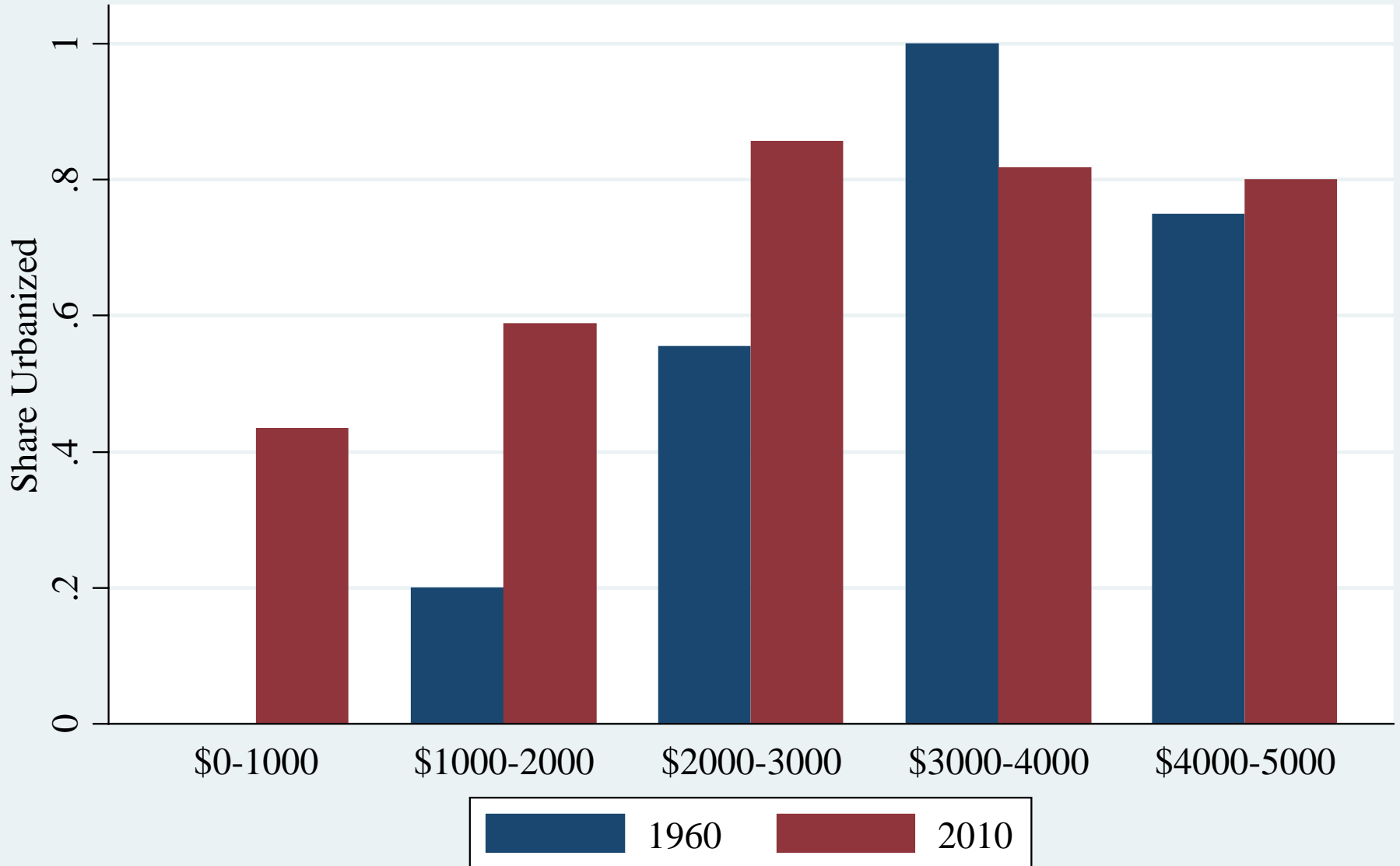
