

Is equality better for everyone?

The Spirit Level Debate

- **A controversial claim is that societal inequality has an effect on individual health outcomes. What are the mechanisms that might produce such an effect? What evidence is there that the claim is true?**

# Questions to keep in mind

- What is the question?
- What is the population?
- What constitutes strong evidence?
- Is the mechanism plausible?
- Where does science end & politics begin?

# Laying it on thick

- *It is a remarkable paradox that, at the pinnacle of human material and technical achievement, we find ourselves anxiety-ridden, prone to depression, worried about how others see us, unsure of our friendships, driven to consume and with little or no community life. Lacking the relaxed social contact and emotional satisfaction we all need, we seek comfort in over-eating, obsessive shopping and spending, or become prey to excessive alcohol, psychoactive medicines and illegal drugs.*

Wilkinson & Pickett (2010) pp 3.

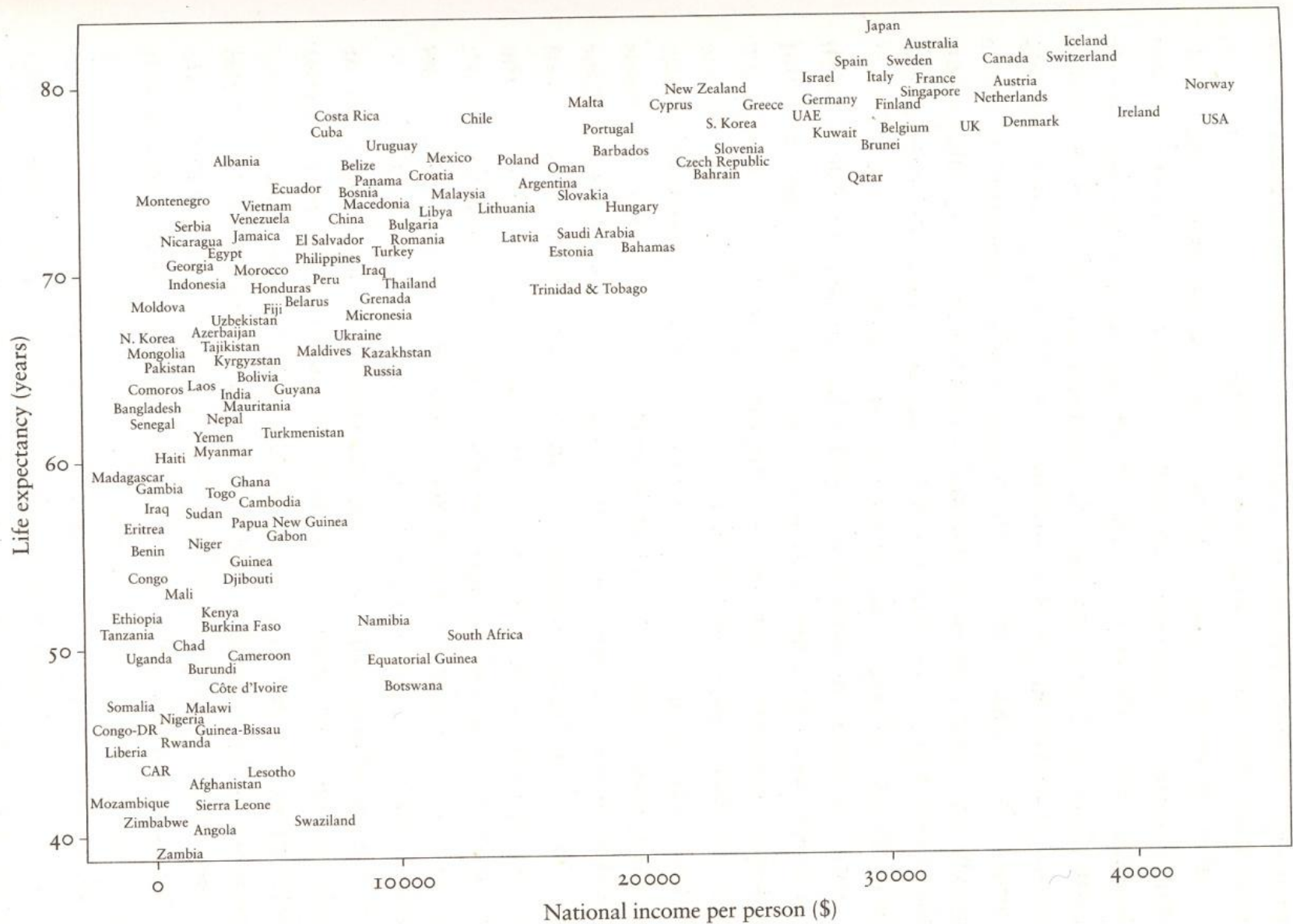


Figure 1.1 Only in its early stages does economic development boost life expectancy.<sup>2</sup>

TABLE 1  
Interpretations of Income Inequality Effects on Health

Hypothesis	Interpretation
<i>Wagstaff and van Doorslaer (2000)</i>	
Absolute income hypothesis (AIH)	There is no association between income inequality and health after proper control for absolute income at the individual level.
Relative income hypothesis (RIH)	It is income relative to some social group average (which social group is undefined) that is important to health.
