics and Asians ate out less. Dual-headed households, with or without children, ate out less than other households. Eating out declined as household sizes increased.

Diet-Health Knowledge

In the 1994-96 CSFII, 5,765 individuals provided information about their knowledge and attitude toward diet and health. After excluding those with missing information and those who were not household heads, 5,169 respondents were included in the analysis of diet-health knowledge.

Table 2—Estimated models for eating out and diethealth knowledge of household head

| Treatti knowledge of flouseffold flead | | | | | | | | | | | |
|--|-----------------|----------|----------------|----------|--|--|--|--|--|--|--|
| | Eatin | | Diet knowledge | | | | | | | | |
| \/aviables | Estimated | Standard | Estimated | Standard | | | | | | | |
| Variables | coefficient | error | coefficient | error | | | | | | | |
| Intercept | -5.35 | 1.31*** | 14.06 | 0.22*** | | | | | | | |
| Income | 0.25 | 0.02*** | 0.03 | 0.00*** | | | | | | | |
| Employment | 12.45 | 0.55*** | | | | | | | | | |
| Hemploy | | | 0.22 | 0.15 | | | | | | | |
| Student | 3.82 | 1.25*** | | | | | | | | | |
| Weekend | -0.63 | 0.34* | | | | | | | | | |
| High school | 0.34 | 0.61 | 1.73 | 0.15*** | | | | | | | |
| Some college | e 2.56 | 0.61*** | 2.57 | 0.17*** | | | | | | | |
| College | -2.00 | 0.69*** | 3.25 | 0.17*** | | | | | | | |
| Male | 2.71 | 0.40*** | -1.68 | 0.11*** | | | | | | | |
| Age 0-4 | 7.44 | 1.33*** | | | | | | | | | |
| Age 5-9 | 20.36 | 1.72*** | | | | | | | | | |
| Age 10-14 | 21.02 | 1.78*** | | | | | | | | | |
| Age 15-19 | 24.36 | 1.51*** | | | | | | | | | |
| Age 20-29 | 21.86 | 1.19*** | | | | | | | | | |
| Age 30-44 | 14.42 | 1.17*** | | | | | | | | | |
| Age 45-54 | 9.83 | 1.20*** | | | | | | | | | |
| Age 55-64 | 5.24 | 1.22*** | | | | | | | | | |
| Age 65-74 | 3.40 | 1.23*** | | | | | | | | | |
| HH age 20-3 | 4 | | 0.86 | 0.21*** | | | | | | | |
| HH age 35-5 | 4 | | 1.16 | 0.19*** | | | | | | | |
| HH age 55+ | | | 1.15 | 0.17*** | | | | | | | |
| Black | 1.50 | 0.67** | -1.39 | 0.18*** | | | | | | | |
| Hispanic | -1.81 | 0.71** | -1.82 | 0.21*** | | | | | | | |
| Asian | -1.75 | 1.20 | -2.71 | 0.44*** | | | | | | | |
| Other race | -0.55 | 1.67 | -1.26 | 0.49*** | | | | | | | |
| HH type1 | -3.76 | 0.84*** | 0.81 | 0.16*** | | | | | | | |
| HH type2 | -2.68 | 0.68*** | 0.71 | 0.13*** | | | | | | | |
| HH type 3 | 0.37 | 0.96 | -0.03 | 0.24 | | | | | | | |
| Midwest | 3.52 | 0.61*** | 0.68 | 0.16*** | | | | | | | |
| South | 3.68 | 0.56*** | 0.10 | 0.15 | | | | | | | |
| West | 1.21 | 0.63* | 0.01 | 0.17 | | | | | | | |
| Nonmetro | -0.74 | 0.58 | 0.21 | 0.14 | | | | | | | |
| Suburb | -0.27 | 0.48 | 0.18 | 0.13 | | | | | | | |
| HH size | -0.48 | 0.18*** | | | | | | | | | |
| Tenure | 0.78 | 0.48 | | | | | | | | | |
| Quarter 1 | -0.48 | 0.55 | | | | | | | | | |
| Quarter 2 | 0.07 | 0.55 | | | | | | | | | |
| Quarter 3 | -1.87 | 0.55*** | | ••• | | | | | | | |
| Scale | | 0.33 | ••• | ••• | | | | | | | |
| | 26.85 20.487 | 0.10 | 5 160 | | | | | | | | |
| N 20,487 5,169 | | | | | | | | | | | |

Note: Significance levels are denoted by *** for 1%, ** for 5%, and * for 10%.

^{... =} variable not included.

The diet-health knowledge variable was constructed from responses to 27 questions in the DHKS. The questions tested the respondents' knowledge of the sources and occurrences of various nutrients in foods, the relationship of specific dietary components to specific diseases, and the number of servings of various food groups in a healthful diet. The number of correct answers to these questions given by a respondent provided a direct measure of his/her diet-health knowledge. The range of the diet-health knowledge scores was 0-27, with a mean of 17.2.

The diet-health knowledge equation has a reasonable fit with an R-squared of 0.23, with most variables being statistically significant at the 5-percent level. As expected, educational attainment had the largest effect among the explanatory variables, and diet-health knowledge rose with education attainment and household income. Men scored lower than women of comparable characteristics. Blacks and Hispanics scored lower than Whites.

Adults from dual-headed households (with or without children) displayed greater diet-health knowledge, compared with adults from single-headed households. Age was a significant determinant of diet-health knowledge: household heads age 70 or above (the base category) scored lower on the diet-health knowledge than younger household heads. The employment status of household heads (measured as percent of household heads being employed) had no influence on the diet-health knowledge.