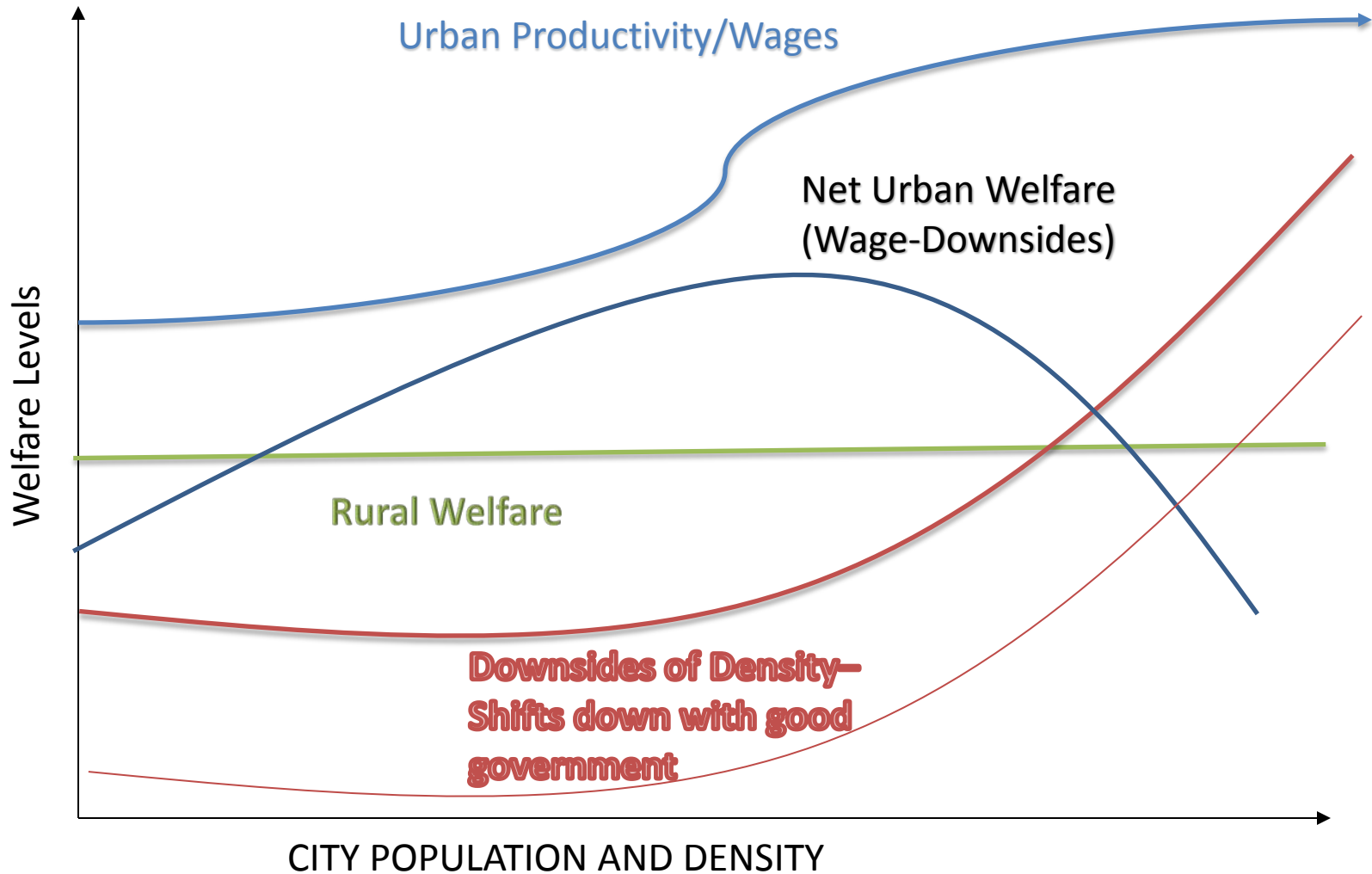


