Using Scanner Data To Answer Food Policy Questions

Conference

Wednesday, June 1 - Thursday, June 2, 2011

Economic Research Service
1800 M Street, NW
Waugh Auditorium
Washington, DC

# Using the Quarterly Food-at-Home Price Database

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Using Scanner Data to Answer Food Policy Questions Conference

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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
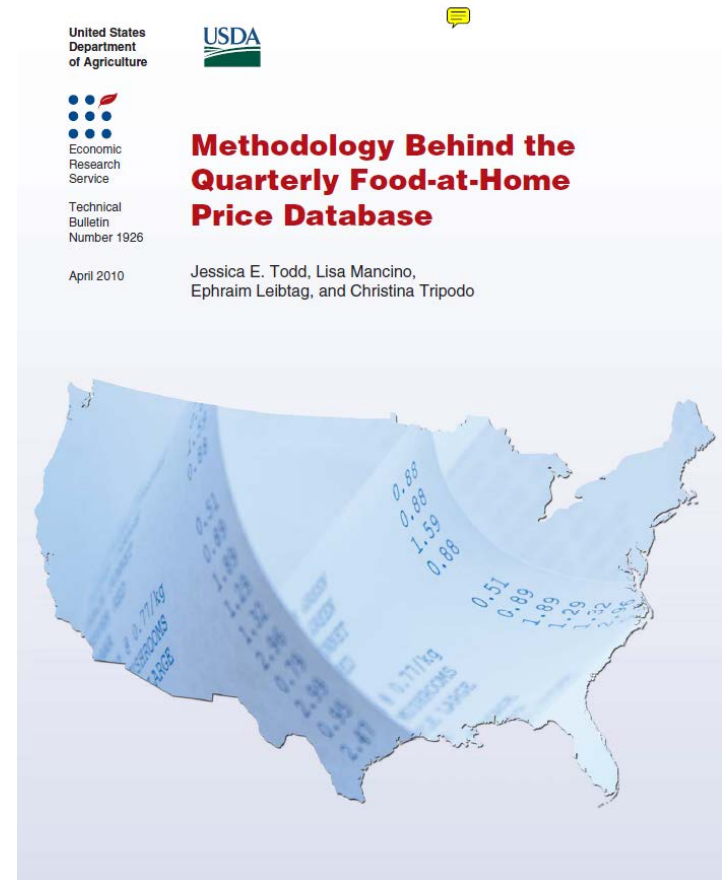
How the QFAHPD is unique

- **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

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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)

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Construction of the QFAHPD Prices

- **Market group price is weighted mean of the household prices in each market**
  - QFAHPD-1 (1998 – 2006)
    - RW and UPC-coded prices weighted by expenditure share in each market
  - QFAHPD-2 (2004 – 2009)
    - 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	❑ Fats and Oils
❑ Vegetables	❑ Sugar/Sweeteners
❑ Grains	❑ Beverages
❑ Dairy	❑ Commercially prepared items
❑ Meats/Protein	

