

Institutions and Growth

Nicola Viegi

History of economic growth

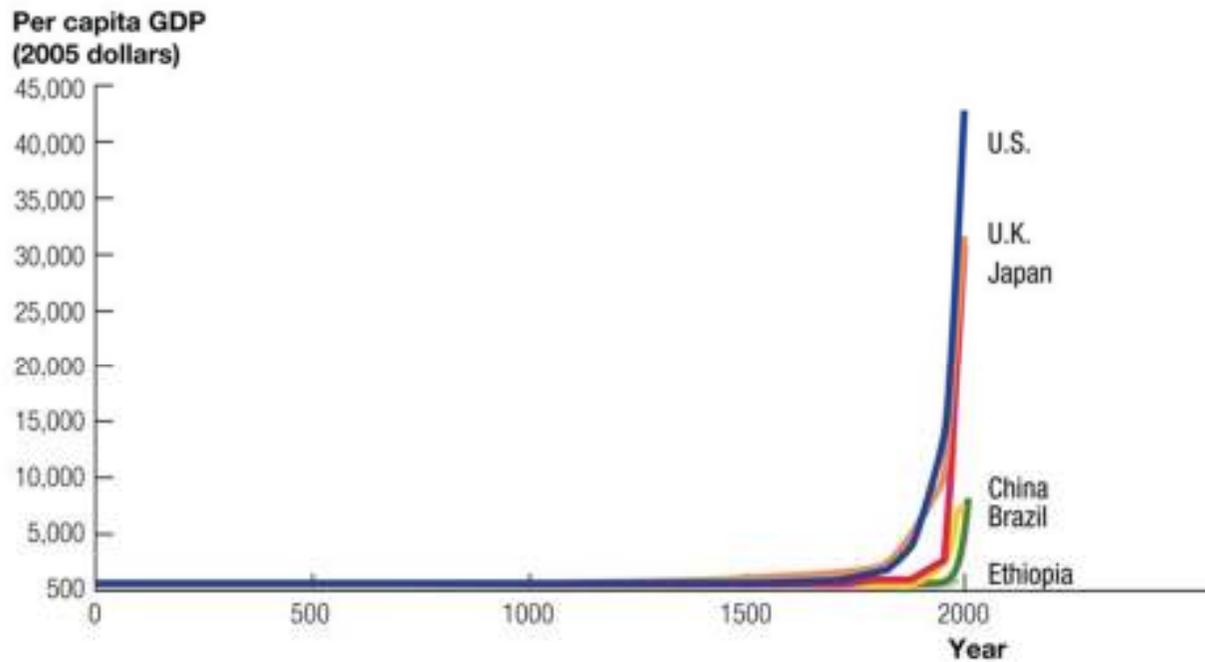
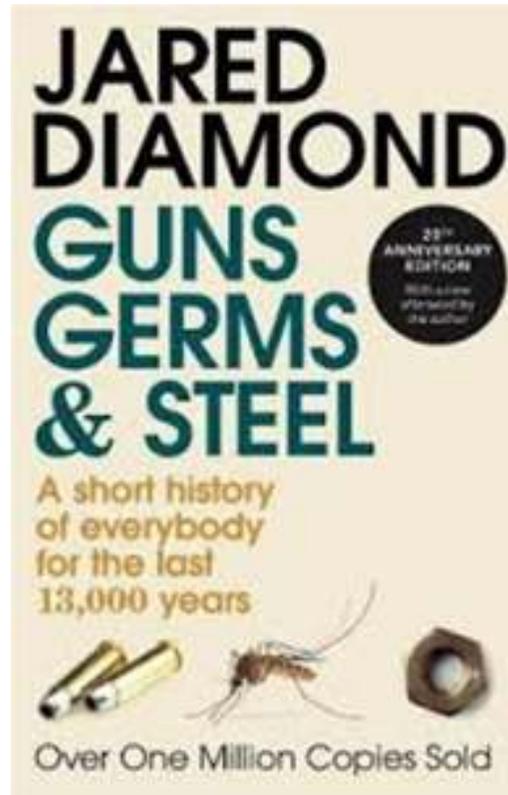


FIGURE 3.1 Economic Growth over the Very Long Run in Six Countries

Macroeconomics, 2nd Ed
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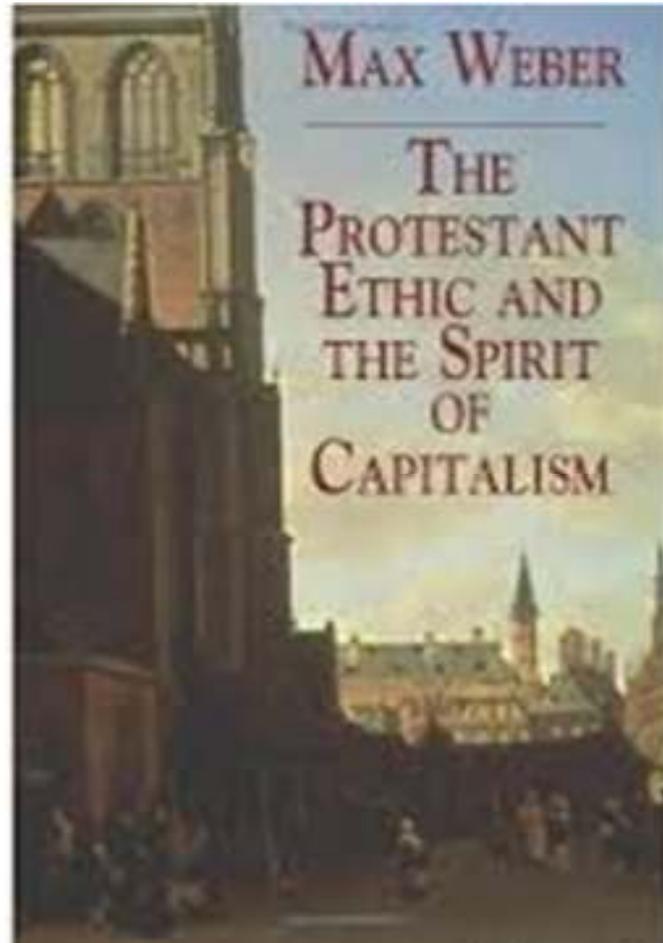
Why are some countries poor and other countries rich?

