Retail Food Price Formation in the United States

Richard Volpe, Ph.D.
Food Markets Branch
Food Economics Division
ERS-USDA

The 5th Annual Meeting of the OECD FCAN
October 30-31, 2013

United States Department of Agriculture
Economic Research Service

Disclaimer

- The views expressed here are those of the author and may not be attributed to USDA or the Economic Research Service.

Retail Food Prices at the USDA Economic Research Service

- The Food Markets Branch of the Food Economics Division
  - Retail food price formation, transmission, dynamics
  - Industrial organization in food
  - Competition, entry/exit, store formats
  - Food demand, product variety, branding

Retail Food Prices at the USDA Economic Research Service

- Forecasting retail and wholesale food prices
  - Bureau of Labor Statistics Consumer Price Index, Producer Price Index
- Food Price Outlook Topic Page updated monthly
  - Annual forecasts for major CPI/PPI categories
  - Discussion of major price trends and changes

What Determines U.S. Food Prices?

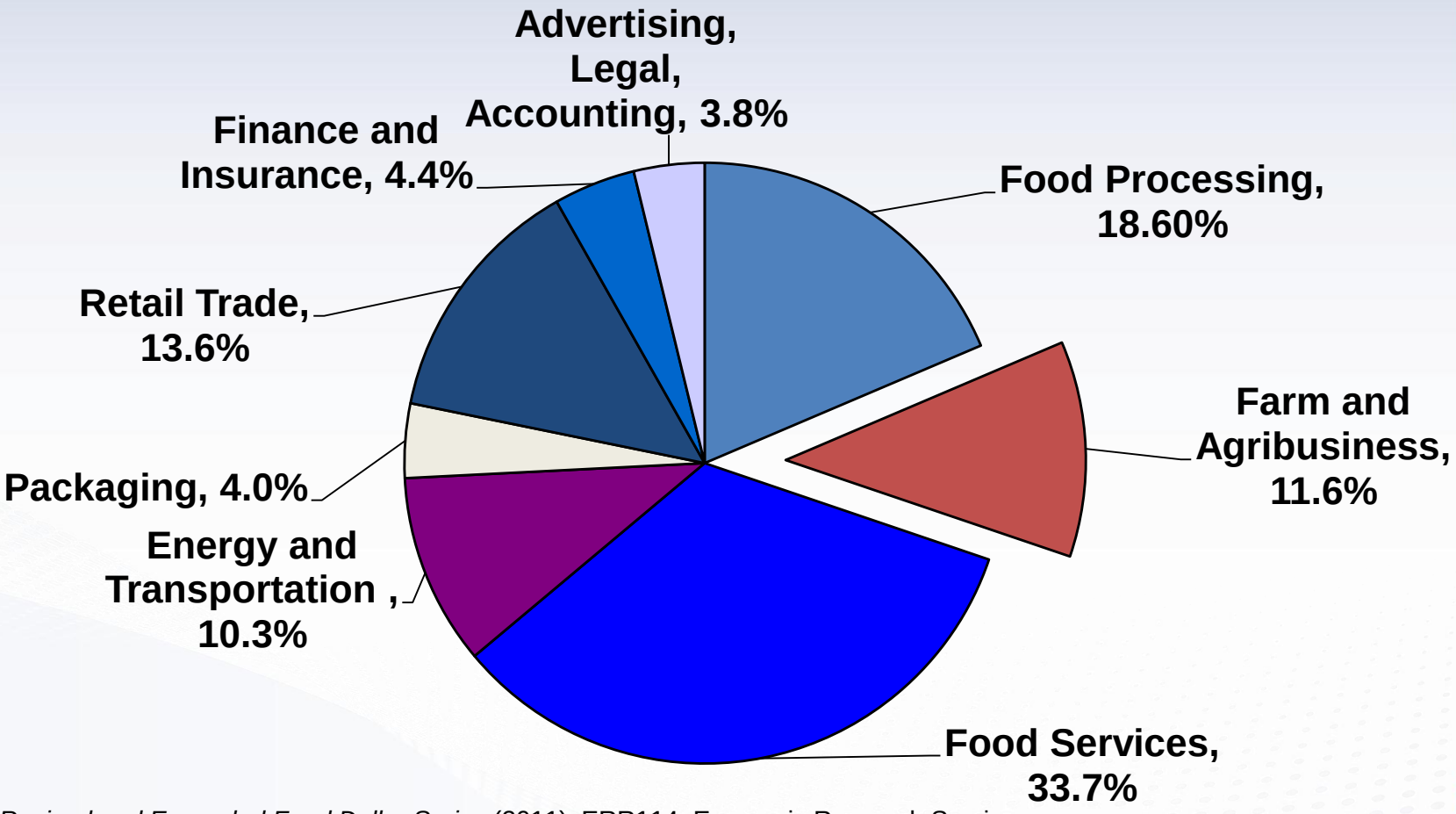
- Modeled by researchers for decades. Most applied research focuses on the ag commodity sector. Gilbert (2010) and Martin (2013) synthesize:

Commodity Prices = f(global demand, biofuel production, speculation, past stocks, weather)

What Determines U.S. Food Prices?