Deprivation hypothesis (DH)	It is income relative to some poverty standard that is important to health.
Relative position hypothesis (RPH)	It is an individual's relative position in the income distribution that is important to health.
Income inequality hypothesis (IIH)	There is a direct effect of income inequality on health after control for absolute income.
<i>Mellor and Milyo (2002)</i>	
IIH (strong version)	For two individuals, A (with high income) and B (with low income), a transfer of income from A to B will improve the health of both.
IIH (weak version)	An income transfer will improve the health of B much more than the reduction of health for A, suggesting more potent health effects of income inequality among the poor.
<i>Lynch et al. (2000a)</i>	
Individual income interpretation	As for the AIH above.
Psychosocial interpretation (strong version)	Direct health effects of income inequality represent generalizable psychosocial processes that are among the major determinants of population health in rich countries.
Psychosocial interpretation (weak version)	Direct health effects of income inequality represent particular psychosocial processes that influence some health outcomes in rich countries.
Neomaterial interpretation	Direct health effects of income inequality result from the differential accumulation of exposures that have their sources in the material world and that do not result directly from perceptions of disadvantage.

THE SPIRIT LEVEL

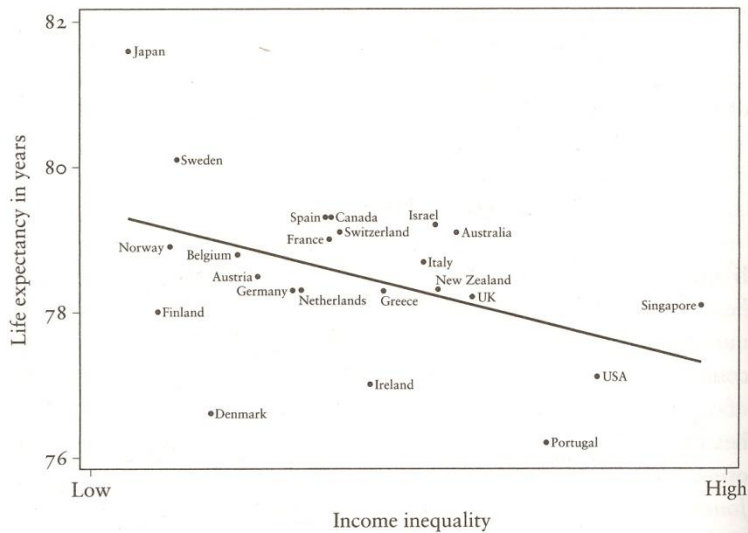


Figure 6.3 Life expectancy is related to inequality in rich countries.

