

Geography, History and Institutions

"Geography is destiny" Napoleon Bonaparte

Fall 2010

Geography, history, institutions, culture



Investment, education, employment, technology adoption



Output per worker

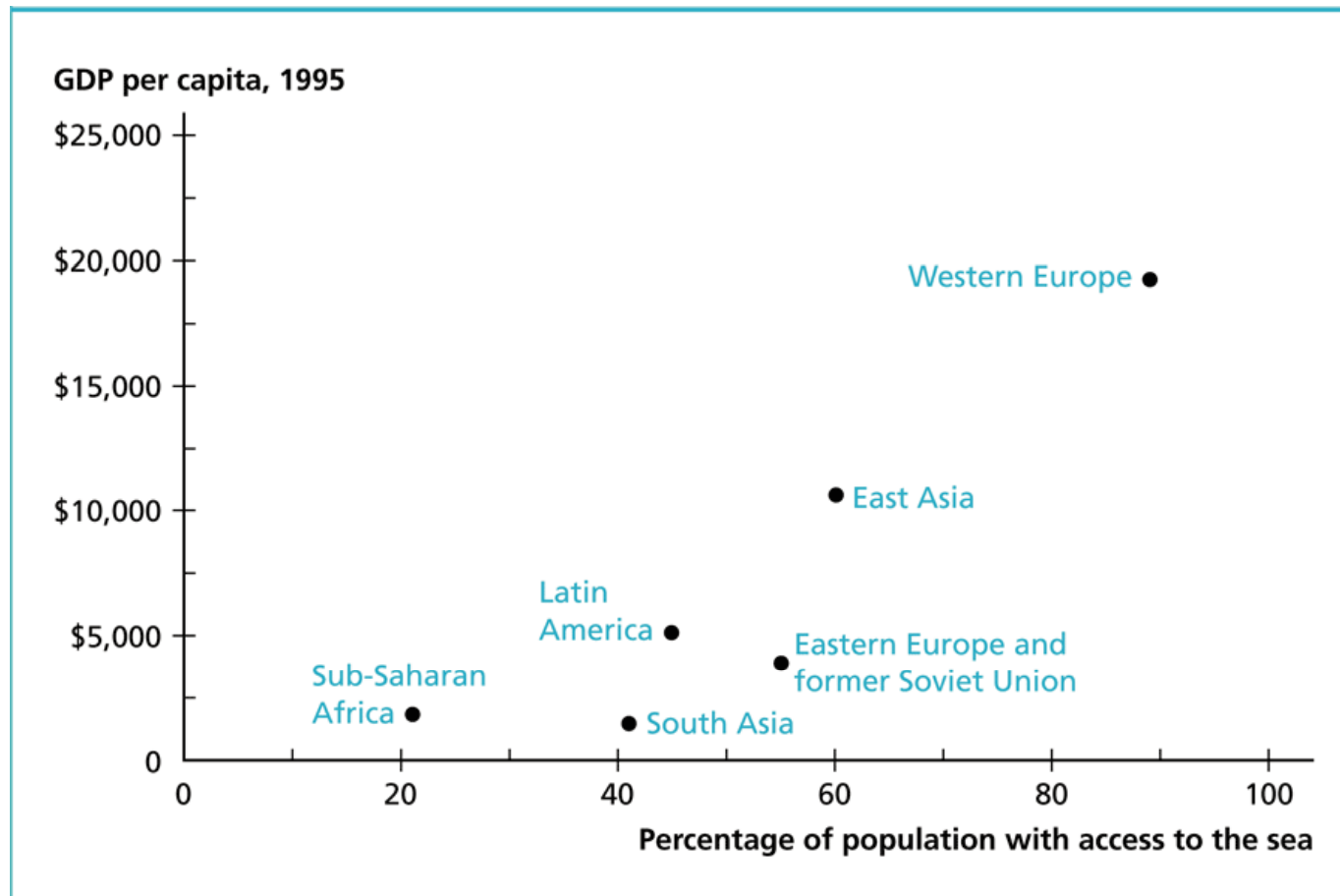
Impacts of Geography on Economic Development