- ERS, studying the retail sector, takes a broader view.
- Particularly in the U.S., commodity prices are only part of the story
  - By controlling for commodity prices, mechanisms such a biofuels and investor speculation are accounted for and quantified, if not wholly understood
- Many other industries shape food prices

Where a Consumer Dollar Spent on Food Goes



Source: *A Revised and Expanded Food Dollar Series* (2011), ERR114, Economic Research Service, www.ers.usda.gov/data/FoodDollar/

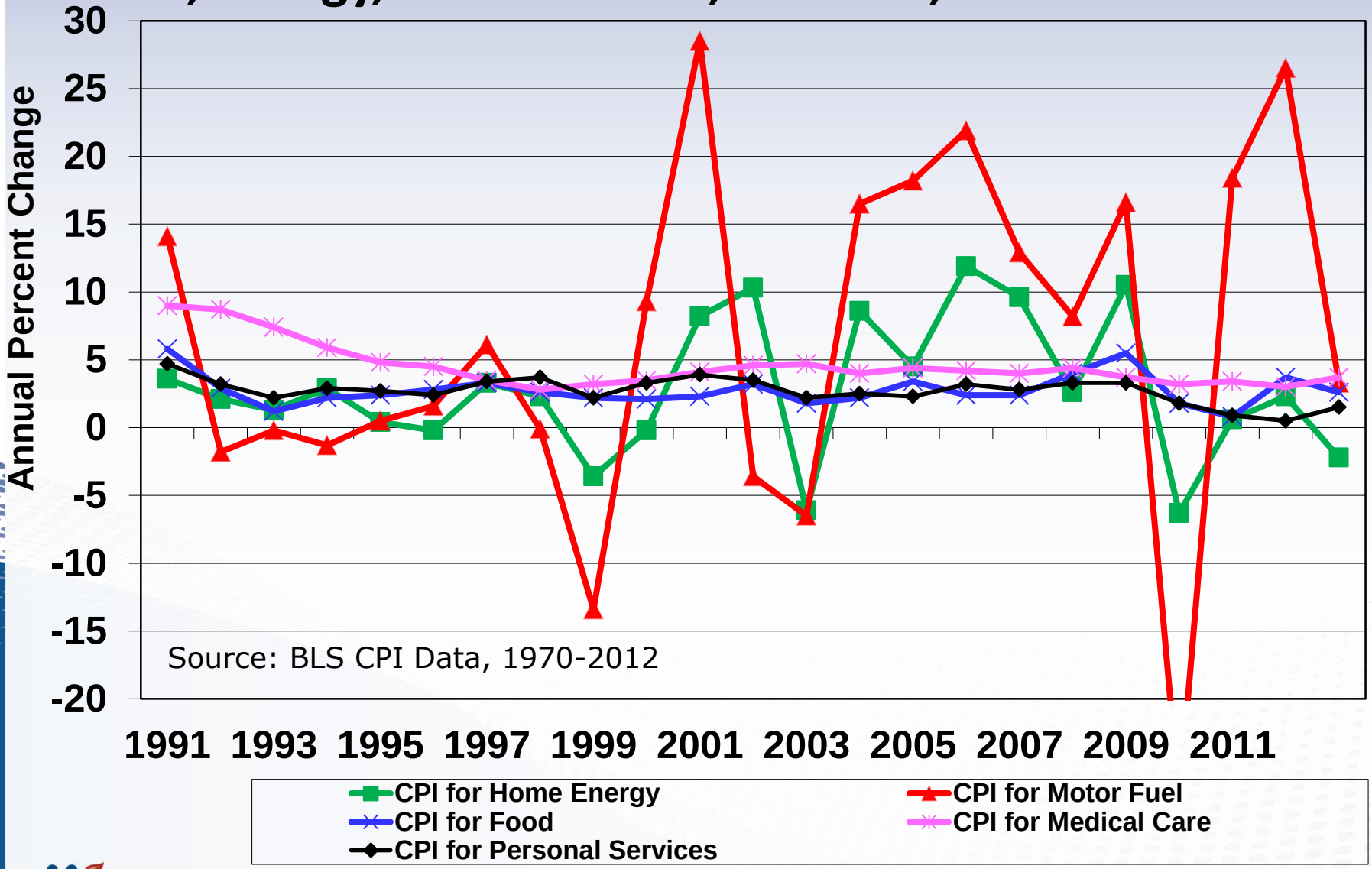
United States Department of Agriculture
Economic Research Service

