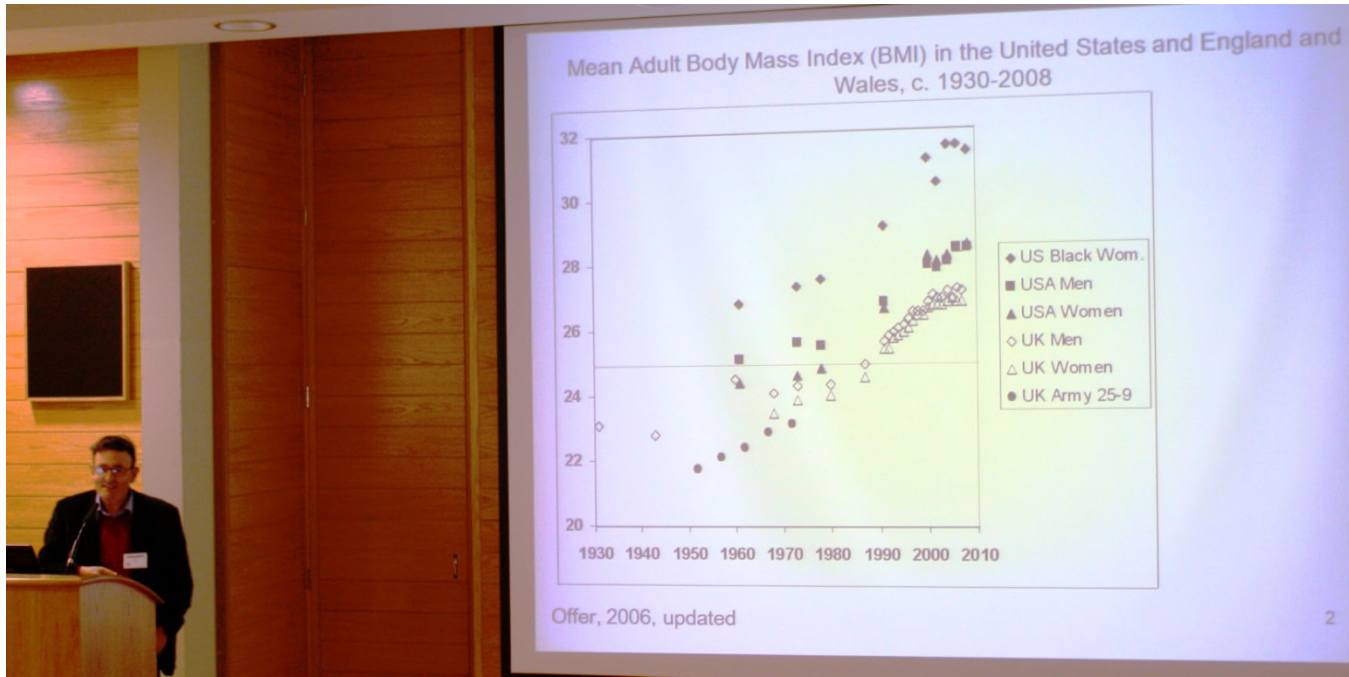


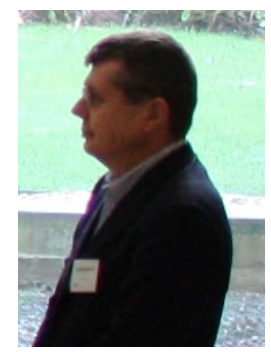
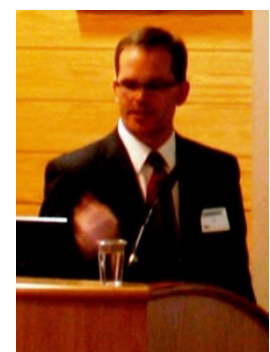
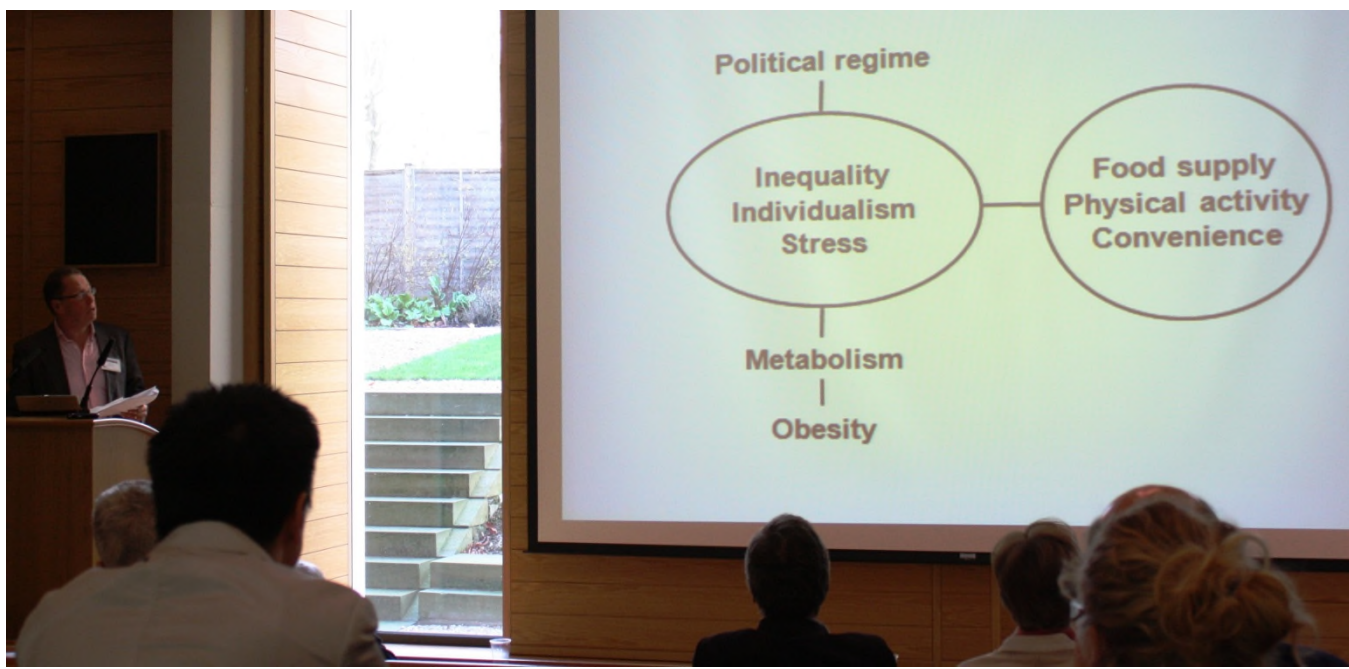
# **Welfare Regimes and Obesity: analytical approaches**

**8/9 December 2010**

**University of Oxford  
Copenhagen University  
Karolinska Institutet**



**Welfare Regime Hypothesis Workshop, Oxford, November 2009**



# Outputs



## Article

Obesity under affluence varies by welfare regimes: The effect of fast food, insecurity, and inequality

Economics and Human Biology 8 (2010) 297–308

Avner Offer<sup>a,\*</sup>, Rachel Pechey<sup>b</sup>, Stanley Ulijaszek<sup>b</sup>

## Book

**Obesity: The Welfare Regime Hypothesis. British Academy Publications.**

**Authors: Offer, Ulijaszek, Sorensen, Komlos, Drewnowski, Dunbar, Marmot, Wilkinson, Pickett, Stubbs, Smith**

# Welfare regimes and obesity

Welfare regimes: Esping-Anderssen, 1990

“Three worlds”: Market liberal, conservative, social-democratic

Varieties of capitalism (Hall and Soskice, 2001):

Liberal market economies\co-ordinated market economies

Welfare regime divergence with rise of market liberalism, 1970s on.

Timing corresponds to obesity epidemic.