  - **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)**

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Basic food group hierarchy

Food group examples

FRUIT
- WHOLE or JUICE
- FRESH/FROZEN or CANNED

GRAINS
- WHOLE or REFINED
- FLOUR or BREAD/ PASTA

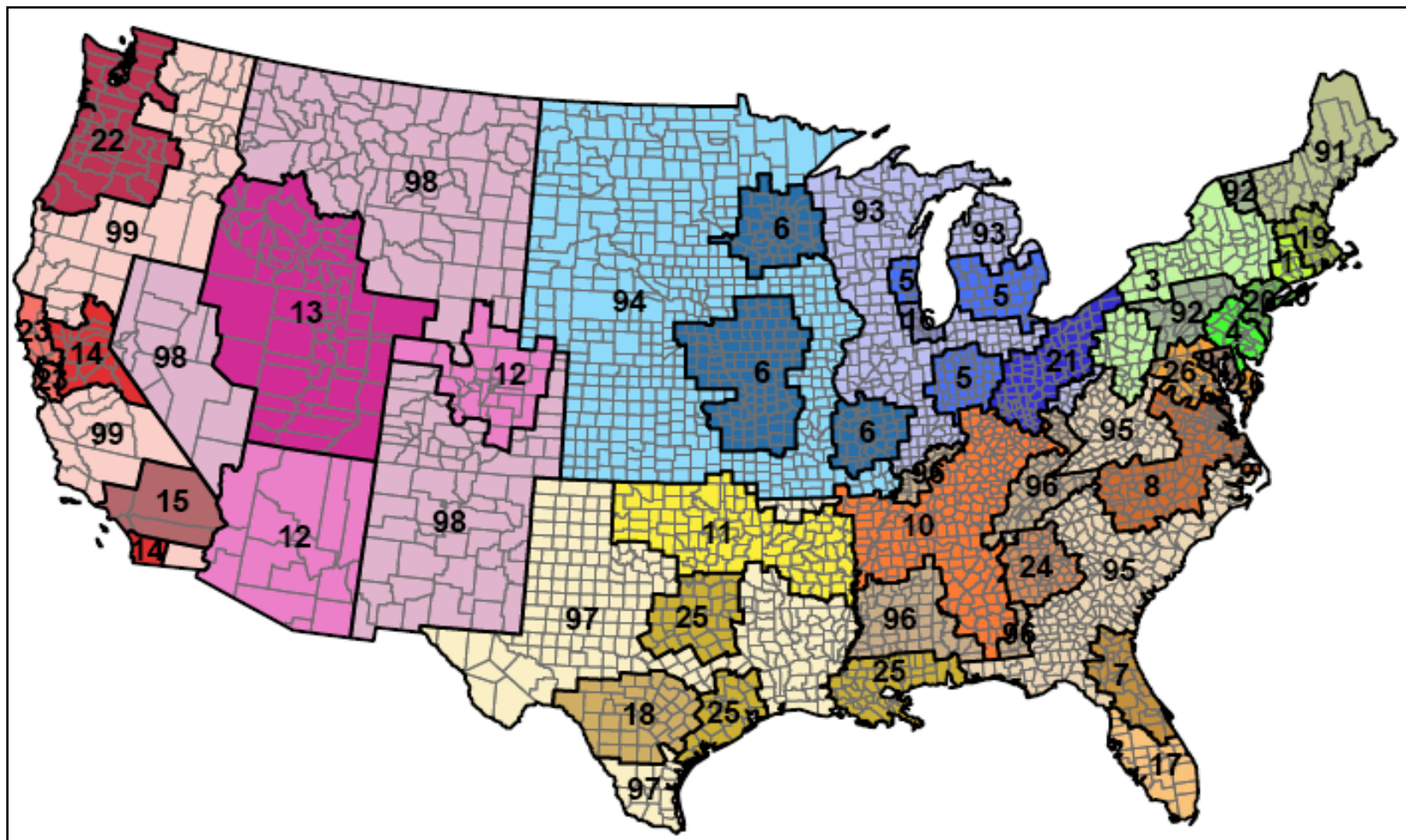## COMMERCIALY PREPARED ITEMS
- SWEET or NOT SWEET
- FROZEN, READY TO EAT, or PACKAGED

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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/

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
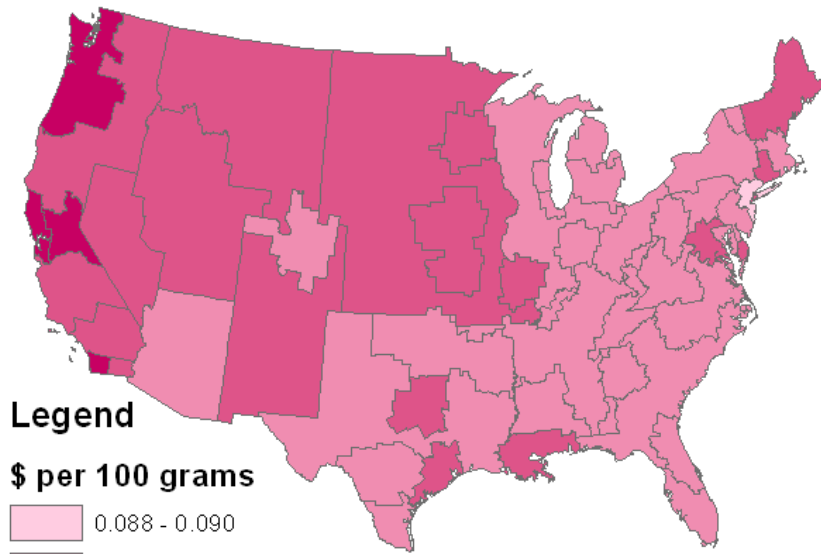 - Total expenditure

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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

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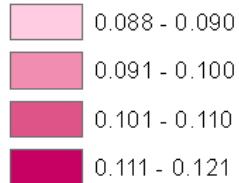# Price variation evidenced in QFAHPD
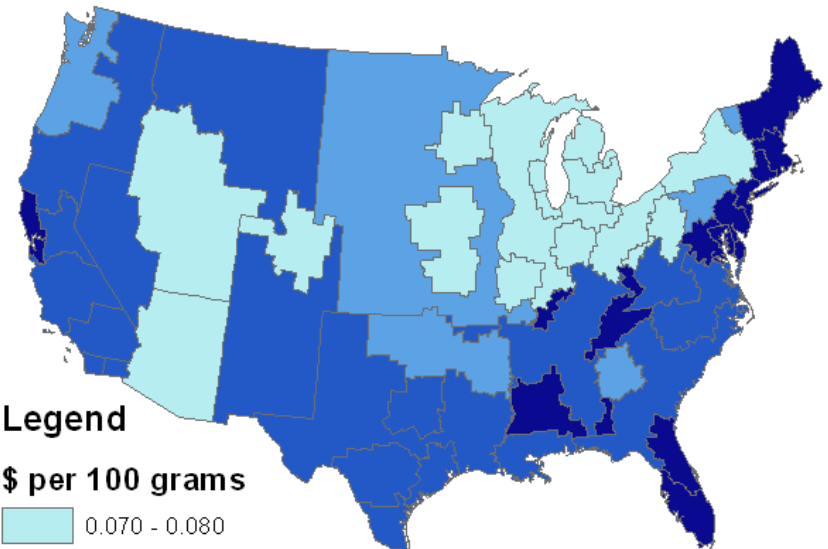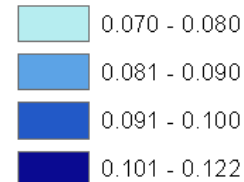
Soda cheaper in the South and Mid Atlantic