- Back-of-the-envelope: a doubling of ag commodity prices would lead to a net increase of 11-12% in retail food prices
- Consider the 2012 drought of the American Midwest.
  - Farm corn prices up 70%
  - Soybean prices up 25%
  - Food CPI on track to increase less than average in 2013

Retail Food Prices Relatively Stable

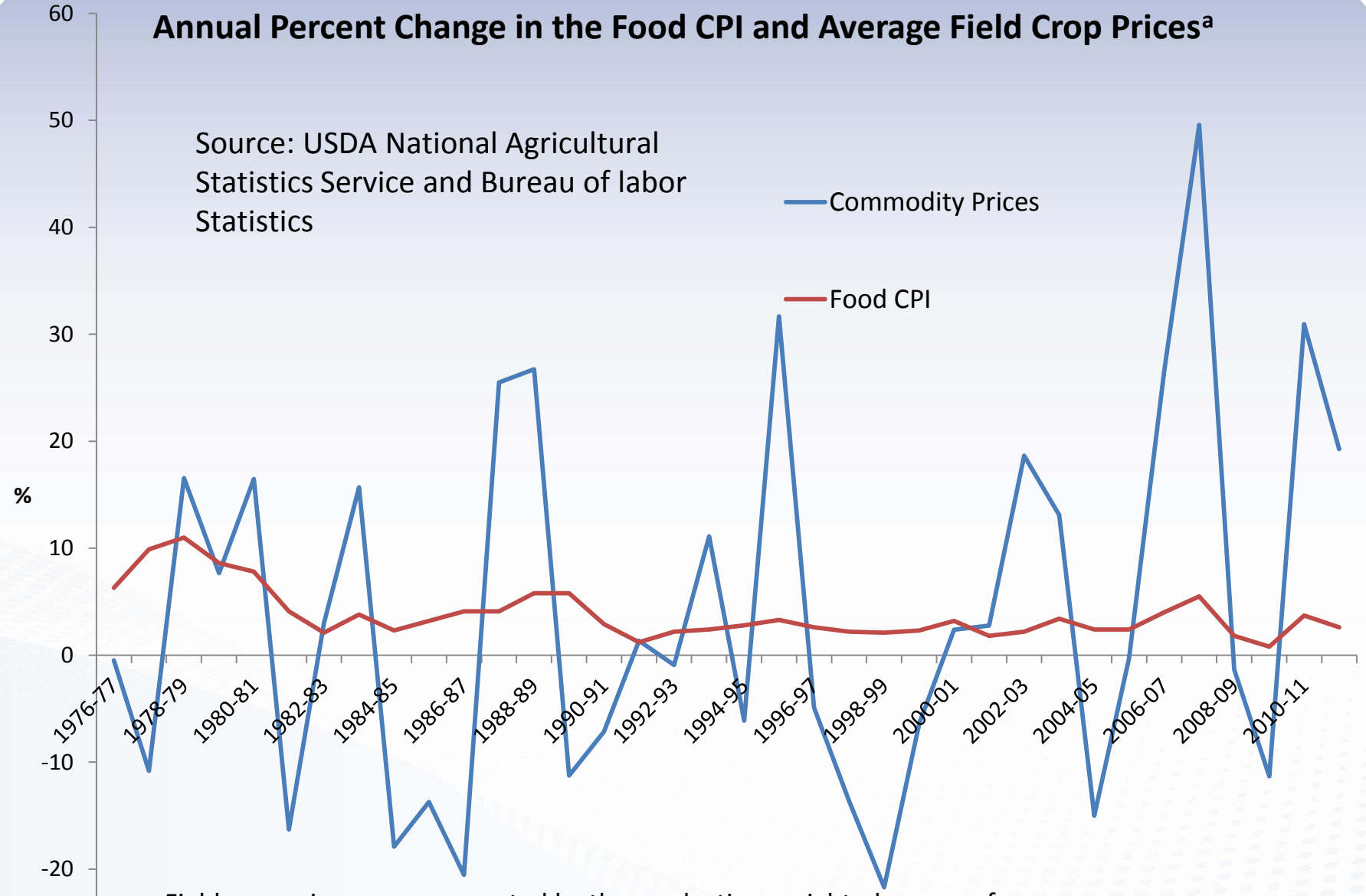
- Relative to those of many other nations
- And also relative to prices for other goods and services in the U.S.