- Geography
- Culture
- Institutions

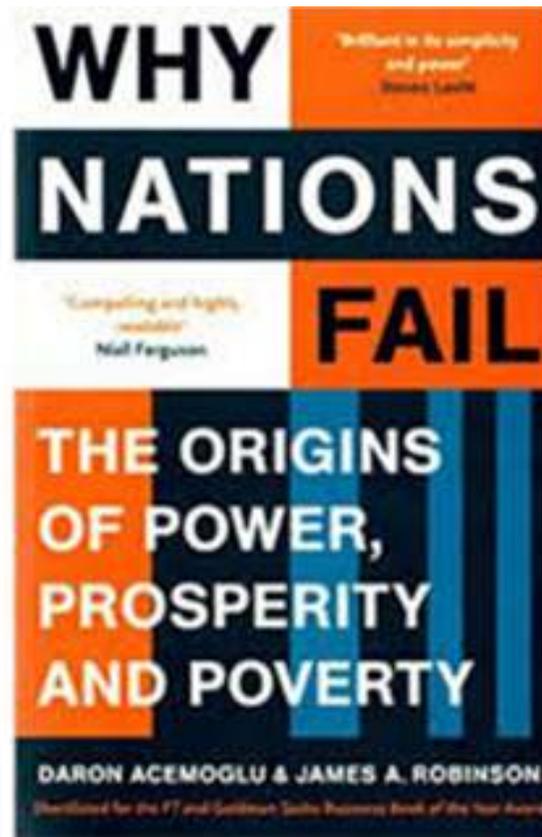


National geographic video here:

http://www.youtube.com/watch?v=bgnmT-Y_rGQ

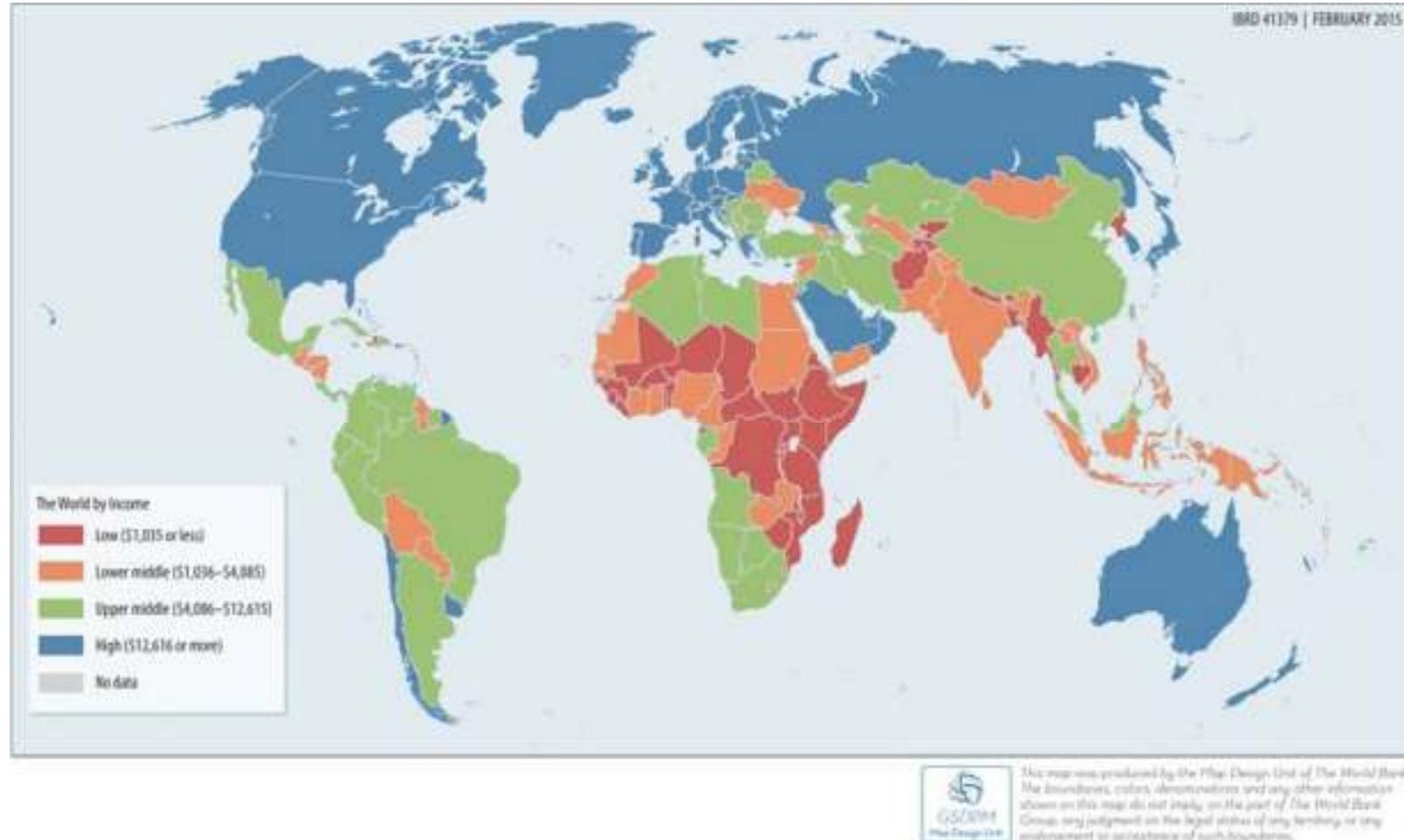


(very old, but very influential)



Blog: <http://whynationsfail.com/>

The geography hypothesis



The geography hypothesis

- Three common variants:
 - Climate may affect productivity directly.
 - The burden of infectious disease is higher in the tropics than in the temperate zones.
 - Geography may determine the technology available to a society.

Arguments (1):

- The first step towards civilization is the move from hunter-gatherer to agriculture, with the domestication and farming of wild crops and animals.
- Agricultural production leads to food surpluses, which supports sedentary societies, rapid population growth, and specialization of labor.

Arguments (2):

- Large societies tend to develop ruling classes and supporting bureaucracies, which may lead in turn to the organization of nation states and empires.
- Eurasia gained an early advantage due to the greater availability of suitable plant and animal species for domestication. This in turn is due to Eurasia's large landmass and long east-west distance.

Arguments against the hypothesis

- Differences across neighboring countries (North/South Korea, East/West Germany, Mexico/US).
- The tropics in the Americas were much richer than the temperate zones at the time of colonialization.
- Hence, the "obvious fact" of tropical poverty is neither obvious nor a fact.



SOUTH KOREA

NORTH KOREA

More arguments against

- It cannot explain the reversal of fortune in Latin America, nor that the Middle East once led the world, that the first towns developed in modern Iraq, that iron was first melted in Turkey.
- Cannot explain why many nations stagnate for long periods and then start growing really quick.

The culture hypothesis

- Weber's argument of the protestant work ethic.
- Same critique as above.
- Social norms are found to matter and may be hard to change.
- Two types of protective arguments:
 - Social norms are institutions.
 - Social norms are created by institutions.

The ignorance hypothesis

- Rulers do not know how to make poor countries rich.
- "By convincing rulers about what is good economics we can save the world".
- A&R (2012) argue against this view by saying that "policymakers in poor countries get it wrong, not by mistake or ignorance but on purpose" (p.68).

The institutional hypothesis

- Poor countries are poor due to poor institutions.
- Key question: Why not make the pie larger first and then have more to take from?
- Because of commitment problems and since the distribution of resources affect political power.

