

Taxing Sin or Subsidizing Virtue? An Experimental Study of the Impact on Nutrition Content of Food Choices

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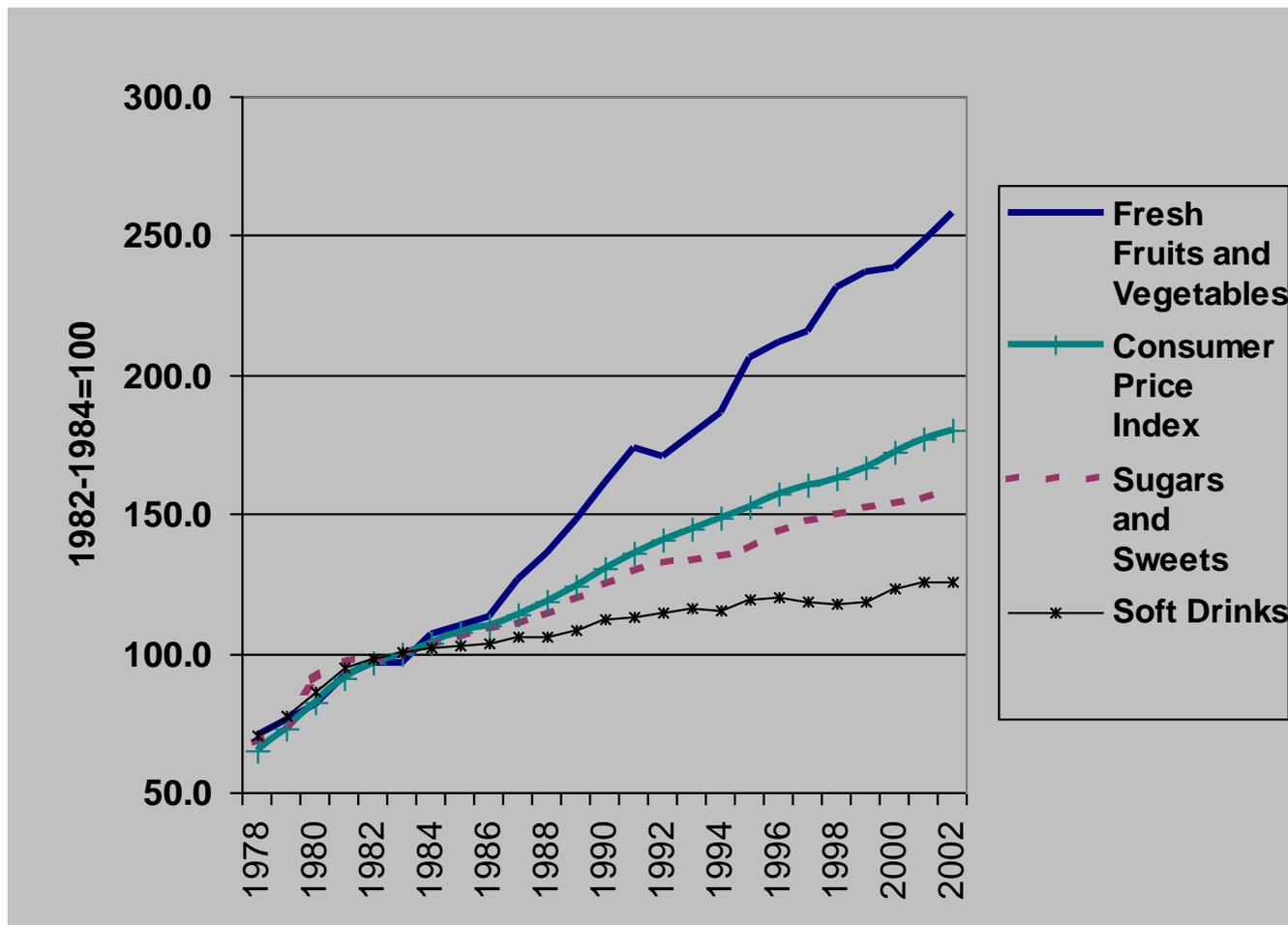
Bedrock Principal of Economics

◆ People Respond to Incentives

- ❖ Increase the price and people decrease the activity
- ❖ Reduce the price and people will increase the activity



Application to Nutrition and Health



Using Prices as Carrots and Sticks: Applications in Nutrition and Health Policy

◆ Paying people to Lose Weight

- ❖ Volpp et al. Financial incentive-Based Approaches for Weight Loss: a Randomized Controlled Trial. JAMA 2008.
- ❖ Finkelstein et al. A pilot study testing the effect of different levels of financial incentives on weight loss among overweight employees. J Occup Environ Med. 2007.

◆ Taxing Consumption of Fat or Sugar

- ❖ Finkelstein et al. Impact of Targeted Beverage Taxes on Higher- and Lower-Income Households. Arch of Int Med. 2010
- ❖ Yaniv et al. Junk-food, home cooking, physical activity and obesity: The effect of the fat tax and the thin subsidy. Journal of Public Economics, June 2009



Are Taxes and Subsidies Equivalent?

