

# Lecture 21: Institutions II

Dave Donaldson and Esther Duflo

14.73 Challenges of World Poverty

## Institutions II: Plan for the lecture

- ▶ Discussion of assigned reading (Acemoglu, Johnson and Robinson)

## Causes of Long-Run Development

- ▶ Authors draw distinction between 'proximate' and 'fundamental' causes
- ▶ Where do the topics we've covered so far in this course (food, education, health, technology, finance) fit in to this distinction?

## Fundamental Causes

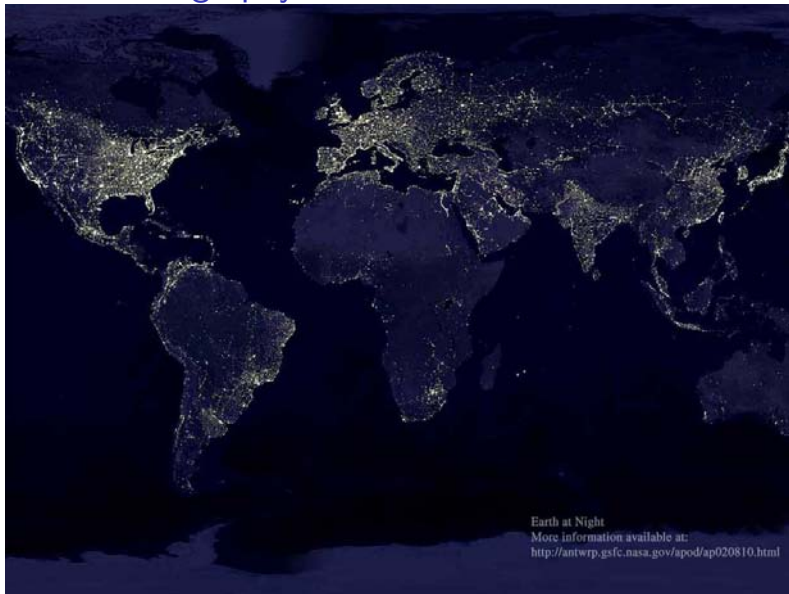
- ▶ Authors draw distinction between 'geography' and 'institutions' as two candidates for fundamental causes of long-run development.
- ▶ What could go wrong with drawing this distinction?
- ▶ What else might matter for long-run development?

## Why Might Geography Matter?

1. Montesquieu: Geography affects humans (and their capacity for work, thinking and learning) directly.
2. Sachs: Geography affects other living organisms (plants, diseases, disease vectors...) directly.
3. Diamond: Geography affects the types of technologies (e.g. domesticated animals) that can be used, and these may have long-run consequences (e.g. the agricultural revolution).
4. Diamond: Geography affects ability of humans to migrate.
  - ▶ Latitudinally-oriented continents (Eurasia) mean a large migratory range at similar climates (so can take appropriate technology with you, and will face familiar diseases wherever you go). Longitudinally-oriented continents (eg the Americas) are different.
  - ▶ Similar argument: a large group of people facing similar environments can take advantage of economies of scale in knowledge-production.

But What are Clear Counter-examples to Geography?

## Do We See 'Geography' at Work Here?



Earth at Night  
More information available at:  
<http://antwrp.gsfc.nasa.gov/apod/ap020810.html>

# Do We See 'Geography' at Work Here?

From Paul Romer's 'Charter Cities' blog



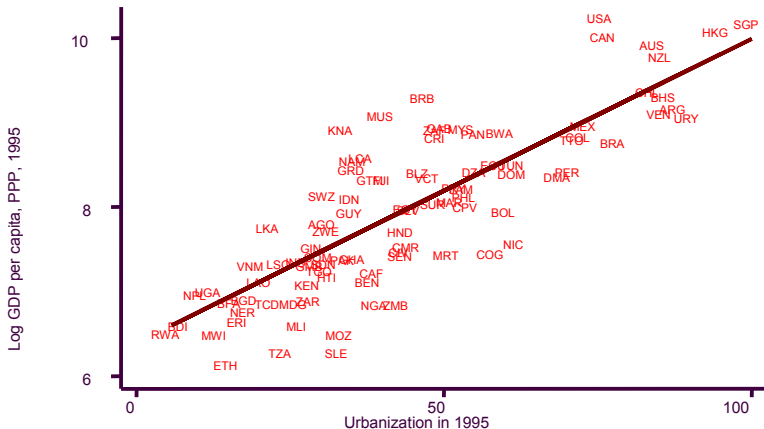


## Geography and the Reversal of Fortune

- ▶ Geography is (largely) persistent.
- ▶ So if geography is a key fundamental determinant of development, development should also be persistent.
- ▶ By contrast, institutions change (and changed big time around colonization, c 1600).