Institutions

- "A set of rules, compliance procedures, and moral and ethical behavioral norms designed to *constrain* the behavior of individuals..."(North 1981).
- The constraints should also be permanent or at least durable.

Towards a Theory of Institutions

- **Extractive economic institutions:** Lack of law and order. Insecure property rights; entry barriers and regulations preventing functioning of markets and creating a non level playing field.
- **Extractive political institutions.** in the limit “absolutism”: Political institutions concentrating power in the hands of a few, without constraints, checks and balances or “rule of law”.
- **Inclusive economic institutions:** Secure property rights, law and order, markets and state support (public services and regulation) for markets; open to relatively free entry of new businesses; uphold contracts; access to education and opportunity for the great majority of citizens.
- **Inclusive political institutions:** Political institutions allowing broad participation. pluralism. and placing constraints and checks on politicians; rule of law (closely related to pluralism).
 - But also some degree of *political centralization* for the states to be able to effectively enforce law and order.

Growth under Inclusive Institutions

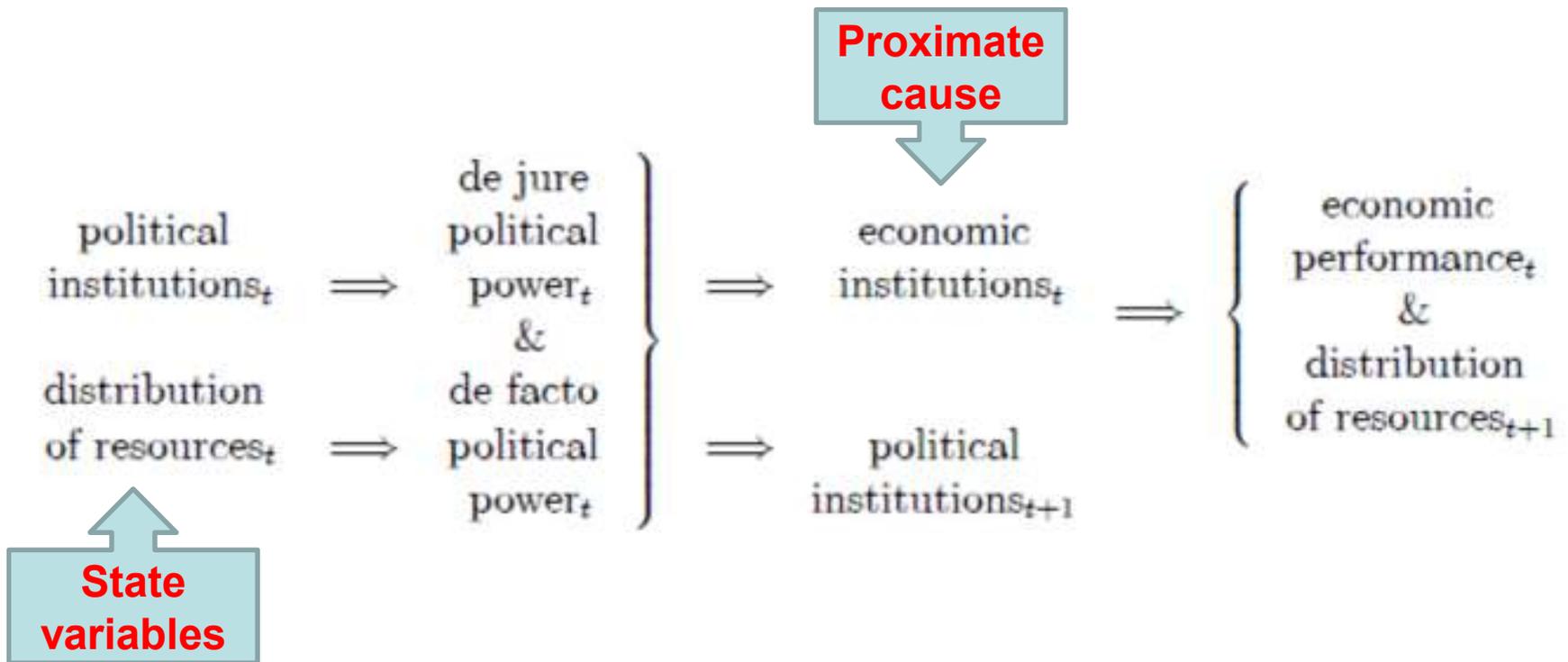
- Inclusive economic and political institutions (or inclusive institutions for short) create powerful forces towards economic growth by:
 - encouraging investment (because of well-enforced property rights)
 - harnessing the power of markets (better allocation of resources, entry of more efficient firms, ability to finance for starting businesses etc.)
 - generating broad-based participation (education, again free entry, and broad-based property rights).
- Key aspect of growth under inclusive institutions: investment in new technology and creative destruction.
- Central question: why are extractive institutions so prevalent throughout history and even today?

The Logic of Extractive Institutions

- Main thesis is that growth is much more likely under inclusive institutions than extractive institutions.
- Growth, and inclusive institutions that will support it, will create both winners and losers. Thus there is a logic supporting extractive institutions and stagnation:
 - **economic losers**: those who will lose their incomes, for example their monopolies, because of changes in institutions or introduction of new technologies
 - **political losers**: those who will lose their politically privileged position, their unconstrained monopoly of power, because of growth and its supporting institutions. **fear of creative destruction**.
 - both are important in practice, but particularly political losers are a major barrier against the emergence of inclusive institutions and economic growth.

Institutions are Persistent

- Political institutions are durable.
- Relative richness tends to reproduce inequalities in both power and richness.



Democracy and growth

- Why would democracy affect growth?
 - Affects property rights (+)
 - Increases consumption and reduces investment (-)
 - Autocrats can defend themselves against (other?) special interests (+)
 - Autocrats may have an easier time stealing (-)