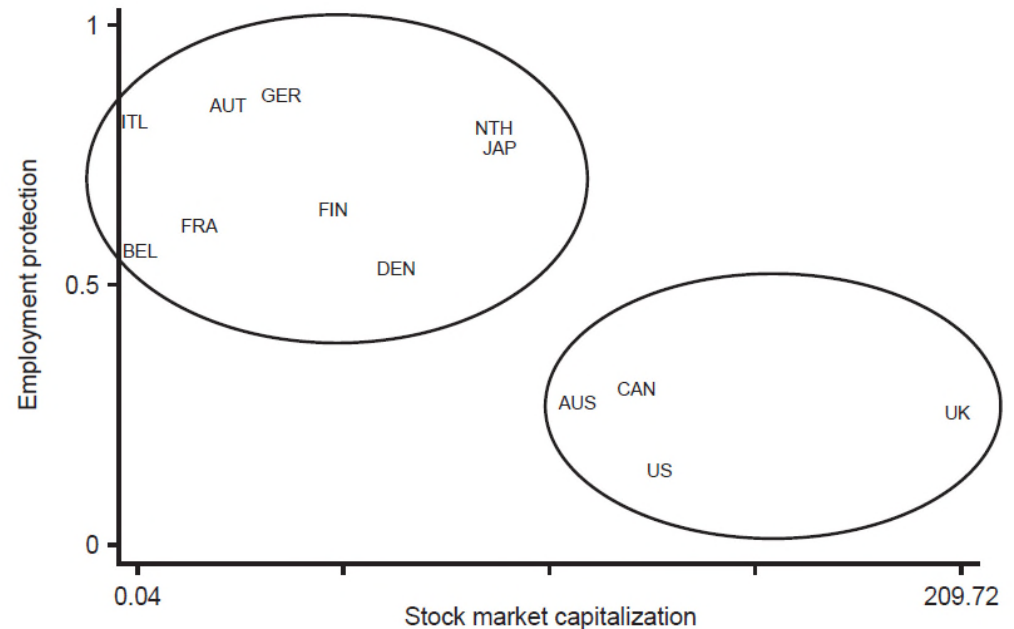
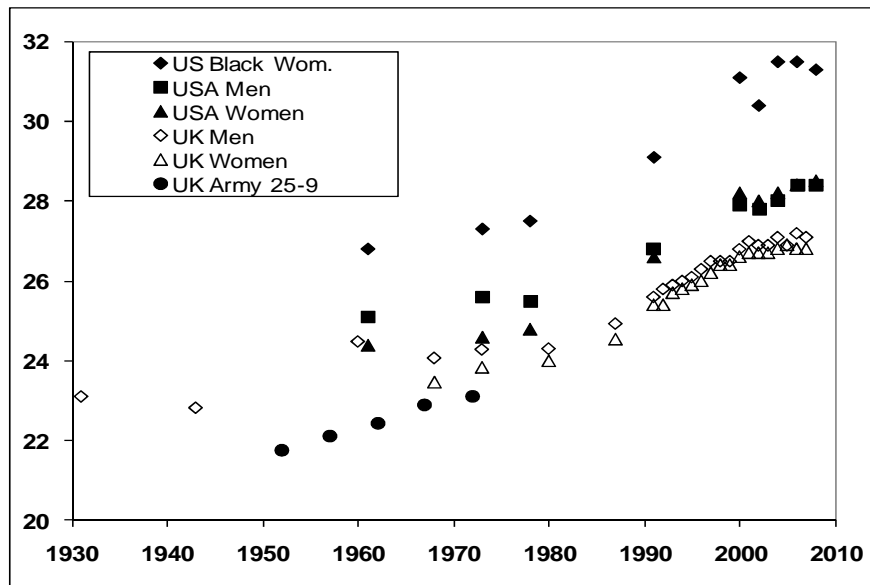