Share of Countries over 1/3 Urbanized, by GDP per Capita (2012 \$) 1960 and 2010



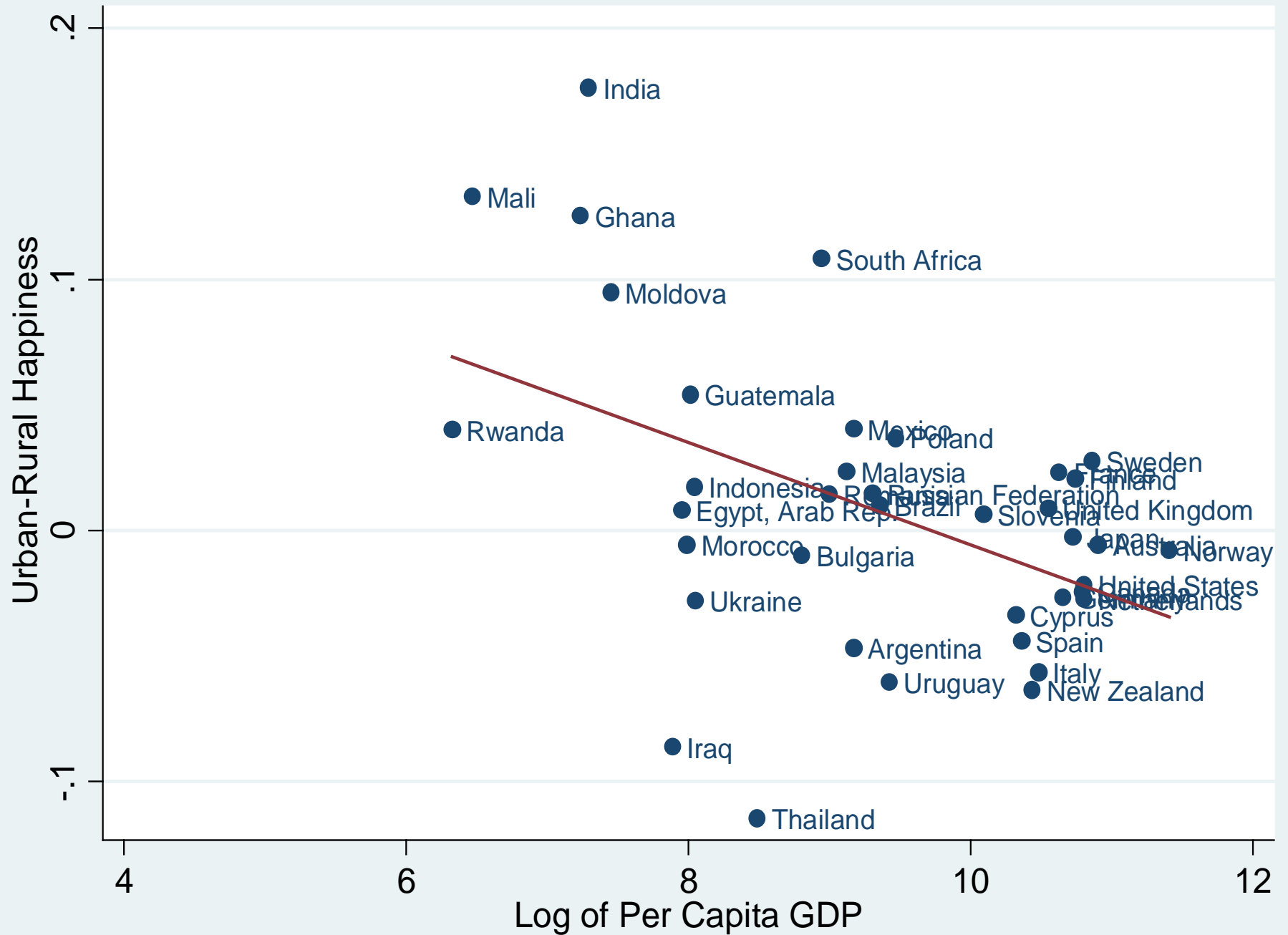
Source: World Bank

Welfare Economics of City Bigness

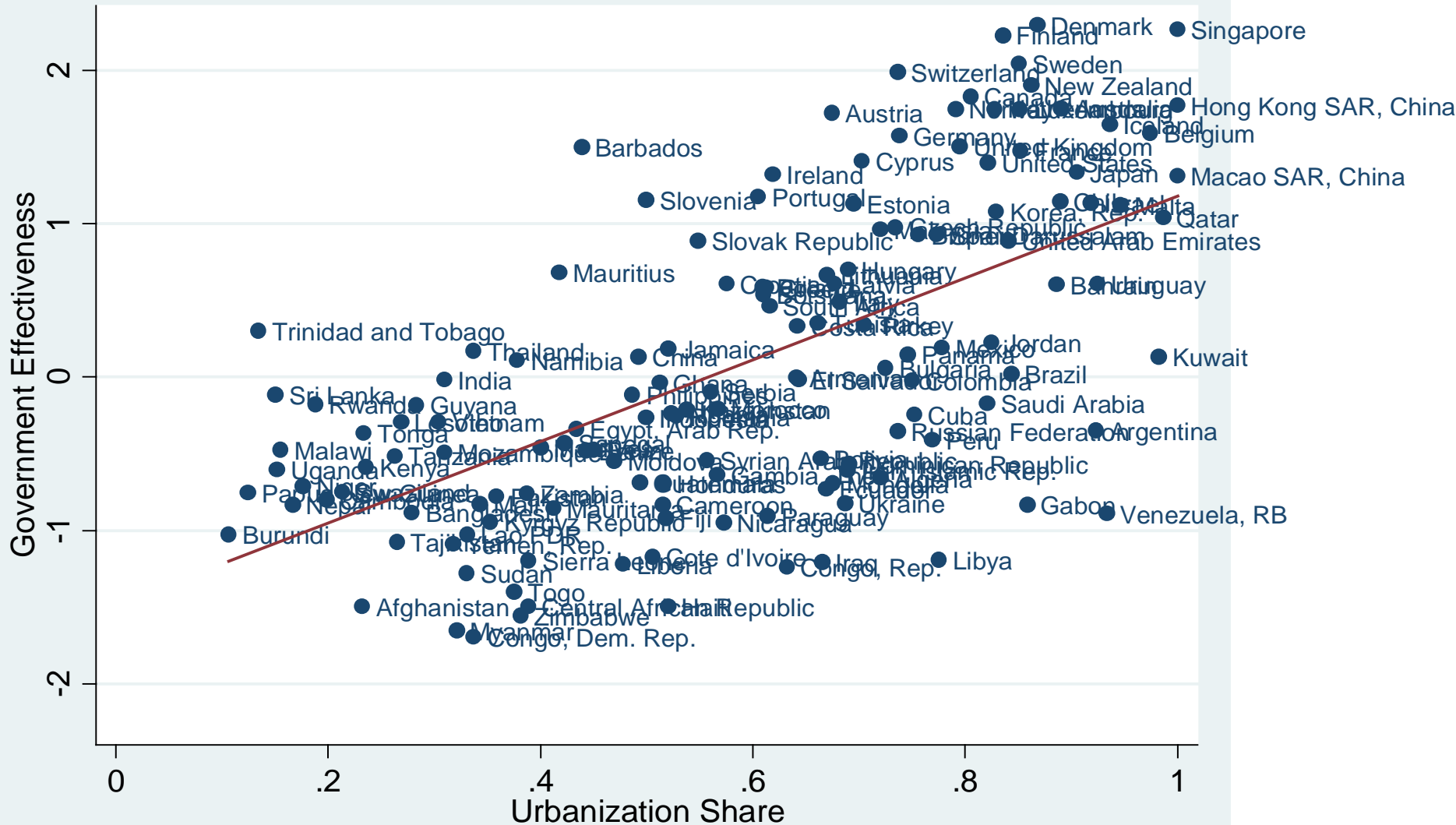


Government Ineffectiveness and Urbanization





Government Effectiveness and Urbanization

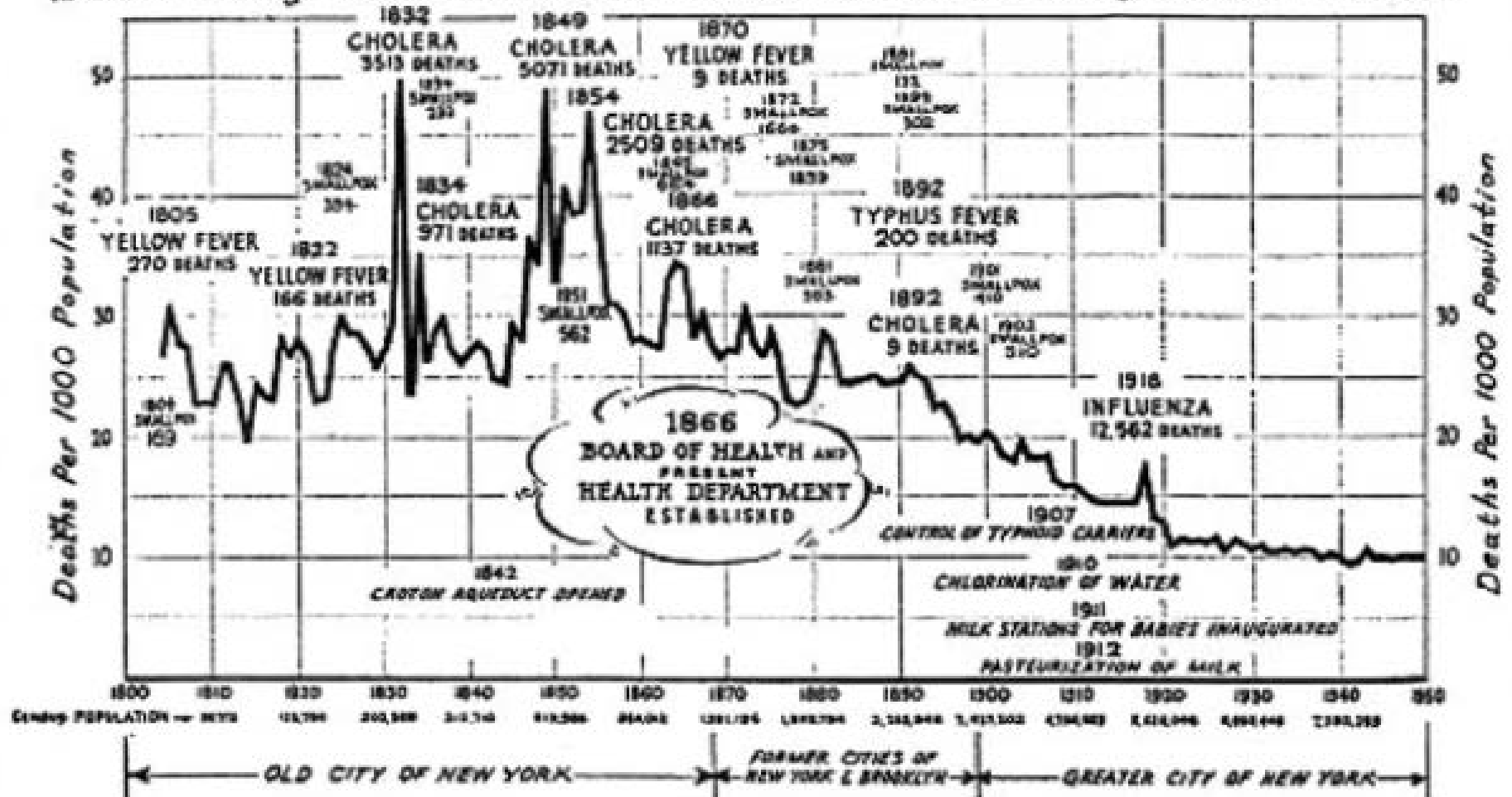


A crucial Difference between agglomeration and disamenities

- We have very little knowledge about how to make agglomeration effects more powerful.
 - Schooling and transportation perhaps
 - Cluster policies?? But this is a private sector thing.
- We do know how to reduce the disamenities because they have been the job of government for so long.
 - Water, crime, congestion
 - But limited cash and weak institutions make rich world solutions hard to export.

The CONQUEST OF PESTILENCE in New York City ~

... As Shown by the Death Rate as Recorded in the Official Records of the Department of Health.



