Are Healthy Alternatives Available for All? Some Insights From An Agricultural Economics Perspective

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Overview of Presentation

- ‘Availability’
  - How we think about it and some measures of it
  - Historical record, driving forces, and one ‘smoking gun’
- ‘Alternatives’
  - How we think about them
- Food Choices
  - Where ‘Availability’ and ‘Alternatives’ Meet
- Role of Public Policy in Changing Food Choices
  - Special attention paid to the Food Stamp Program
- Parting Thoughts
  - Time/income constraints
  - Relative poverty
  - Fat traps
  - Positive deviance approach
‘Availability’

- Economic Determinants of Food Availability
  - Resources available -- income & time
  - Product options
  - Relative prices
Economic ‘Availability’ of Food and Other Goods

Increases in Income and Reductions in Prices Increase the Size of the Available Basket
Trend In Real Income Is Positive

Figure 1.
Real Median Household Income: 1967 to 2005

Note: The data points are placed at the midpoints of the respective years. Median household income data are not available before 1967.

Real Wages for Females Have Increased Since the 1970s, but Not for Males

Figure 3.
Female-to-Male Earnings Ratio and Median Earnings of Full-Time, Year-Round Workers 15 Years and Older by Sex: 1960 to 2005

Note: The data points are placed at the midpoints of the respective years. Data on earnings of full-time, year-round workers are not readily available before 1960.
Poverty Rates Are Flat Since the Early 1980s, Number of Poor Has Tended Upward Since Then.
Changes in Food Prices

- What We Know
- Driving Forces
Nominal Commodity Prices Received by Farmers Have Increased

Real Commodities Prices Received By Farmers Have Generally Declined

Real Prices Received by Farmers Have Fallen, But Unevenly Across Crop Types

Prices Paid By Consumers Have Also Generally Fallen, but Less Swiftly Than Commodity Prices
Almost All Consumer Prices for Foods Have Fallen, Some More Swiftly Than Others

Statistics report proportional changes in real prices over 1980-2003: Data sources USDA

Vosti et al., UCD/AIC/ARE
Food Prices in Terms of the Wage Rate in Manufacturing Have Fallen

- **12-Item Food Basket (60% of the historical price)**
  - 1955: 3 hours*
  - 1997: 1.75 hours

- **3-Pound Chicken (40% of the historical price)**
  - 1958: 35 minutes
  - 1997: 14 minutes

- **Soft Drink (53% of the historical price)**
  - 1950: 2.8 minutes
  - 1997: 1.5 minutes

- **Pizza (88% of the historical price)**
  - 1958: 57 minutes
  - 1997: 50 minutes

*Number of hours of work in the manufacturing sector required to purchase each item, by year.

Source: Federal Reserve Bank, Dallas Texas
Factors Determining Food Price Trends

• Agricultural Research and Development
• Productivity Increases
  – Returns to land, labor, and total inputs
• Smoking Guns
  – Commodity policies
    • E.g., corn program
Public Sector and Private Sector Trends in Agricultural R&D Spending

Total Federal and State Spending on Ag. R&D
(1925-1997)

Total Private Sector Spending on Ag R&D
(1960-1992)
Trends in Aggregate Agricultural Productivity

Index of Land Productivity
(1977=100)

Index of Labor Productivity
(1977=100)

Total Factor Productivity Index
(1948=100)
Trends in Crop/Product Productivity

Average Yield of Corn 1900-1997

Milk Production per Cow 1929-1996
One ‘Smoking Gun’

Trends in Consumption of Corn Sweeteners

http://www.ers.usda.gov/data/foodconsumption/FoodGuideIndex.htm#calories

Vosti et al., UCD/AIC/ARE
The Suspected Culprit – Payments to Corn Producers

Support to Corn Producers -- Absolute

The Real Culprit – Productivity Growth in Corn

Source: OECD
What We Don’t Know About Changes In Food Prices

• Changes in Product Availability
  – E.g., seasonality of availability
• Changes in Product Characteristics
  – E.g., taste, shelf-life, nutritional value
Prices Paid By Consumers for Some Fresh Fruits and Vegetables Seem to Trend Upwards
But The Data Can Be Very Spotty: Strawberries

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Controlling for Seasonality, Prices May Indeed Decline

**June Strawberry Prices**
(BLS data)

![Graph showing June strawberry prices with linear equation: $y = -0.0089x + 18.289$, $R^2 = 0.5356$.]

**Feb Strawberry Prices**
(BLS data)

![Graph showing Feb strawberry prices with linear equation: $y = -0.0003x + 1.4305$, $R^2 = 0.0003$.]
Economics of ‘Alternatives’

- Consumer Preferences Determine the Trade-Offs Consumers Are Willing to Make
‘Alternatives’ In the Eyes of Consumers

‘Healthy Foods’ vs. ‘Unhealthy Foods’ trade-offs acceptable to Consumer A and B.
Food Choices – Where ‘Availability’ and ‘Alternatives’ Meet

• Determinants of Food Choices
  – ‘Availability’
    • Income
    • Product options
    • Relative prices
  – ‘Alternatives’
    • Consumer preferences
Faced With Identical Incomes and Relative Prices, Food Choices Can Differ Greatly

‘Fat Taxes’ May Not Be Sufficient To Move Consumer B to Consumer A’s Diet

Vosti et al., UCD/AIC/ARE
Public Policy Instruments for Changing Food Choices

• Change Incomes
  – Targeted groups
    • Poor, children -- WIC
  – Special currencies
    • Poor – Food Stamp Program

• Change Relative Prices
  – Tax ‘fat foods’
  – Make ‘healthy foods’ cheaper

• Change Product Options
  – E.g., allowable foods for the Food Stamp Program

• Change Food Preferences
  – Revised USDA Pyramid and other ad campaigns

• No Policy Action Is Costless
  – Some are more effective and more cost effective than others
A Policy Experiment: Changing the List of Allowable Foods in the Food Stamp Program

- **Proposed Changes**
  - Eliminate ‘unhealthy foods’

- **Examining Proposed Changes through an Ag Econ Lens**
  - Effects on demand for ‘healthy’ and ‘unhealthy’ foods
    - For FSP participants and others
  - Supply response by farmers and the food industry
    - Short, medium and long term
  - Combined demand/supply effects on food choices
  - Possible implications for nutrition outcomes
    - For FSP participants and others
  - Possible implications for participation in the FSP
Parting Thoughts

- **Time & Income Constraints** Combine to Limit Available Food Options
- **Relative Poverty** Rather Than Absolute Poverty May Be Important in Understanding Behavior and Crafting Anti-Obesity Policy
- Some Obese Individuals May Be Caught in ‘**Fat Traps**’ that Are Difficult to Escape
- Finding and Understanding Success Stories (**Positive Deviance Approach**) May Help Guide Food Policy