Government intervention in food markets

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Motivation

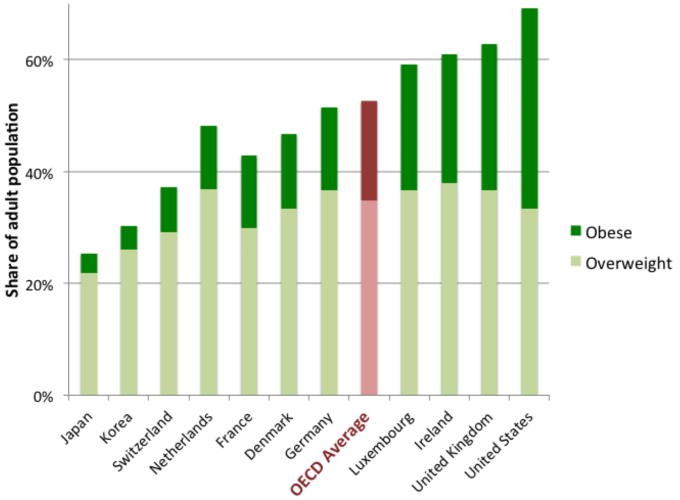
- In some markets competition may deliver what consumers seem to demand
- but nevertheless give rise to public policy concern
- for example, food markets

Outline

- What's the problem in food markets?
    - increase in weight and obesity
    - rise in other diet-related disease
- What role for government interventions?
    - externalities
    - information failures, self-control problems
- What possible policy responses
    - how can we evaluate the effectiveness of polices (ex post and **ex ante**)
    - important to account for consumer response **and firm response**
- Summary and avenues for further research

The public policy concern

- High levels of obese and overweight adults



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The public policy concern

- Childhood obesity also high and rising
  - 4-5 year olds: 9.3% obese, 13% overweight
  - 10-11 year olds: 18.9% obese, 14.4% overweight
  - 2-15 year olds: 28% obese or overweight

The public policy concern

- Excess weight leads to health problems
  - increased risk of cardiovascular disease, hypertension, diabetes, joint problems, certain cancers, depression
- Not only obesity, also rise in other diet-related disease
  - excessive salt, saturated fat, sugar
  - low fruit and vegetable intake
  - low consumption of wholegrains
- Obesity and poor nutrition in children
  - can lead to longer term health and developmental problems
  - and feed through into poor social and economic outcomes

What role for government?

- Well functioning market yields efficient allocation of goods
  - if individuals are fully informed and rational
  - if firms are price takers, so prices reflect costs
- Why might food markets fail?
  - are individuals fully informed about the characteristics and consequences of food consumption?
  - are individuals "rational" when making food choices?
  - are firms price takers?
  - do prices reflect costs?
  - are there
    - externalities from consumption
    - information or cognitive failings
    - combined with market power by firms

What role for government?

Externalities

- If consumption imposes costs on others
  - an individual has no incentive to take these costs into account
  - leads to excessive consumption from a social perspective
- What externalities are there from food consumption?
  - costs of healthcare (or insurance)
    - hospital admissions with a primary diagnosis of obesity in England tripled from 2007 to 2011 from 3,860 to 11,570
  - lost economic output due to sickness absence and lower productivity
- BUT need to be careful, are these all externalities?
  - what are incremental costs of treating obesity
  - some costs fall on the individual (eg through lower wages)

What role for government?

Externalities on your future self

- Consumers might not be fully forward looking
  - in which case the externality is on the person's "future self"
  - children the most compelling case

- Information failings
  - people may be capable of processing information, but lack the necessary information to make informed choices
    or
  - people may be cognitively unable or unwilling to process it, even if all the information is there

  - The policy response to these will differ

What role for government?

Information failings

- Consumers may be badly informed about:
  - their own nutritional needs
  - the nutritional characteristics of a specific food product
  - costs associated with the consumption of certain foods (particularly when uncertain and are borne in the future)
- Example
  - 48% respondents thought they did not need to worry about their saturated fat intake if they exercised regularly, were not overweight or ate lots of fruit and vegetables (FSA, 2009)
  - this view is incorrect - excessive consumption of saturated fat can have negative health consequences for anyone

What role for government?

