Health and National Income

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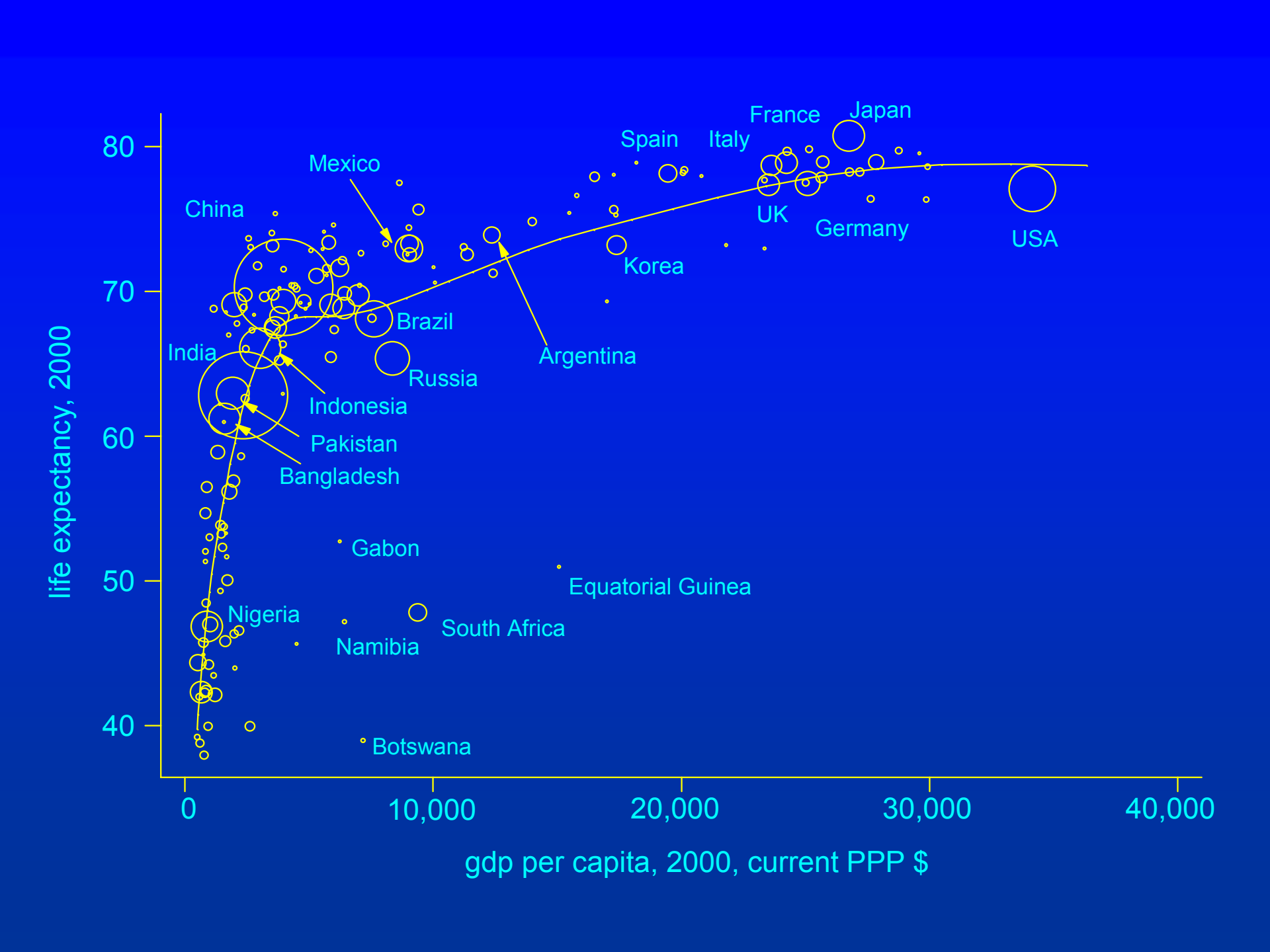
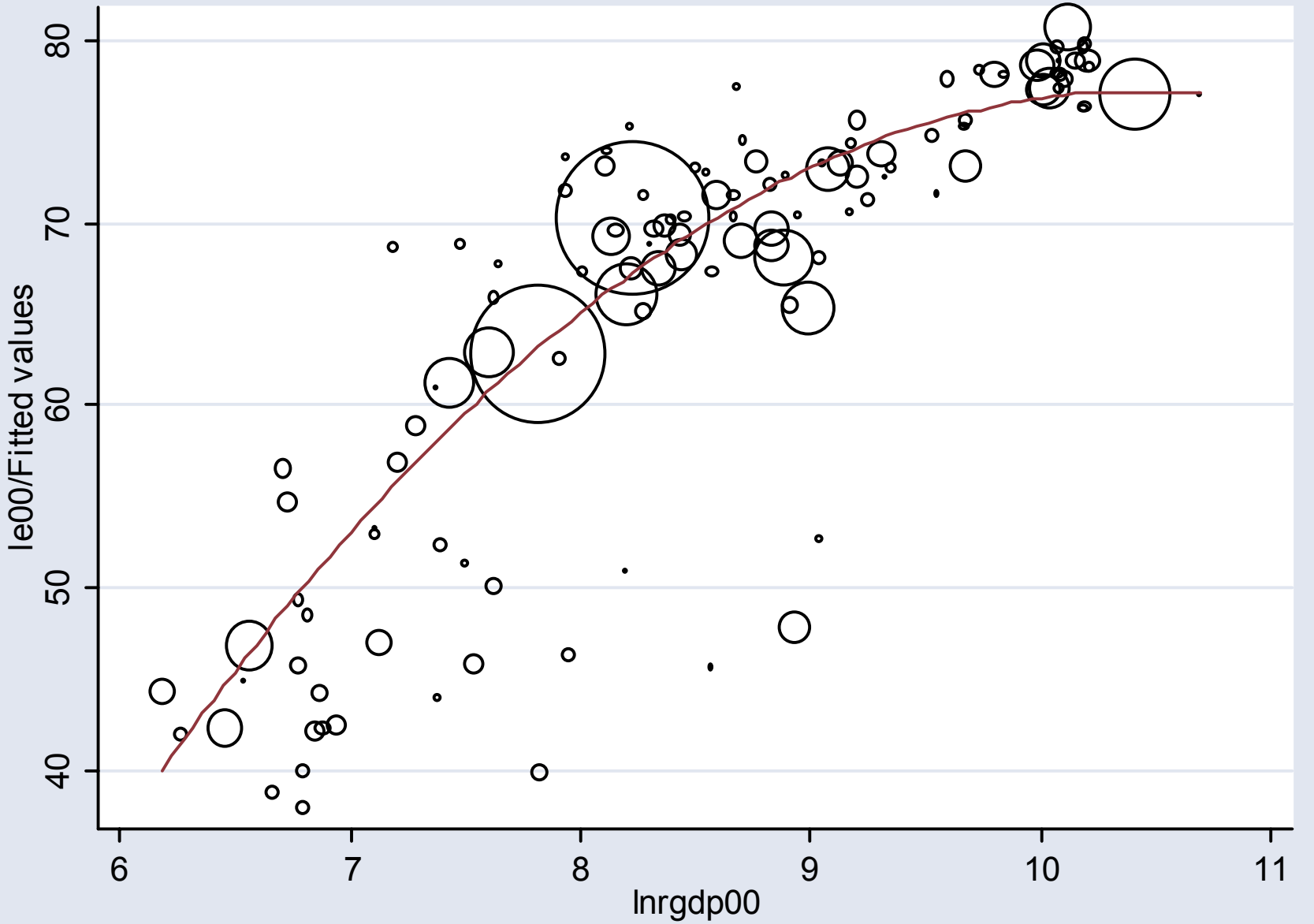
Health and income