- ① Terrain
- ② Climate
- ③ Natural resources

Terrain

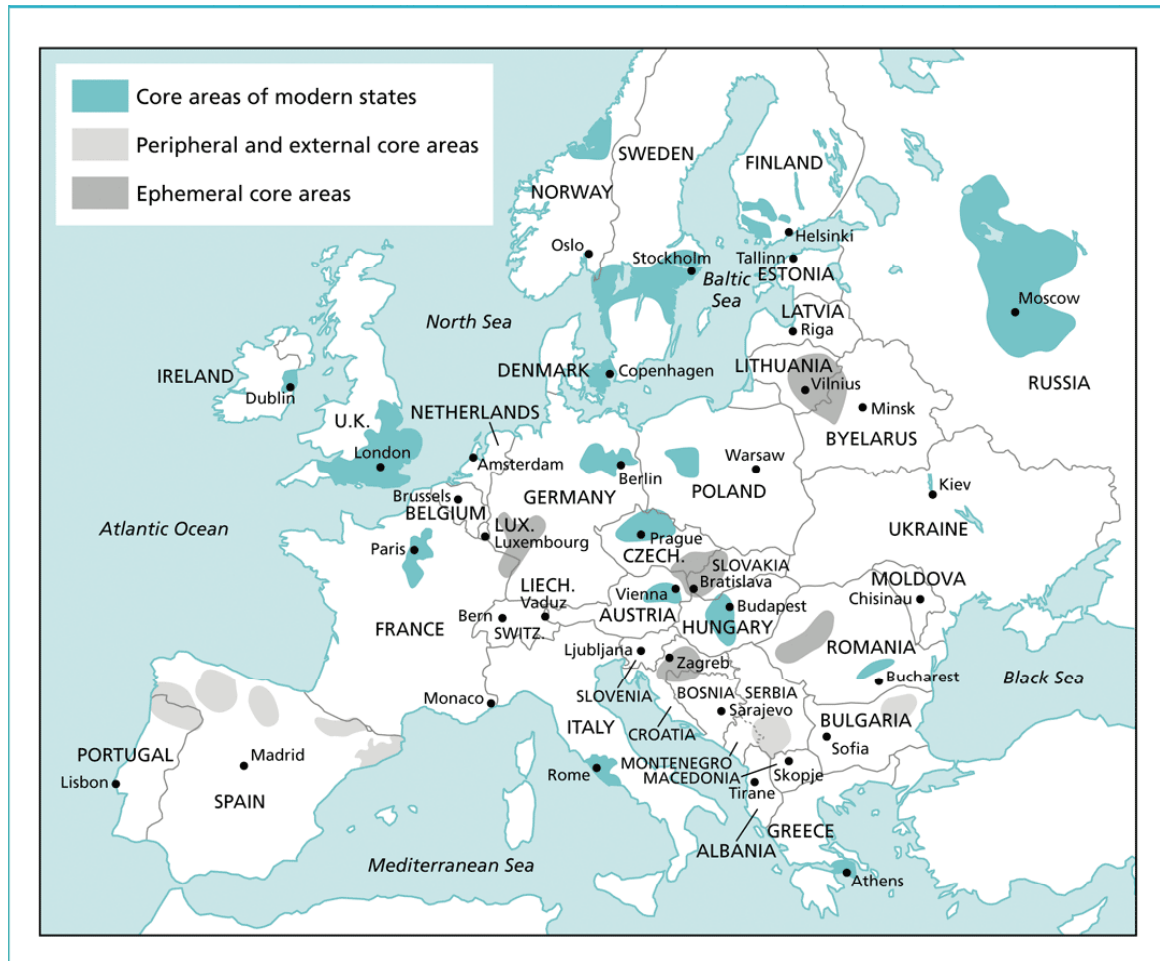
- Proximity to sea
- Geographical concentration
- Effects via government

Figure 15.2 Regional Variation in Income and Access to the Sea



Source: Gallup, Sachs, and Mellinger (1998).

Figure 15.3 Core Areas in Preindustrial Europe



Source: Pounds and Ball (1964).

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Figure 15.4 Core Areas in Preindustrial China

