Institutions and development – Week 14 and 15

Readings:

Benabou & Mookherjee: Chapter 2 and 3

Acemoglu, Johnson and Robinson: ”Institutions as a fundamental cause of long-run growth”

Introduction

- Vast differences in prosperity across countries today.
  - Income per capita in sub-Saharan Africa on average 1/20th of U.S. income per capita
  - In Mali, Democratic Republic of the Congo (Zaire), and Ethiopia, 1/35th of U.S. income per capita

- Why?

- Standard economic answers:
  - Physical capital differences
  - Human capital differences
  - “Technology” differences

Sources of prosperity

- These are *proximate* causes of differences in prosperity.
  - Why do some countries invest less in physical and human capital?
  - Why do some countries fail to adopt new technologies and to organize production efficiency?

- The answer to these questions is related to the *fundamental* causes of differences in prosperity

- Potential fundamental causes:
  - Institutions (humanly-devised rules shaping incentives)
  - Geography (exogenous differences of environment)
  - Culture (differences in beliefs, attitudes and preferences)

Outline of the lecture

- What are good institutions?
- Institutions, geography, or culture?
- Why differences in Institutions?
- Inequality and the development of institutions

What are institutions?

- Institutions: the rules of the game in economic, political and social interactions.
  - Institutions determine “social organization”

- North (1990, p. 3):

  "Institutions are the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction.“

- Key point: institutions
  - are humanly devised
  - set constraints
  - shape incentives

What are institutions?

- A broad cluster including many sub levels:

- Economic institutions: e.g., property rights, contract enforcement, etc.
    - shape economic incentives, contracting possibilities, distribution.

- Political institutions: e.g., form of gov., constraints on politicians and elites, separation of powers, etc.
    - shape political incentives and distribution of political power.

What do we mean with good institutions?

- Some societies are organized in a way that
  - upholds the rule of law
  - encourages investment in machinery
  - encourages investment in human capital
  - encourages investment in better technologies
  - facilitates broad-based participation in economic and political life
  - supports market transactions.
- Loosely speaking, we can refer to these societies as possessing (or as having developed) "**good institutions**".

What do we mean with good institutions?

- Three crucial elements of good institutions are:

1. Enforcement of property rights for a broad cross-section of society, so that a variety of individuals have incentives to invest and take part in economic life.

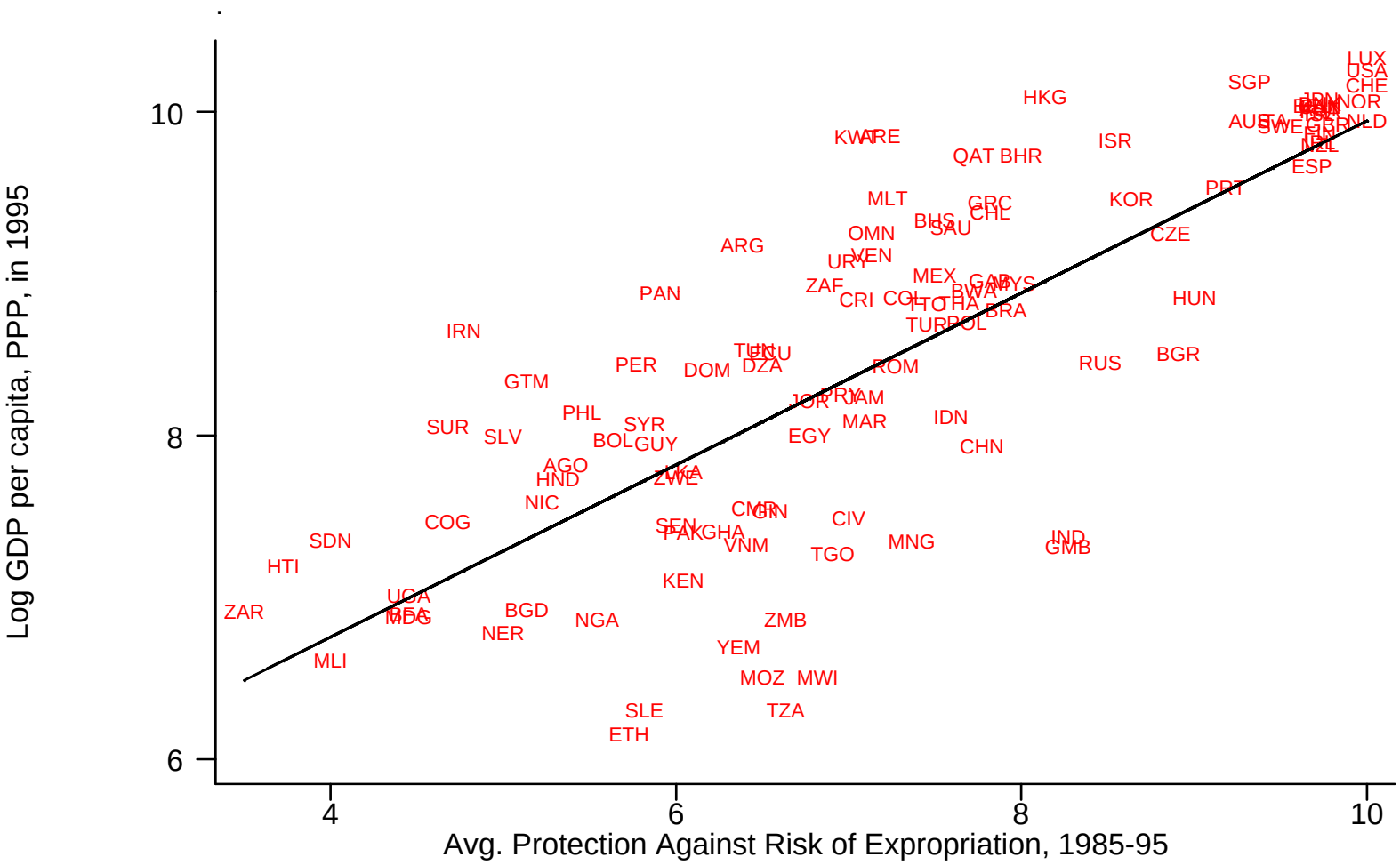
2. Constraints on the actions of elites, politicians and other powerful groups so that these people cannot expropriate the incomes and investments of others in the society.