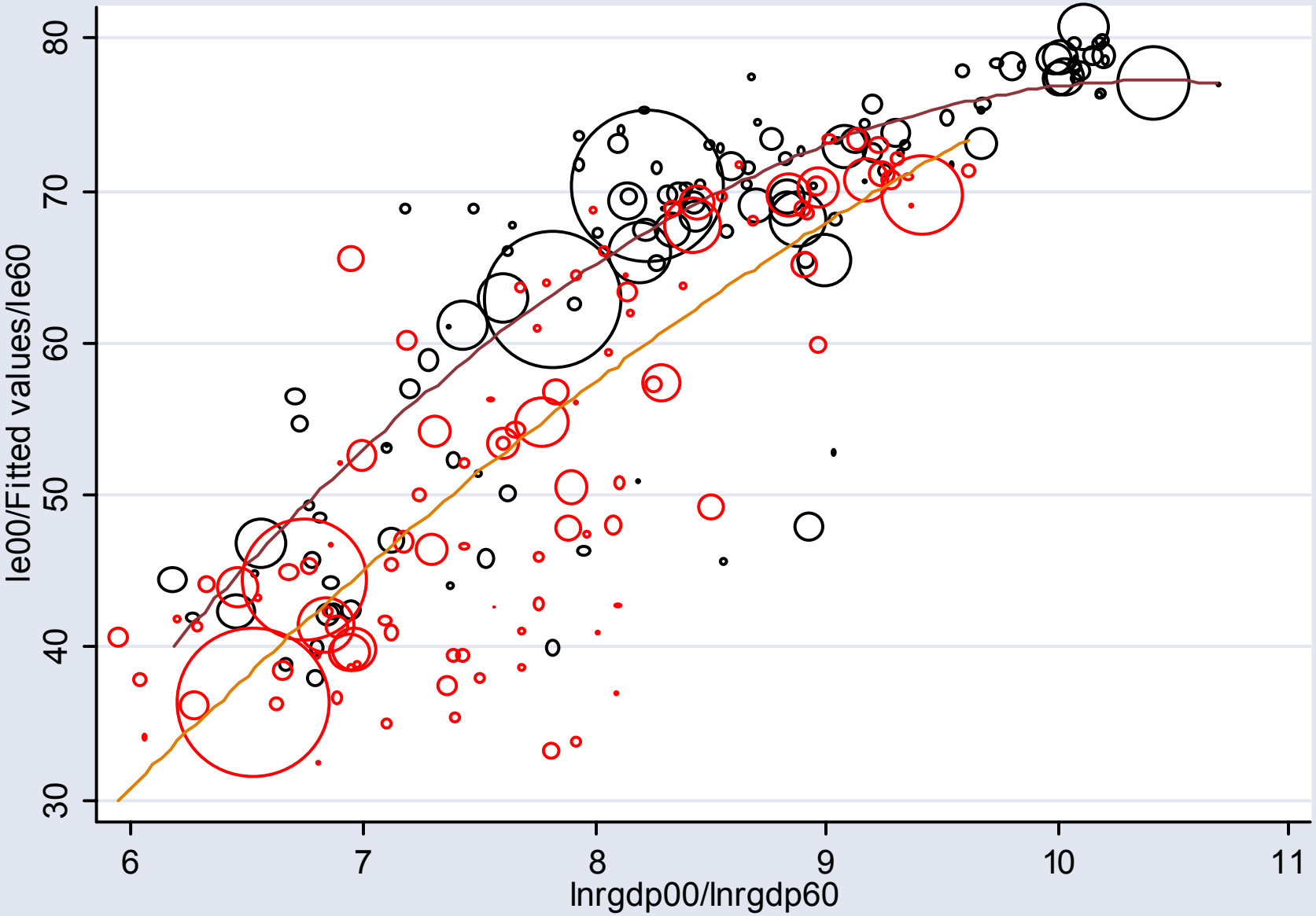
- 1. Some facts: Preston curves
- 2. What do they mean for policy?
- 3. Qualifications & a reinterpretation
- 4. Conclusions