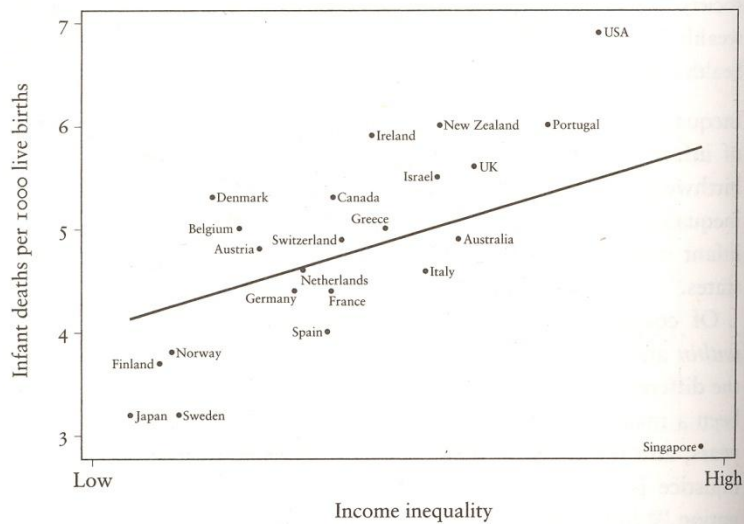


Figure 6.4 Infant mortality is related to inequality in rich countries.

PHYSICAL HEALTH AND LIFE EXPECTANCY

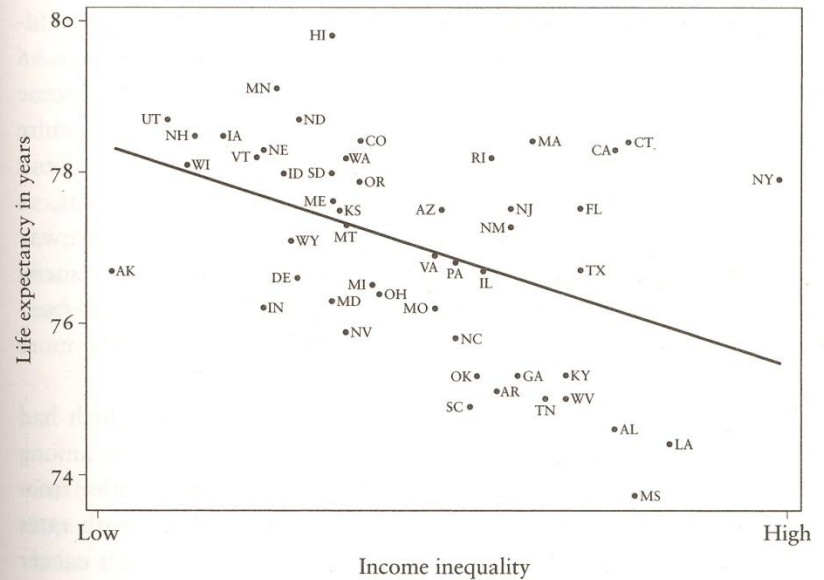


Figure 6.5 Life expectancy is related to inequality in US states.