- ◆ Taxes have the advantage of raising revenue
- ◆ Taxes may also be more effective
 - ❖ Epstein, et al. The Influence of Taxes and Subsidies on Energy Purchased in an Experimental Purchasing Study. Psychological Science 2010.
 - ❖ Increasing the price of unhealthy foods reduces the intake of calories as well as fat more than reducing the price of less calorie dense healthier foods



Why would taxes be more effective?

◆ Economics Explanation

❖ Income effects

- People are relatively wealthier when subsidized and may spend some of that extra wealth on unhealthy foods

◆ Behavioral Explanation

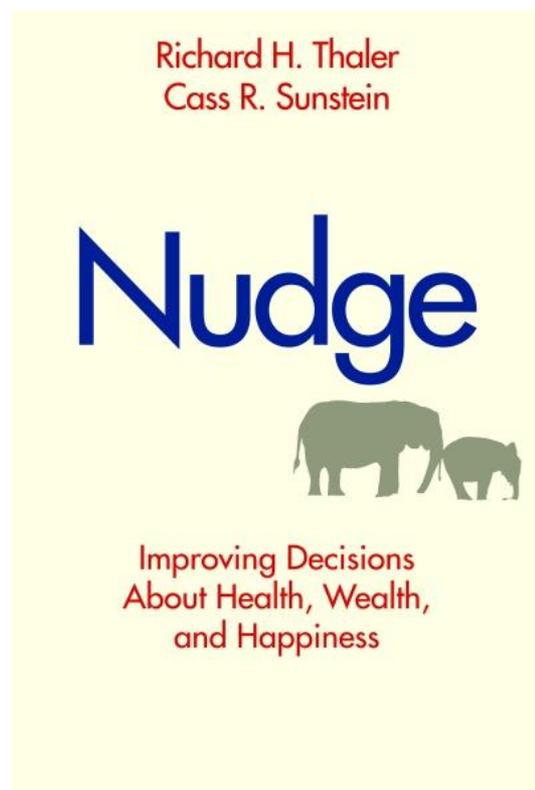
❖ Taxes and subsidies may be perceived differently

- Reference dependence and loss aversion
- Framing (e.g. “Asian Disease Problem”)



What's the Hot Topic in Economics?

Behavioral Economics



“Behavioral economics has never been hotter. It's not just the success of books such as [Nudge](#), [Predictably Irrational](#), and [Basic Instincts](#), but the political influence of the field: One of *Nudge's* authors, Cass Sunstein, runs the Office of Information and Regulatory Affairs for Barack Obama, and his co-author Richard Thaler has been advising David Cameron's new [Behavioral Insight Team](#), based in the Cabinet Office.”

Financial Times Magazine: By Tim Harford
“Why we do what we do” Published: January
28 2011 22:06

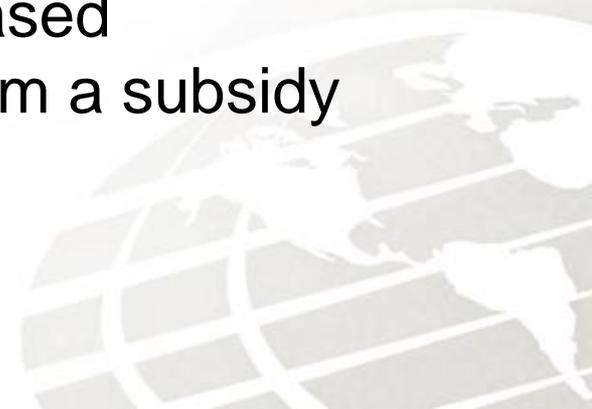
Behavioral Economics adds realistic psychological foundations to economics.

Key ideas: The economic model of rational decision making does not fit the data well in certain systematic ways. Allowing for psychological biases and limits on computational ability can improve fit.



The goal of our study is to isolate behavioral effects of taxes and subsidies from the well-known economic effects

- How to isolate behavioral effects?
 - Hold the economic factors constant
 - Choose taxes and subsidies that keep the relative prices of unhealthy and healthy foods constant
 - Adjust income to offset the increased (decreased) purchasing power from a subsidy (tax).



Study Design

- Convenience Sample of college students
- Choosing typical snacks available on campus
- Treatments
 - Baseline prices
 - Subsidy with no income adjustment
 - Tax with no income adjustment
 - Subsidy with income adjusted
 - Tax with income adjusted
- LCFN vs HCFN Foods
 - 5 of each



Study Design

- The Challenge
 - Finding 5 LCFN snacks on campus that don't require refrigeration
- Simulated shopping experience in the Moore School Behavioral Lab
- IRB approval obtained
- To do: recruitment and programming