life expectancy, 2000
80
70
60
50
40
0
10,000
20,000
30,000
40,000
gdp per capita, 2000, current PPP $
France
Japan
Spain
Italy
Mexico
China
UK
Germany
USA
Korea
Brazil
India
Argentina
Russia
Indonesia
Pakistan
Bangladesh
Gabon
Equatorial Guinea
Nigeria
South Africa
Namibia
Botswana

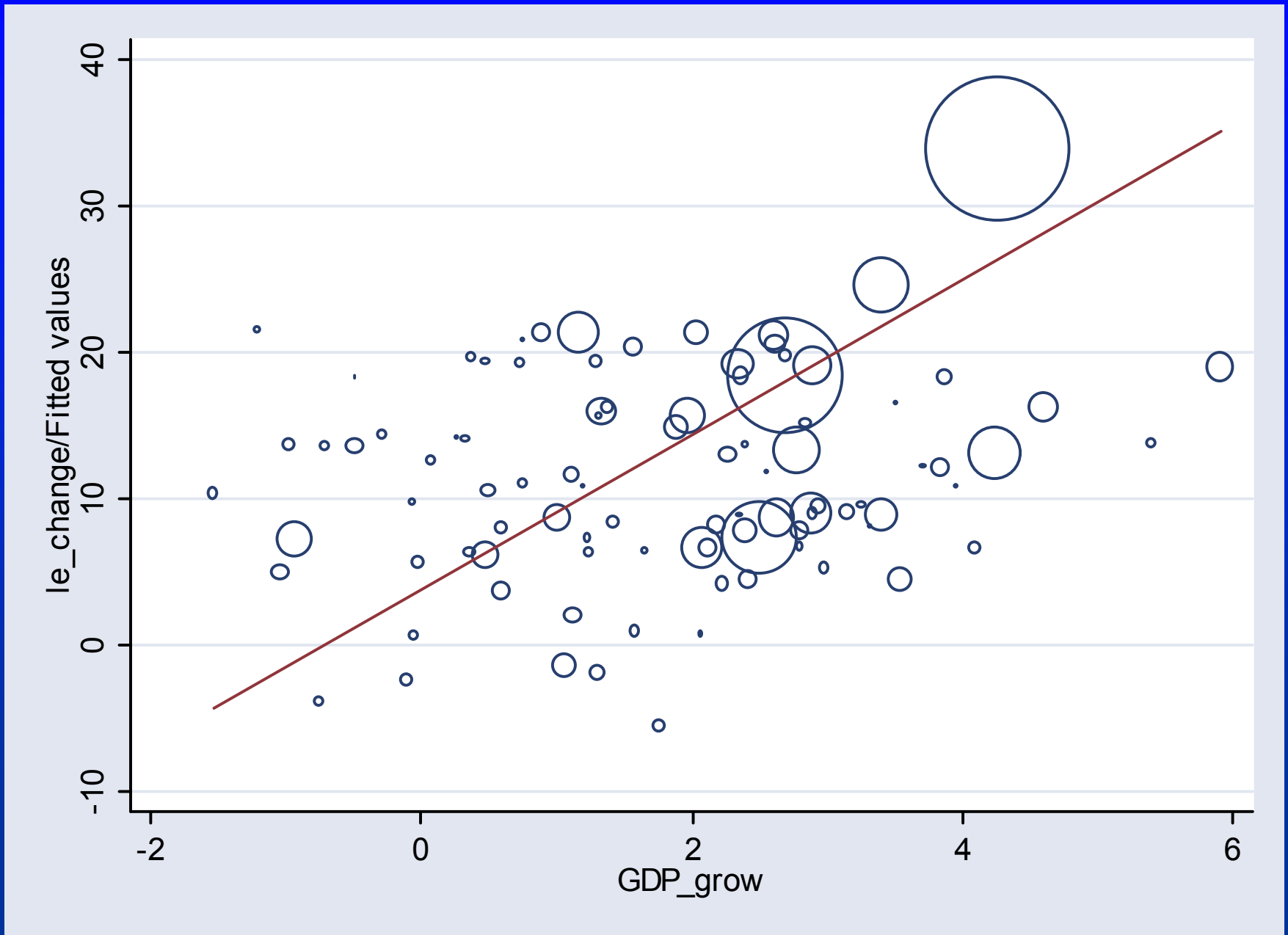
Life Expectancy v (log) GDP 2000



Life Expectancy v (log) GDP, 1960 & 2000



Change in life expectancy and GDP growth, 1960-2000



Life expectancy & GDP

	LE 10 yr change prev. decade	LE s. d.	GDP 10 yr growth prev. decade	GDP s.d. logs	GDP s.d. logs no pop. weights
1960	.	13.2	.	1.03	0.89
1970	8.4	9.6	2.9	1.12	0.97
1980	3.9	8.9	1.8	1.12	1.02
1990	2.7	8.1	2.4	1.04	1.10
2000	1.2	9.1	3.3	0.97	1.12

What do these facts mean?

- Poor people are much more likely to be in poor health than rich people
- Moral imperative to help those who are sick is reinforced by their poverty
- Moral imperative to reduce poverty is reinforced by their ill-health

Income, health & policy

- Preston curves suggest that health responds to income more strongly in poor countries
- Collective action, particularly through public health: more important at some times than others
- Transmission of health innovations: convergence
- Better health comes from medical technology (or something else) in rich countries, and from economic growth (and transmission) in poor countries
- Importance of epidemics, particularly HIV/AIDS

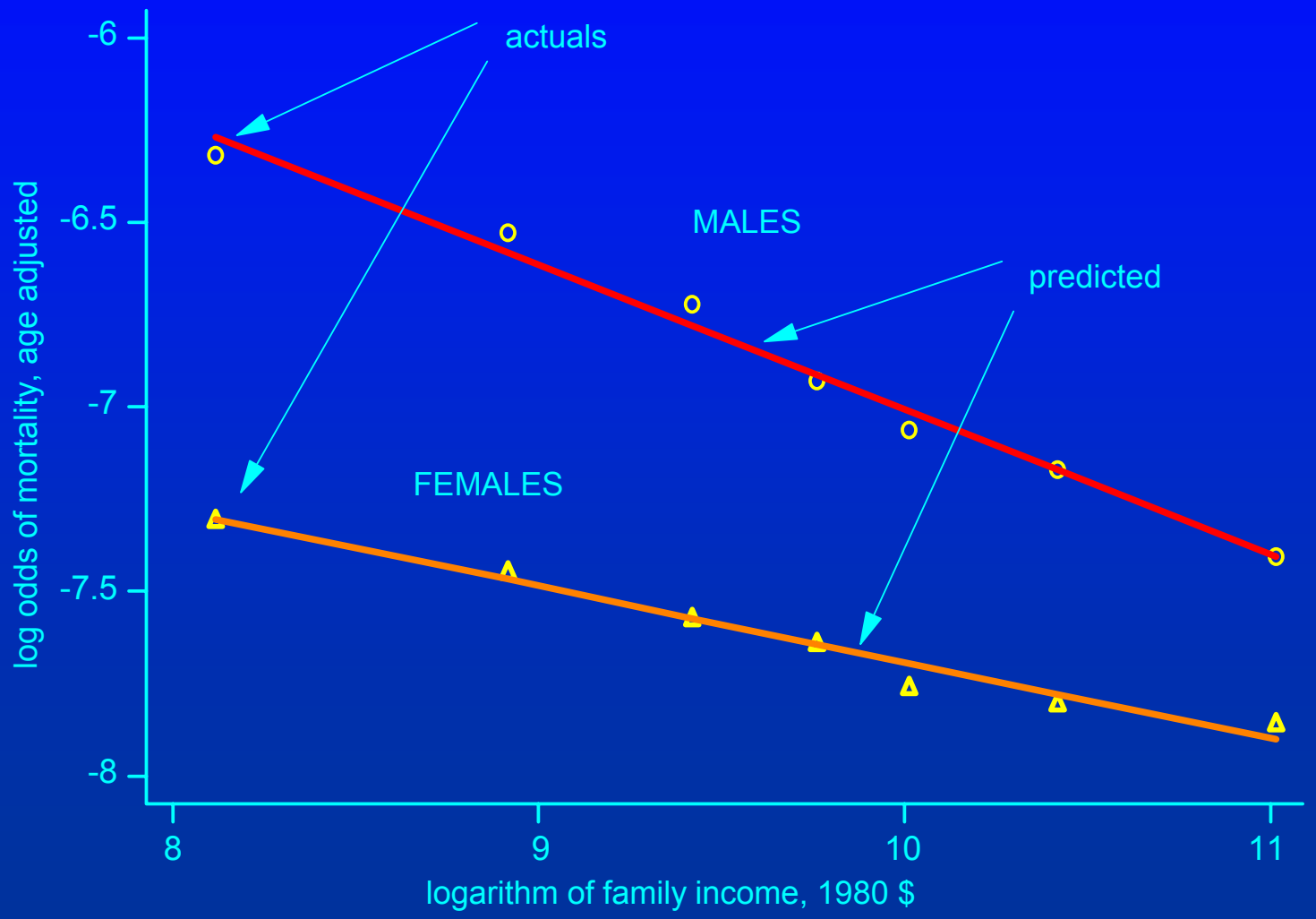
Qualifications & questions

- Causation between income & health is unclear: health to income must also be important
- Importance of third factors, e.g. education, or (expensive) public health, conflict
- Income growth is sometimes deleterious for health: e.g. urbanization historically or in many poor countries now. (Simon Szreter: “disruption, deprivation, disease, and death”)
- Strong link between income and health *within* rich countries

