Using Scanner Data To Answer Food Policy Questions

Conference

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Economic Research Service
1800 M Street, NW
Waugh Auditorium
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Using the Quarterly Food-at-Home Price Database

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Motivation for Developing the QFAHPD

- Research interest in how food prices affect food choices, diet quality and health outcomes
- Available price data have limitations
  - BLS
  - ACCRA
  - Nielsen Scantrack
  - CNPP Food Price Database
How the QFAHPD is unique

- Quarterly prices, per 100 grams
  - Constructed from Homescan purchase data
    - Includes purchases from nontraditional grocery retailers
- 52 food groups
  - Differentiated using *Dietary Guidelines* as a guide
- 35 market group areas
  - Can link to other data using county FIPS codes
Construction of the QFAHPD Prices

- Calculated the unit value per 100 grams for each food purchase
- Constructed average household quarterly prices for each food group
  - Prices for random-weight (RW) and UPC-coded items calculated separately (1998 – 2006)
Construction of the QFAHPD Prices

- Market group price is weighted mean of the household prices in each market
    - RW and UPC-coded prices weighted by expenditure share in each market
    - Only UPC-coded purchases
- Market group weights provided to aggregate to Census regions or divisions
QFAHPD Food Groups

- Food groups relate to Dietary Guidelines
  - Main food groups:
    - Fruits
    - Vegetables
    - Grains
    - Dairy
    - Meats/Protein
    - Fats and Oils
    - Sugar/Sweeteners
    - Beverages
    - Commercially prepared items
  - Further sub-divided based on nutritional features and other characteristics
  - QFAHPD-2 – adds coffee/tea, separates diet soda from caloric soda (54 total food groups)
Basic food group hierarchy
Food group examples

FRUIT
- WHOLE or JUICE
- FRESH/FROZEN or CANNED

GRAINS
- WHOLE or Refined
- FLOUR or BREAD/PASTA

COMMERCIALY PREPARED ITEMS
- SWEET or NOT SWEET
- FROZEN, READY TO EAT, or PACKAGED
QFAHPD Market Groups

- Aggregated the 52 metro Homescan markets into groups
  - such that the Fresh Foods sample contains at least 30 households in each quarter
  - Minimized differences between the Fresh Foods sample and remaining Homescan sample for average price and expenditures on UPC-coded products
- Divided the 4 regions into nine non-metro census divisions
- A total of $26 + 9 = 35$ market groups (2002-2009)
QFAHPD Market Groups (2002-2009)
Downloading the QFAHPD

http://ers.usda.gov/Data/QFAHPD/

Quarterly Food-at-Home Price Database (QFAHPD)

Overview

The Quarterly Food-at-Home Price Database (QFAHPD) provides food price data to support research on the economic determinants of food consumption, diet quality, and health outcomes. There are two versions of the database; please read the complete documentation before downloading the data.

QFAHPD Documentation

Data

QFAHPD-1

Prices for 52 food groups based on both Universal Product Code (UPC) and random-weight (non-UPC) food purchases.

Codebook-1  Documentation

QFAHPD-2

Prices for 54 food groups based on UPC food purchases.

Codebook-2  Documentation

Related Resources

Methodology Behind the Quarterly Food-at-Home Price Database—provides an indepth discussion of how the QFAHPD database was constructed, along with basic findings about food price variation across geographic areas and price differentials within
Downloading the QFAHPD

- 4 Excel spreadsheets
  - Fruits and Vegetables
  - Grains and Dairy
  - Meats, Nuts, and Eggs
  - Fats, Beverages, and Prepared Foods

- Variables for each food group:
  - Market group
  - Year
  - Quarter
  - Price
  - Standard error
  - Sample size
  - Census division
  - Census region
  - Market group weight
  - Total expenditure
Linking Data to Other Geo-coded Data

- Codebook contains a cross-walk between Market Groups (2001 – 2009) and county FIPS code
  - For 1998-2001, collapse nonmetro Divisions (91-99) into nonmetro Regions (81-84)

- Listed on the NCCOR Catalogue of Surveillance Systems
  - http://tools.nccor.org/css/
  - Identifies other geo-coded data
Price variation evidenced in QFAHPD

Soda cheaper in the South and Mid Atlantic

Low-fat milk cheaper in Midwest

Source: 2009 QFAHPD
Geographic Variation in Relative Prices

Low-fat milk sometimes cheaper than soda

Legend

- 0.67 - 0.75
- 0.76 - 0.90
- 0.91 - 1.00
- 1.01 - 1.10
- 1.11 - 1.29

Price of low-fat milk relative to soda, 2009
Other Research Using the QFAHPD

- Geographic Variation in Relative Price of Healthy Foods
  (Todd et al., forthcoming EIB)
- Food Prices and Children’s BMI
  (Wendt & Todd, forthcoming ERR)
- Food Prices and Blood Cholesterol
  (Rahkovsky and Gregory, AAEA 2011)
- Cost of TFP and Food Security
  (Gregory and Coleman-Jensen, AAEA 2011)
- Family, Friends and Food Prices on F&V consumption among A-A youth
  (Zhylyevskyy et al., Iowa State WP)