3. Some degree of equal opportunity for broad segments of the society, so that they can make investments, especially in human capital, and participate in productive economic activities.

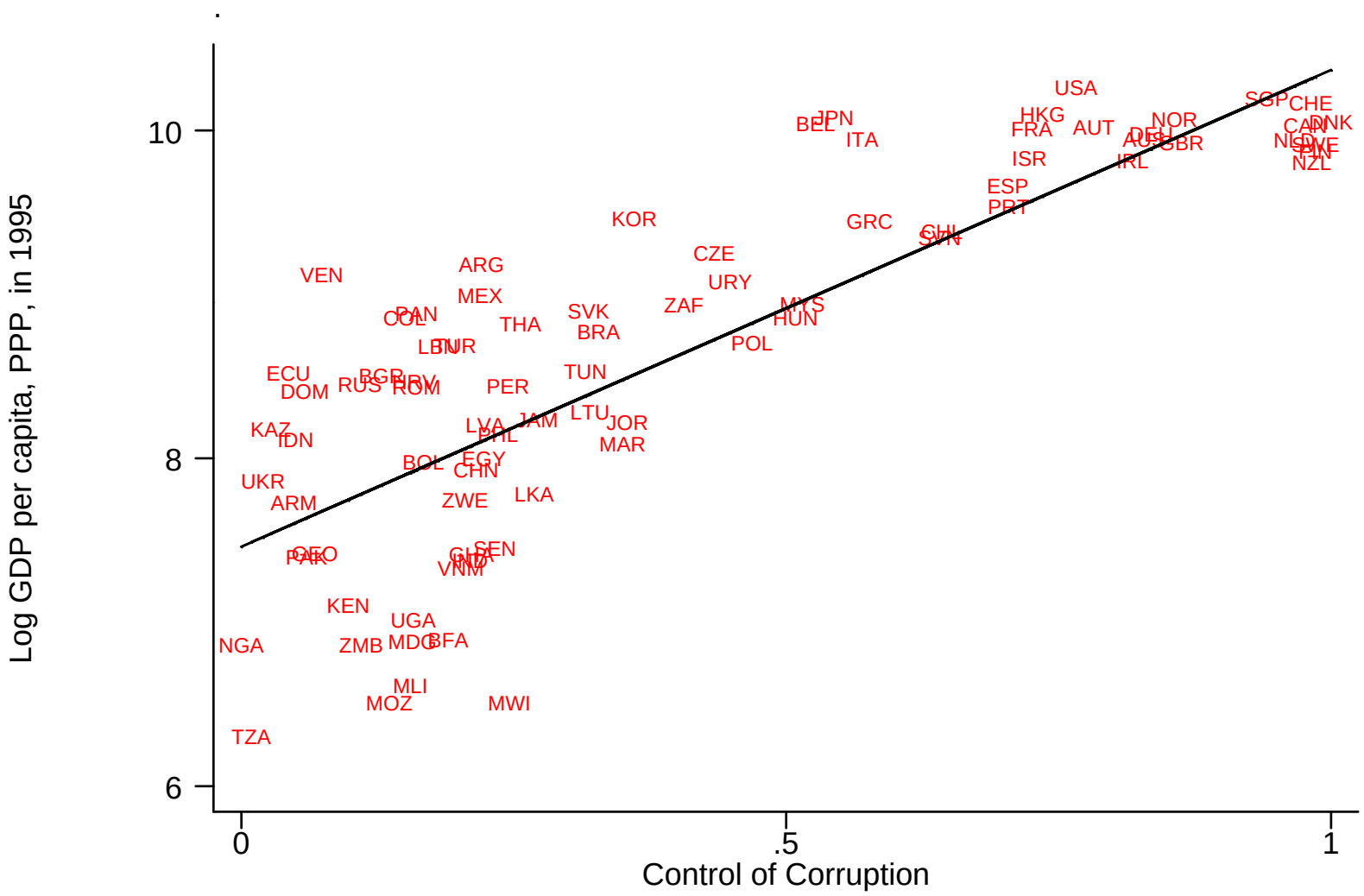
Institutional variation

- Big differences in economic and political institutions across countries.
  - Enforcement of property rights.
  - Legal systems.
  - Corruption.
