Are Agricultural Policies Making Us Fat?

Likely Links Between Selected Agricultural Policies and Obesity in the U.S., and their Implications

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USDA (NRI-CSREE # 2006-55215-16720)

McGill Health Challenge Think Tank, November, 2007
Obesity Trends* Among U.S. Adults
BRFSS, 1986

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 1996

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Obesity Trends* Among U.S. Adults
BRFSS, 2006

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Trends Among U.S. Children and Adolescents Are Also Troubling
# Medical Costs of Overweight and Obesity

<table>
<thead>
<tr>
<th>Medical Costs, by Insurance Category</th>
<th>Overweight and Obesity</th>
<th>Obesity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Out-of-pocket</td>
<td>12.8</td>
<td>6.9</td>
</tr>
<tr>
<td>Private</td>
<td>28.1</td>
<td>16.1</td>
</tr>
<tr>
<td>Medicaid</td>
<td>14.1</td>
<td>10.7</td>
</tr>
<tr>
<td>Medicare</td>
<td>23.5</td>
<td>13.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>78.5</strong></td>
<td><strong>47.5</strong></td>
</tr>
</tbody>
</table>


## Morbidity and Mortality Effects Are Large and Increasing

Gregg and Guralnik (JAMA, 2007, Vol 298, No. 17)
Have Some Agricultural Policies Contributed to the Problem?

• There Is an Increasing Imbalance between Caloric Intake and Caloric Expenditure

• Are Certain High-Calorie Foods Made Significantly Cheap by Particular Agricultural Policies?
  – If so, which foods, and which policies are responsible?
  – If these policies were changed, what would be the implications for food prices, and perhaps nutrition outcomes?
Logical Sequence Linking Farm Subsidies to Obesity

• First, farm subsidies must have made farm commodities that are important ingredients of relatively fattening foods significantly more abundant and cheaper.

• Second, the lower commodity prices caused by farm subsidies must have resulted in significantly lower costs to the food industry, and cost savings to the food marketing firms must have been passed on to consumers in the form of lower prices of relatively fattening food.

• Third, food consumption patterns must have changed significantly in response to these policy-induced changes in the relative prices of more-fattening versus less-fattening foods.
One ‘Smoking Gun’?

Trends in Consumption of Corn Sweeteners

http://www.ers.usda.gov/data/foodconsumption/FoodGuideIndex.htm#calories
Support to Corn Producers -- Absolute

III. Producer Support Estimate (PSE)

Source: OECD
The More Complete Sweetener Story

Trends in Consumption of Selected Sweeteners

http://www.ers.usda.gov/data/foodconsumption/FoodGuideIndex.htm#calories
The More Complete Agricultural Policy Story

Sugar Prices in the USA -- 1986-2004

Source: OECD
# Types and Magnitudes of U.S. Agricultural Policy Outlays

<table>
<thead>
<tr>
<th>USDA Program</th>
<th>Outlays in 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food, Nutrition, and Consumer Services</td>
<td>52.5</td>
</tr>
<tr>
<td>Farm and Foreign Agricultural Services <em>(mainly farm commodity programs)</em></td>
<td>26.1</td>
</tr>
<tr>
<td>Natural Resources and Environment</td>
<td>8.3</td>
</tr>
<tr>
<td>Marketing and Regulatory Programs</td>
<td>2.7</td>
</tr>
<tr>
<td>Research, Education and Economics <em>(mainly ag. R&amp;D)</em></td>
<td>2.6</td>
</tr>
<tr>
<td>Rural Development</td>
<td>2.5</td>
</tr>
<tr>
<td>Food Safety</td>
<td>0.8</td>
</tr>
<tr>
<td>Other</td>
<td>0.6</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>96.1</strong></td>
</tr>
</tbody>
</table>

*Source: USDA FY 2008 Budget*
Fundamental Misconceptions Regarding The Effects of Agricultural Policies

• Directions of Effects on Production and Prices Are Not the Same for All Policies, e.g., …
  – Sugar is more expensive due to trade and other policies
  – Corn and soybeans are probably cheaper than they otherwise would be
  – Dairy policies make milk products more expensive, but policies that make animal feed cheap work in the opposite direction
  – Some of these effects might actually help reduce obesity
    • E.g., more expensive sugar and dairy products may reduce calorie and fat consumption

• Magnitudes of Effects Are Generally Small, e.g., ..
  – Policy effects on the prices of most field crops (e.g., wheat, corn and soybeans) are small
  – Policy effects on other commodities (e.g., rice, cotton and sugar) are larger
### Production and Price Effects of Eliminating U.S. Commodity Programs and Policies

