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

Evaluating Household-based Scanner Data

Using Scanner Data to Answer Food Policy Questions Conference

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Benefits of Using Homescan for Policy Analysis

- Provides information on the characteristics of households tied to their purchases

- Provides data on full range of purchases over time

- Includes data from purchases at stores that don't participate in store scanner data reporting

- Can survey households and match their purchase data with their survey responses for broad range of studies

Data Quality Study Design (2007)

- Provided a description of Homescan Data
  - Content of datasets
  - Household recruitment process
  - Food purchase data collection process
  - Project factor calculation method
- Proposed studies to evaluate the data
  - Bias analyses of household selection and inclusion
  - Benchmarking studies against other data sources
  - Projection factors used to weight the data to the US population
  - Calculation of variances when conducting analyses

Expenditures Comparison Study, 2004-5

- Analyzed differences in reported expenditures between Homescan and the BLS Consumer Expenditure Survey (CES) for the total population and for subpopulations by food subcategories

- Large differences in reported expenditures across datasets for most food subcategories
  - Largest differences occur for food subcategories with more random weight products versus UPC products

- Differences suggest "underreporting" relative to CES
  - Increases with household size
  - Increases with household income above $30K
  - Is affected by female head of household (presence, age, and education)

See Zhen, Taylor, Muth, & Leibtag, *Review of Agricultural Economics*, 2009

Comparison of Income Categories, 2004-5 (Unweighted Data)
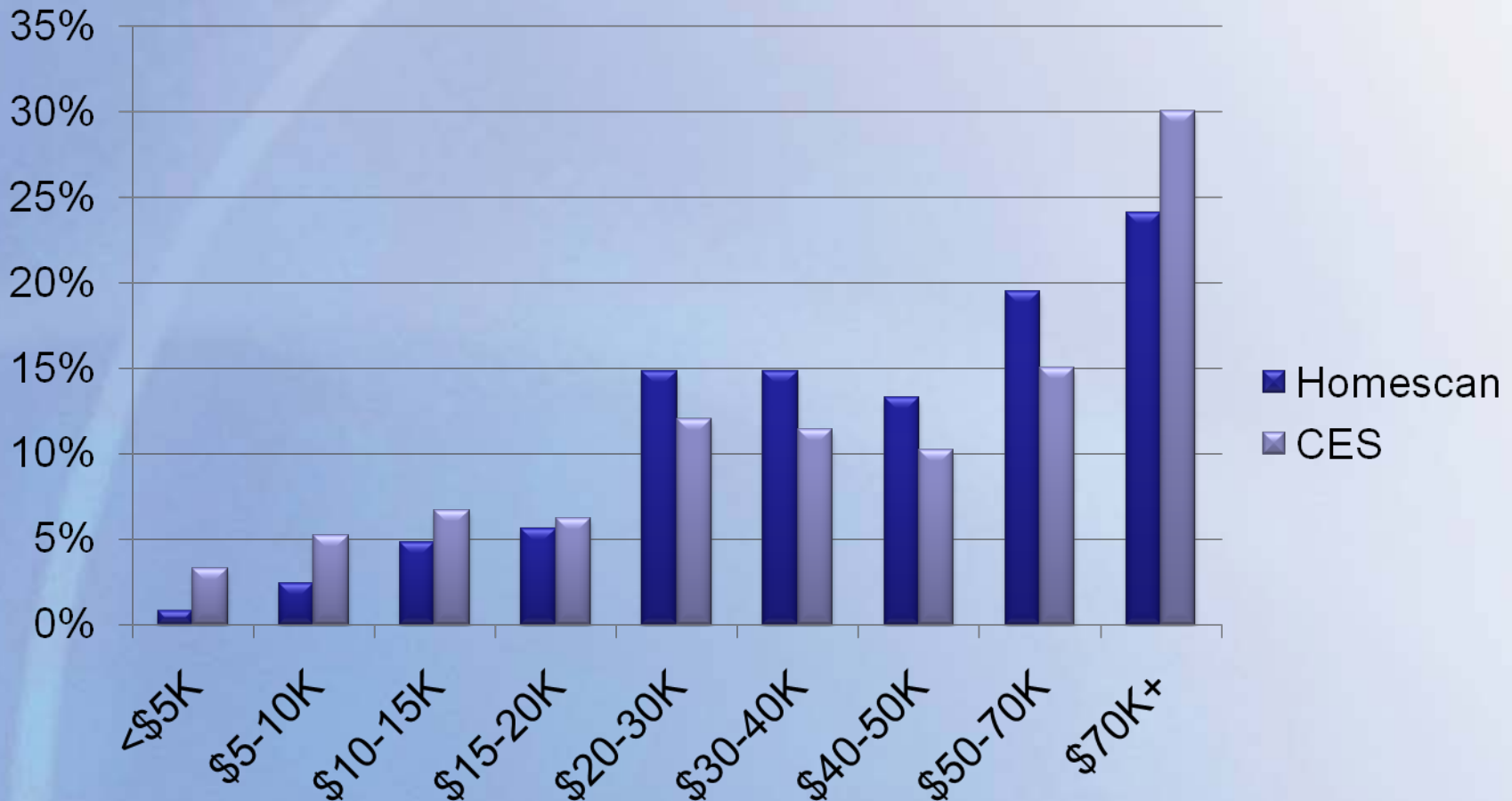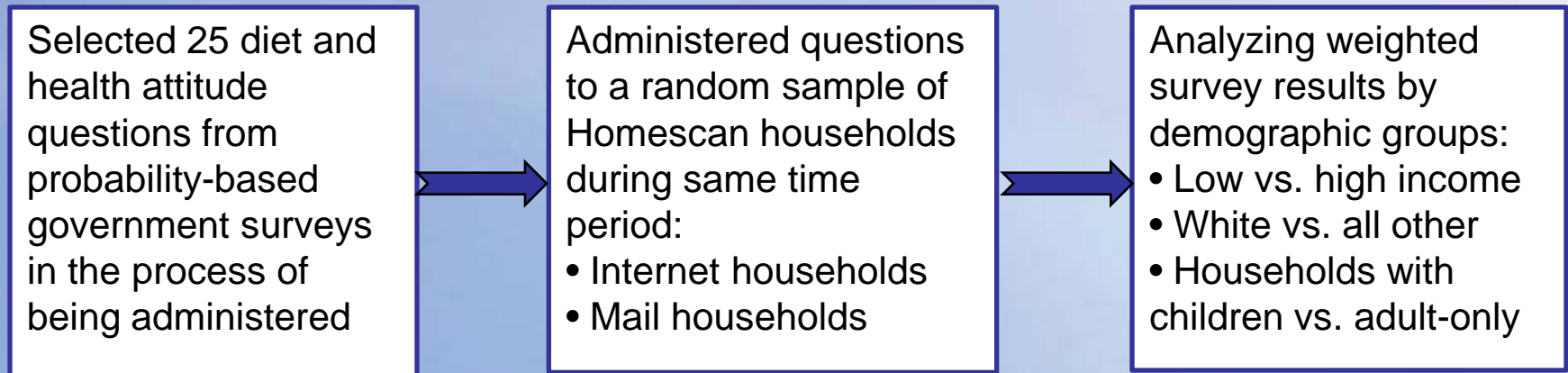