Low-fat milk cheaper in Midwest

Legend

$ per 100 grams

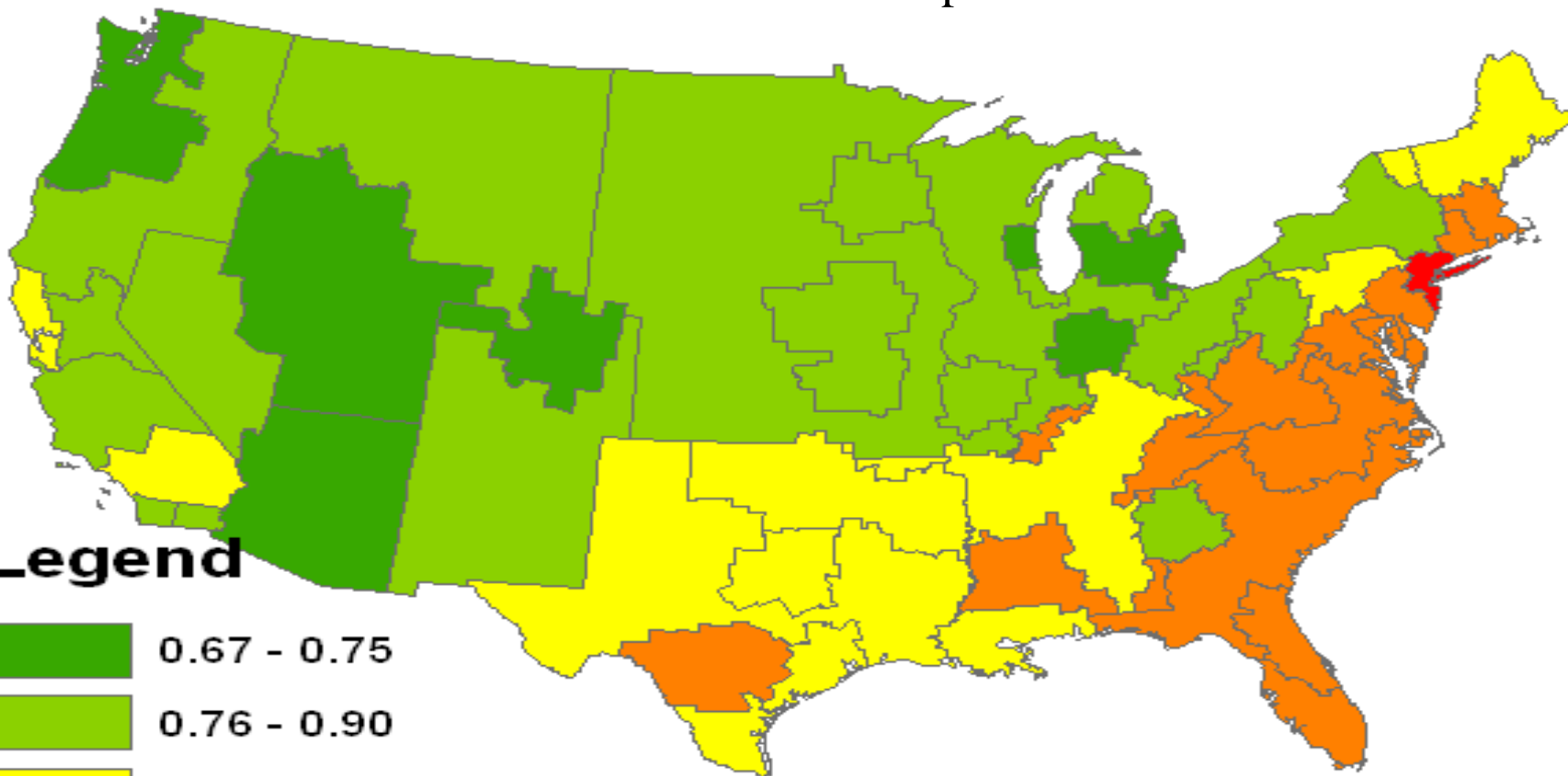- 0.088 - 0.090
- 0.091 - 0.100
- 0.101 - 0.110
- 0.111 - 0.121

Legend

$ per 100 grams

- 0.070 - 0.080
- 0.081 - 0.090
- 0.091 - 0.100
- 0.101 - 0.122

Source: 2009 QFAHPD

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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

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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)

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