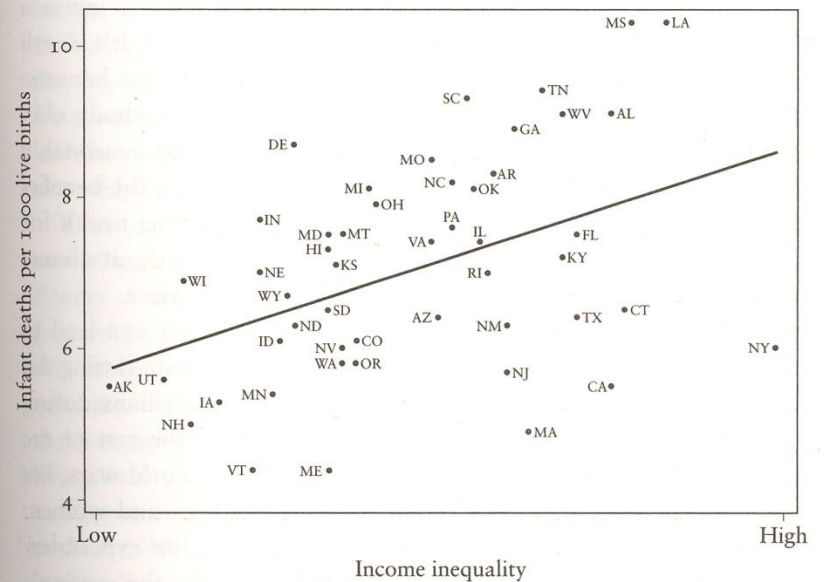
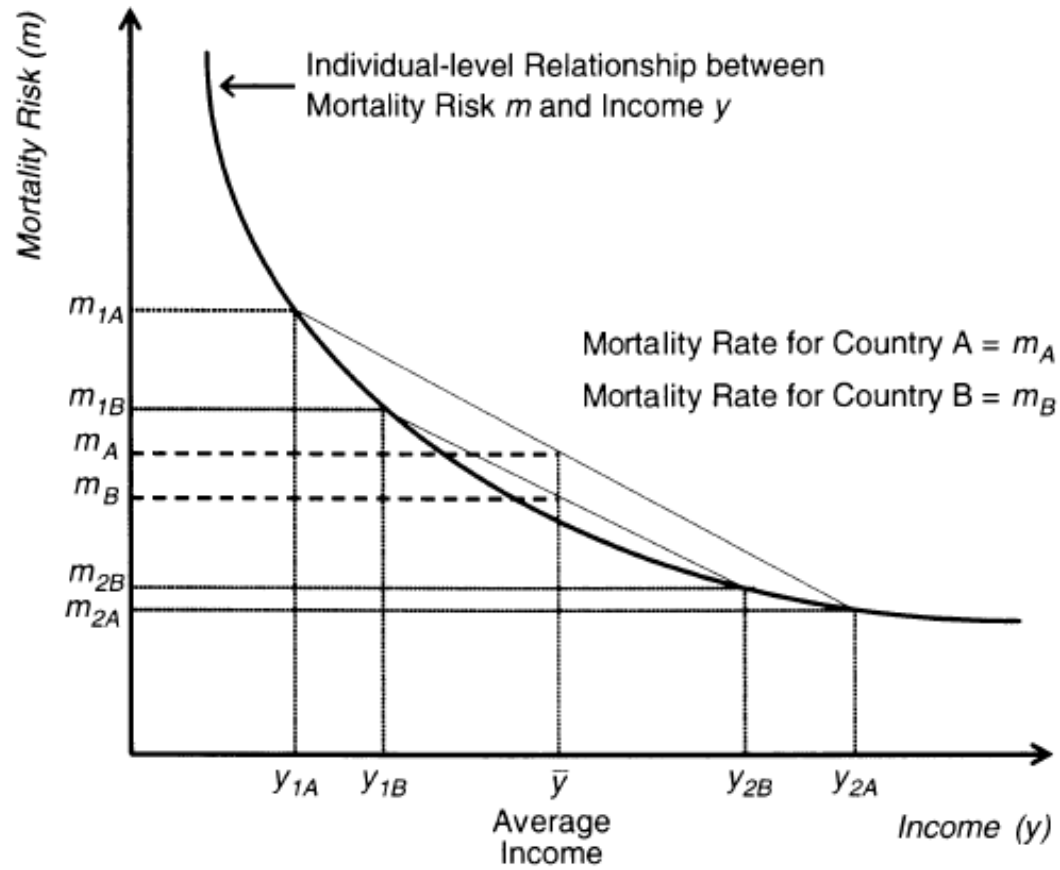


Figure 6.6 Infant mortality is related to inequality in US states.



Source: Adapted from Gravelle 1998.



# Some methodological issues

- **Systematic** evaluation of **all** the **relevant** evidence
- Lack of adequate controls (especially at the individual level)
- Failure to distinguish controls from mediators/ “over-controlling” (especially at the aggregate level)
- Inadequate checks on robustness/ frailty
  - Of measurements (inequality)
  - Of results to exclusions/ inclusions of observations
  - Of results to degree of aggregate resolution
- Basing conclusions on the right kind of data
- And what is the size of the “effect”?