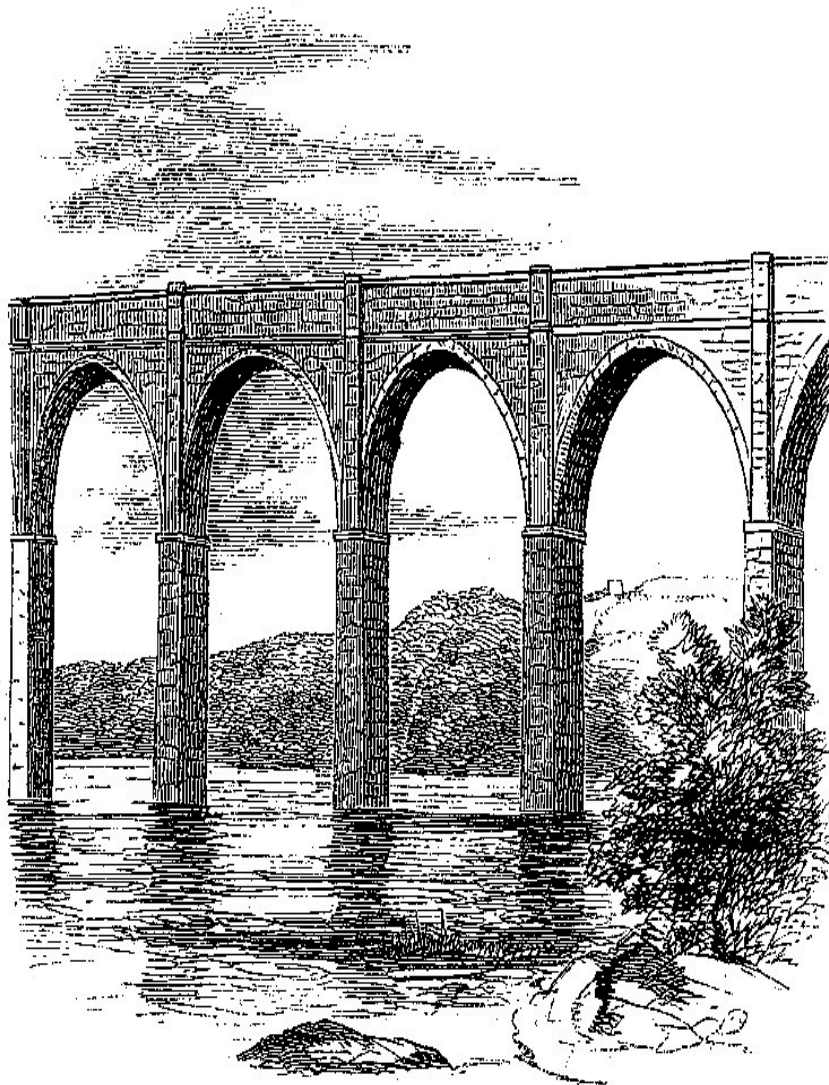
New York City's Department of Health shows the timeline of the city's mortality rate, which sharply dropped with the provision of clean water in the nineteenth century.

New York City Department of Health and Mental Hygiene

The Water/Sewage Market Failures

- My waste makes you sick and I have little private incentive not to dump waste near you.
 - Typically solved with some form of regulation and subsidized waste removal/street cleaning.
- My illness makes you sick and I have too little incentive to keep myself healthy.
 - These problems become more severe with density because transmission probabilities increase with density.
- Private provision of water can have a quality observability problem (lemons problem).
- There are also large fixed costs in aqueducts/sewer systems.
 - Public waterworks are often seen as natural monopolies but the problem has more often been too few revenues rather than too many.
- Hold-out problems associated with land assembly for aqueducts
- Large body of literature (Troesken esp. in economics) and public health documenting the deadly effects of bad water.