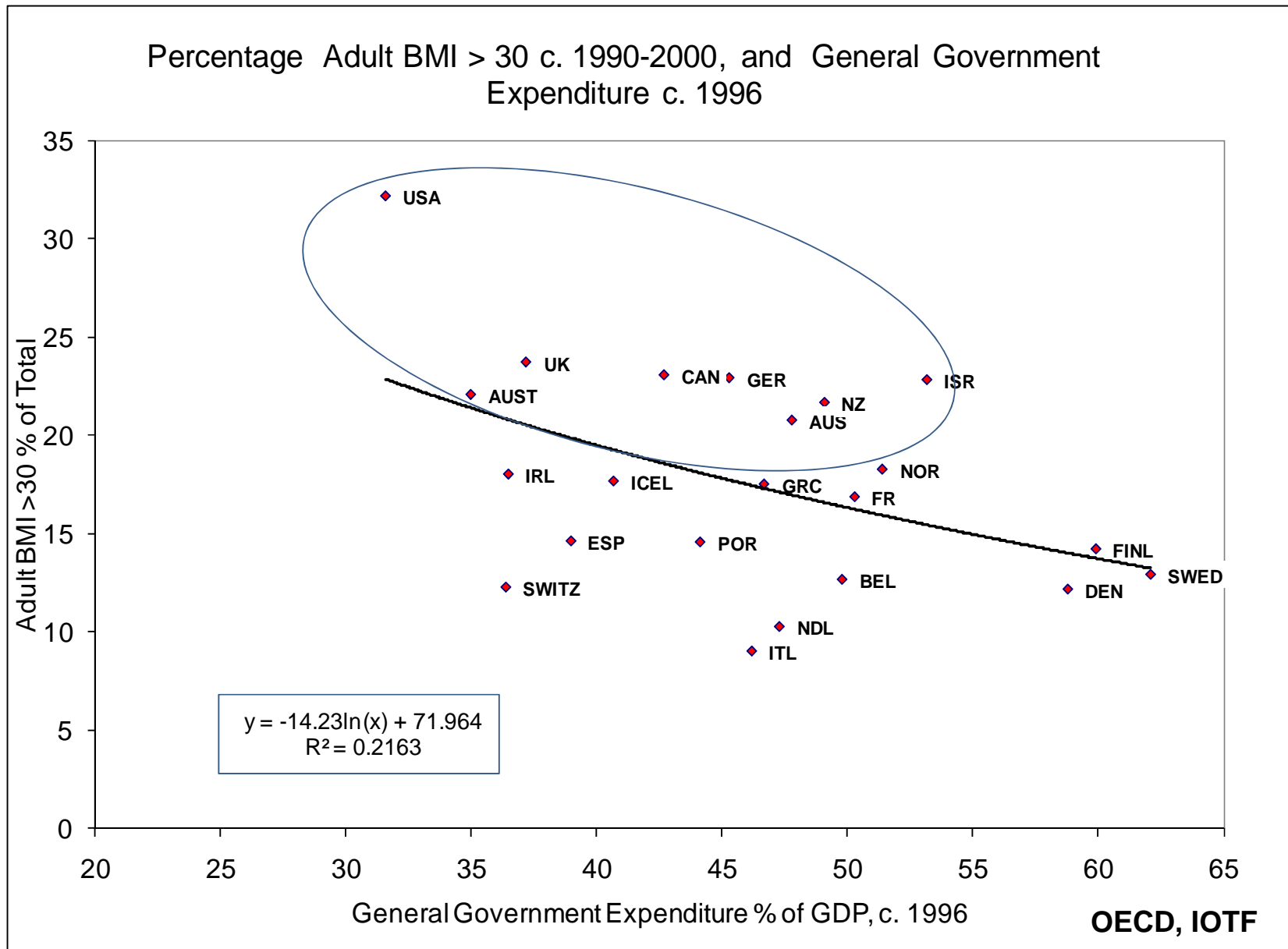
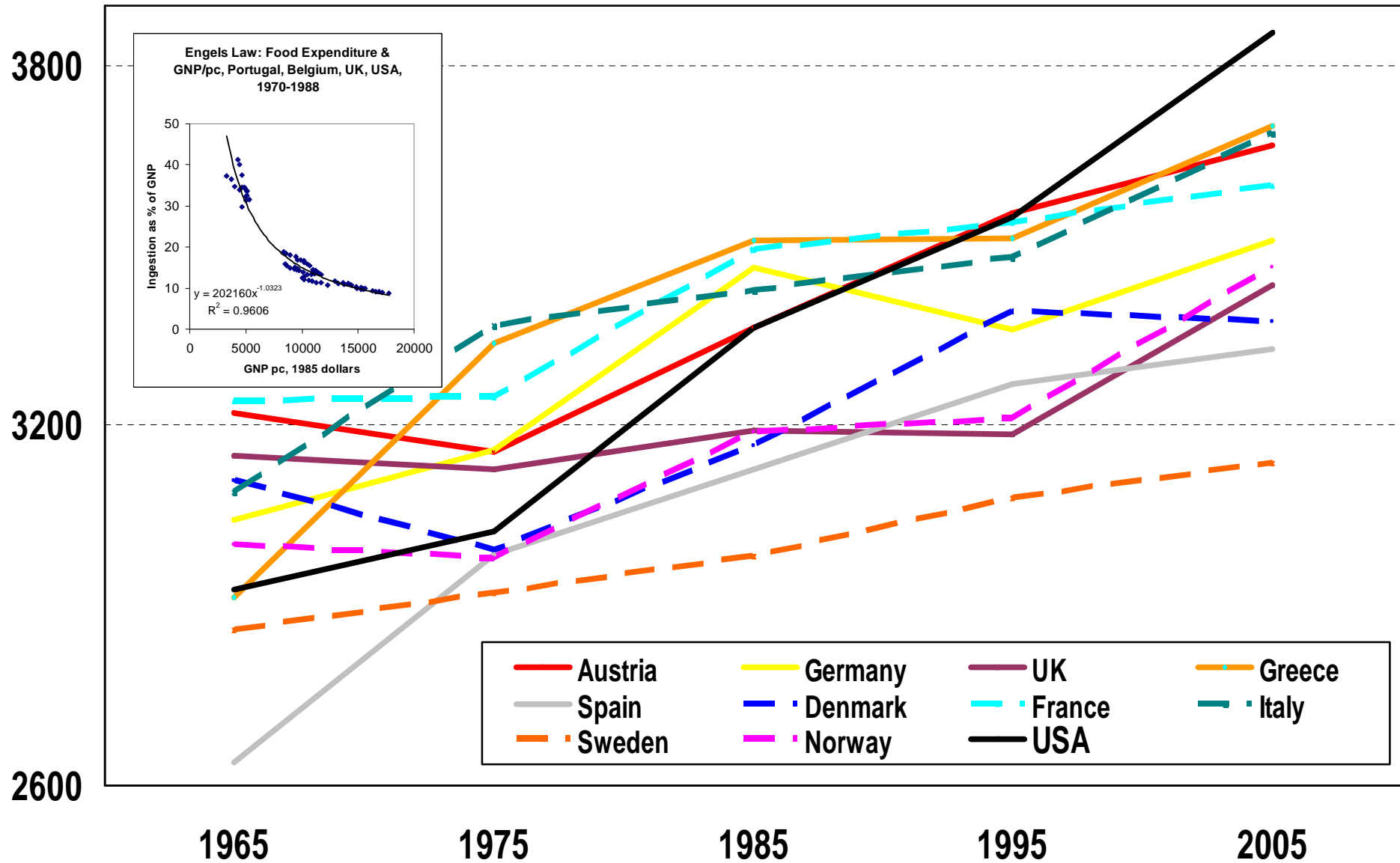