An alternative interpretation

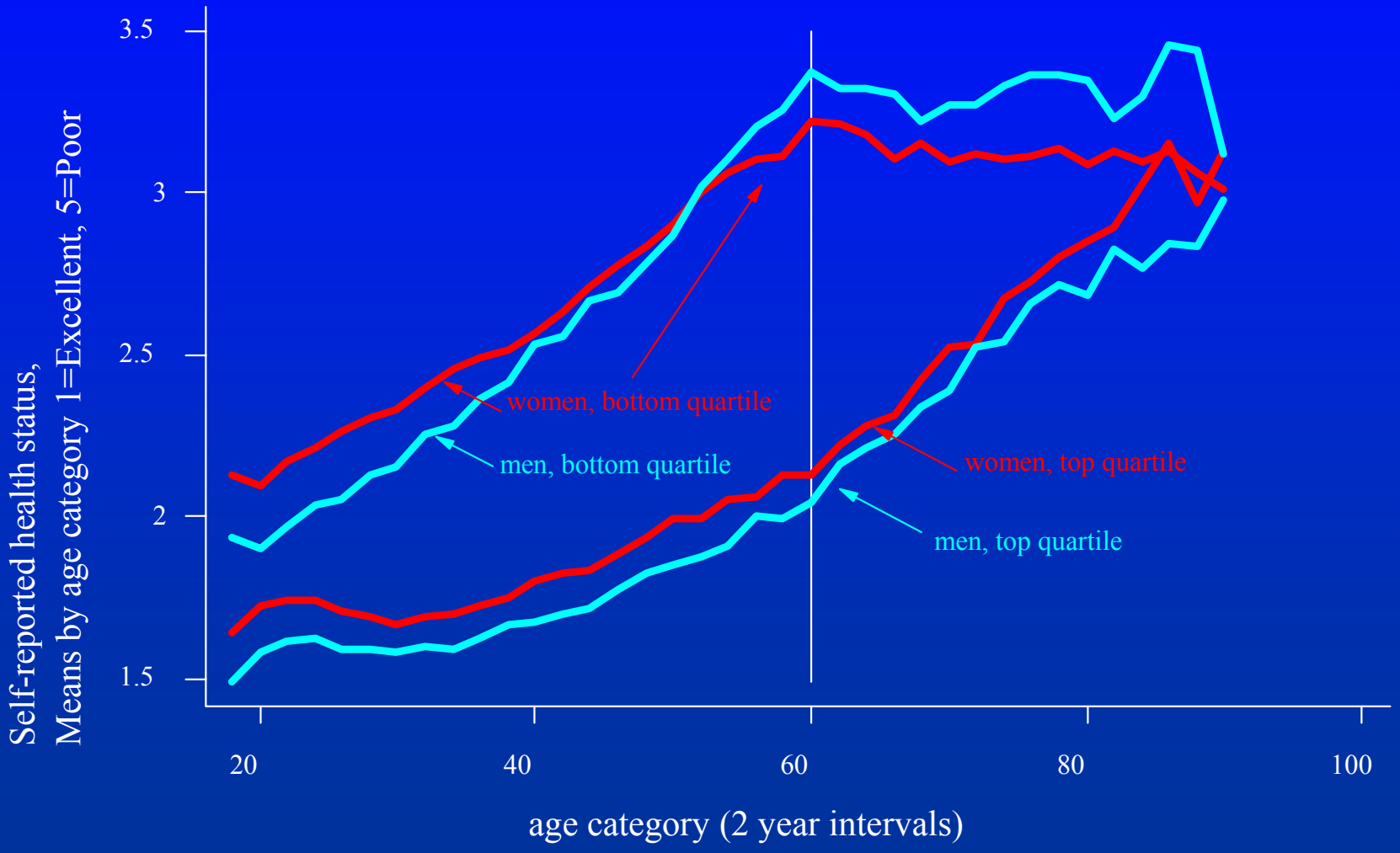
- Better health in poor countries leads to higher economic growth (CMH view)
  - policy prescription: focus on provision of healthcare
- In rich countries, medicine is less important than social conditions, such as income, income inequality, unemployment, race, social capital, etc. (Public Health view)
  - policy prescription: economic and social policies are health policies, too much focus (expenditure) on healthcare/technology