Source: Zhen, Taylor, Muth, & Siegel (2008)

Comparison of Other Demographics, 2004-5 (Unweighted Data)
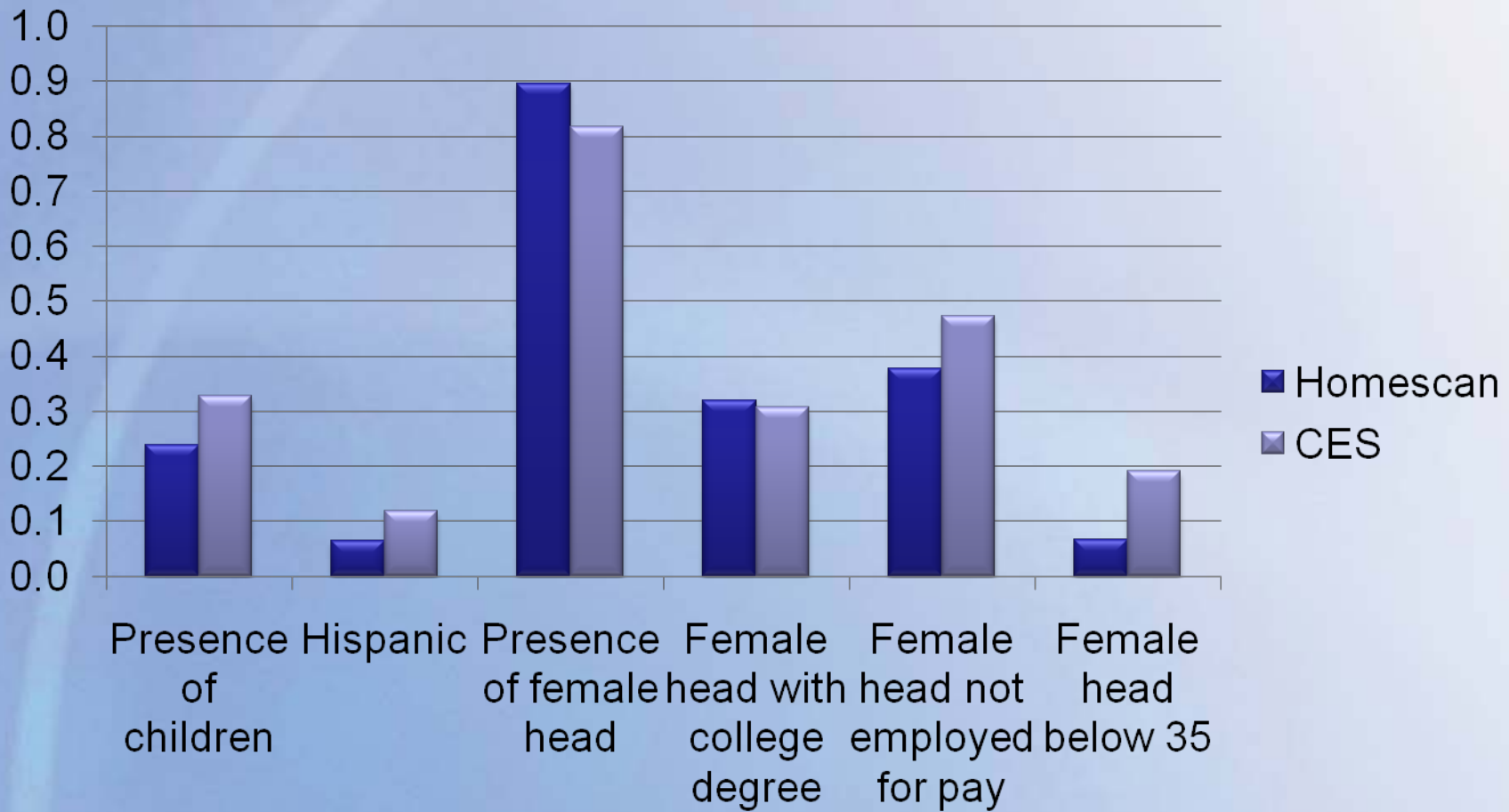
Source: Zhen, Taylor, Muth, & Siegel (2008)

Attitudinal Comparison Study

- Analyzing whether Nielsen Homescan households have similar attitudes towards diet and health compared to the general population

Selected 25 diet and health attitude questions from probability-based government surveys in the process of being administered	Administered questions to a random sample of Homescan households during same time period: • Internet households • Mail households	Analyzing weighted survey results by demographic groups: • Low vs. high income • White vs. all other • Households with children vs. adult-only

- Results are pending while waiting for the 2007-2008 NHANES Flexible Consumer Behavior Survey data.
- Preliminary results are mixed.

Need to Evaluate Homescan Price Data

- Given the number of studies analyzing prices paid for foods using Homescan data, it is important to determine whether the data collection process affects price data.

- Prices included in Homescan data:
  - Average values assigned based on Scantrack store scanner data
  - Entered by household if not available from Scantrack
  - Coupons and discounts entered by household

- Does the method of collecting price data affect
  - which purchases get recorded by households?
  - whether coupons and discounts are entered?
  - which households have sufficient data quality to be included in the static datasets? *(May have substantial effects on results.)*

For More Information

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Homescan Household Selection and Recruitment

- Universe—all U.S. non-institutional households
- Solicitation methods—approximately 20% direct mail and 80% internet (banner ads and emails)
- Two-stage selection procedure—qualified households are placed in reserve pool and then selected as needed
- Homescan panel maintained on a weekly basis—distance algorithm is used to select panelists from the reserve pool to meet demographic targets
- Households are not rotated off the panel unless Nielsen detects violations in data recording
- Number of households in the panel—125,000
- *Only households that provide data for at least 10 of 12 months are included in the static dataset each year.*

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Homescan Food Purchase Data Collection

- Households instructed to scan every purchased item with UPCs
  - Potential under-reporting of foods consumed on the go
- Previously, a subset of the panel also recorded purchases of random weight foods using a codebook—now discontinued
- Prices:
  - Applied by Nielsen from store scanner data, or
  - Entered by households if store is not in scanner data collection
  - Coupons and discounts are entered by households
- Nielsen has routines to check reported prices and quantities and unmatched UPC barcodes are researched