  - Entry barriers.
  - Democracy vs. dictatorship.
  - Constraints on politicians and political elites.
  - Electoral rules in democracy.

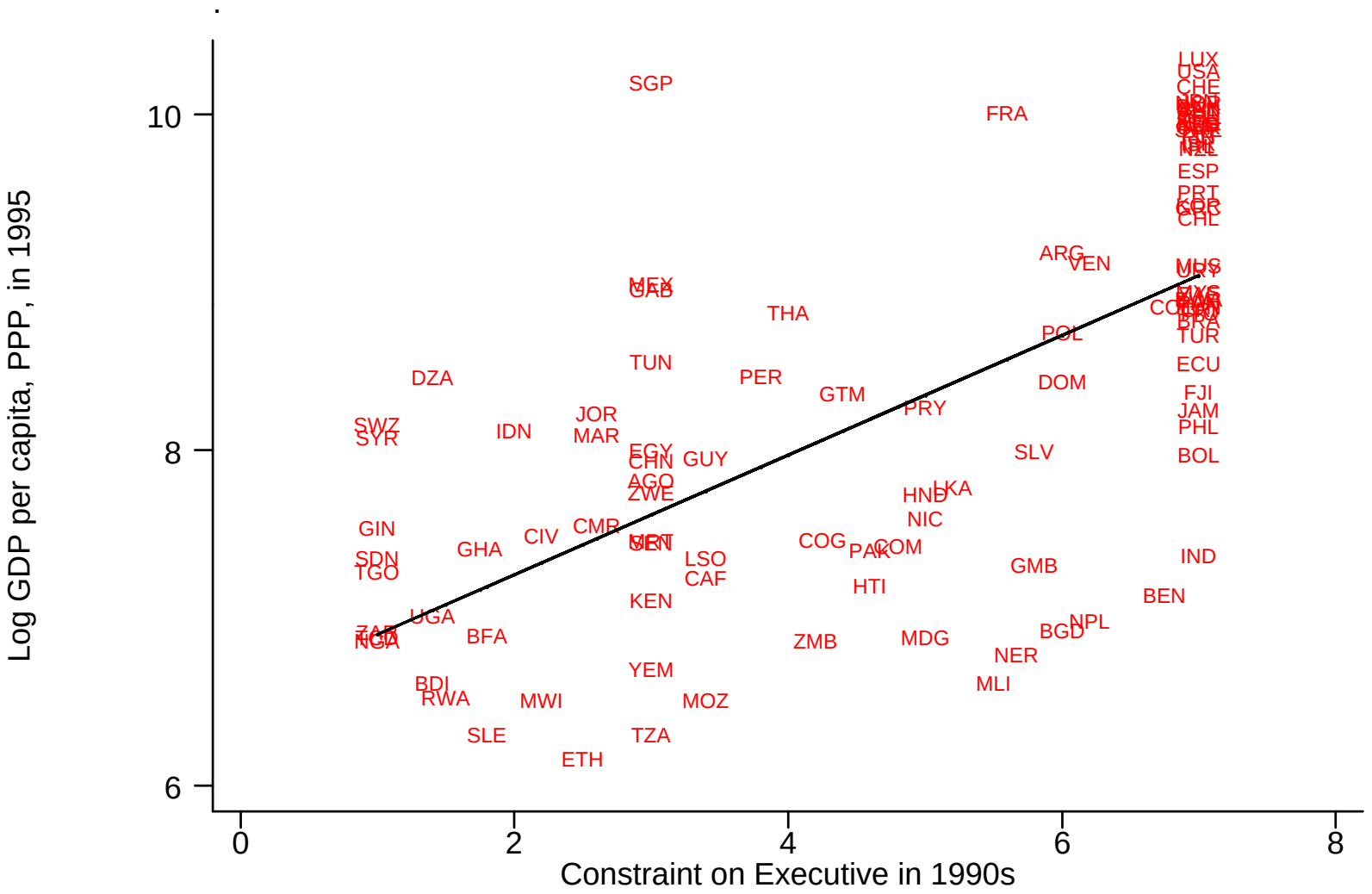
Institutions?
Economic institutions and economic performance (1)



Institutions?
Economic institutions and economic performance (2)



Institutions?
Political institutions and economic performance



Geography?