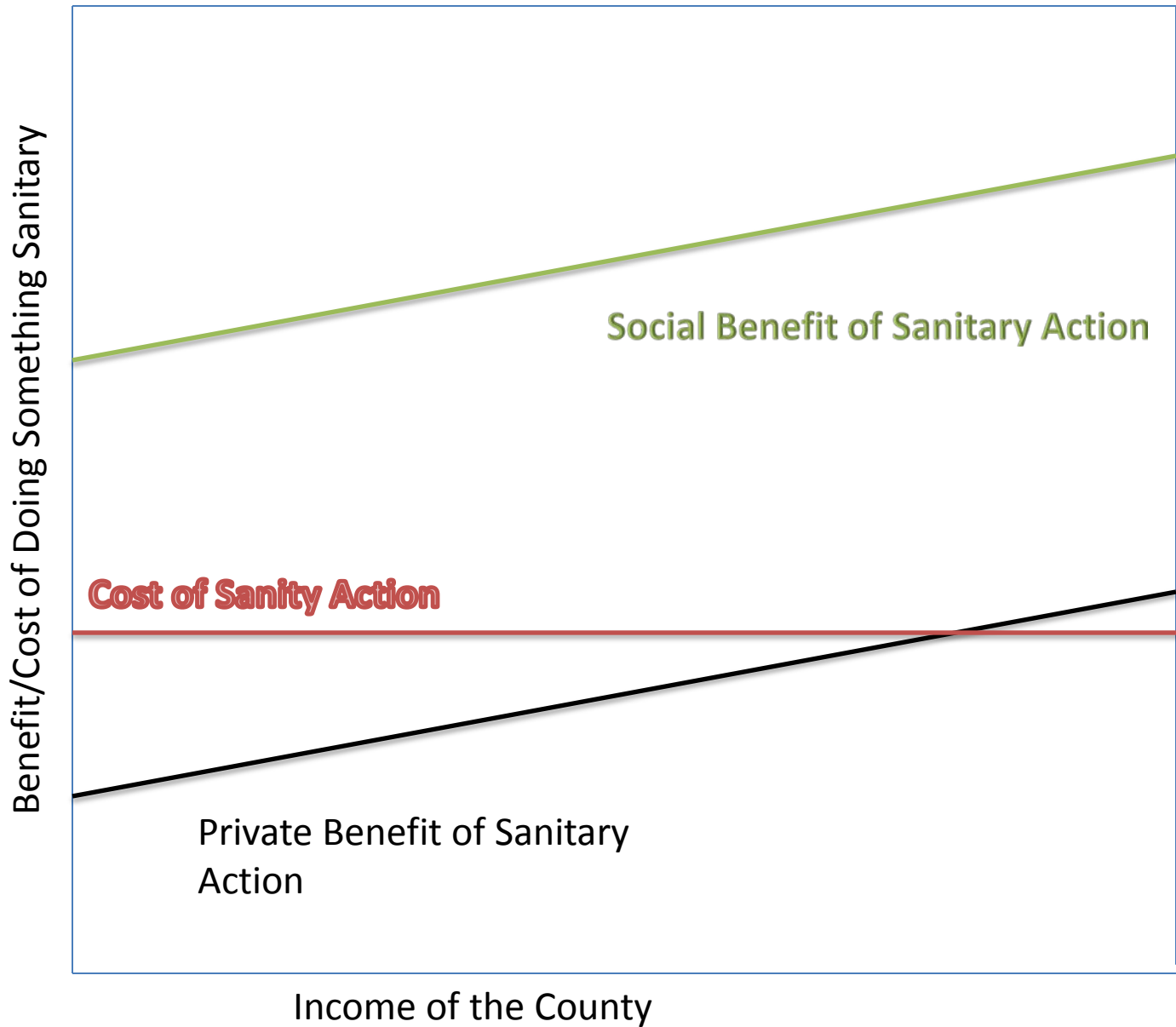
Engineering vs. Economics



SECTION OF THE HIGH BRIDGE OVER THE HARLEM RIVER.