Mortality rates in the US



Source: Calculations from NLMS

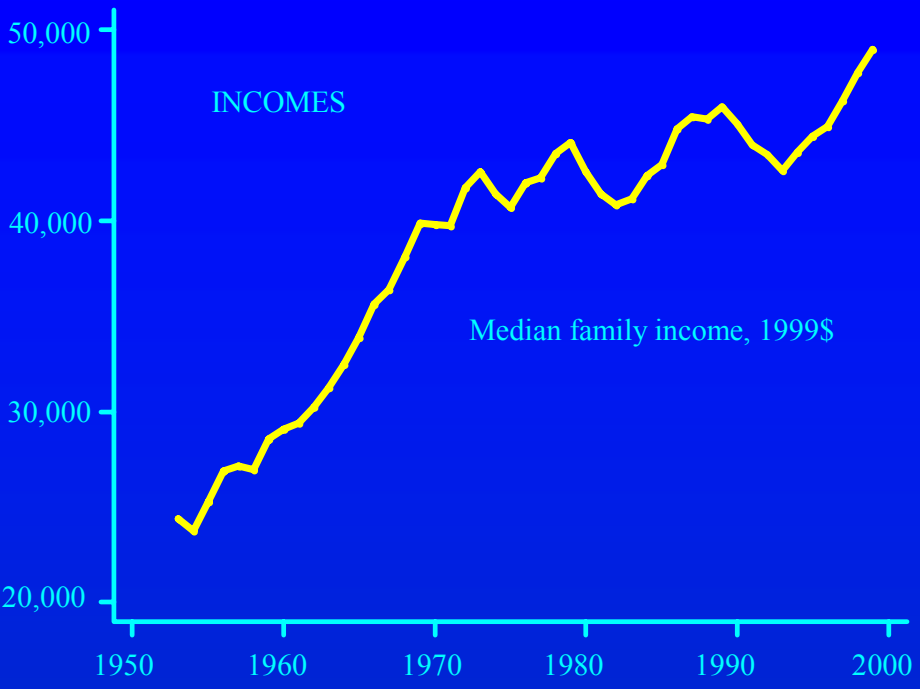
Self-reported health status by age & sex in the US