- If we want to believe that geography matters, it is enough to look at a world map.

1. If we locate the poorest places in the world, we will find almost all of them close to the equator.

2. If we look at some recent writings on agricultural productivity. Ecologists and economists claim that the tropical areas do not have enough frost to clean the soil and are suffering from soil depletion because of heavy rains.

3. Given the word *tropical* disease, areas infested with these diseases are at the tropics and much poorer than the United States and Europe, where such diseases are entirely absent.

Geography?

- The *geography hypothesis* maintains that the geography, climate, and ecology of a society's location shape both its technology and the incentives of its inhabitants.

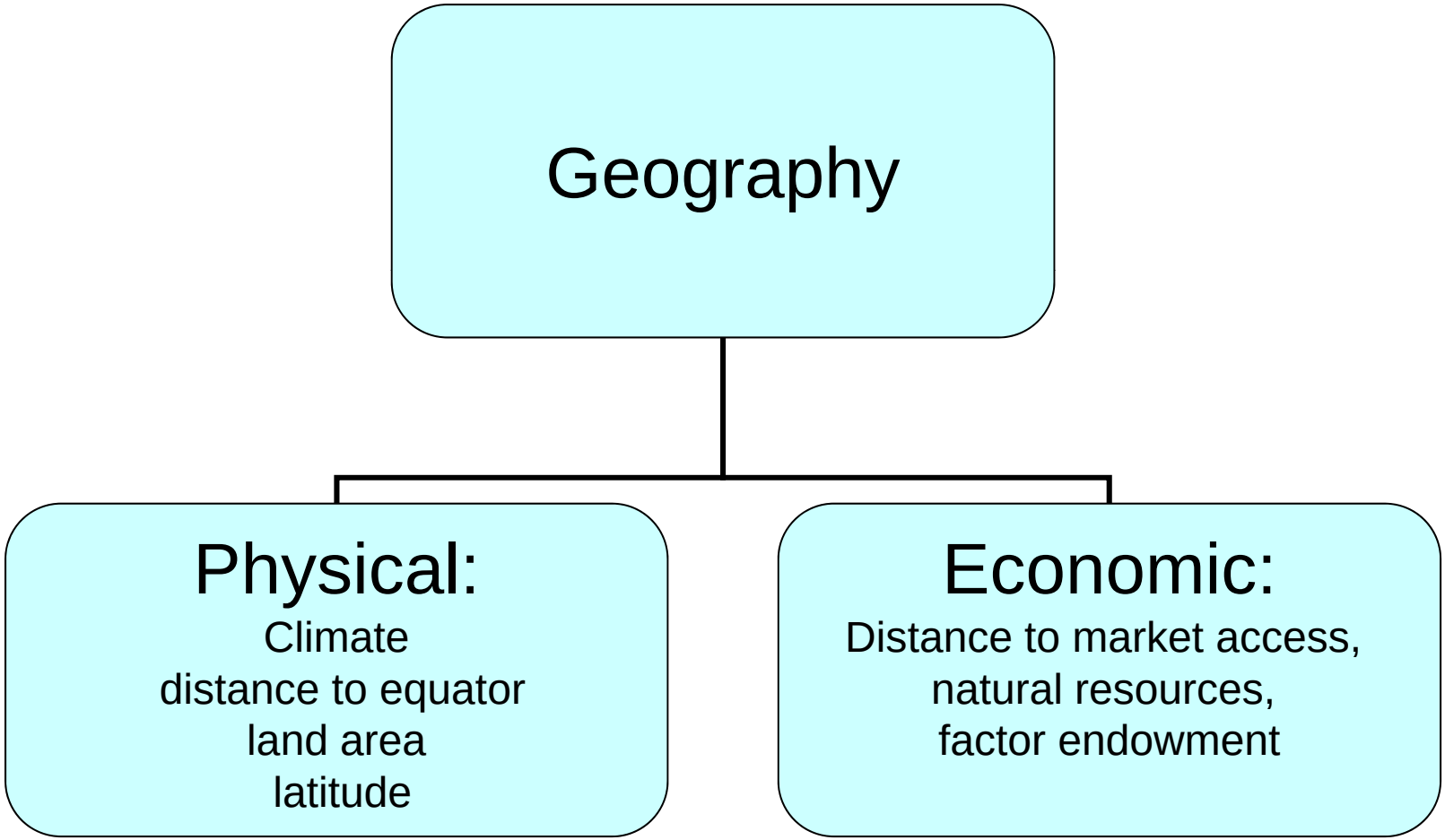
- There are at least three main versions of the geography hypothesis:

    1. Climate may be an important determinant of work effort, incentives, or even productivity. The heat of the climate can be so excessive that the body there will be absolutely without strength.