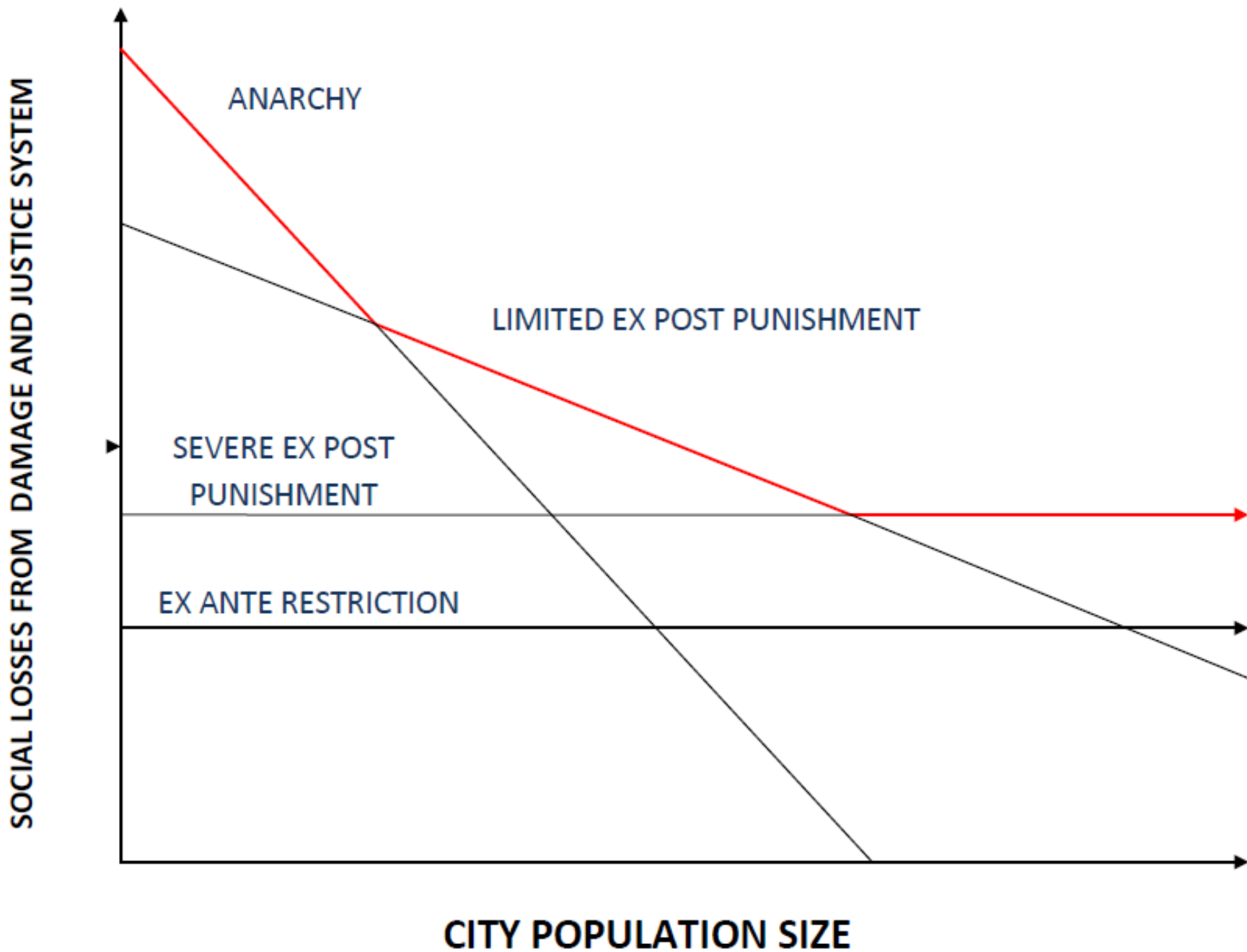


The Public Role in Promoting Sanitary Behavior

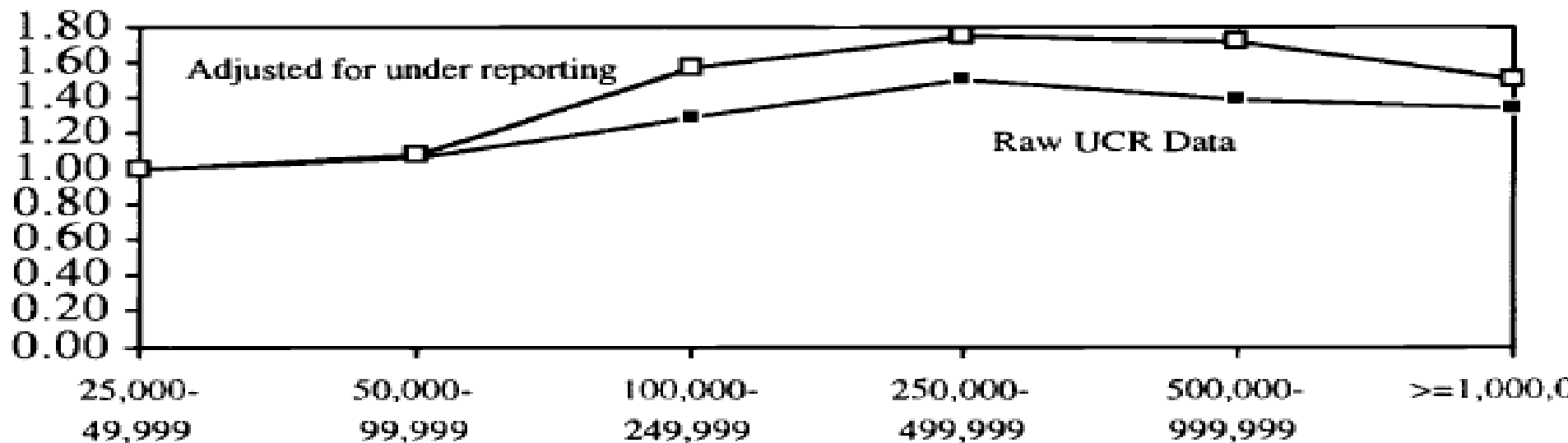


Making the Public System Work

- Subsidies for the safe technology
 - Runs up against high costs of funds
 - Abuse of public spending/corruption
 - Complaints about not turning off faucets
- Punishing the unsafe technology
 - Requires the ability to regulate
 - Close connection with private property and land ownership
- Fines for unsafe practice and private provision can certainly produce the first best but is this doable.

