Obesity and Welfare Regimes: an International, Personal-Level, Comparison

S. Ulijaszek, R. Pechey, A. Offer

University of Oxford

(8 December 2010)

Hypotheses

- Obesity rises faster in market-liberal than in Social Democratic countries.
- This is due to higher levels of personal stress:
  - more intense labour and product market competition in market liberal countries
  - lower coverage of social insurance
- Established in aggregate in *EHB* article
- Insecurity variables:
  - Dependence security
  - Workplace security
    Dominate other variables:
  - Fast-food shock
  - Inequality

This project:

- Individual level variables
- Comparison of extremes: social democracy vs. market liberalism.
- Data:
  - UK, Denmark, USA, and Sweden.
  - Periodic national level random samples of the whole population.
  - Period covered from 1980s to the present.
  - Variables:
  1. demographics, height and weight, and general health variables.

Strategy

- (1) Descriptive:
    - Establish rate and pace of obesity increase over time in different countries.
    - Divide samples into three groups: normal (20-25 BMI), overweight (BMI 25-30), and obese (30+ BMI)
    - For each country:
        - Establish covariates of obesity in cross-sections (ordered logistic regressions)
        - Establish covariates of obesity over time (cross-sectional time-series regressions)
   - Compare results in different countries.

(2) Analytical:

- Hypothesis: obesity associated with stress.
  - ***Symptoms of stress:*** mental health and stress variables: fifteen variables relating to mood, emotional competence, mental disorder
    - » Stress not always observable.
    - » Differential resilience to stress.
    - » Causation may be from obesity to stress.
  - ***Stressors:***
    - » socio-economic variables
    - » family status
    - » settlement rank
    - » occupation
    - » welfare regime attributes
    - » fast-food shock

Research method: use stressors as proxies for stress

- Compare cross-sectional regressions using stressors with cross-sectional regressions using mental health variables. e.g.

'Worry' Factor

Health Survey of England
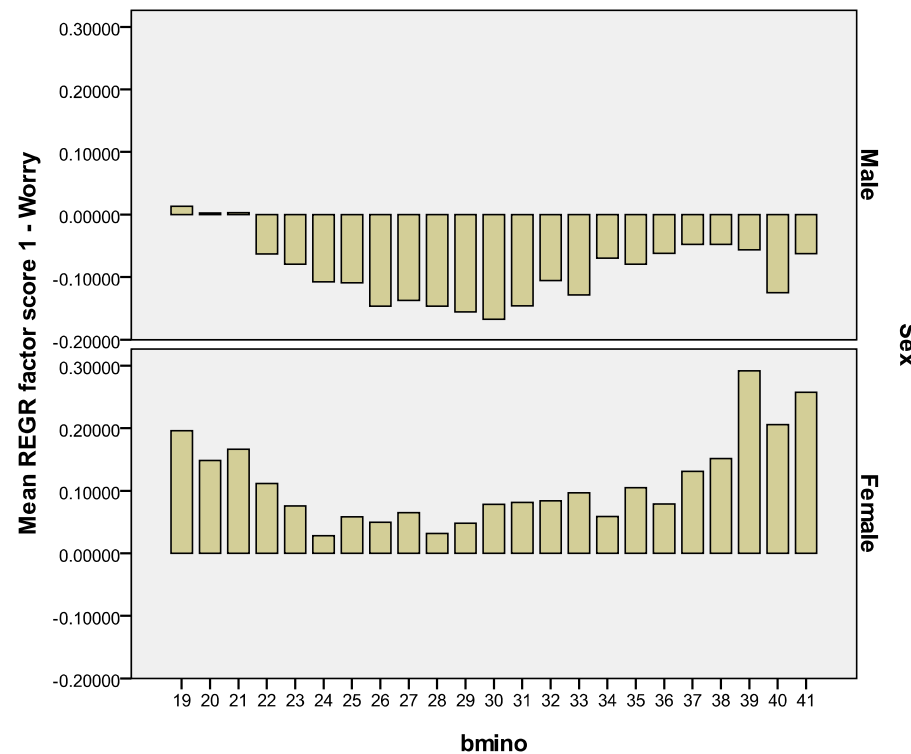
Lags

- Also cross-section time-series
- Use VAR to establish lag structures
- Use Scandinavian data to establish *intergenerational* comparison of stressors:
  - Stressors on mother/parents predict obesity in children?

Methodological challenges

- For each country:
- Cross-sectional studies to use ordered logistic regressions. Use OLS for cross-sections of just the obese with continuous dependent weight variable?
- Pseudo-panel regressions to measure change over time.
- Discriminant analysis?
- Is there any scope for multilevel analysis?
  - Not enough level-two observations? Need at least 30.
  - might just be possible using states as level 2 variables in USA.
  - any scope for data pooling for all four countries? Once comparative patterns are established, could be used in an encompassing regression as validation.

What we hope to find:

- ***Descriptive:***
  - Obesity rising faster in market-liberal than in Social Democratic countries.
  - Similar covariates in both types of countries.
  - Similar covariates over time.
- ***Analytic:***
  - *Stressors* similar in pattern to *stresses*.
  - Stressors have strong effect on obesity.
  - Strong time lags
  - Distinctive generational effects. [not predicted by hypothesis, but adds historical and substantive depth]
- ***Methodological:***
  - Fairly straightforward cross-sectional and panel data regressions without resorting to anything more fancy.
  - Explanatory levels at >15%.