Food, Energy, Medical Care, Services, 1990-2012



United States Department of Agriculture
Economic Research Service

Annual Percent Change in the Food CPI and Average Field Crop Prices[a]



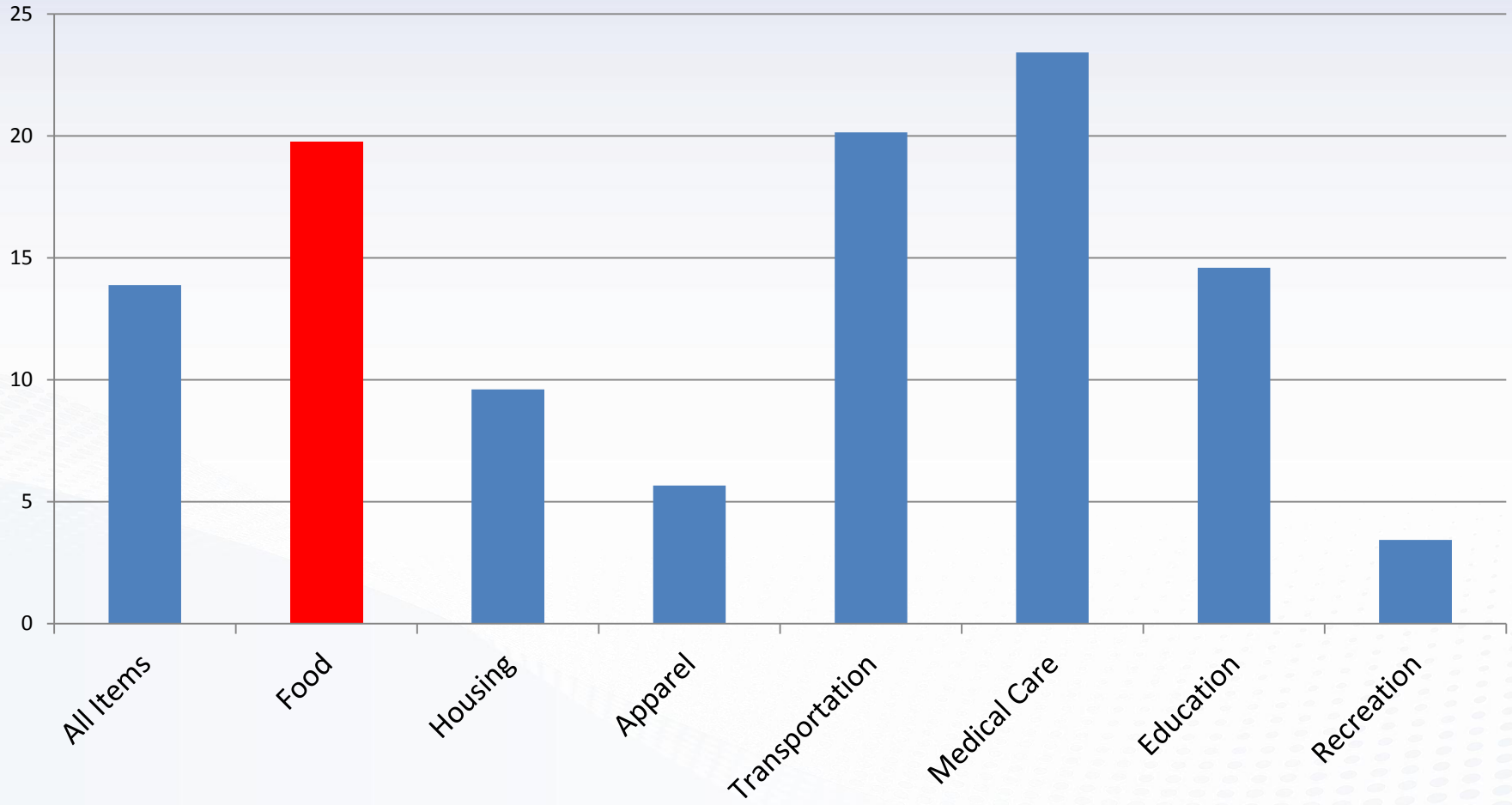
Field crop prices are represented by the production-weighted average farm price of corn, wheat, and soybeans in the U.S.

But Rising Real Commodity Prices are Having Impacts

- Food prices have outpaced most others since real commodity prices have increased
- The share of disposable income spent on food has increased since 2005-2006, a reversal of a longstanding trend

Food Price Inflation Outpacing Overall Inflation In the U.S.