We systematically reviewed the empirical evidence regarding the links between income inequality and health and outlined some of the issues emerging from that literature. What can we conclude?

*Among affluent countries, does income inequality help explain international differences in population health?* The evidence suggests that income inequality is not associated with population health differences—at least not as a general phenomenon—among wealthy nations.

*Do levels of income inequality explain regional health differences within countries?* In aggregate-level U.S. studies, the extent of income inequality across states and metropolitan areas seems reasonably robustly associated with a variety of health outcomes, especially when measured at the state level. In multilevel U.S. studies, using both individual and aggregate data, the evidence is more mixed, with state-level associations again being the most consistent. For other countries, the aggregate and multilevel evidence generally suggests little or no effect of income inequality on health indicators in rich countries such as Australia, Belgium, Canada, Denmark, Japan, New Zealand, Spain, and Sweden, but there may be some effects in the United Kingdom. Inconsistent effects have been observed in Brazil, with some supportive evidence coming from Chile, Russia, and Taiwan.

*How should the association between income inequality and health in the United States be understood?* It seems that the United States is somewhat exceptional in that it is the country where income inequality is the most consistently linked to population health.

THE SPIRIT LEVEL

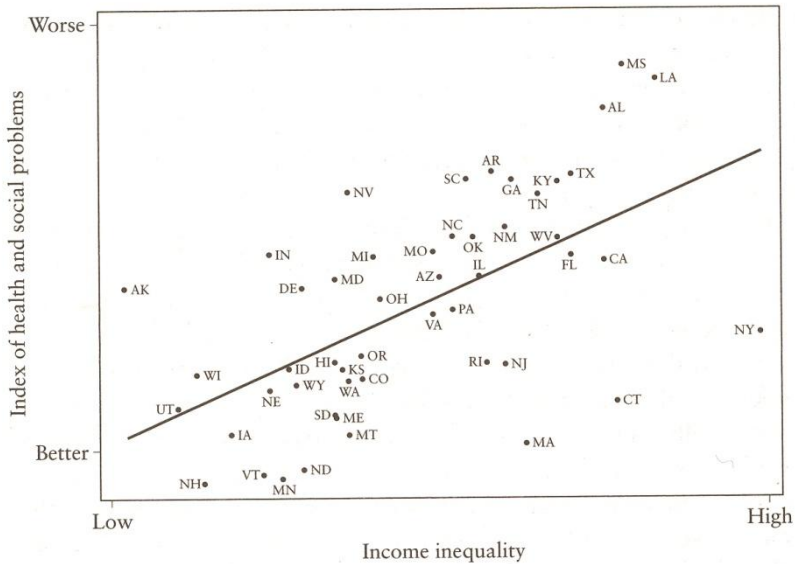


Figure 2.4 Health and social problems are related to inequality in US states.

Figure 2.4 shows that the Index of Health and Social Problems is strongly related to the amount of inequality in each state, while Figure 2.5 shows that there is no clear relation between it and average income levels.