# Reversal of Fortune I

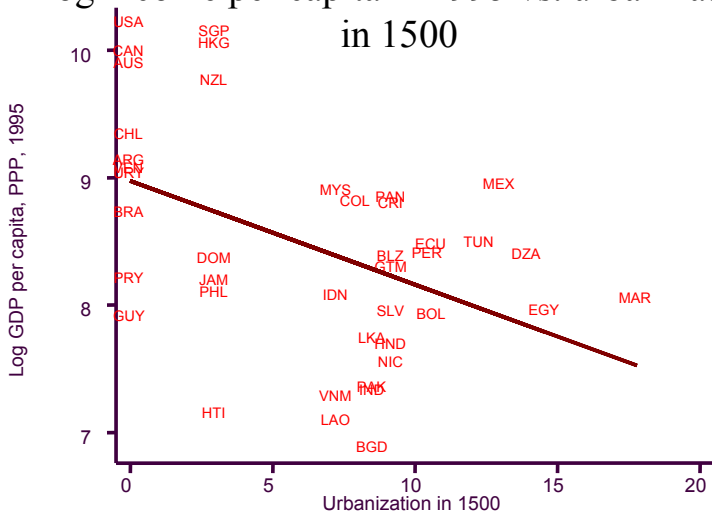
Urbanization as a proxy for GDP today



# Reversal of Fortune II

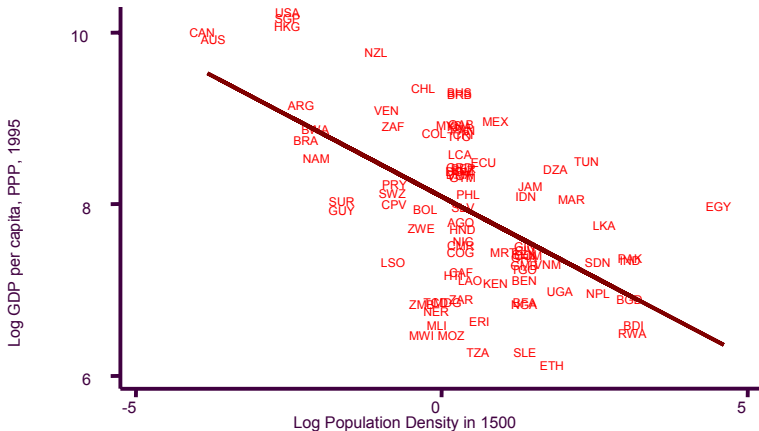
Only ex-colonies plotted

## Log income per capita in 1995 vs. urbanization in 1500



# Reversal of Fortune III

Only ex-colonies plotted



## Two Important Questions

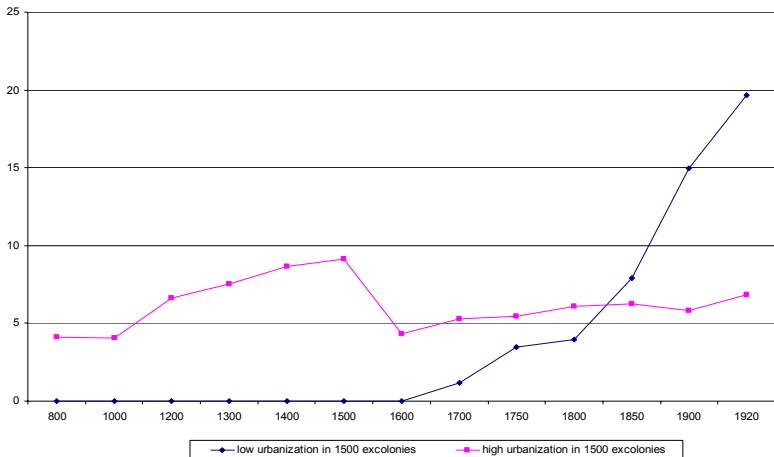
1. Is the 'reversal of fortune' necessarily evidence against the geography hypothesis?
2. Is the 'reversal of fortune' necessarily evidence in favor of the institutions hypothesis?

# Reversal of Fortune—Timing

Industrial revolution: industry is particularly 'institution-sensitive' (huge up-front costs of innovating and investing)

## Timing of the Reversal

Urbanization in excolonies with low and high urbanization in 1500  
(averages weighted within each group by population in 1500)