Number of developing countries

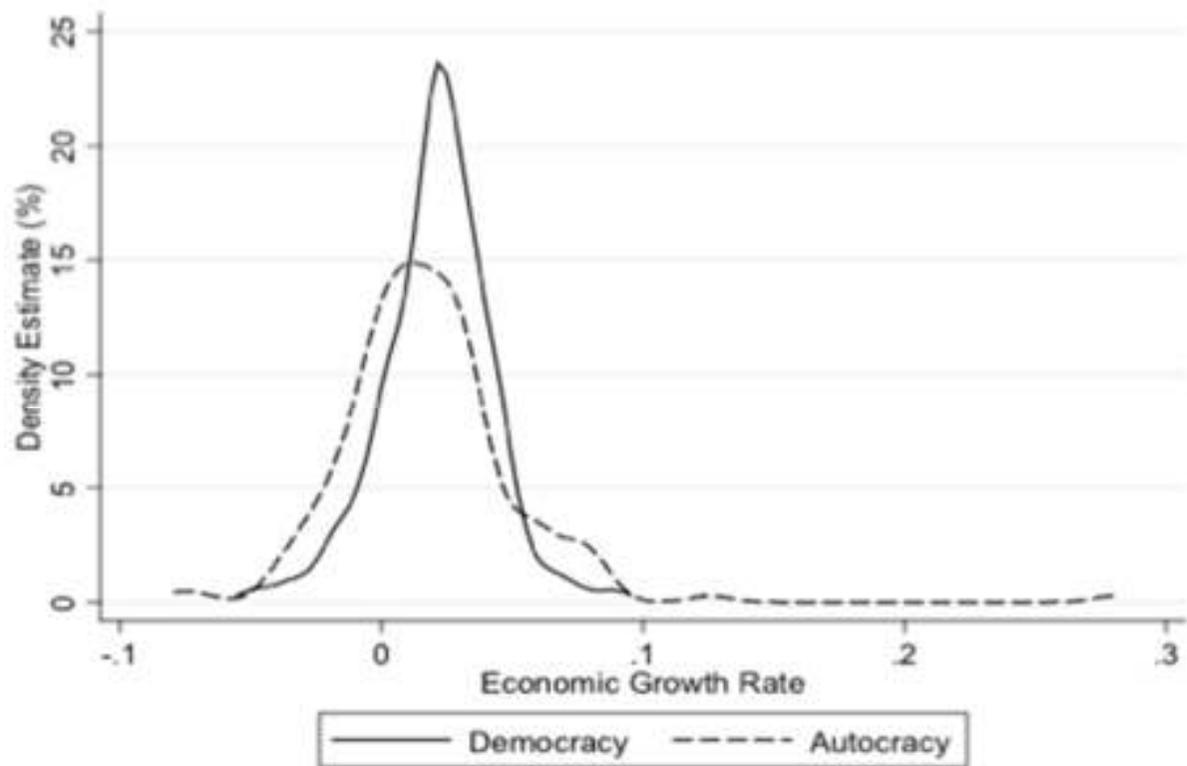
	Success
Autocracy	9
Democracy	1

The World Bank Growth Commission

- “Growth at such a quick pace, over such a long period, requires strong political leadership.”

	Failure	Neither	Success
Autocracy	10	70	9
Democracy	0	12	1

- The argument suffers from a bias called:
 - "Reversing conditional probabilities"
 - "Neglecting base rate bias"
- Confuses the conditional probabilities $P(A|B)$ and $P(B|A)$.
- The probability that you are an autocrat if you are a growth success is 90 percent.
- However, the relevant probability is whether you are a growth success if you are an autocrat, which is only 10 percent.



What is the relation?

- In the short run it is obviously possible to grow under autocracy.
- But is it possible to become rich?
- Acemoglu & Robinson (2012) basically argue that you need both property rights and broad based political power.
- Primacy to the latter

From Theory to Empirics

Acemoglu et al. (2001) – The Colonial Origins of Comparative Development

- Research question: Do institutions cause growth?

The problem

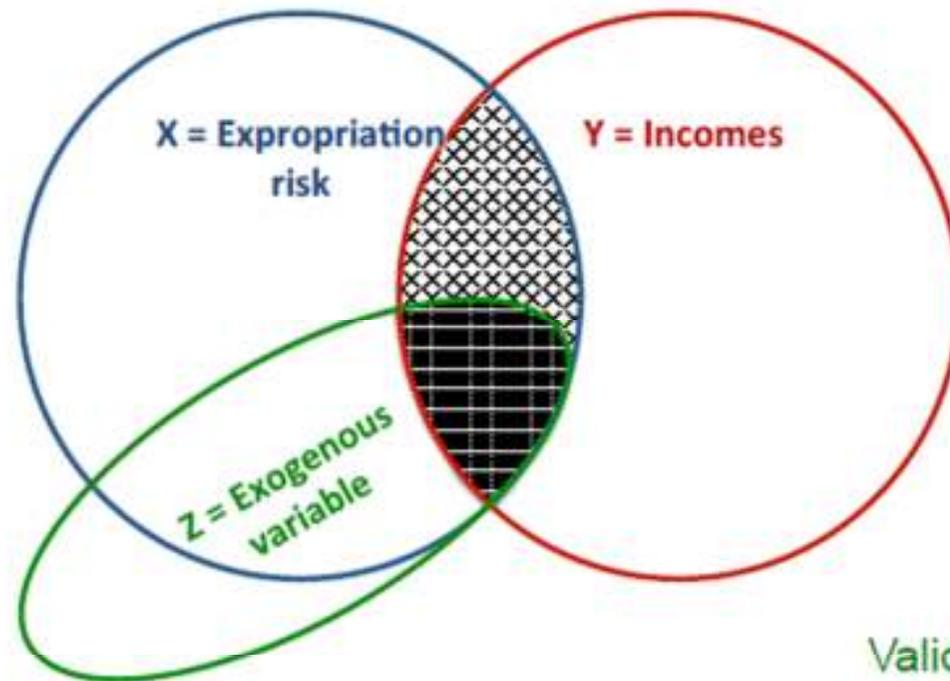
- How To Identify the Effect?

Richer countries may afford better institutions.

Other factors may cause both growth and institutions.

- Solution: Use an instrument for institutions.

One solution when you can't run an experiment:
Find "instruments"



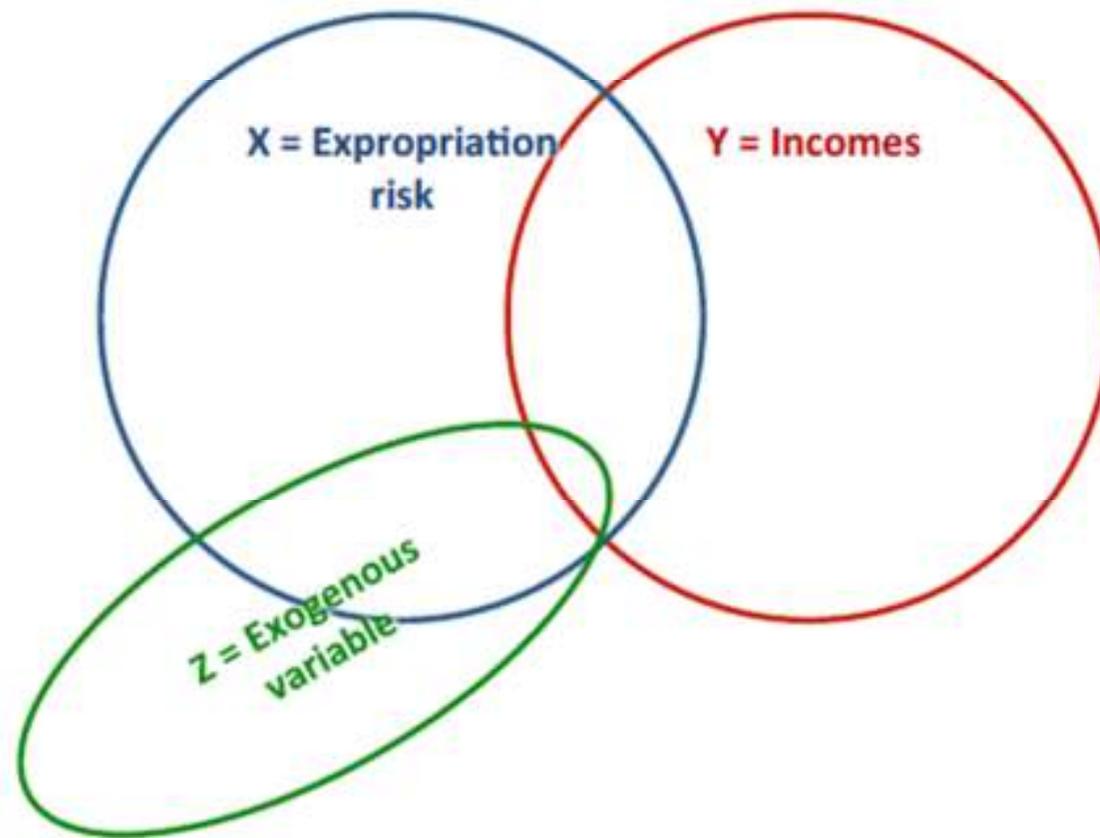
Valid instruments (Z):