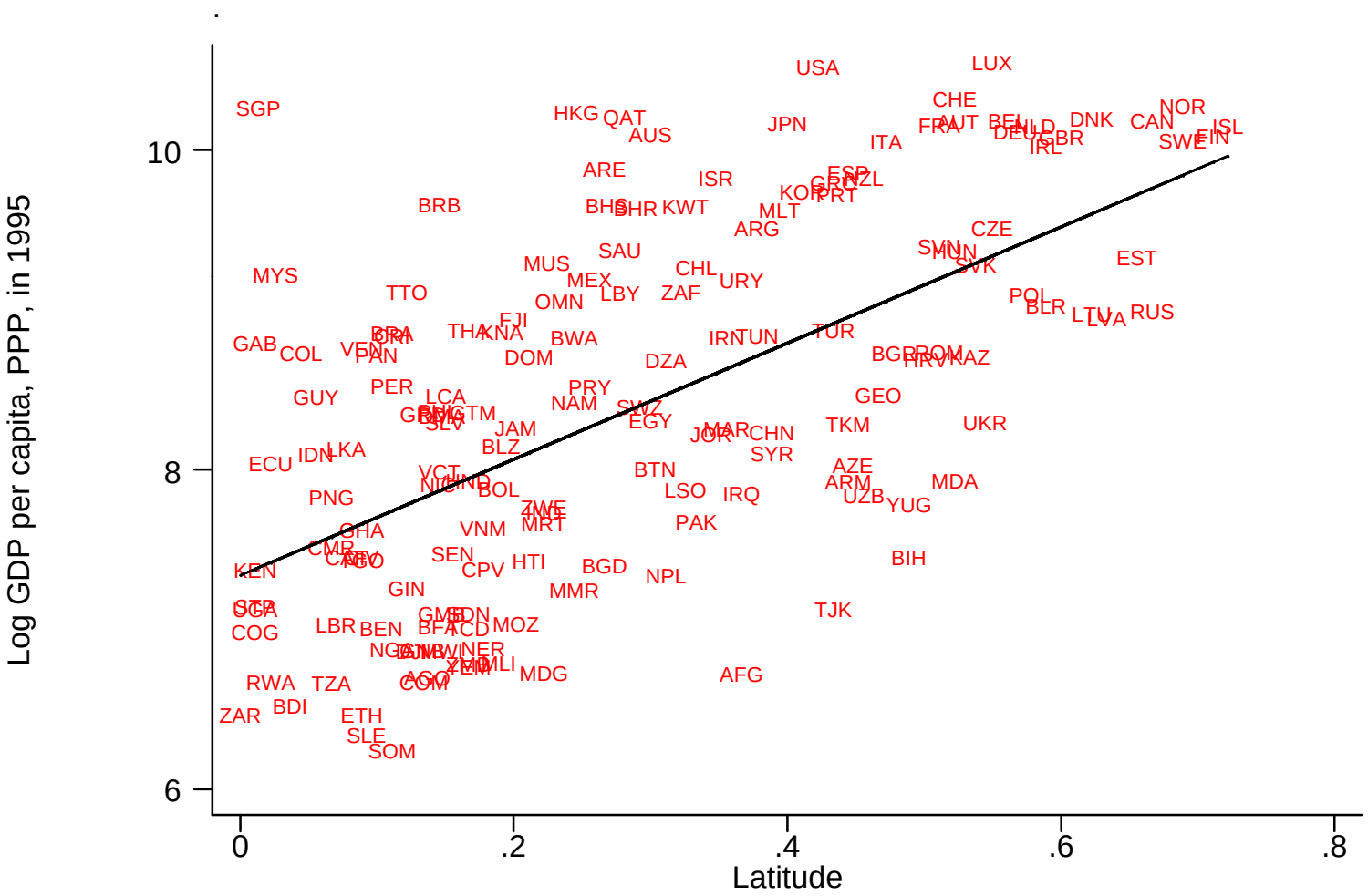
    2. Geography may determine the technology available to a society, especially in agriculture.