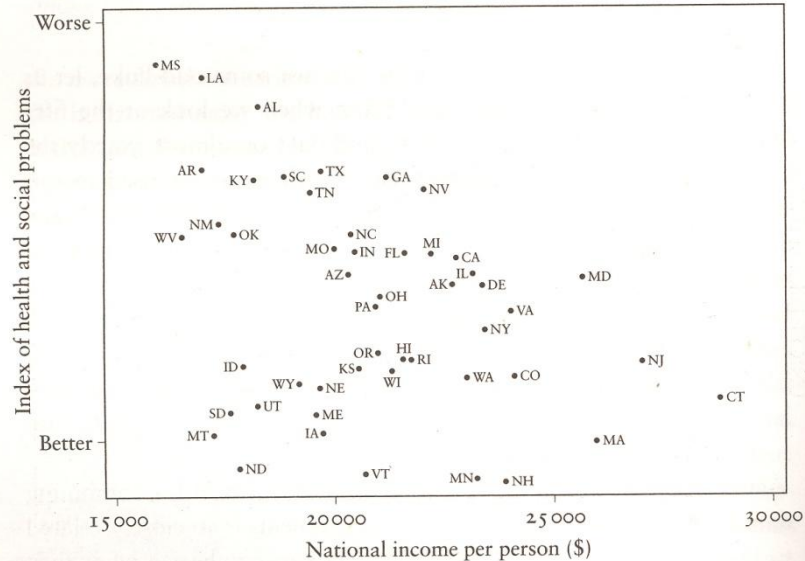
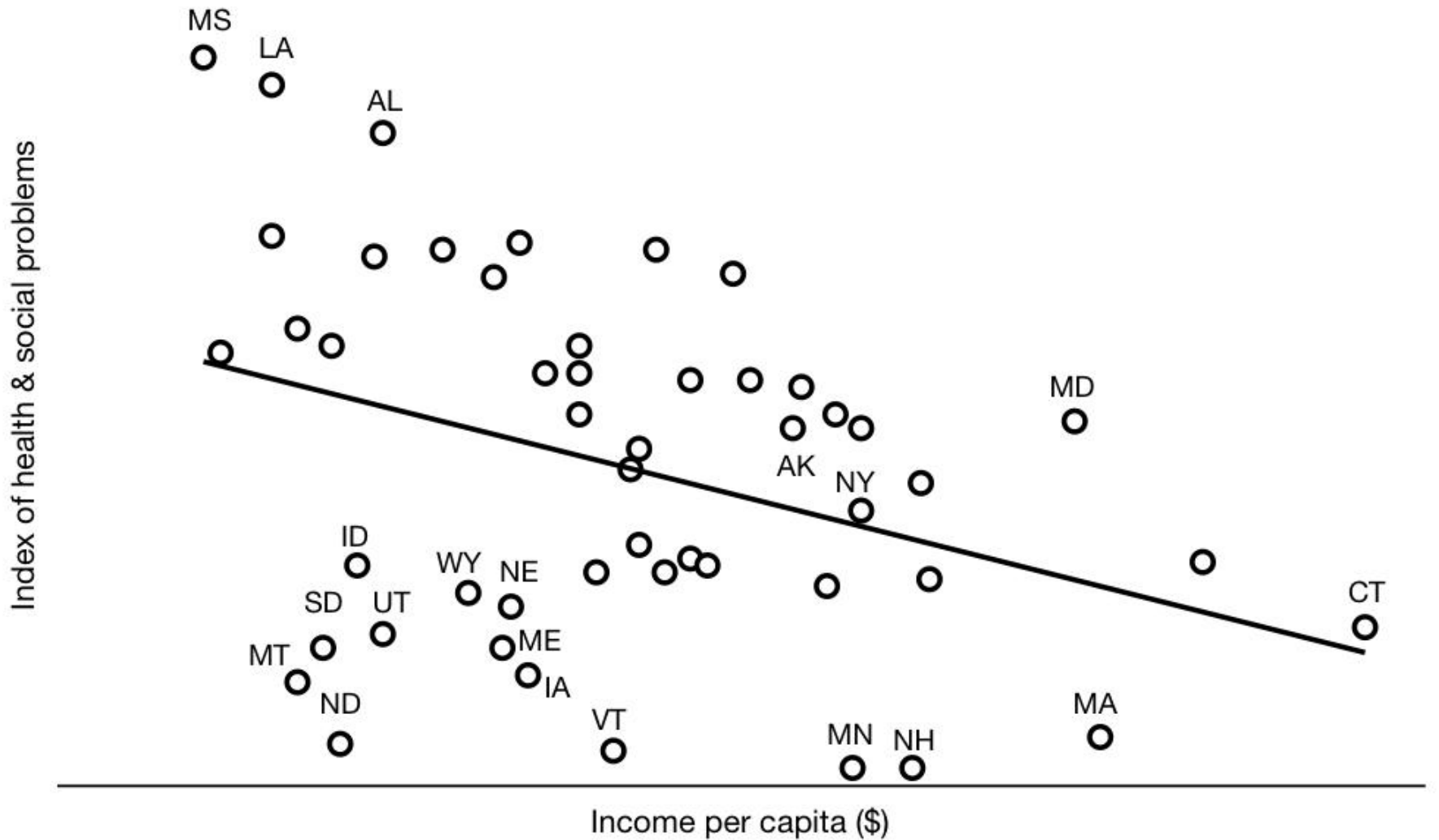


Figure 2.5 Health and social problems are only weakly related to average income in US states.