1. Are exogenous/external
2. Have a "strong" effect on X
3. Only affects Y through X
 - The "exclusion restriction"

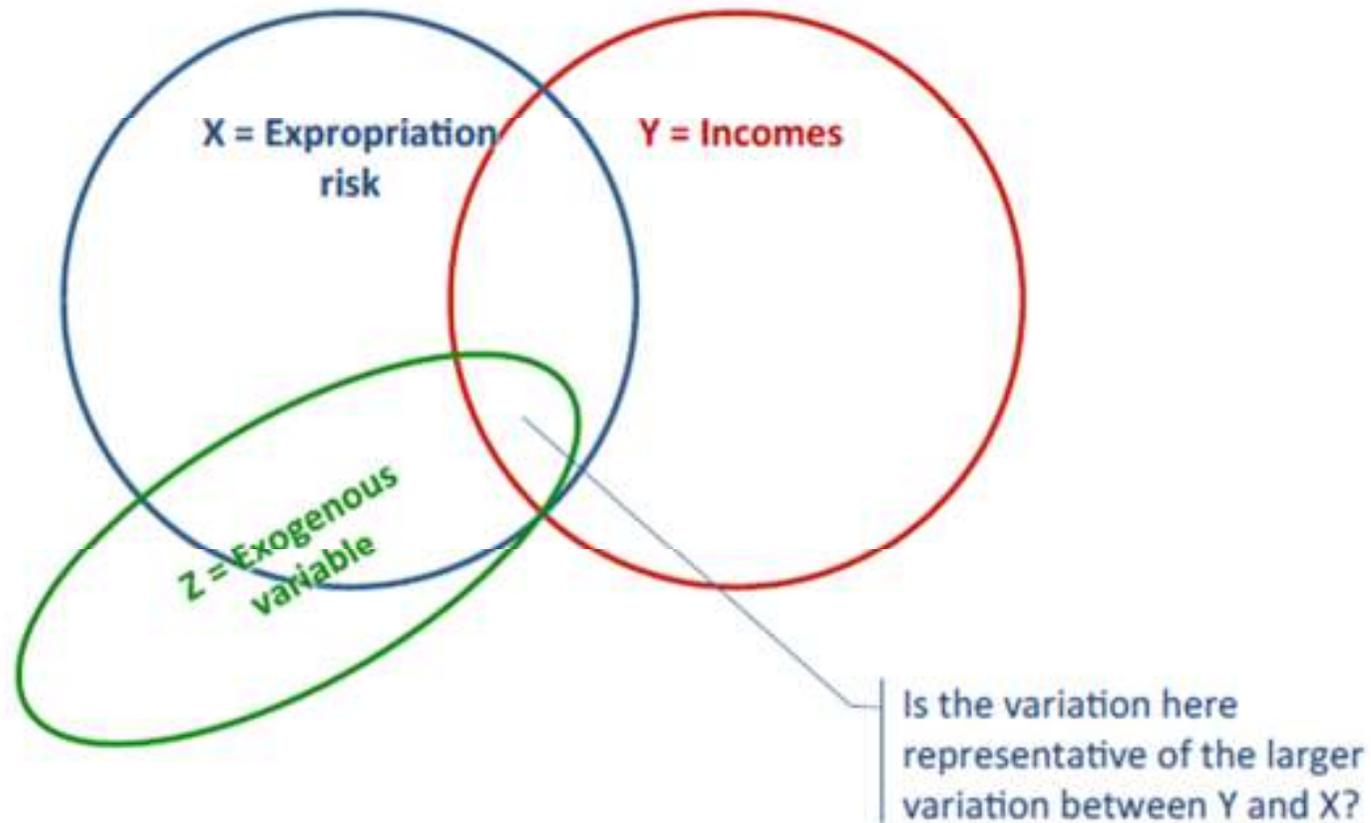
Recap IV

- To use the IV approach we need at least one additional variable, referred to as an instrument. The instrument has to satisfy two conditions:
 - i) Relevance (easy to test)
 - ii) Validity (cannot be tested)

But good instruments are hard to find
e.g. They may be “weak”

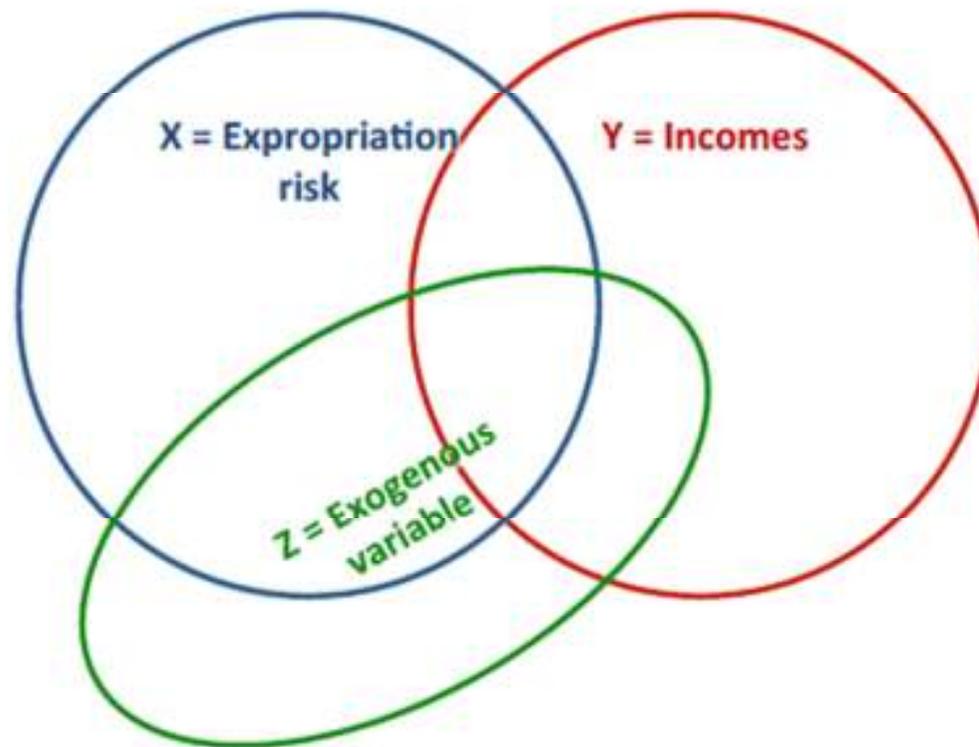


The may not be representative
The LATE: Local average treatment effect



They may not be “excludable”