    3. The third variant links poverty in many areas of the world to their "disease burden“.

The Geography Factor



Geography?
Geography and economic performance



Culture?

- Culture is a relatively fixed characteristic of a group or nation, affecting beliefs and preferences. Example: religion
- At some level, culture can be thought to influence equilibrium outcomes for a given set of institutions.
- The most famous link between culture and economic development is that proposed by Weber (1930) who argued that the origin of industrialization in western Europe could be traced to the Protestant reformation and particularly the rise of Calvinism.
- "The set of beliefs about the world that was intrinsic to Protestantism were crucial to the development of capitalism"
- "Economic activity was encouraged, enjoying the fruits of such activity was not."

Culture?

“Waste of time is . . . the first and in principle the deadliest of sins. The span of human life is infinitely short and precious to make sure of one’s own election. Loss of time through sociability, idle talk, luxury, even more sleep than is necessary for health . . . is worthy of absolute moral condemnation . . . Unwillingness to work is symptomatic of the lack of grace” (pp. 104–105).

Culture?

- Thus Protestantism led to a set of beliefs which emphasized hard work, thrift, saving, and where economic success was interpreted as consistent with (if not actually signaling) being chosen by God.

- Weber contrasted these characteristics of Protestantism with those of other religions, such as Catholicism, which he argued did not promote capitalism.

- Barro and McCleary (2003) provide evidence of a positive correlation between the prevalence of religious beliefs, notably about hell and heaven, and economic growth.

Institutions, geography, or culture?

- Although there is correlation between institutions and economic development, this does not establish that this is a causal relationship.

- Why?

Potential problems

- Institutions could vary because underlying factors differ across countries.
  - Geography, ecology, climate
  - Culture
  - Perhaps other factors?

- Montesquieu's story:
  - Geography determines "human attitudes"
  - Human attitudes determine both economic performance and political system.
  - Institutions potentially influenced by the determinants of income.

- Identification problem.
  - We can learn only a limited amount from correlations and ordinary least square (OLS) regressions.

Potential problems

- It is true there is *a correlation* between geography and prosperity, i.e., a simple statistical association. But statistical association does not prove causation.

- Most important, there are often *omitted factors* driving the associations we observe in the data.

Malaria Example:
Correlation is not the same as causality.

- In the nineteenth century doctors did not understand what caused malaria. To make progress towards protecting European troops in the tropics, they developed an "empirical theory" of malaria by observing that people who lived or traveled close to swamps caught malaria.

- In other words, they turned the association between the incidence of malaria and swamps into a causal relationship, that the incidence of malaria was *caused* by swamps, and elaborated on this theory, by arguing that malaria was transmitted by mists and bad airs emitted by swamps.

- Of course they were wrong, and a few decades later, other scientists proved that this statistical association was caused by an omitted factor, mosquitoes. Malaria is caused by parasites transmitted by mosquito bites.

Natural Experiments of History

- In the natural sciences, causal theories are tested by conducting controlled *experiments*.

- Controlled experiments are much harder to conduct in the social sciences. We cannot change a country's institutions and watch what happens to the incomes and welfare of its citizens.

- But history offers many *natural experiments*, where we can argue that one factor changes while other potential determinants of the outcomes of interest remain constant.

Need for exogenous variation

- Exploit “natural experiments” of history, where some societies that are otherwise similar were affected by historical processes leading to institutional divergence.
  - A source of variation that affects institutions, but has no other effect, independent or working through omitted variables, on income.
- Examples of potential natural experiments of history:

1. South versus North Korea
2. European colonization

The Korean experiment

- Separation in 1948:

- Democratic's People Republic of Korea:
  - abolishment of private property of land and capital
  - economic decisions mediated by the communist state

- Republic of Korea:
  - private property
  - markes and private incentives, especially after 1961