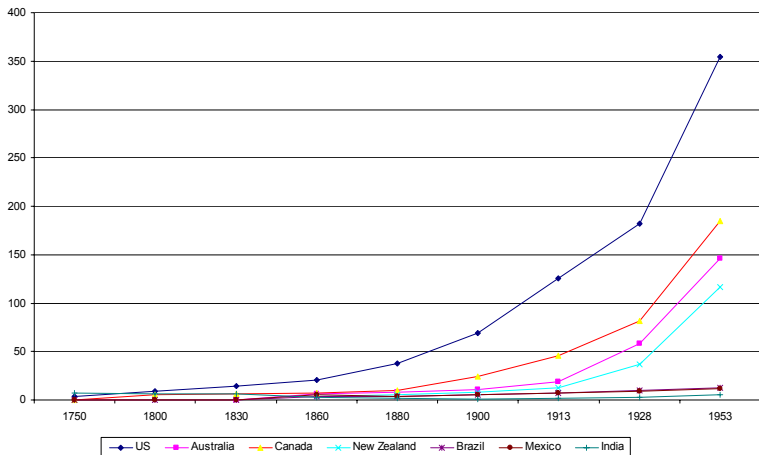


# The Industrial Revolution

Industrial revolution is key to long-run development

## Reversal, Industrialization and Divergence

Industrial Production Per Capita, UK in 1900 = 100  
(from Bairoch)



## Colonialization and the Reversal of Fortune I

- ▶ Colonialization was process that changed institutions a great deal.
- ▶ Who created the new institutions? The colonizers.
- ▶ What institutions did they create? (Good or bad?)



## Colonialization and the Reversal of Fortune II

- ▶ The institutions the colonizers created depended on what was in their own self-interest.
- ▶ Self-interest depended on whether settlers present or not.
  - ▶ If settlers: A bit like quasi-democracies back home—need to keep the median ‘voter’ happy.
  - ▶ If no settlers: Attempt to extract as much as possible from the colony. Exploit native populations. Coerce labor into slavery.
- ▶ So what determined whether there were settlers or not?
  - ▶ Could settlers survive there? Disease, etc.
  - ▶ Were settlers needed there? Some resources just needed loads of unskilled labor, and only a few settlers to manage the process.

## Settler Mortality

- ▶ Thinking in this manner generates another 'experiment' in long-run development:
  - ▶ Suppose that whether settlers were killed by the disease environment when they arrived or not (we call this: 'settler mortality') was basically random.
  - ▶ Then places with high settler mortality should have received fewer settlers, and hence received bad institutions.
  - ▶ Then, if (for whatever reason) institutions are persistent (bad institutions beget bad institutions), then these places will have bad institutions today.
  - ▶ Then, if bad institutions ( $PR$ ) are bad for development ( $Y$ ), places with high settler mortality ( $SM$ ) should have low levels of development today.
- ▶ Acemoglu, Johnson and Robinson (2001) pursue this logic empirically.

## Settler Mortality as an Instrumental Variable

- ▶ We are interested in the question: Does  $PR$  cause  $Y$ ?
- ▶ The correlation between  $PR$  and  $Y$  is strongly positive. But we are worried that this correlation does not prove causation.
- ▶ Suppose that  $SM$  affects  $PR$  through the incentives for colonizers to build good institutions (and the fact that institutions are persistent).
- ▶ Suppose further that  $SM$  affects  $Y$  only because  $SM$  affects  $PR$  and  $PR$  affects  $Y$ .
- ▶ Then  $SM$  can be used as an instrumental variable for  $PR$  in the regression of  $Y$  on  $PR$ .

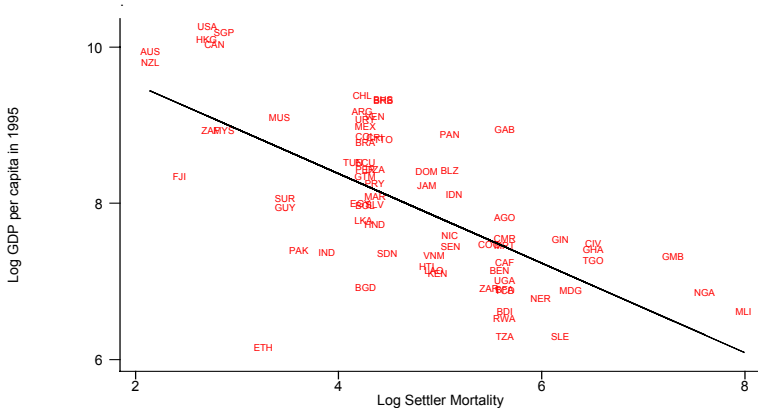


# The Instrument (First Stage): *SM* affects *PR*



# The Instrument (Reduced Form): $SM$ affects $Y$

If  $SM$  affects  $Y$  only because  $SM$  affects  $PR$ , then  $SM$  is a valid IV. Further, the ratio of the reduced form slope to the first stage slope is the causal effect of  $PR$  on  $Y$ .



What Could Violate this Logic?

## Application to Development Policy Today?

- ▶ How useful is the 'geography vs institutions' debate for contemporary development policy?
- ▶ How useful is the AJR empirical approach for contemporary development policy?
  - ▶ Go back in time and save more settlers?
  - ▶ Right the wrongs of past colonial injustice?
- ▶ If institutions matter, what can be done to make them better?



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## 14.73 The Challenge of World Poverty

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