



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 it's 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



Financial Externalities

- 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

- 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



Targeted Taxes and/or Subsidies (cont.)

- 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



Mandatory Food Labeling for Restaurant Food (cont.)

- 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?