FIG. 1.1 Institutions across sub-spheres of the political economy

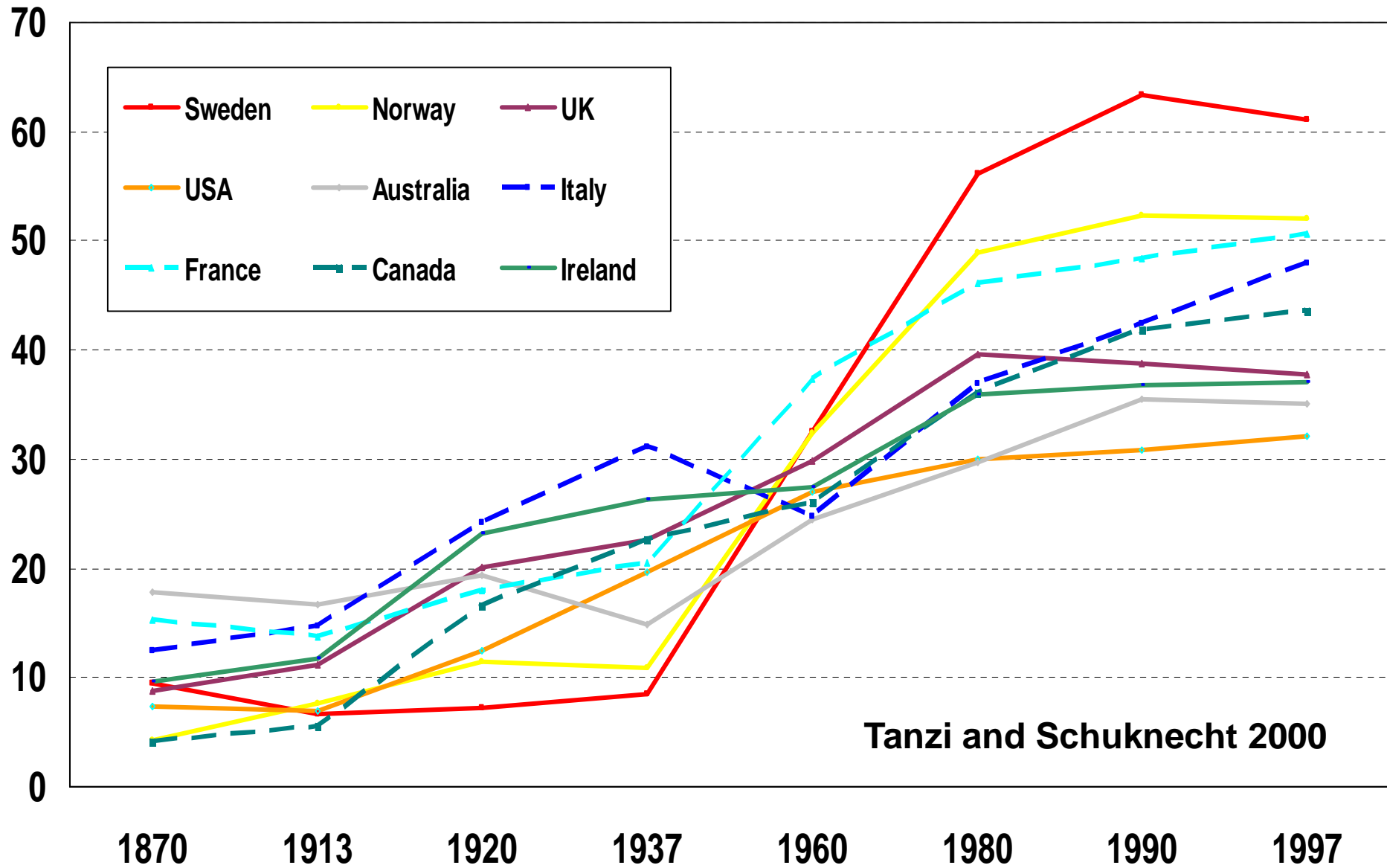
# Welfare regimes and obesity



# Food shock: energy intake per capita (kcal/day), Europe