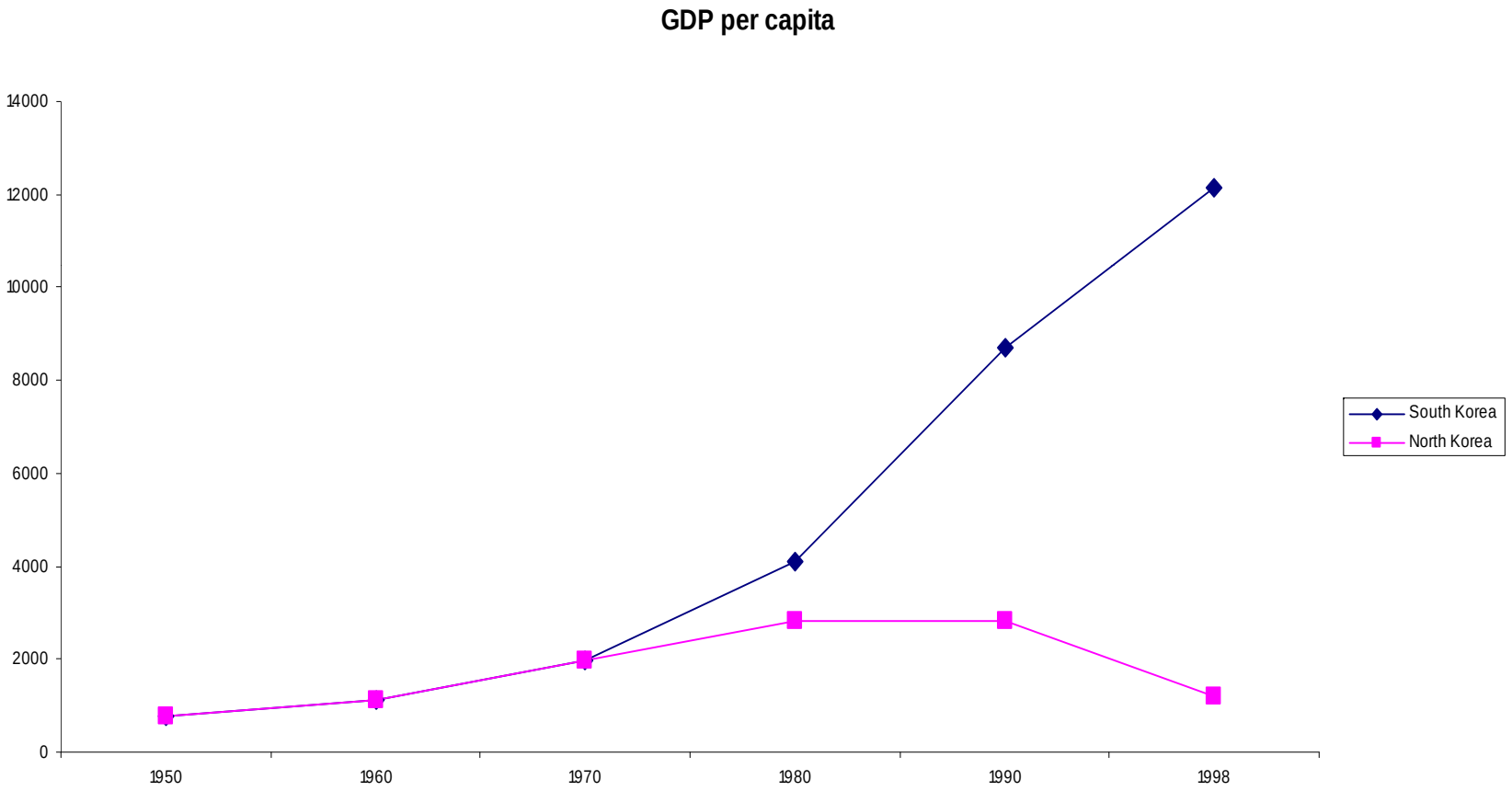
The Korean experiment

- Before 1948:

- Same cultural and historical roots
- Strong degree of ethnic, linguistic, cultural and economic homogeneity
- Few geographic distinctions, same disease environment
- Man-made initial conditions similar, or to advantage of North:
  - industrialization during colonial period - more in North
  - Ch'ongjin (North): largest sea-port on sea of Japan

- Madddison (2001): same income per capita in 1948

North and South Korea



The Korean experiment

By late 60's:

- South Korea one of the Asian "miracle" economies
- North Korea: stagnation

By late 2000:

- GDP per capita in South Korea 16000 dollars, OECD member
- GDP per capita in North Korea 1000 dollars, as typical in Sub-Saharan Africa

Conclusive experiment, but need of larger scale "natural experiment" in institutional divergence:

Colonization

- Colonization transformed the institutions in many countries conquered by Europeans, but had no effect on their geographies.

- If geography is the key factor determining the economic potential of a country, the places that were rich before the arrival of the Europeans should continue to be rich after the colonization experience as well, in fact also today.

- If it is institutions that are central, then those places where good institutions were introduced or developed should get richer compared to those where Europeans introduced or maintained extractive institutions.

The History of colonisation

- Historical evidence suggests that Europeans indeed pursued very different colonization strategies in various colonies.

1. At one extreme, Europeans set up extreme extractive institutions, exemplified by the Belgian colonization of the Congo, slave plantations in the Caribbean or forced labor systems in the mines of Central America. These institutions introduced neither protection for the property rights of citizens nor constraints on the power of elites.

2. At the other extreme Europeans replicated and often improved the European form of institutions. Primary examples of this mode of colonization include Australia, New Zealand, Canada, and the United States. The settlers in these societies managed to place significant constraints on elites and politicians.