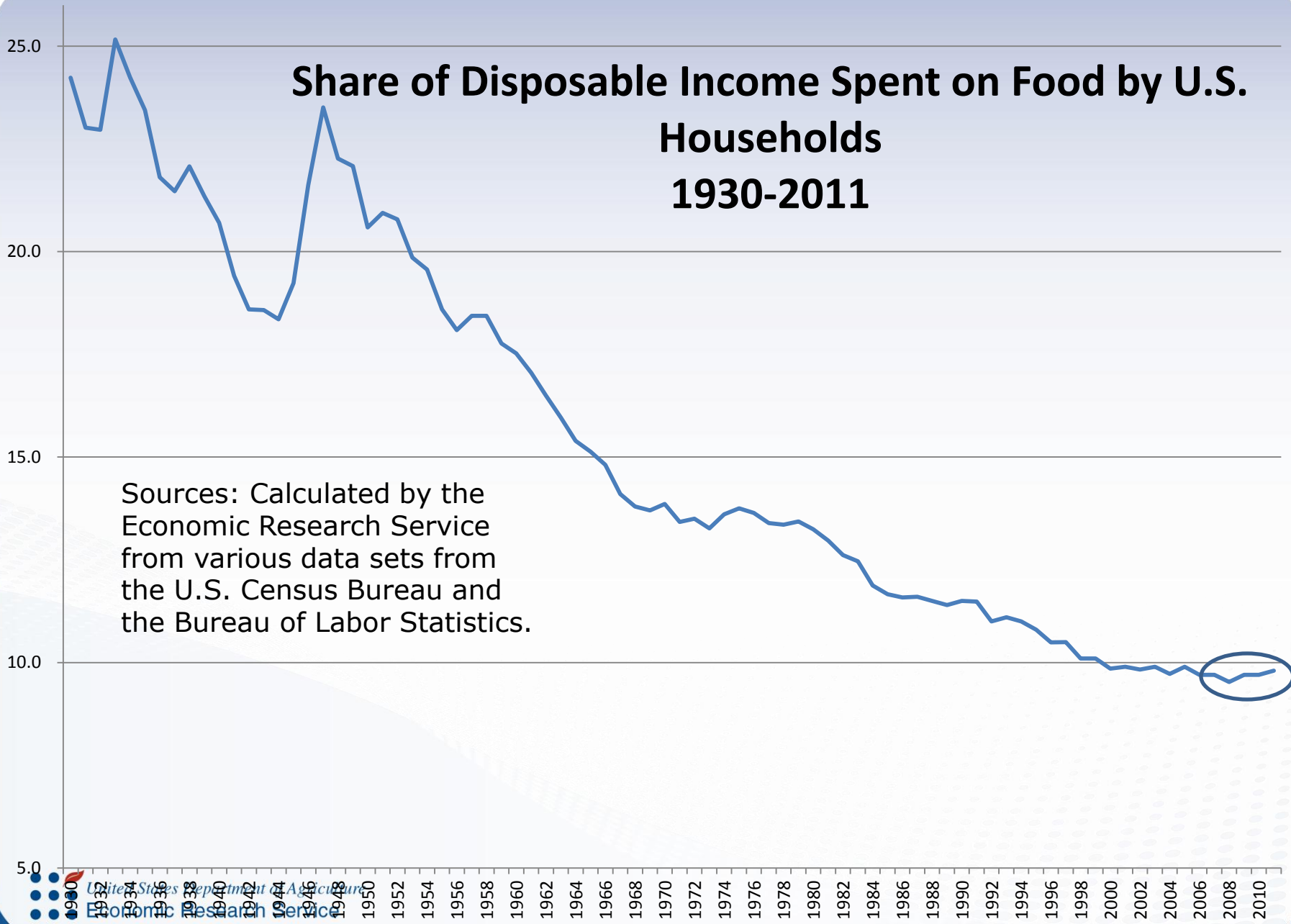
Percent Change in Major CPI Categories, 2006-2012