and USA. Data from FAOSTAT 2010

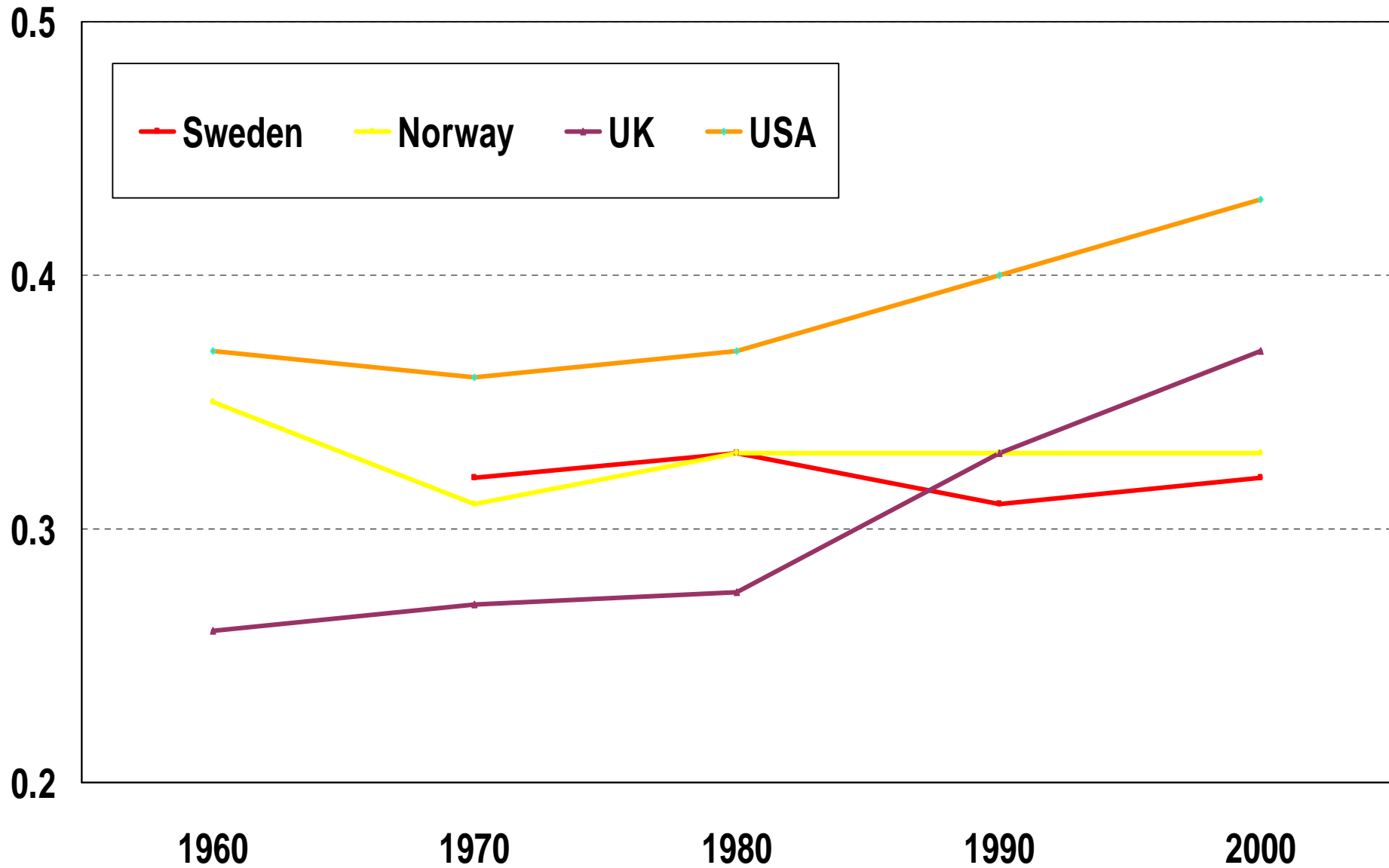


# General government expenditure (% of GDP)



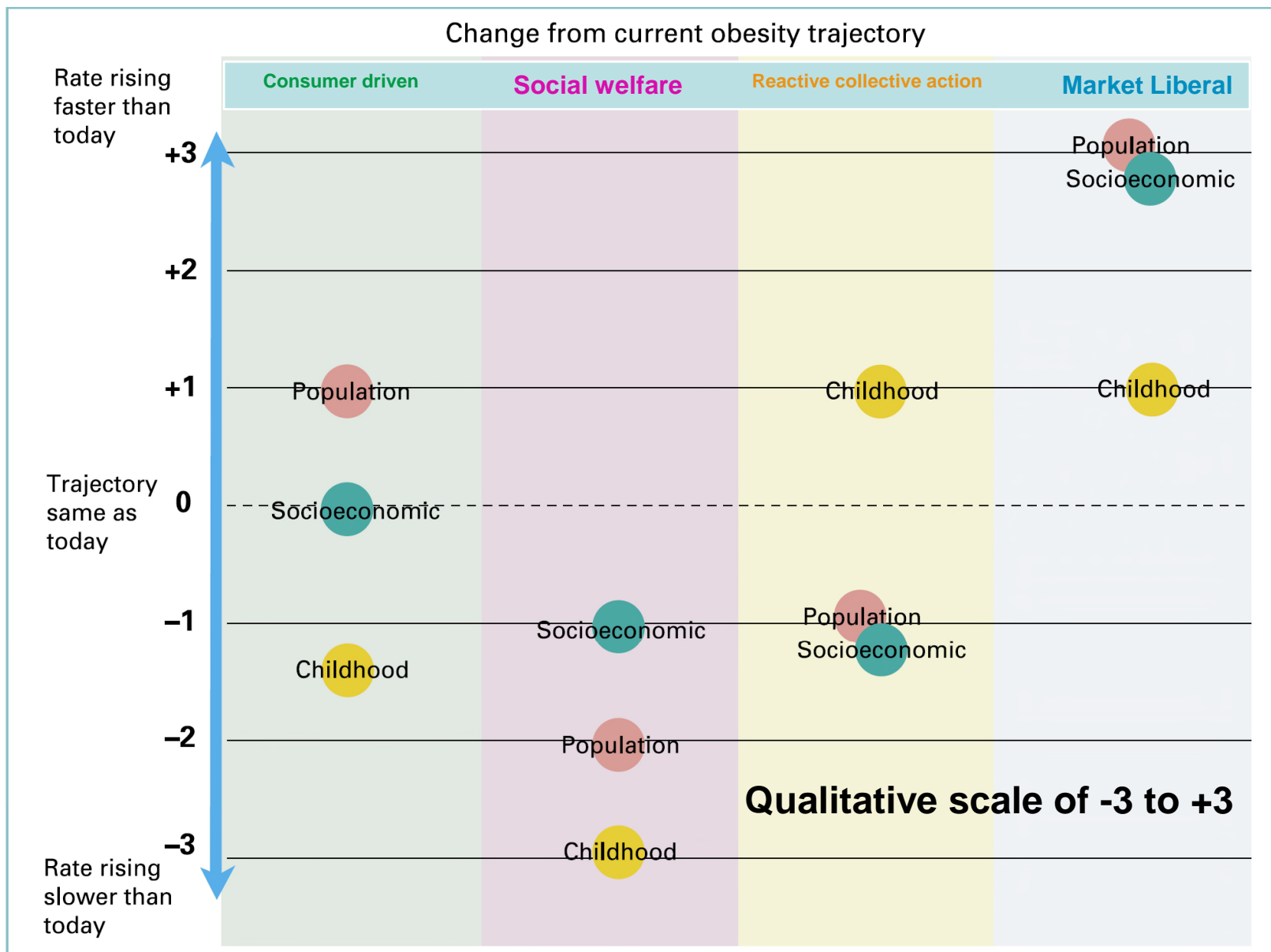
Tanzi and Schuknecht 2000

# Inequality (gini coefficients)





# Foresight (2007) trajectory scenarios: despite knowing the likely impact of market liberal forces, UK government chose to stay with individual responsibility for obesity