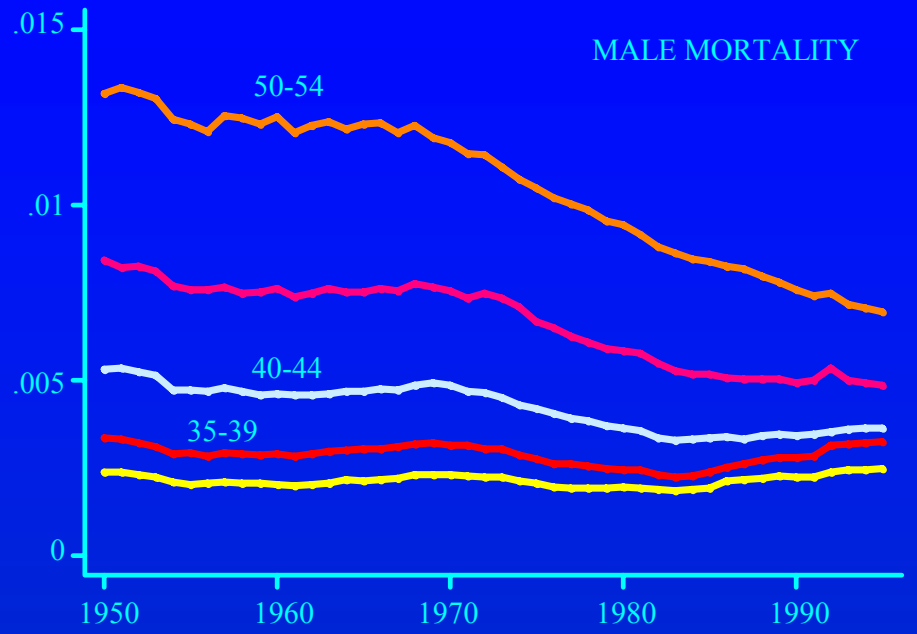


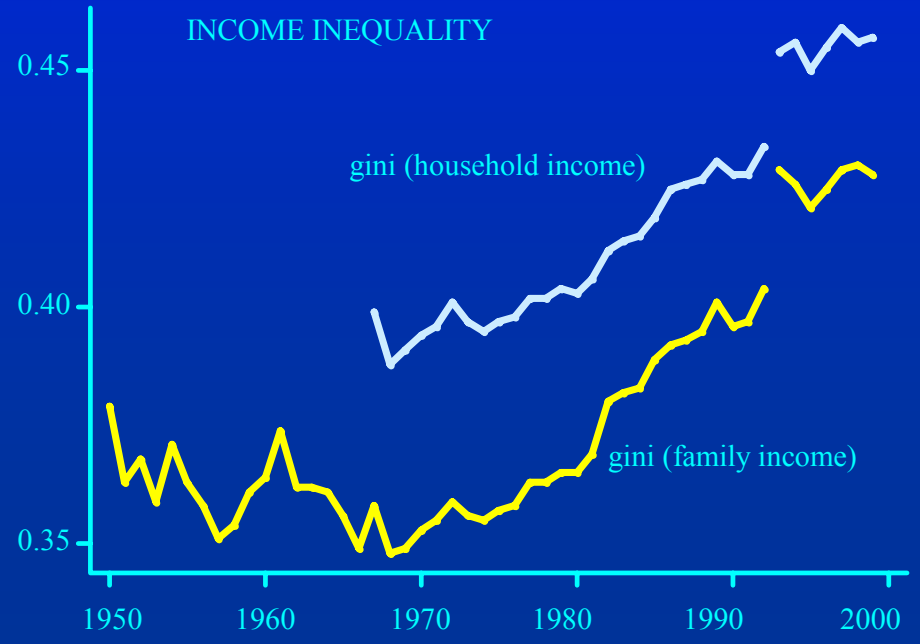
Source: NHIS, Case & Deaton, 2003

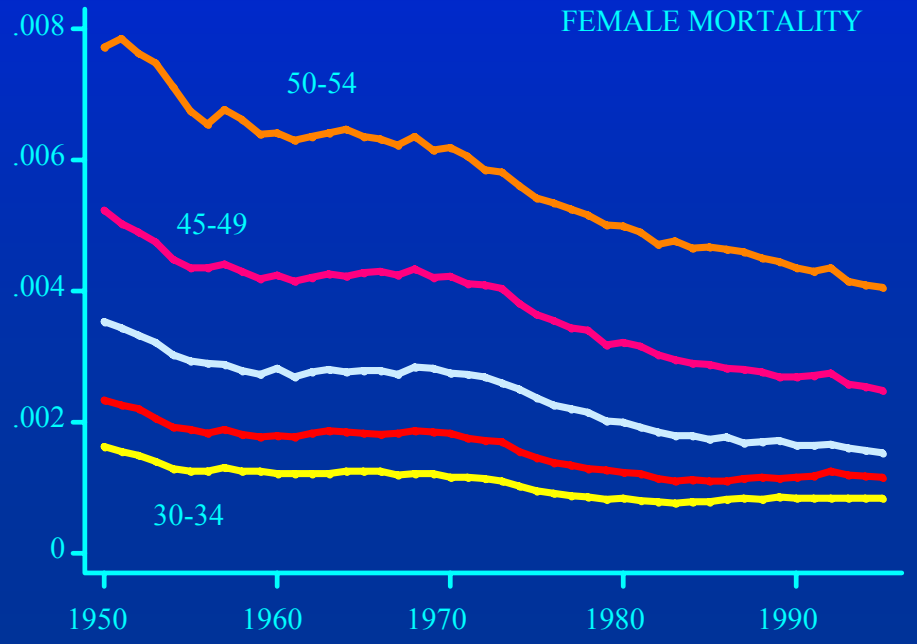
But, whatever these are …

- They are not income (as opposed to relative income, social position, or some third factor)
- Correlations vanish or are much reduced at the city, state, or country level
- SRHS is almost entirely explained by stratifying on labor force status: so much is health to income, not income to health