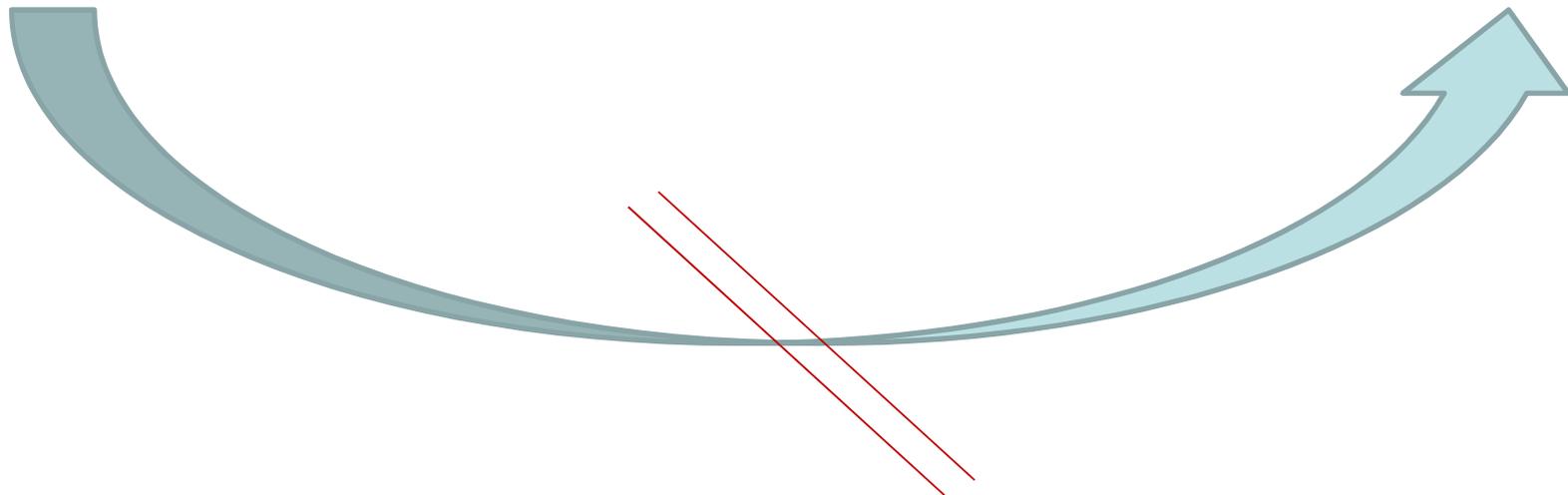
No longer solve the causal problem (and could make it worse)



Instrument: Settler mortality

- They use data on the mortality rates of soldiers, bishops, and sailors stationed in the colonies.
- The theory behind is that the settlers brought good institutions where they settled and extractive institutions in other areas.

Identification Strategy and argument



Estimation

$$(1) \quad \log y_i = \mu + \alpha R_i + \mathbf{X}'_i \gamma + \varepsilon_i,$$