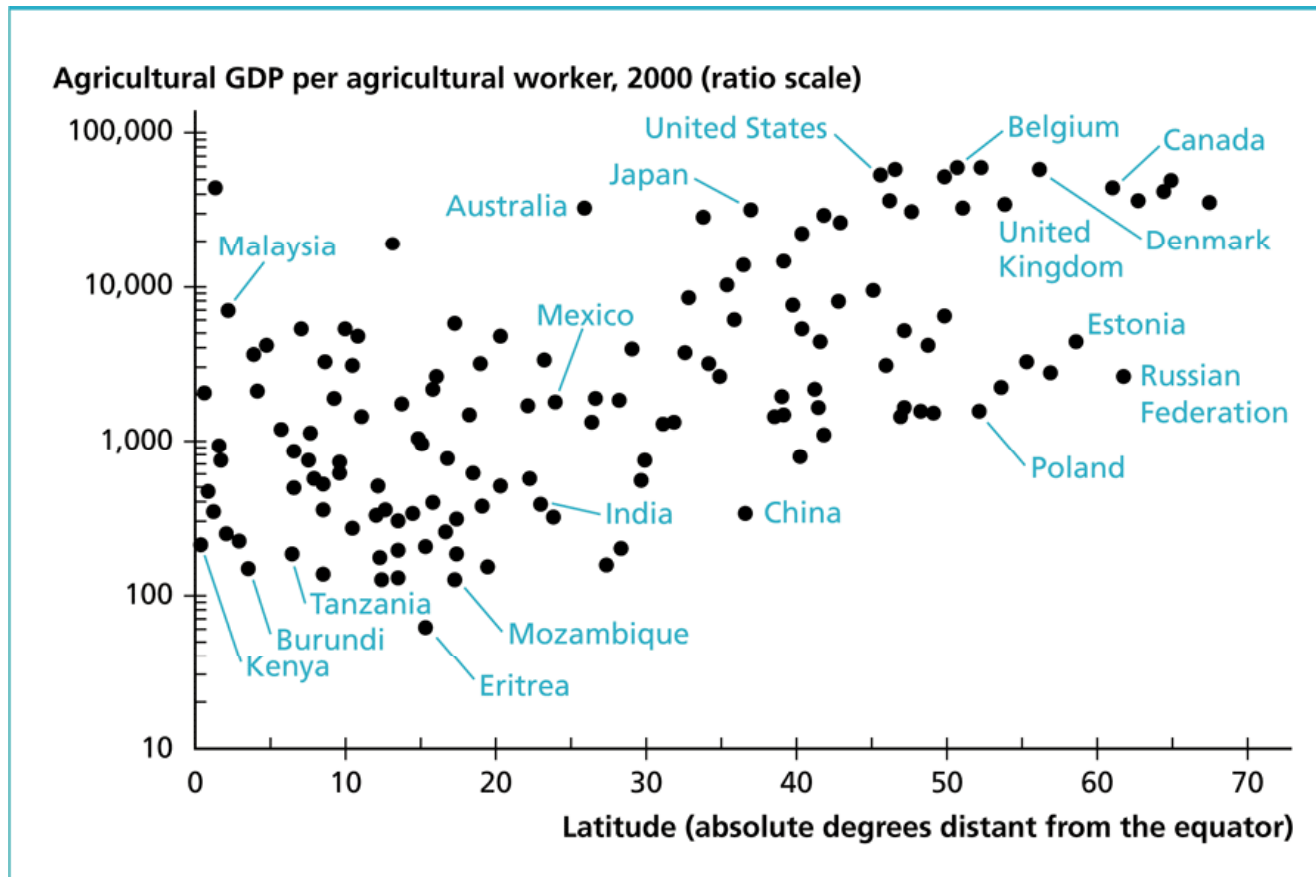


Source: Stover (1974).

Climate

- Impact on agricultural productivity
- Impact on human effort
- Impacts on diseases (malaria, yellow fever, sleeping sickness. etc.)

Figure 15.5 Latitude Versus Agricultural GDP per Agricultural Worker



Source: United Nations Food and Agriculture Organization (2003).