- Over time, it is not income or income inequality that drives health change in US or UK

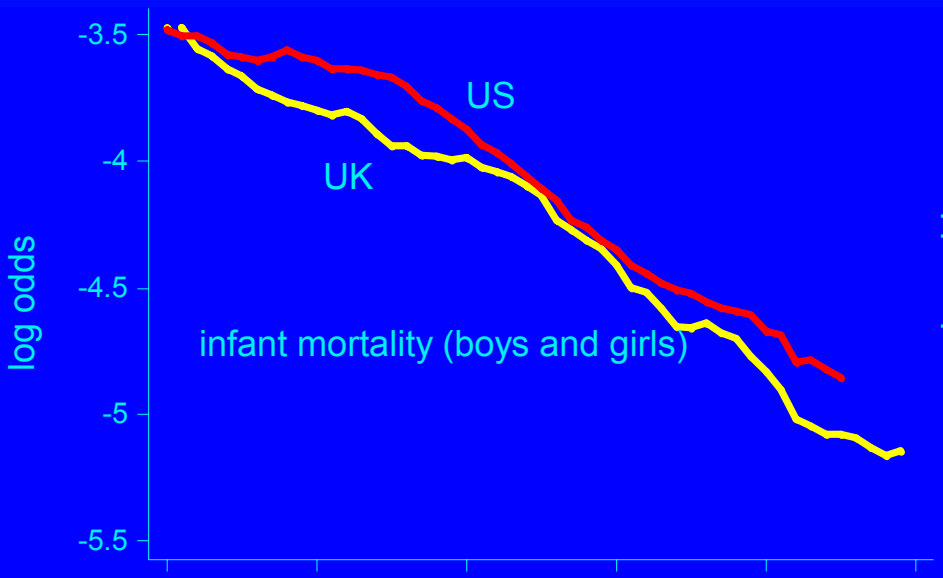

INCOMES
Median family income, 1999$
50,000
40,000
30,000
20,000
1950
1960
1970
1980
1990
2000

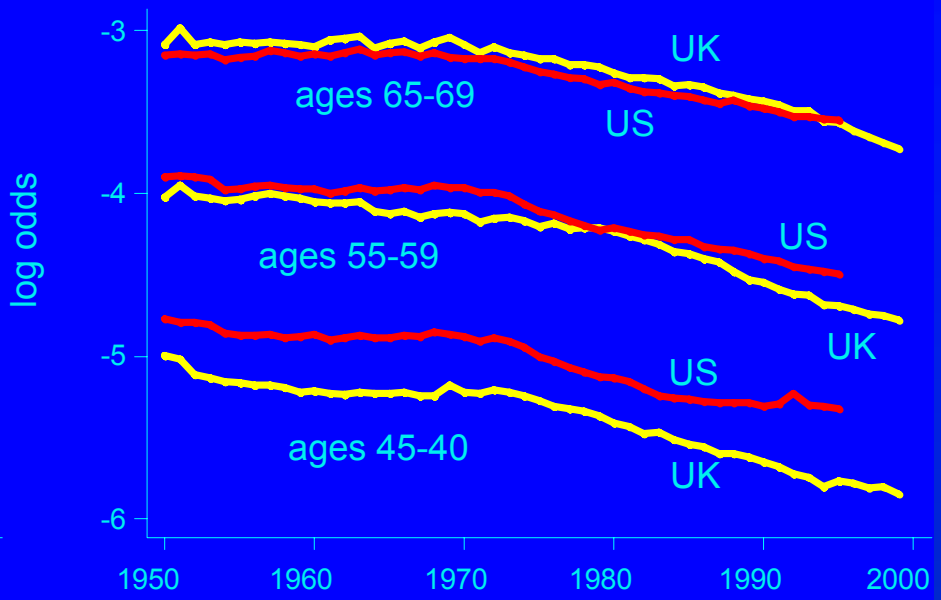

MALE MORTALITY
50-54
40-44
35-39
.015
.01
.005
0
1950
1960
1970
1980
1990


INCOME INEQUALITY
gini (household income)
gini (family income)
0.45
0.40
0.35
1950
1960
1970
1980
1990
2000