$$(5) \quad R_i = \zeta + \beta \log M_i + \mathbf{X}'_i \delta + v_i,$$

GDP and institutions

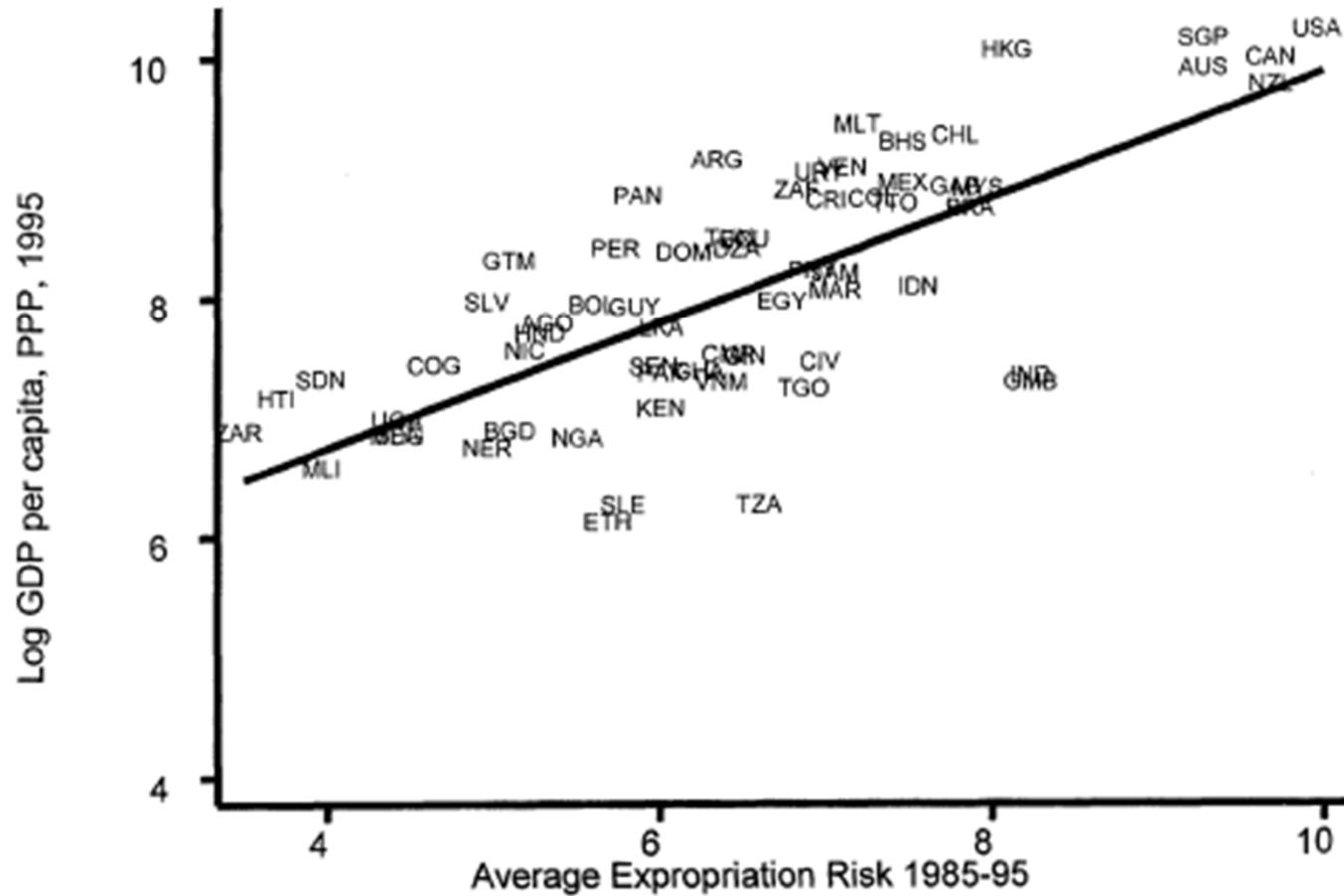


FIGURE 2. OLS RELATIONSHIP BETWEEN EXPROPRIATION RISK AND INCOME

Institutions and settler mortality

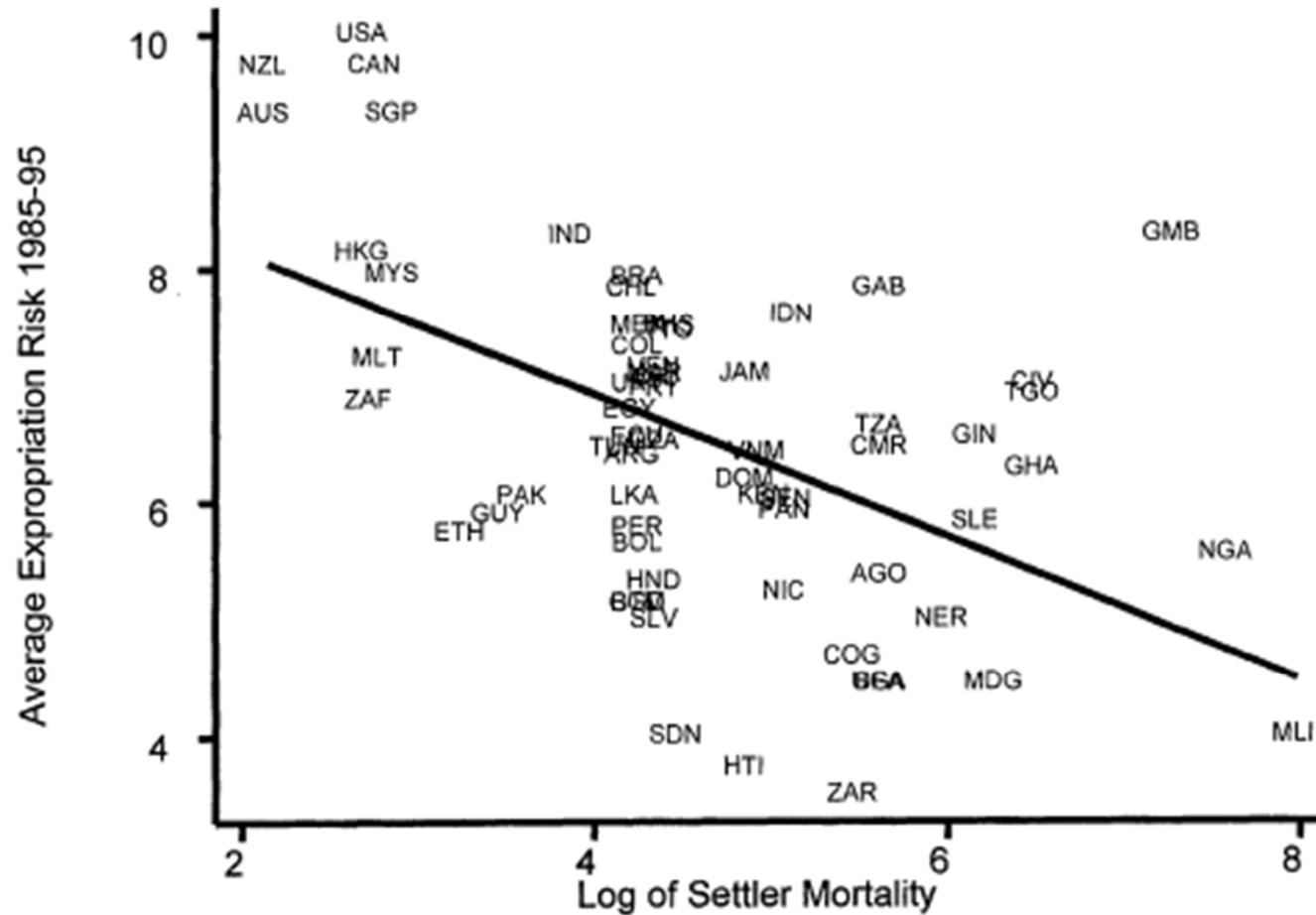


FIGURE 3. FIRST-STAGE RELATIONSHIP BETWEEN SETTLER MORTALITY AND EXPROPRIATION RISK

Reduced form

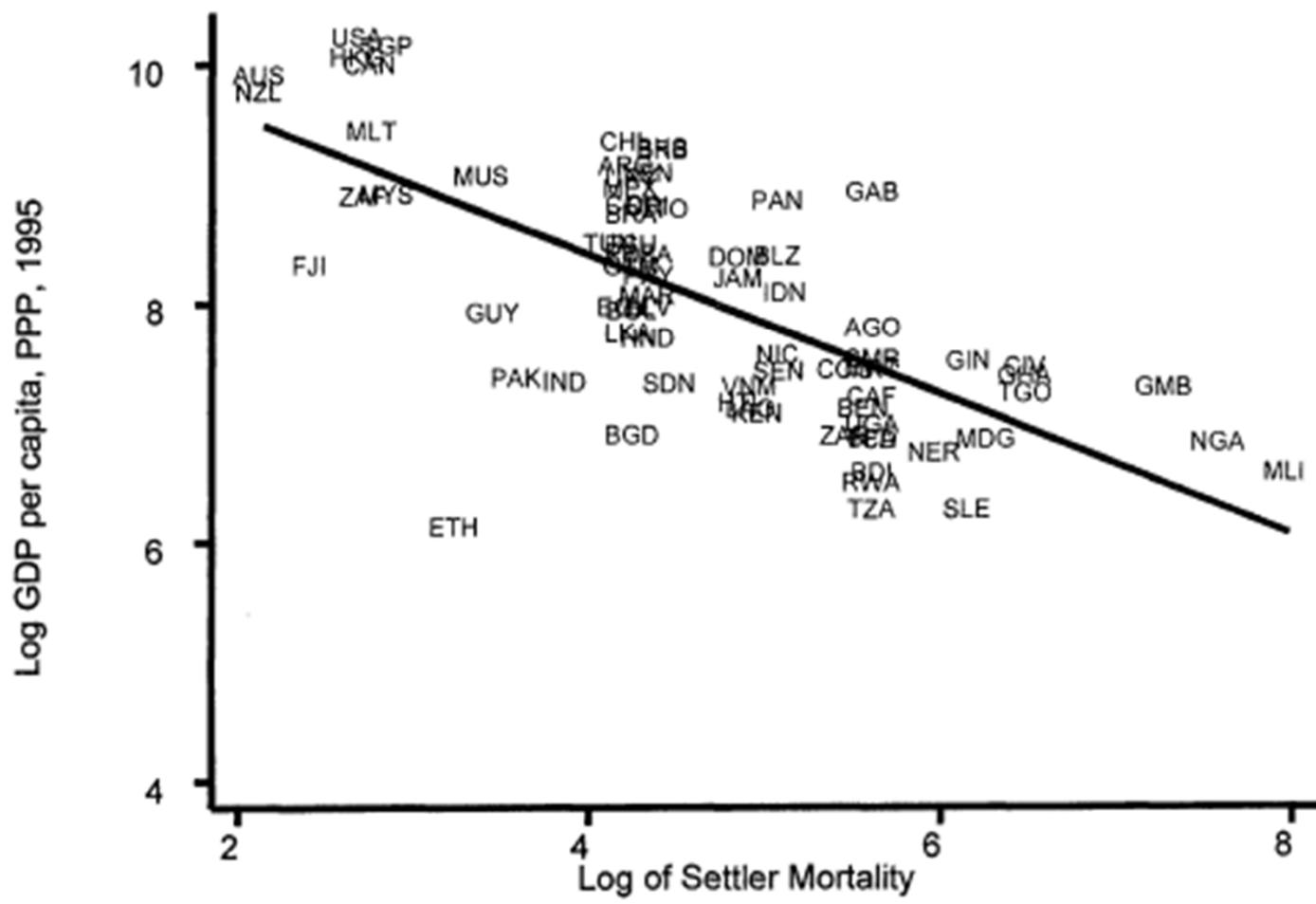


FIGURE 1. REDUCED-FORM RELATIONSHIP BETWEEN INCOME AND SETTLER MORTALITY

Results

- Both the OLS and IV results suggest that institutions are important for long run growth.
- The intermediate steps are also found to be consistent with their theory.
- The first stage shows that the instrument is relevant.

Validity

- “conditional on the controls included in the regression, the mortality rates of European settlers more than 100 years ago have no effect on GDP per capita today, other than their effect through institutional development.”
- Cannot be confirmed, only rejected.

Validity

- What about current disease environment?
- “We **believe** that this is unlikely to be the case and that our exclusion restriction is plausible.”
- Arguments:
 - Deaths mainly due to malaria and yellow fever: Indigenous **adults** are immune.
 - Robust to controlling for current disease environment and infant mortality.
 - Similar results with yellow fever instrument (which is mostly eradicated today).

Validity

- What about other channels?
- They do overidentification tests.
- "However, such tests may not lead to a rejection if all instruments are invalid, but still highly correlated with each other. Therefore, the results have to be interpreted with caution."

Three common measures of institutions

- Institutional quality from ICRG. Subjective assessments of risks faced by investors.
- World Bank Worldwide Governance Indicators
- Polity IV from Jagers and Marshall (2000). Measure constraints on the executive and democracy.

Forceful critique

- "...the commonly used measures cannot be used to establish causality."
- They reflect outcomes and choices.
- Do not measure constraints on government.
- They are highly volatile.
- Only barely correlated with objective measures of electoral rules.

Alternative hypothesis

- Test the hypothesis that education is driving economic development.
- First of all, initial level of education is an equally strong predictor as the commonly used measures of institutions.
- And, the objective measures of institutions are not significant.

Table 4. Economic growth, political institutions and human capital.

	Dependent Variable is Growth of GDP per capita 1960-2000							