United States Department of Agriculture
Economic Research Service

Source: BLS CPI Data, 2006-2012

Share of Disposable Income Spent on Food by U.S. Households 1930-2011



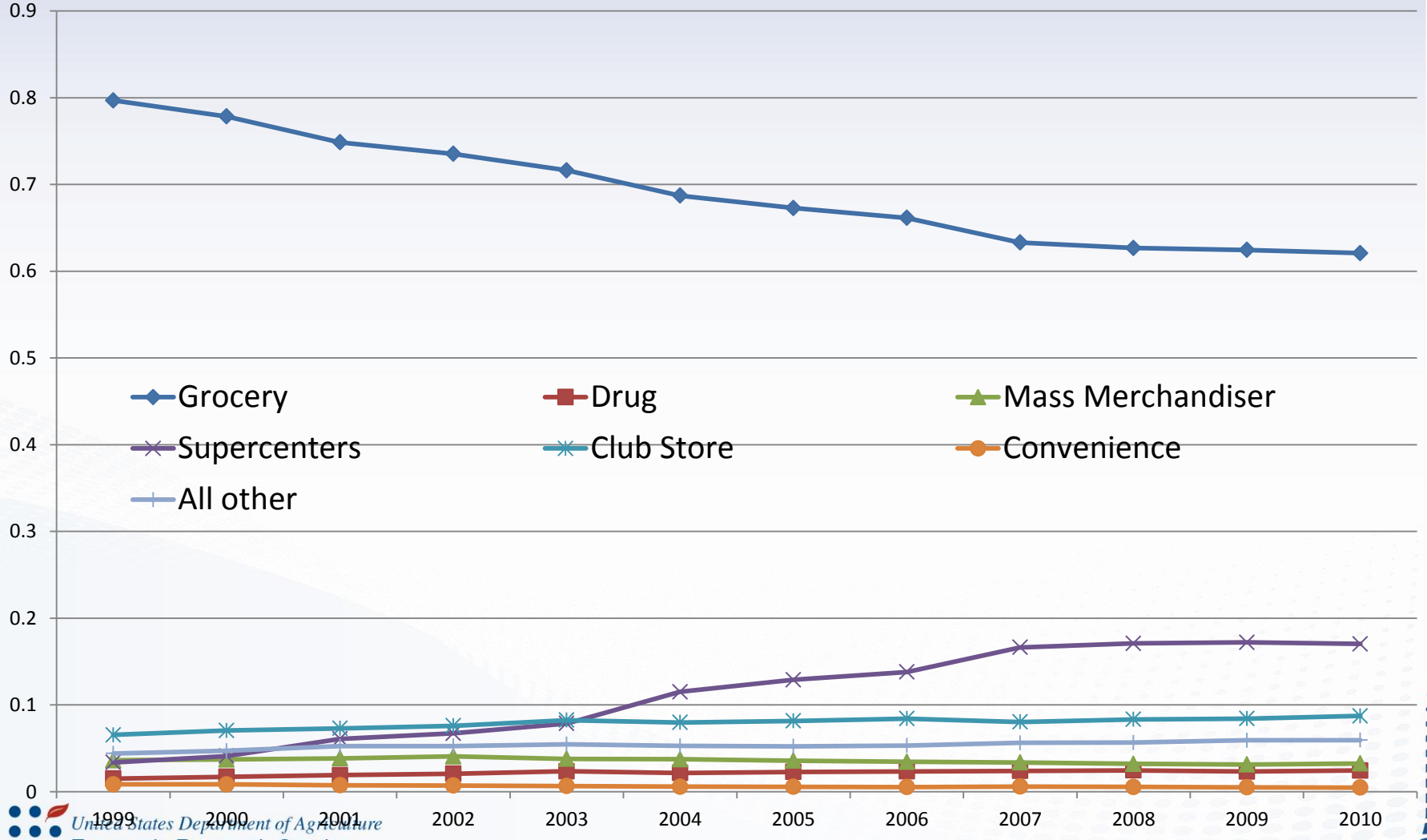
Sources: Calculated by the Economic Research Service from various data sets from the U.S. Census Bureau and the Bureau of Labor Statistics.

United States Department of Agriculture
Economic Research Service

What is the Role of Food Retailers and Market Structure?

- Economists in the 60s-90s found a positive price-concentration relationship
- But heterogeneous competition raises questions about this linkage
- Consider supercenters
  - Found to increase concentration
  - But offer lower prices than supermarkets and may induce competitors to lower their prices