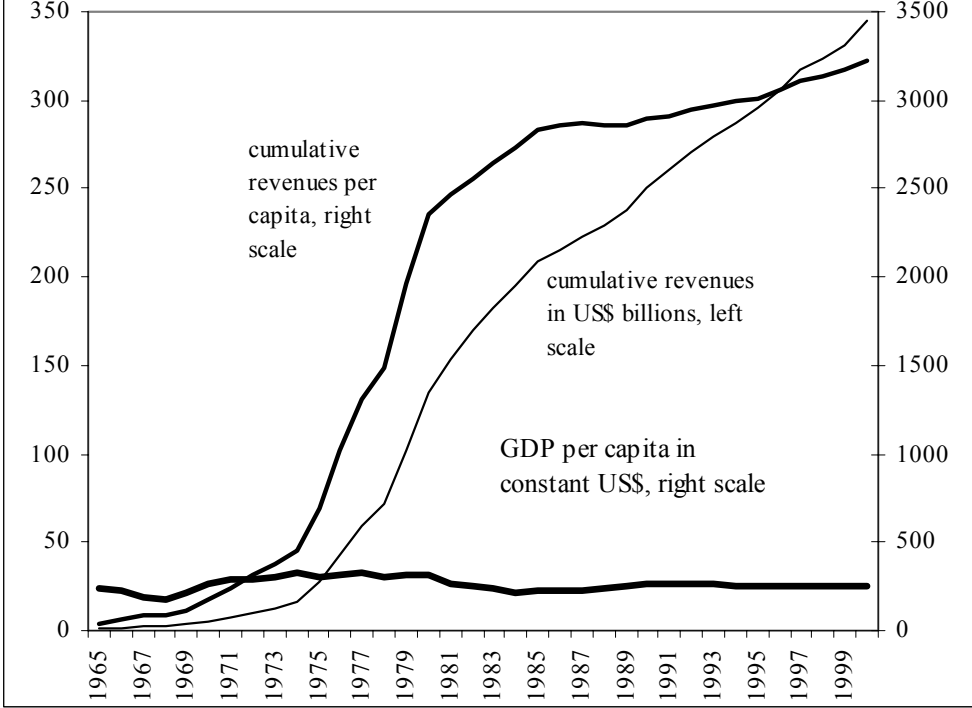
Example: Malaria

- 400 million cases per year → 1 million deaths
- mostly in sub-Saharan Africa
- typically implies more than 1 week of incapacitation
- long term effects: brain damage, learning disabilities, anemia
- 2 month infectious period \Rightarrow more prevalent where mosquitos are active all year

Natural Resources

- A key source of growth in many countries
- But many countries with abundant resources have not gained as much
- Example: Nigeria

Chart 3: Cumulative Revenues from Oil, 1965-2000
(at 1995 Prices)



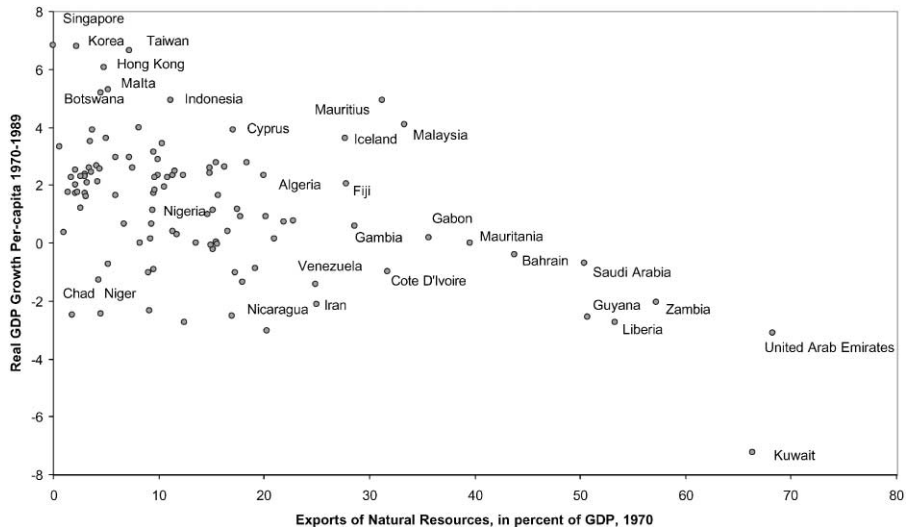


Fig. 1. Growth and natural resource abundance 1970–1989.

Explanations for the “resource curse”

- Overconsumption
- The “Dutch disease”
- Bad government

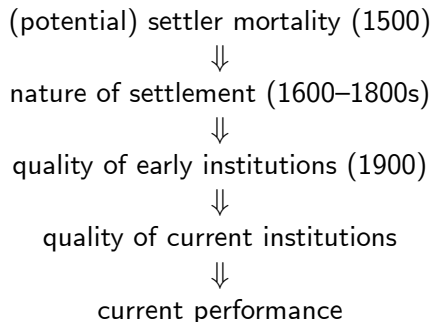
Interaction between Geography, History and Institutions

“The Colonial Origins of Comparative Development: An Empirical Investigation” by Acemoglu, Johnson and Robinson (2001)

- Indices of institutional quality are positively correlated with per capita income
- ↳ but in which direction does the causation run?
- **Basic Idea:** To measure the true impact of institutional differences on economic performance, we need an exogenous source of variation in institutions

- Early determinant of current institutions: colonization after 1500
- Two broad kinds:
 - (1) extractive (e.g. the Belgian Congo)
 - (2) “neo-Europes” (e.g. Australia)
- BUT what determined nature of colonization ?
 - ↳ settler mortality rates ?
 - Sierra Leone (1793), Niger expedition (1805)
 - Pilgrim fathers: US vs. Guyana
 - convicts: Australia vs. Gambia