Food Consumption

There are 25 food groups classified in this study, separated into at-home and away-from-home consumption. The means and standard deviations for the percent of population consuming and the amount consumed of the 25 food groups at home and away from home are

reported in table 3. The estimation involved 50 food consumption equations, using the Tobit procedure. There are 20,487 individuals included in the estimation. Tobit results are summarized in the 25 appendix tables (see pp. 34-58).

As expected, an increase in eating out (that is, a higher portion of all foods eaten out) resulted in a higher consumption of each individual food group away from home. Potatoes were the only exception (app. tables 14 and 15). While increased eating out resulted in higher consumption of fried potatoes and other potatoes away from home, it had no effect on at-home consumption of these two types of potatoes. The effect of diethealth knowledge on food consumption varied by food and source. For example, as diet-health knowledge increased, beef consumption at home and away from home declined (app. table 1), legumes and nut consumption rose both at home and away from home (app. table 17), poultry consumption rose at home but declined away from home (app. table 3), and milk consumption rose at home but stayed the same away from home (app. table 8).

In general, food consumption rose with age among children, peaked among young adults, and declined with age. There are notable exceptions. Compared with other consumers, children age 9 and under drank more milk (app. table 8) and children age 4 and under drank more juices (app. table 12). Seniors showed a strong preference for other potatoes—potatoes other than fried (app. table 15).

Race and ethnicity appear to affect food choices. For example, compared with other groups, Whites drank more milk at home and away from home (app. table 8), Blacks showed a preference for poultry, especially away from home (app. table 3), Asians liked to eat fish at home and away from home (app. table 4), and Hispanics ate more tomatoes at home (app. table 16).

Table 3—Descriptive statistics of food consumption, at home and away from home, 1994-96 and 1998 CSFII

| Food group | Percent of consuming population | | | | Consumption quantity | | | |
|------------------------|---------------------------------|--------------------|----------------|--------------------------|----------------------|--------------------|----------------|--------------------|
| | At home | | Away from home | | At home | | Away from home | |
| | Mean | Standard deviation | Mean | Standard deviation | Mean | Standard deviation | Mean | Standard deviation |
| | Percent | | | Grams per capita per day | | | | |
| Meats | | | | | | | | |
| Beef | 27 | 44 | 12 | 32 | 17.3 | 44.3 | 6.7 | 22.8 |
| Pork | 21 | 41 | 6 | 24 | 8.5 | 25.5 | 1.5 | 9.5 |
| Poultry | 27 | 45 | 15 | 36 | 16.8 | 38.2 | 9.3 | 28.4 |
| Fish | 10 | 29 | 6 | 23 | 6.3 | 26.8 | 4.1 | 21.6 |
| Other meat | 43 | 50 | 13 | 34 | 21.1 | 37.5 | 5.3 | 18.5 |
| Meat mixtures | 37 | 48 | 28 | 45 | 61.4 | 119.9 | 38.7 | 85.5 |
| Eggs | 24 | 43 | 7 | 26 | 12.5 | 29.2 | 4.6 | 20.7 |
| Dairy | | | | | | | | |
| Milk | 64 | 48 | 10 | 30 | 167.3 | 220.2 | 15.3 | 61.1 |
| Cheese | 40 | 49 | 15 | 36 | 12.0 | 27.5 | 3.6 | 13.0 |
| Other dairy products | 40 | 49 | 18 | 39 | 51.2 | 123.7 | 19.4 | 63.5 |
| Fats and oils | 62 | 48 | 25 | 43 | 9.6 | 15.7 | 3.9 | 10.9 |
| Fruit | | | | | | | | |
| Fruit juice | 35 | 48 | 7 | 25 | 76.1 | 148.5 | 9.1 | 42.1 |
| Other fruit | 50 | 50 | 11 | 31 | 75.0 | 126.9 | 7.3 | 30.9 |
| Vegetables | | | | | | | | |
| Fried potatoes | 22 | 42 | 27 | 44 | 9.3 | 29.1 | 13.8 | 30.1 |
| Other potatoes | 29 | 45 | 9 | 29 | 28.9 | 65.8 | 7.4 | 29.3 |
| Tomatoes | 41 | 49 | 27 | 44 | 20.9 | 48.7 | 6.9 | 19.0 |
| Legumes and nuts | 30 | 46 | 7 | 26 | 23.5 | 80.5 | 3.8 | 23.3 |
| Other vegetables | 71 | 45 | 33 | 47 | 76.6 | 105.1 | 21.3 | 52.3 |
| Grains | | | | | | | | |
| Breakfast cereals | 40 | 49 | 2 | 13 | 15.2 | 26.3 | 0.4 | 3.2 |
| Grain mixtures | 38 | 49 | 28 | 45 | 71.9 | 134.6 | 35.8 | 82.7 |
| Other grain products | 95 | 22 | 46 | 50 | 144.6 | 131.9 | 28.4 | 51.8 |
| Sweeteners | 62 | 48 | 18 | 39 | 19.7 | 39.2 | 5.1 | 22.8 |
| Coffee and tea | 54 | 50 | 22 | 42 | 301.7 | 492.9 | 77.3 | 220.5 |
| Fruit drinks | 26 | 44 | 5 | 22 | 78.5 | 199.9 | 10.9 | 61.0 |
| Soft drinks | 51 | 50 | 33 | 47 | 204.7 | 337.3 | 118.4 | 243.9 |
| Number of observations | 20,487 | | | | | | | |