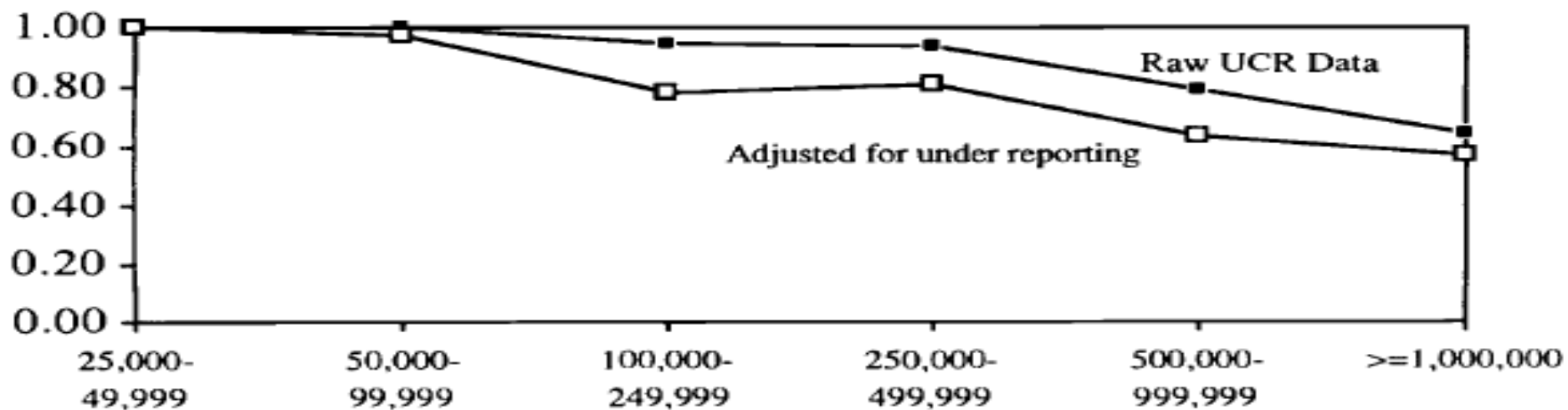


Crimes / Capita

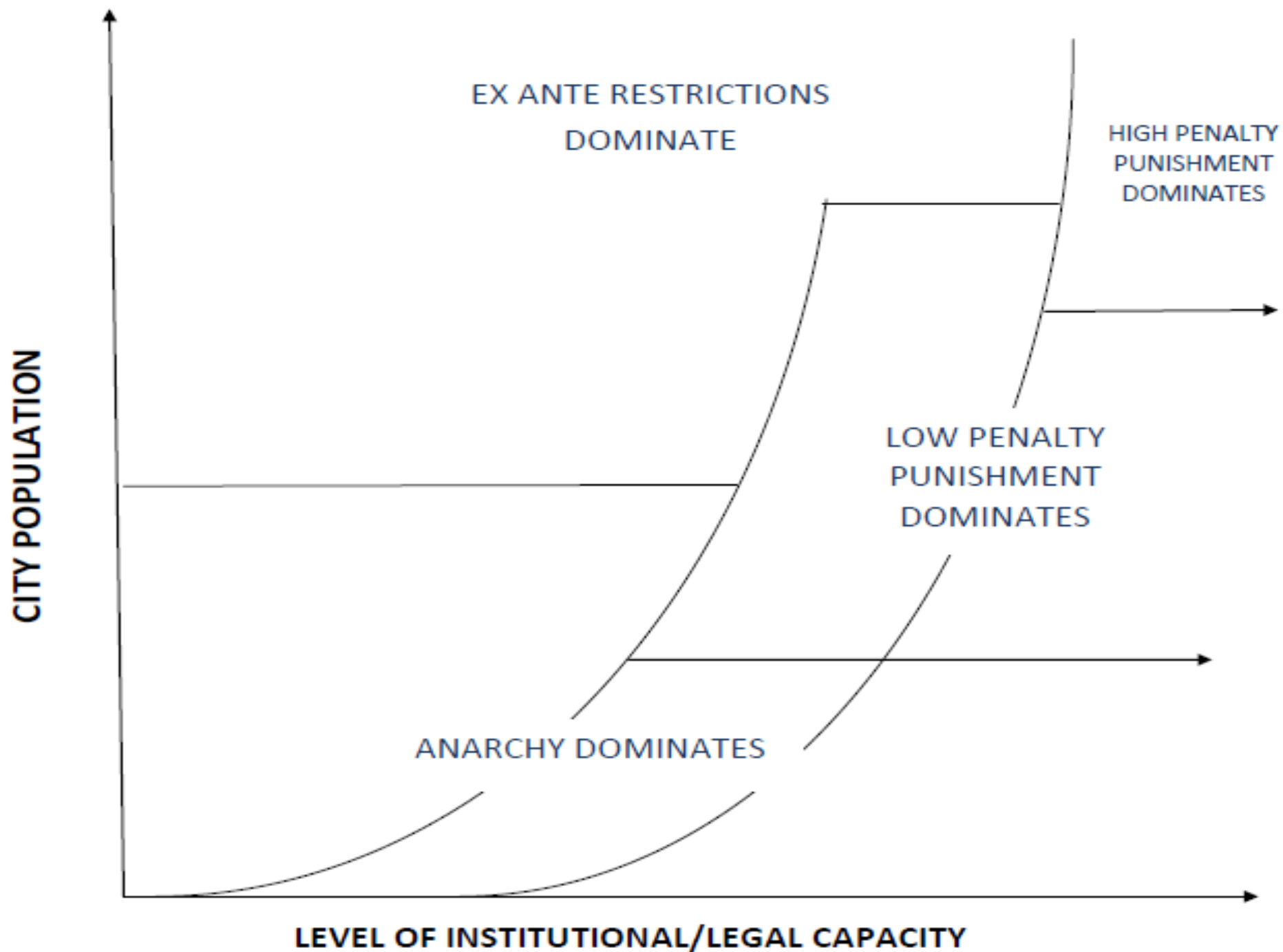


City Population

Arrests/Crime Normalized



City Population



Property Rights and Regulation

- The weak definition of property rights in the developing world is often attacked because it leads to too little private investment (De Soto) or too much self-protection (Erica Field).
- But it is also true that property can be used to create obligations (the Feudal norm).
- To ensure a “no refuse” policy, the government would need to monitor public space permanently– but could punish private land owners for evidence of such waste with sporadic monitoring.
- But how is this possible when no one actually owns the land. No property rights means limited regulation means bad water and too much waste.



John Snow's famous 1854 cholera map helped him to determine that a pump well was the source of London's epidemic.

Wikimedia Commons (Published by C.F. Cheffins, Lith, Southampton Buildings, London England, 1854 in Snow, John. On the Mode of Communication of Cholera, 2nd Ed. John Churchill, New Burlington Street, London, England, 1855.)



George Waring and other pioneers of sanitation transformed the motley crew of New York street cleaners (left, in 1868) into a well-organized and effective force (right, in 1920).

[Art 13 and 14:] Picture Collection, The New York Public Library, Astor, Lenox and Tilden Foundations