Consumers Increasingly Shop at Nontraditionals



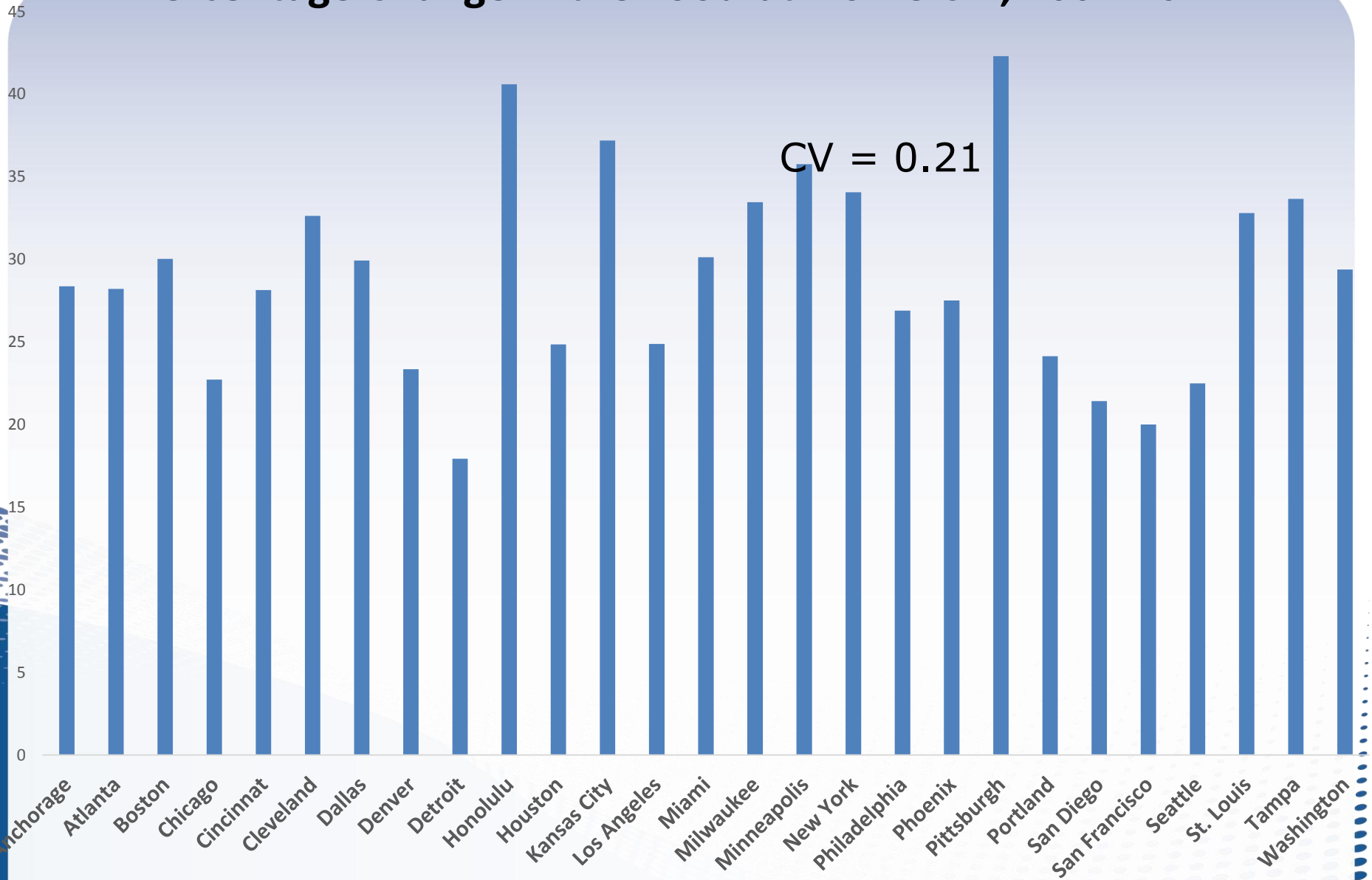
United States Department of Agriculture
Economic Research Service

Source: Nielsen Homescan Data, 1999-2010

Could Changes in Market Structure Drive Changes in Food Prices?

- BLS provides CPI data for 27 MSAs (cities) across the U.S.
- Nielsen TDLinx consists of detailed data on store location, characteristics, annual sales, entry and exit

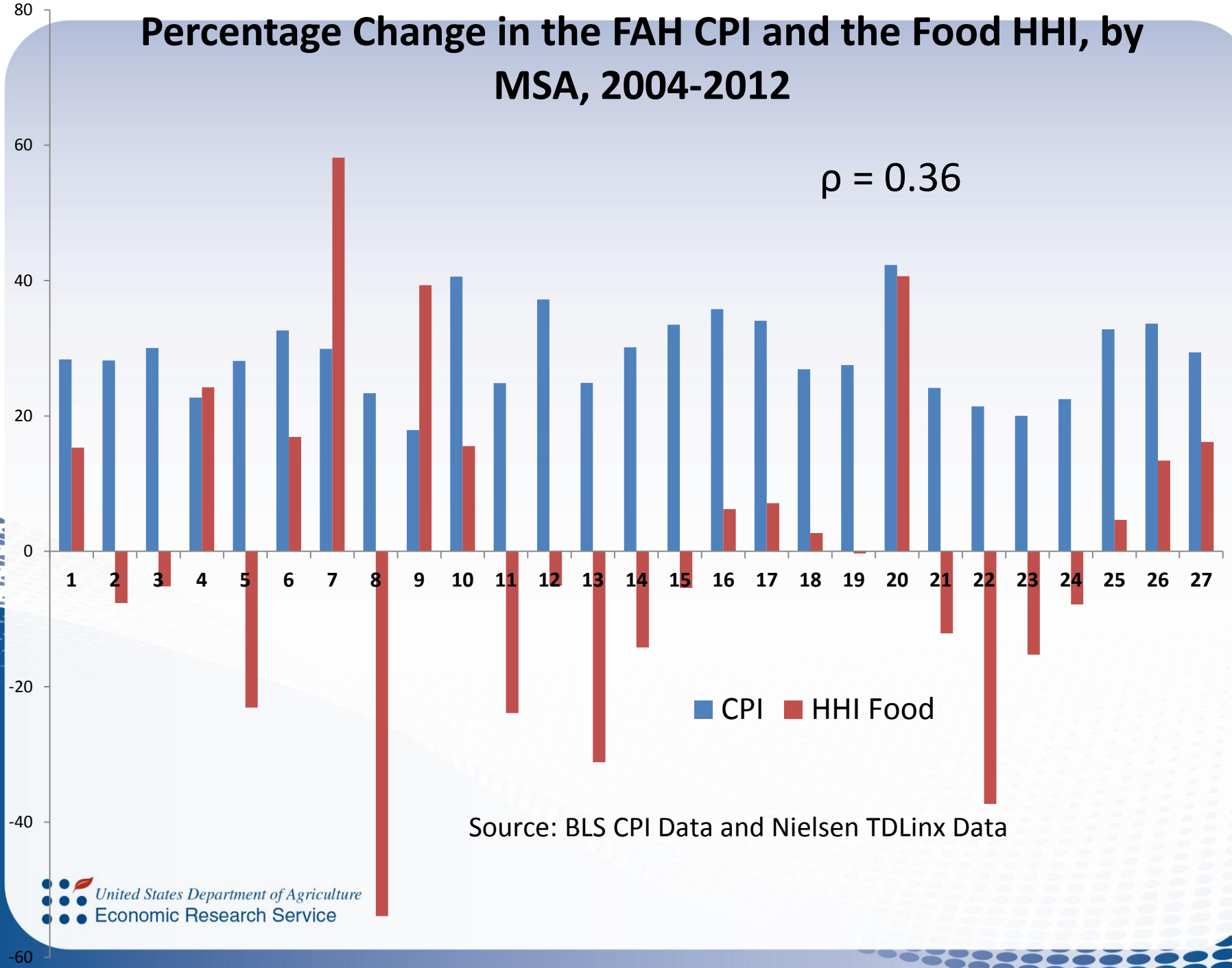
Percentage Change in the Food-at-Home CPI, 2004-2012