Log GDP per capita (1960)	-0.0114 ^a (0.0033)	-0.0136 ^a (0.0033)	-0.0112 ^a (0.0033)	-0.0122 ^a (0.0033)	-0.0141 ^a (0.0037)	-0.0130 ^a (0.0037)	-0.0090 ^a (0.0034)	-0.0105 ^a (0.0036)
Log years of schooling (1960)	0.0060 ^b (0.0025)	0.0076 ^a (0.0024)	0.0063 ^b (0.0024)	0.0060 ^b (0.0023)	0.0077 ^b (0.0032)	0.0073 ^b (0.0031)	0.0073 ^a (0.0025)	0.0080 ^a (0.0026)
Share of population living in temperate zone (1995)	0.0175 ^a (0.0049)	0.0132 ^a (0.0041)	0.0179 ^a (0.0046)	0.0104 ^c (0.0055)	0.0242 ^a (0.0049)	0.0231 ^a (0.0047)	0.0175 ^a (0.0050)	0.0184 ^a (0.0052)
Executive constraints (1960-2000)	0.0021 ^b (0.0008)							
Expropriation risk (1982-1997)		0.0040 ^a (0.0014)						
Autocracy-Alvarez (1960-1990)			-0.0060 ^f (0.0032)					
Government effectiveness (1998-2000)				0.0075 ^a (0.0024)				
Judicial independence (1995)					-0.0041 (0.0057)			
Constitutional review (1995)						0.0047 (0.0064)		
Plurality (1975-2000)							0.0010 (0.0027)	
Proportional representation (1975-2000)								0.0019 (0.0031)
Observations	71	69	71	71	54	54	71	70
R ²	0.44	0.56	0.44	0.48	0.45	0.45	0.41	0.44

Objective measures

Reverse causality of institutions

- Assessments may improve as the country gets richer, so that causality runs the other way.
- It is more difficult to argue that economic growth in e.g. the 70s affect education in the 60s.
- So let us turn to the IV results of Acemoglu et al. (2001).

Critique against the settler mortality instrument

- Even if one agrees that mortality risk shaped settlement decisions, how do we know that it is institutions that matter?
- They also brought with them themselves and hence their human capital.
- If settlement affects growth via human capital, the instrument is not valid.

Critique against the settler mortality instrument

- Settler mortality is uncorrelated with objective measures of institutions.
- Settler mortality is correlated with the modern disease environment.
- They present their own IV regressions with settler mortality as instrument either for schooling or institutions.

Table 11. Economic development, instrumental variable regressions.

Panel A: Second-stage regressions

	Dependent variable is log GDP per capita in 2000	
	(1)	(2)
Years of schooling (1960–2000)	0.7894 ^a (0.2753)	0.4836 ^b (0.1875)
Executive constraints (1960–2000)	– 0.3432 (0.2577)	– 0.2965 (0.2410)
Share of population living in temperate zone (1995)	– 1.6969 (1.2053)	– 0.0863 (0.7714)
Observations	47	55
R^2	0.31	0.5

Results

- Years of schooling, but not executive constraints, are statistically significant.
- May still be other things the Europeans brought with them like, "Guns, germs, and steel".
- The point is, why should we think that it is institutions that drives it?

Summary of criticisms