The Theory



Measures of Institutional Quality

- Current institutional quality → “average protection against expropriation”
 - ↳ score from 0 to 10 where higher values \Rightarrow lower expropriation risk
 - ↳ International Country Risk Guide (<http://www.prsgroup.com/>)

- Early institutional quality:
 - ↳ constraints on the executive in 1900
 - ↳ degree of democracy in 1900

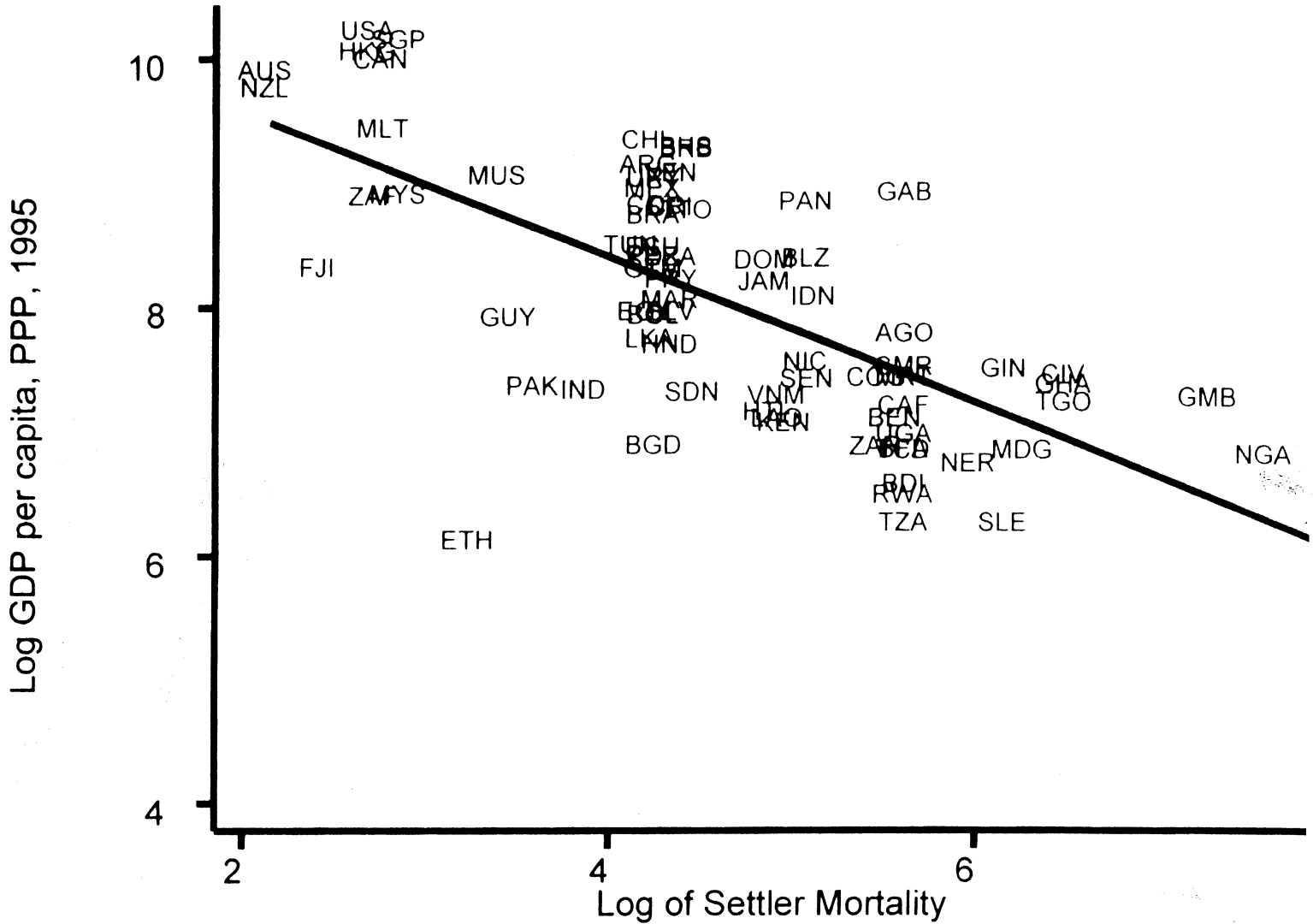


FIGURE 1. REDUCED-FORM RELATIONSHIP BETWEEN INCOME AND SETTLER MORTALITY

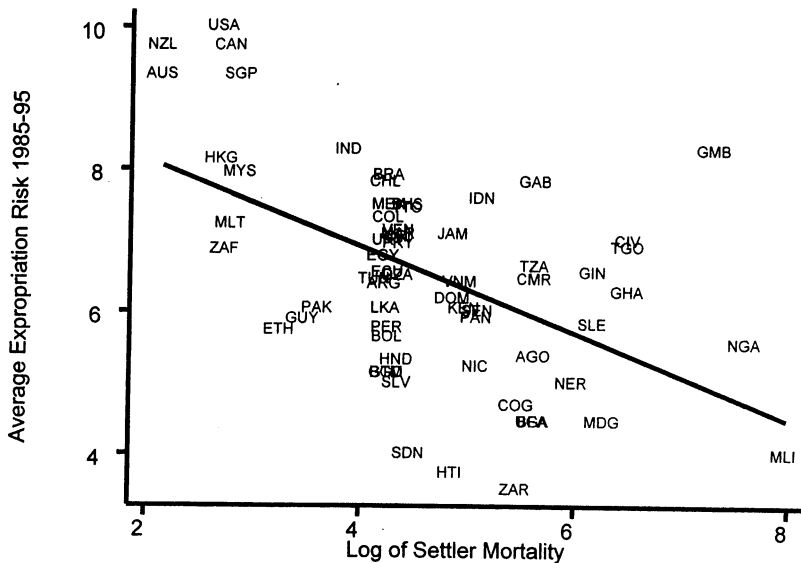


FIGURE 3. FIRST-STAGE RELATIONSHIP BETWEEN SETTLER MORTALITY AND EXPROPRIATION RISK

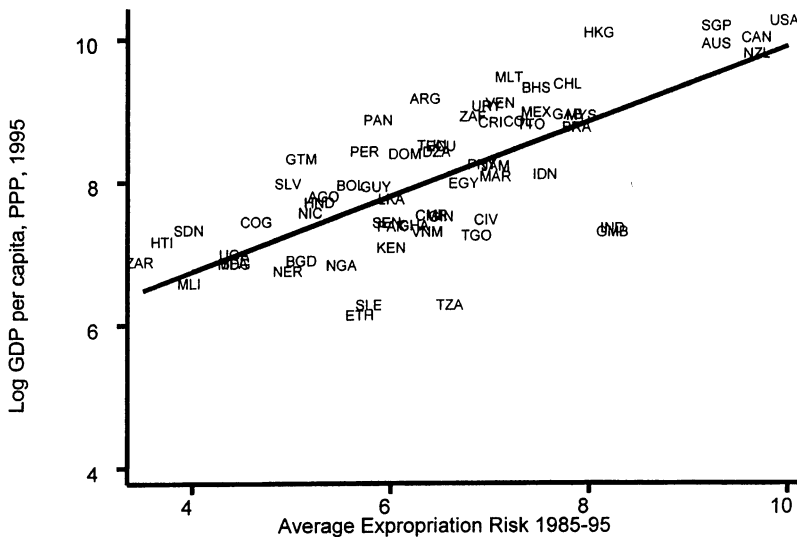


FIGURE 2. OLS RELATIONSHIP BETWEEN EXPROPRIATION RISK AND INCOME

Main Results of statistical analysis:

- Impact of settler mortality rates in 1500 can “account for” as much as 75% of the dispersion in per capita incomes in ex-colonies today
 - Geography affects development through institutions
 - Once we control for this effect the direct impact of geography (e.g. malaria risk) is not important
- ↳ “... the reason why African countries are poorer is not due to cultural or geographic factors, but mostly accounted for by the existence of worse institutions in Africa.”

“Institutions don’t Rule: Direct Effects of Geography on Per Capita Income,” Jeff Sachs (2006)

- Argues that the lack of a direct effect of geography in AJR (2001) is due to bad measurement
 - ↳ malaria cases reported annually to WHO are tiny fraction of total
- Sachs introduces a Malaria Ecology (ME) index which combines
 - ↳ temperature (parasite evolution requires high temperatures)
 - ↳ rainfall (pools of water promote breeding)
 - ↳ % of human-biting mosquitos (e.g. anopheles species)
- Both the quality of institutions and ME index are “statistically significant”
- Sachs’ conclusion: “the development process reflects a complex interaction of institutions and geography.”