# Hypotheses

- a. *Food supply shock.* decline of physical exercise, increasing access to cheaper, pre-processed, high-energy-density appetising food**
  
- b. Obesity as response to stress**
  - 1. *Insecurity stress.* Observed in animal behaviour. Market liberal societies more competitive, less secure**
  
  - 2. *Inequality stress.* Subordination is stressful**

# Mechanisms: Stress?

- **Trent Smith (2007, 2008, 2009)**
  - **Animal behaviour: responds to food variance with weight gain**
  - **Obesity a response to insecurity**
  - **Eating as self-medication (“comfort eating”)**
    - **Job, family, health, income insecurity**
    - **Affects children too**
    - **eg. hunger trends in USA (14.6 % (17m) households experienced food shortage in 2009; USDA). 49 million households ‘lacked consistent access to adequate nutrition’**
    - **Obesity and hunger hotspots coincide. USDA ‘food insecurity’**
  - **Consistent with income gradient**
- **Wilkinson and Pickett (*The Spirit Level*, 2009), Marmot (*Status Syndrome*, 2004)**
  - **Inequality**
  - **Subordination**

## Macro analysis (Offer, Pechey and Ulijaszek 2010)

- **Ninety-six studies, 1994-2004**
- **Eleven countries: Australia, Canada, UK, USA, Finland, France, Germany, Italy, Norway, Spain, Sweden**
- **Obesity prevalence: % with BMI > 30 [BMI=kg/m<sup>2</sup>]**
- **Analysis: OLS, weighted (each country one unit)**

<i>Type</i>	<i>Years</i>	<i>Number</i>	<i>Min.</i> %	<i>Max.</i> %	<i>Mean</i> %
Market-liberal	1994-2004	46 (29 self-report)	11 (UK)	33.4 (US)	25.52
Non market-liberal	1994-2004	49 (35 self-report)	4.9 (Norway)	32.3 (Italy)	19.17

# Findings in summary

**Food shock has acted more powerfully in market-liberal countries**

**- but food shock is not a matter of price alone; it also saves cooking and shopping time; and exposure to intensive marketing**

**Most powerful influence on obesity is insecurity, health especially**

Obesity determinants outside the USA; and the contribution of dependence security components.

Variables	(1) MALE_OBESE excl. USA	(2) FEMALE_OBESE excl. USA	(3) TOTAL_OBESE	(4) TOTAL_OBESE
MEASURED	7.487**	9.377**	8.853**	8.720**
<i>t</i> -statistic	(9.456)	(8.277)	(6.298)	(5.946)
<i>beta</i>	0.715	0.751	0.629	0.620
TIME	0.533**	0.440**	0.348*	0.507**
<i>t</i> -statistic	(3.867)	(2.772)	(2.369)	(3.287)
<i>beta</i>	0.306	0.212	0.162	0.236
MARKET_LIB	2.382**	1.932	3.105**	
<i>t</i> -statistic	(3.077)	(1.792)	(3.082)	
<i>beta</i>	0.218	0.149	0.247	
UNEMPLOYMENT_SECURITY			0.247*	-0.253*
<i>t</i> -statistic			(2.078)	(-2.276)
<i>beta</i>			0.201	-0.206
HEALTH_SECURITY			-0.221**	
<i>t</i> -statistic			(-2.830)	
<i>beta</i>			-0.498	
SINGLE_PARENT_SECURITY			-0.275	
<i>t</i> -statistic			(-0.995)	
<i>beta</i>			-0.152	
OLD_AGE_SECURITY			0.0867	
<i>t</i> -statistic			(0.485)	
<i>beta</i>			0.0453	
ECON_SECURITY	-0.272**	-0.269*		
<i>t</i> -statistic	(-3.208)	(-2.276)		
<i>beta</i>	-0.283	-0.234		
CONSTANT	26.69**	26.67**	13.40**	14.38**
<i>t</i> -statistic	(4.545)	(3.151)	(4.819)	(5.683)
Observations	66	66	88	88
Adjusted R-squared	0.738	0.689	0.775	0.547

Robust *t*-statistics in parentheses.

# Further work: nations

**Comparative analyses of market-liberal and welfare state nations at micro-level, testing two strands of the hypothesis:**

**that economic insecurity has a greater impact on obesity rates and levels market liberal nations**

**that the fast food shock works more strongly to produce population obesity in market liberal nations**