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$R^2 = 0.1323$

Index of health and social problems/state income per person (\$)



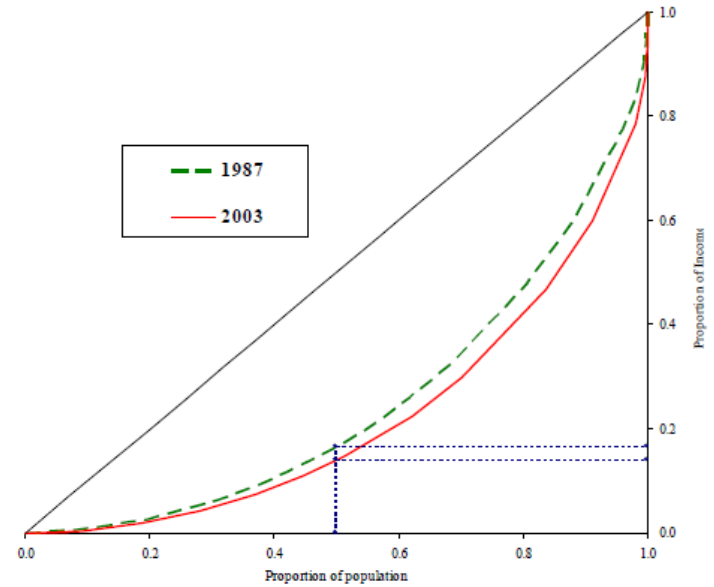
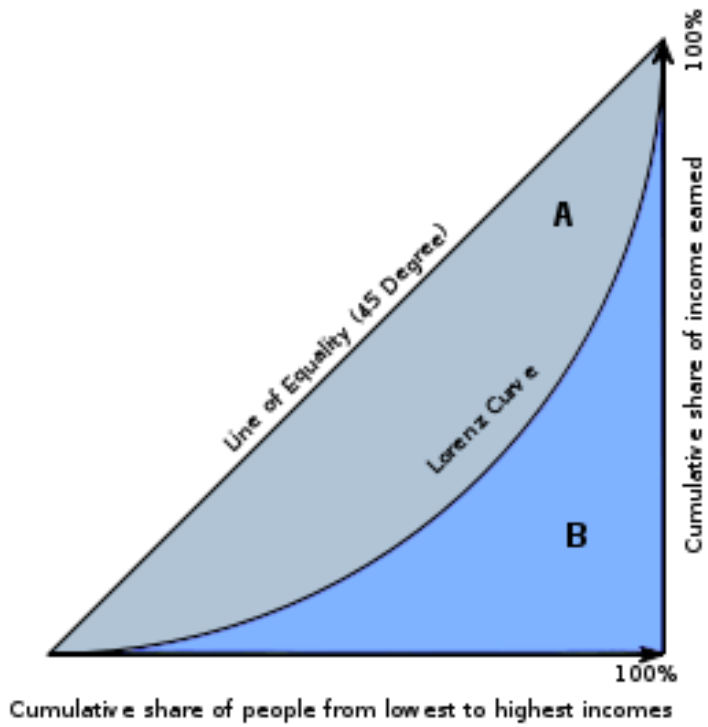
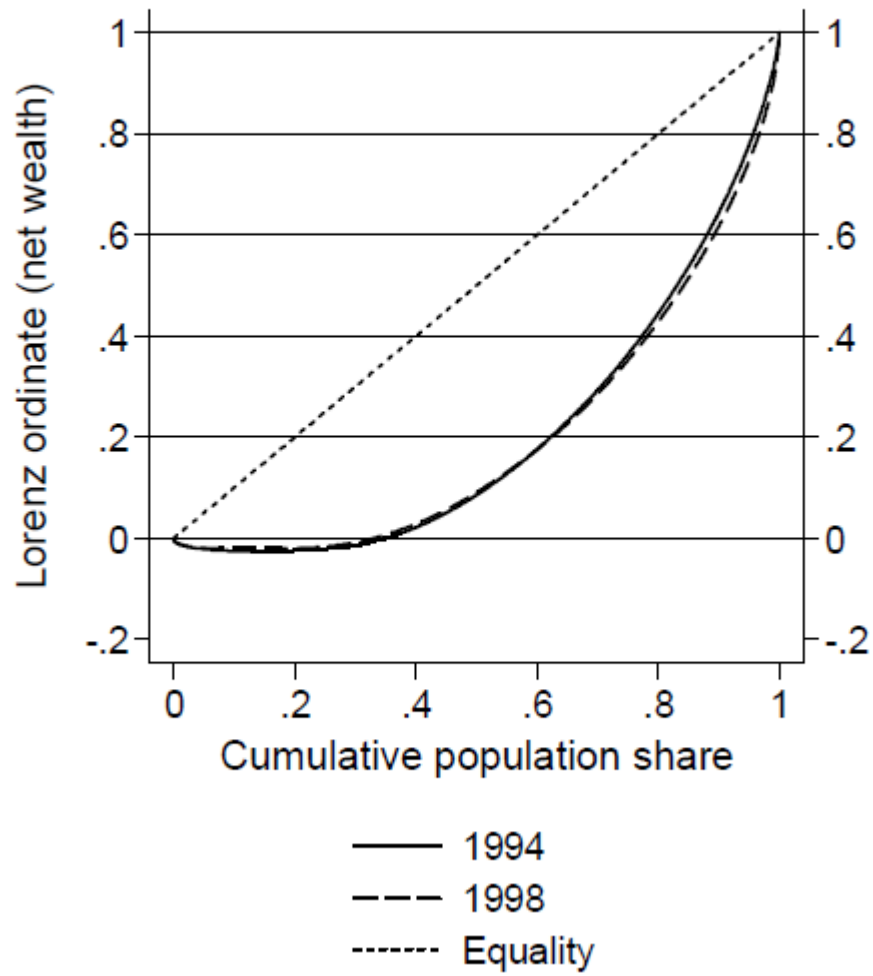