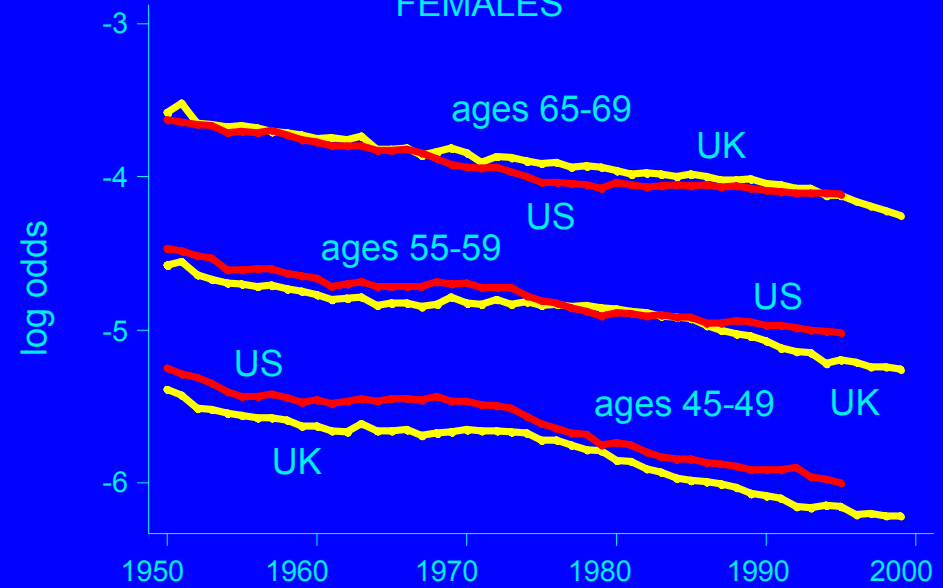

FEMALE MORTALITY
50-54
45-49
30-34
.008
.006
.004
.002
0
1950
1960
1970
1980
1990

Mortality patterns: US versus UK: 1950-2000





MALES



What about poor countries?

- Clear that better health raises the *level* of output
- Implausible that better health raises the *rate of growth*
- Huge historical increase in LE in now-rich countries with little or no increase in growth rate (Lant Pritchett)
- Similarly among poorer countries in the last 50 years

Income and health in poor countries

- The importance of income, food, and nutrition, particularly among children
- Effects of lack of income on mental health
- Income and public health provision: individual and community
- South African pension and its effects on nutrition, on SRHS, on other family members in "income pooling" families (Anne Case)

- By contrast, frequent ineffectiveness of healthcare, or at least of money spent on healthcare

Meals Missed for Lack of Money and the Old Age Pension

Probit Estimates

Black and Coloured Households

	Household Pools Income		Household Does Not Pool Income		All Households	
Number of pensioners in household	−.256	−.210	−.161	−.047	−.242	−.186
	(.107)	(.150)	(.203)	(.209)	(.069)	(.123)
Number of members aged 55+		−.051		−.124		−.063
		(.090)		(.080)		(.080)
Indicator: household does not pool income					−.029	−.037
					(.080)	(.084)
Number of observations	186	186	34	34	220	220

Source: Case (2003, Table 7)

Second Carnegie Inquiry into Poverty and Development in Southern Africa (1980)

Sometimes they lie awake at night crying. I know they are crying because they are hungry. I feel like feeding them Rattex. When your children are crying hunger-crying, your heart wants to break. It will be better if they were dead. When I think things like that I feel worse. It's terrible when a mother wants to kill her own children. But what can you do; I'm not a mother worth having.

(Wilson and Ramphele, page 97, 1980)

Table 7. The Depression Index and the Old Age Pension

Dependent variable = Depression Index (with values from 0 to 8)

Household contains at least one pensioner	–.529	
	(.266)	
Household contains one pensioner		–.518
		(.238)
Household contains two or more pensioners		–.942
		(.517)
Indicator: respondent is a pensioner	–.316	–.188
	(.302)	(.356)
Number of members aged 55+	.072	.113
	(.177)	(.204)
Indicator: household does not pool income	.100	.079
	(.294)	(.313)

Source: Case (2003b, Table 7)

Original view is broadly correct

- Income in poor countries, technology in rich
- But this is an order of priority, not an absolute
  - much progress in poor countries without income growth
  - transmission of some technologies
  - some public health measures
  - personal health care system much less clear
  - poverty, race, education, etc are clearly also important in rich countries

And finally . .

- Again, imperative to provide healthcare to those in need (MDG contract)
  - but not as a way of stimulating economic growth
  - economic growth is likely to bring substantial health improvements