Economic Analysis of Obesity Interventions

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Increased Prevalence of Obesity

- Obesity has increased 70% over the last decade alone
- Increase occurred for all population subsets, including young and old, rich and poor, black and white, …
- 2/3 of Americans are now overweight or obese
Adverse Health Consequences

- Obesity increases the likelihood of:
  - type 2 diabetes (majority are obesity-related)
  - cardiovascular diseases (CHD, MI, and stroke)
  - several types of cancer
  - gallbladder disease
  - sleep apnea
  - osteoarthritis
  - perhaps others (e.g., alzheimer’s, depression, back pain)

- Responsible for about 280,000 deaths per year
Key Question

Does the rise in obesity rates and adverse health consequences justify government intervention?
Key Questions Economists Want to Know

- Where are the market failures?
  - Market failures occur when resources are not being allocated efficiently by the private sector

- Is government intervention required to resolve them?
Market Failures Occur When:

- The private sector does not provide the good on its own
  - Food Guide Pyramid
- Prices do not truly reflect value
  - Subsidies may result in over-consumption of some foods
- Information asymmetries exist
  - Nutrition content is unavailable for restaurant food
- Consumers require additional protections (from themselves?)
  - Minimum drinking age
  - May work for kids (e.g., vending machine restrictions) but a tough argument for adults
- Externalities (economic side effects) exist
  - Second hand smoke is the classic example
  - Financial externalities may be the best argument for obesity
Medical Costs for overweight and obesity are over $90 Billion per year
- About 9% of aggregate medical spending goes to treating obesity related diseases
- Costs now rival those for smoking
- But we spend more on DVDs?

Approximately half of obesity-attributable $ paid by Medicare and Medicaid
- Taxpayers spend about $180 per year on obesity-related medical costs for public sector health plans

State estimates are available
Economist’s View of Obesity

Interventions should address market failures

Interventions that do not change marginal (incremental) costs and/or benefits are unlikely to be successful

- Explains why most diets fail

Information provision may have an impact, but likely to be limited

Interventions that change marginal costs and benefits are likely to be followed by changes in behavior
Evaluating Interventions

Prior to implementation, need to consider:

- Is there a justification for the intervention (what’s the market failure)?
- What are the intended consequences (will it resolve the market failure)?
- What might be the unintended consequences?
- How do we know if the intervention is successful?
- Are there better alternatives?
  - May require cost-effectiveness analysis
- Is it economically feasible
- Is it politically feasible
Targeted Taxes and/or Subsidies (Motivation)

- Consumption of added sugars and added fats exceeds recommendations
- Consumption of fruits and vegetables falls short of recommendations
- Decrease in the price of less healthy energy dense foods is consistent with the relative increase in quantity demanded
Targeted Taxes and/or Subsidies (cont.)

- Raise the price of ‘unhealthy’ food and/or lower the price of ‘healthy’ food

- Is there a justification?
  - Reducing the ‘external’ costs of obesity is probably the best argument but not great
What are the intended consequences?

- Reduce consumption of the taxed food and increase consumption of the subsidized food

Other intended consequences?

- Improve health and/or reduce obesity
- Raise revenue – Equal to the ‘external’ costs of obesity?
Targeted Taxes and/or Subsidies (cont.)

- What foods get taxed, subsidized?
  - For specific products lots of potential for substitution
  - People can even substitute for fat

- How will demand change due to an X% price change?
  - For whom will demand change?
Targeted Taxes and/or Subsidies (cont.)

- **Unintended Consequences**
  - Poor people may be disproportionately affected
    - May increase food insecurity
  - Businesses will be adversely affected
    - Might change product attributes to minimize the impact of the tax
Targeted Taxes and/or Subsidies (cont.)

Are there better alternatives?

- Largely depends on the objective
- If the goal is to reduce obesity then this may be a very costly method:
  - Both monetarily and in decreased utility
  - Especially costly for those who are not currently obese
  - Note that nearly all foods are ‘healthy’ if consumed in moderation
Conclusion

- Obesity is both a personal and a societal issue
- From an economist’s perspective, interventions should resolve market failures
- Interventions that change marginal costs and benefits have the best chance of success
Potential Government Interventions

- Interventions targeted at children (e.g., eliminate soft drink vending machines in schools)
- Targeted taxes and subsidies
- Mandatory food labeling for restaurant food
- Many others
Eliminate Soft Drink Vending Machines in Schools (Motivation)

- Childhood obesity has reached epidemic proportions
- ‘Adult’ diseases are now appearing in kids
- Soft drink consumption has increased dramatically
- Vending machines are in many schools
Eliminate Vending Machines in Schools (cont.)

- Is there a justification (market failure)?
  - Protect consumers (kids)

- What are the intended consequences?
  - Reduce consumption of carbonated beverages by increasing the ‘costs’ of consumption
  - Other intended consequences?
    - Improve health and reduce obesity rates in kids

- Unintended Consequences
  - Loss of revenue
  - Kids find another way to eat less healthy food
Eliminate Vending Machines in Schools (cont.)

Are there better alternatives?

- Little research to suggest it will reduce childhood obesity
  - But that does not mean it will not
- Public support for reducing childhood obesity is strong
  - Support drops off quickly for adult interventions
- Has already been implemented in several states/communities
Eliminate Vending Machines in Schools (cont.)

- Other interventions targeted at youth may also be justified on both economic and political grounds
  - Nutrition guidelines for all foods sold in schools
  - Mandatory physical education
  - Advertising restrictions for children’s programming
  - Others
Mandatory Food Labeling for Restaurant Food (Motivation)

- The percentage of food spending on away-from home foods rose 60% between 1970 and 1995.
- In 1995, away-from-home foods accounted for
  - 27% of eating occasions
  - 34% of total daily energy intakes
- Away-from home foods are higher in fat, sugar, and salt than are at-home foods.
Mandatory Food Labeling for Restaurant Food

- Require restaurants to provide information to consumers concerning the health content of meals

- Is there a justification?
  - Forces restaurants to provide information that they might not readily supply on their own
  - Perhaps but some firms (e.g., Subway) provide this information without government intervention
    - Many now provide information on carbohydrates
Mandatory Food Labeling for Restaurant Food (cont.)

- What are the intended consequences?
  - Consumers make more informed choices

- Other intended consequences?
  - Alter dietary behavior to decrease consumption of ‘unhealthy’ food
  - Improve health and/or reduce obesity
  - Change the health content of restaurant food
What might be the unintended consequences?

- Suppliers
  - Economic burden
  - Less likely to introduce products, change menus
  - Other supply responses?

- Consumers
  - May not know how to use the information

- Government
  - Burden of implementation, monitoring
Mandatory Food Labeling for Restaurant Food (cont.)

Are there better alternatives?

- Depends on the objective
  - What if demand does not change?
  - What if obesity rates do not change?