Figure 2: Lorenz Diagram, US income before tax 1987 and 2003

**Figure 5**  
**Lorenz curves for net wealth in Finland, 1994 and 1998**



# Asserting Causality

- If you want to know what the consequence of changing A to B is there is only one way to find out...change A to B
- Is a cross-national comparison like a RCT?
- Would the most well off do better if they lived in a more equal society?
  - Make them go and live in Sweden?
  - If you redistribute a lot of their wealth?

# Is Income Inequality a Determinant of Population Health? Part 2. U.S. National and Regional Trends in Income Inequality and Age- and Cause-Specific Mortality

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This article describes U.S. income inequality and 100-year national and 30-year regional trends in age- and cause-specific mortality. There is little congruence between national trends in income inequality and age- or cause-specific mortality except perhaps for suicide and homicide. The variable trends in some causes of mortality may be associated regionally with income inequality. However, between 1978 and 2000 those regions experiencing the largest increases in income inequality had the largest declines in mortality ( $r = 0.81, p < 0.001$ ). Understanding the social determinants of population health requires appreciating how broad indicators of social and economic conditions are related, at different times and places, to the levels and social distribution of major risk factors for particular health outcomes.



# Plausibility of the mechanism

- Status anxiety and stress
- Is the cortisol evidence consistent?
- How is “status” related to income
  - the strange case of the Japanese
- Why don't W&P play it straight with their critics?

# Is Equality Better for Everyone?

- We don't know
- *The Spirit Level*, on balance helps us, albeit in possibly unintended ways, to find out.