Competing and confusing information

- Firm advertising might conflict with government advice
- Profit-making firms incentives not necessarily aligned with consumers interests
    - if consumers lack information, are cognitively constrained, or have other “behavioural biases”
    - information provision by firms may be misleading, or play on individual’s “behavioural biases”
        - e.g. a firm may highlight one characteristic more than others, for example, "low fat” marshmallows
    - firms might also intentionally obfuscate

What are the policy options?

- Directly provide information through schools, government advertising, labelling, etc.
- Provide education to help individuals process information
- Alter incentives and choice sets through changing relative prices or incomes
  - Fiscal measures
  - Regulation
  - Cash transfers
- "Nudge" policies
  - alter the way choices are presented to individuals and the context in which they are made

Policy analysis and evaluation

- Need clarity about aims of policy intervention
  - simply aim to achieve a reduction of unhealthy behaviours?
  - or an increase in welfare?
  - which market failures are we trying to correct?
- Evaluation of the effect of policies
  - ex post and ex ante policy analysis
  - many policies not implemented, or only in limited form
  - where implemented not usually with an "experimental" set up
- Important to consider what new market **equilibrium** will be after policy intervention
  - consumer responses
  - **AND** firm responses (e.g. changing price of goods, product offering, or way products are advertised)

Example: Ban on advertising junk foods

- One proposal is to restrict advertising of "junk foods"
- What are the equilibrium and welfare consequences?
  - We carry out an **ex ante** evaluation of the likely impact of such a policy in the crisps market
    - Dubois, Griffith and O'Connel (2014) "The Effects on Demand, Supply and Welfare of Banning Junk Food Advertising: Structural Estimation on a Junk Food Market"
- Advertising bans aim to lower consumption, but it isn't obvious what will be the effect on quantity:
  - depends on how advertising affects demand, whether it is expansionary or contractionary
  - and depends on strategic response of firms
- Impact of advertising ban on consumer welfare will depend on whether advertising is:
  - informative about product existence or characteristics
  - a product characteristic that is valued by consumer
  - persuasive and distorts consumer decision-making

Ban on advertising junk foods

Effects of advertising on quantity

- if advertising is predatory
  - adverts steal market share of other firms; firms over-invest in advertising and want to commit to not advertise; banning advertising increases profits, little impact on total quantity
- if advertising is cooperative
  - adverts increase market demand; firms face free-riding problem, under-invest in advertising relative to profit-maximising amount; banning advertising would decrease demand
- advertising only one of strategic variables available to firms
  - ban may lead firms to respond by changing other strategic variables (e.g. may increase price competition)
- advertising can be a barrier to entry
  - ban could lead to industry expansion

Ban on advertising crisps

- We estimate supply and demand in the UK crisps market
  - use structural parameters to simulate counterfactual situations, e.g. one in which advertising is banned
  - allow firms to reoptimise prices
- We find that firms lower price, banning advertising leads to tougher price competition
  - this partly mitigates the impact of the ban
- What are the welfare effects of banning advertising?
  - if advertising is a characteristic that consumers value
    - the welfare consequences of banning adverting will consist of a welfare loss from the loss of the characteristic and a welfare gain through increased price competition
  - if advertising distorts decision making but doesn't enter consumer utility
    - the welfare consequences of banning adverting will consist of a welfare gain from the removal of the distortion and a welfare gain through increased price competition

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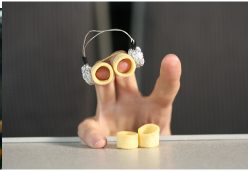
Ban on advertising crisps

Is advertising of crisps a valued characteristic or persuasive?



Summary

- Policy concern
  - public health concern about obesity and diet
- Economic rationale for intervention
  - there may be externalities, but probably small
  - consumers possibly lack information, and more importantly the ability/willingness to process it or act on it
  - and firms might act to exploit this
- Policy options
  - need to think clearly about aims of government intervention in order to effectively target policy
  - as well as considering consumer responses, it is important to consider the likely supply-side responses of firms
  - and to consider impact on total welfare, not only on the object of public health concern

Summary

- When evaluating policy we need to consider how firms will respond, i.e. what new market equilibrium will be after policy intervention
  - firms may respond to policies in ways that make the policy less effective, e.g. by changing price of goods, product offering, or way products are advertised, or potentially more effective
  - structural estimation has an important role to play in allowing us to do this
- In the example of banning advertising in crisps market:
  - the ban lead to a reduction in quantity purchased
  - but the increased competition in prices, lowered price which expanded the market, meant that the effect was much lower than if only the direct effect of the advertising ban was considered