# Obesity: The welfare regime hypothesis

Avner Offer 27 Nov. 2009 Mean adult body mass index (BMI) in the United States and England and Wales, c. 1930-1999.



Offer, 2001

# Why should we care?

- Policy:
  - Health
  - Appearance norms
  - Discrimination
  - Economic opportunities/implications
- Intellectual:
  - Curiosity: rapid anthropometric change
  - Query standard decision models
- Not to worry
  - Denial/Contrarian—no problem
  - Indifference-not my problem
  - Libertarian—anything goes/not my problem
  - Rational choice—their choice, so no problem

### How to approach?

- Rationality: obesity as a price and income equilibrium (Philipson & Posner 1999, 2008)
  - Exogenous market shock:
    - Fast, cheap, food
    - Decline of physical activity
    - A reasonable adaptation? (Cutler, 2003 as well)
- Time-inconsistency (Offer, 1998,2001; Cutler et al 2003, Komlos, 2004)
  - Choice inconsistent people regret their eating decisions
  - Cognitive and informational conditions of rational choice not met.
  - Cognitive bias: 'Now has emotional power, and delay does not.'
  - Exogenous food supply shock overwhelms existing commitment devices.
  - Possibility of learning adaptation. Becker & Murphy, 1997; 'endogenous time preferences'
  - Better-off have more cognitive resources, and more prospects: explains income gradient of obesity.

# Welfare regime hypothesis

- Welfare regimes: Esping-Anderssen, 1990.
  - Three worlds: Market liberal, conservative, social-democratic
- Varieties of capitalism (Soskice):
  - Liberal market economies\co-ordinated market economies
- Historical regime change divergence. Rise of market liberalism. Timing corresponds to obesity epidemic. 1970s onwards.



Offer. 2006



FIG. 1.1 Institutions across sub-spheres of the political economy

*Note*: Employment protection refers to the index of employment protection developed by Estevez-Abe, Iversen, and Soskice in this volume. Stock market capitalization is the market value of listed domestic companies as a percentage of GDP.

Source: International Federation of Stock Exchanges, Annual Report.

Hall & Soskice, 2001

### Table 1.PercentageObesebyWelfareRegimes, c.1990-2000

		Percent Obese	
	Countries	Male	Female
Nordic	5	14.8	15.3
Continental	8	15.1	15.0
Liberal	7	22.5	23.8

### Plot raw data, list countries

Difference according to welfare regime: Male: One way analysis of variance: F=7.1, P<0.01 Post hoc Scheffe test:

Liberal -v- Continental p<0.05 Liberal -v- Nordic p<0.05 Continental -v- Nordic not

significant Female: One way analysis of variance: F=6.8; P<0.01

Post hoc Scheffe test:

Liberal -v- Continental p<0.05 Liberal -v- Nordic p<0.05 Continental -v- Nordic not

significant

Source of data: International Obesity Task Force Prevalence Data http://www.iotf.org/database/documents/GlobalPrevalenceofAdultObesityMarch08v4pdf.pdf

#### Percentage of obesity in adult population, OECD countries



Majima, 2009

#### Obesity Trends\* Among U.S. Adults BRFSS, 1990, 1998, 2007

(\*BMI ≥30, or about 30 lbs. overweight for 5'4" person)





Source: CDC Behavioral Risk Factor Surveillance System.

### Mechanisms: Stress

- Trent Smith
  - Animal behaviour: respond to food variance with weight gain
  - Obesity a response to insecurity
  - Eating a form of self-medication ("comfort eating")
  - Predicts income gradient?
- Wilkinson and Pickett, Marmot
  - Inequality
  - Subordination

### Potential Test: Levels vs. Changes



Figure 1.3 Global trends in obesity prevalence

Delpeuch et al. 2009

Source: James (2008)

# **Conference Objectives**

- International comparative dataset to explore these hypothesis analytically.
- Use microdata. Control for demographics etc. Panel techniques?
- Problem of lags and leads. Child obesity? (not the same incentives as for adults)
- Asset for other investigations
- Identify causal regime attributes
- Create new variables, e.g.
  - Diffusion of commercial television
  - Fast food diffusion
- Conference: collective brainstorming
- Policy implications:
  - Cost-benefit approach. 'Better dead than red?'
  - Adjustment too drastic to contemplate: climate change, peak oil.
  - Magic bullet? e.g. Viagra.
  - Learning trajectories

#### Some Historical Learning Trajectories



Powell, 2009

Fig. 3.2.5 Left: HIV incidence in homosexual and bisexual males, England and Wales, estimates by back-projection for 1979–90 (with 95 per cent credible interval) and timing of main public health campaign; Right: Ratio of deaths attributed to SIDS per 1000 live births, England and Wales, 1980 to 1984, with timing of major public health campaign. Sources: HIV: De Angelis, personal communication, Acheson 1993; SIDS: Office of Population, Censuses and Statistics 1988, 1995.

### Deeper questions:

- If hyopthesis is correct,
- Is welfare regime a cause or an effect?
  - Why do different countries have different welfare regimes?
- A policy issue but also a normative investigation
- If we are right, it will teach us about more than obesity