<table>
<thead>
<tr>
<th></th>
<th>% Change in Output in 2016*</th>
<th>% Change in Producer Prices in 2016*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soybeans</td>
<td>-2.86</td>
<td>-1.14</td>
</tr>
<tr>
<td>Wheat</td>
<td>-7.58</td>
<td>1.52</td>
</tr>
<tr>
<td>Maize</td>
<td>-3.79</td>
<td>0.26</td>
</tr>
<tr>
<td>Rice</td>
<td>-11.71</td>
<td>-3.87</td>
</tr>
<tr>
<td>Cotton</td>
<td>-13.88</td>
<td>-6.10</td>
</tr>
<tr>
<td>Cane and beet</td>
<td>-33.31</td>
<td>-15.30</td>
</tr>
<tr>
<td>Fruit and vegetables</td>
<td>4.42</td>
<td>-5.16</td>
</tr>
<tr>
<td>Beef cattle</td>
<td>1.44</td>
<td>-3.31</td>
</tr>
<tr>
<td>Pigs and poultry</td>
<td>0.41</td>
<td>-0.01</td>
</tr>
<tr>
<td>Milk</td>
<td>-0.45</td>
<td>-0.01</td>
</tr>
</tbody>
</table>


- Effects on soybeans, wheat, and maize are very small
- Effects on rice and cotton are somewhat larger
- Effects on sugar commodities are large
- Eliminating commodity programs would increase fruit/vegetable production
  - much of the expansion in vegetable production would be potatoes

(*based on the differences in 2016 between the prices and quantities that emerge from a status quo policy scenario and those that emerge from a scenario in which all commodity programs are gradually eliminated over the period 2006-2016)
Fundamental Misconceptions Regarding the Links between Ag Policies, Food Prices, and Food Choices

Simple Story

Agricultural Subsidy and Trade Policies

Farm Production Costs

Farm Income

Commodity Prices

Food Industry

Food Prices

Food Intake

Obesity

More Complex Story, for Toddlers

Neighborhood Level

Food Outlets Types Densities

Recreational Options

Household Level

Income and Wealth

Food Purchases

Food Availability

Housing Characteristics

Caregiver Level

Toddler Feeding Practices

Nutritional Knowledge

Employment Status

Nutritional Status

Toddler Level

Food Intake

Genetics

Energy Expenditures

Nutritional Status

Toddler Level

Caregiver Level

Household Level

Neighborhood Level

Genetics

Energy

Expenditures

Nutritional Status
Fundamental Misconceptions Lead to False Hopes and Unsound Policy Prescriptions

• Eliminating Distortionary Agricultural Policies Will **Not** Contribute Significantly to Solving the Obesity Problem in the U.S.
  – Effects on most commodity prices will be small
    • Effects on food prices will be even smaller
  – Larger effects on sugar and dairy products may increase obesity

• Avoiding or Eliminating Similar Agricultural Policies Will **Not** Significantly Reduce Obesity Problems in the Developing World
Conclusions for the U.S. and Policy Implications

• The U.S. Farm Bill’s Commodity Programs are Inefficient and Unfair
  – These are good (and sufficient) reasons to eliminate them
  – But do **NOT** expect that action to affect obesity, because …

• Commodity Programs’ Effects on Commodity Prices Are Generally Small and Varied

• The Effects of Commodity Prices on Food Prices Is Declining

• The Responsiveness of Food Demand to Changes in Food Prices Is Generally Low
Lessons for Developing Countries

• Decreases in Food Prices Are Necessary to Combat Hunger
  – Productivity growth in agriculture is essential
  – But ‘over-consumption’ of food may occur
  – Regulation of the food industry may be unavoidable

• Commodity Prices Fall More Quickly than Food Prices
  – Structure of food industry and changes in all input costs matter greatly
  – Commodity price policies are poor tool for managing food prices

• Food Preferences Matter Greatly
  – Policy based solely on food costs will likely fail
Managing Agricultural Change

- **What Sort of Agricultural Sector Do You Want?**
  - Efficient, sustainable, and ‘agile’
    - Expanding array of low-cost, safe products
    - Efficiently respond to demands for healthier foods
  - Identical objectives for other sectors

- **What Is the Role of Agricultural Policy in Achieving these Objectives?**
  - Many places along the farm-to-fork continuum where public policy action will needed
    - Externality effects, incomplete markets, etc., call for public policy action
      - E.g., increase yields and improve quality of fresh fruits/vegetables (FFV), reduce FFV market fragmentation
  - Let efficiency be your guide in choosing where/how to intervene
Many Thanks!
A Few Recent References