United States Department of Agriculture
Economic Research Service

Source: BLS CPI Data, 2004-2012

Percentage Change in the FAH CPI and the Food HHI, by MSA, 2004-2012



Source: BLS CPI Data and Nielsen TDLinx Data

United States Department of Agriculture
Economic Research Service

Resources for Food Price Trends Research

- ERS CPI Forecasts

http://www.ers.usda.gov/data-products/food-price-outlook.aspx

- New ERS Reports

http://www.ers.usda.gov/publications/err129/
http://www.ers.usda.gov/Publications/EIB75/
http://www.ers.usda.gov/Publications/ERR105/

- BLS CPI, PPI, and Average Price Data

http://data.bls.gov/PDQ/outside.jsp?survey=cu
http://data.bls.gov/PDQ/outside.jsp?survey=wp
http://data.bls.gov/PDQ/outside.jsp?survey=ap

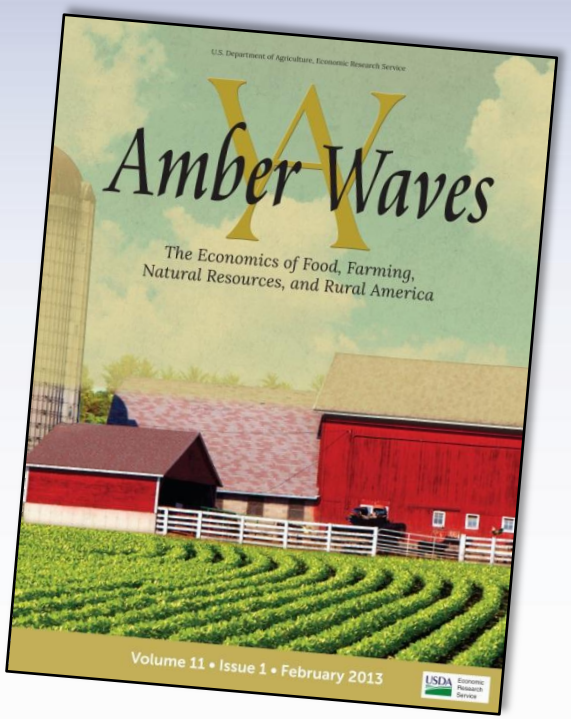
- AMS Fruit and Vegetable Report

http://www.ams.usda.gov/mnreports/fvwretail.pdf

- IMF World Commodity Prices

http://www.imf.org/external/np/res/commod/index.asp

Amber Waves everywhere you want it!



- **Via web connection**:

  Get *Amber Waves* monthly features and data from any web connection! The new responsive web design automatically configures to fit mobile devices and tablets. www.ers.usda.gov

- **Via mobile app**:

  Get the full magazine each quarter delivered to your mobile bookshelf. Available for download on iTunes and Google Play.

Amber Waves magazine presents current ERS economic and policy research on agriculture, food, rural America, and the environment for policymakers, academics and the public.

United States Department of Agriculture
Economic Research Service

ERS Charts of Note

- Daily charts, graphs, and figures illustrating the latest research from ERS, complete with discussions and links to further information.
- http://www.ers.usda.gov/data-products/charts-of-note.aspx#.UmfcjtLry4o

Contact Information

Richard Volpe, PhD

rvolpe@ers.usda.gov

202-694-5395

For more information, see http://www.ers.usda.gov/data-products/food-price-outlook.aspx