The History of colonisation

- So what happened to economic development after colonization?

- Did places that were rich before colonization remain rich, as suggested by the geography hypothesis?

- Or was there a systematic change in economic fortunes associated with the changes in institutions?

The Reversal of Fortune

- Idea: European colonialism as a ”natural expriment”

- Reversal of fortune within former European colonies

– Mughals, Aztecs, Incas
– North America, New Zeland and Australia

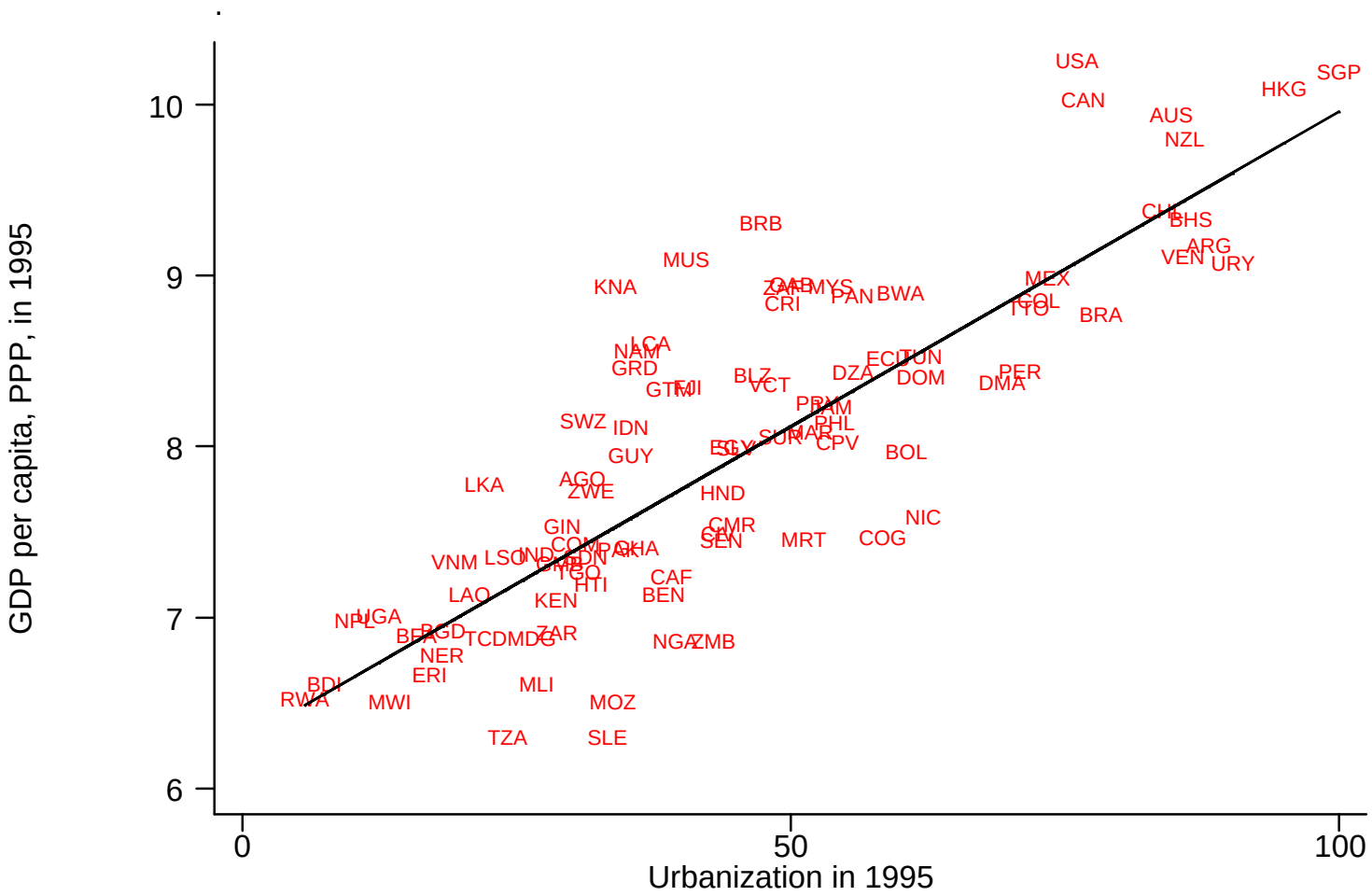
European colonization as a “natural experiment”

- Approximating a “natural experiment” because
  - Many factors, including geographic, ecological and climatic ones, constant, while big changes in institutions.
  - Changes in institutions not a direct function of these factors.
  - Analogy to a real experiment where similar subjects have different “treatments”.
- Consequences?
- Look at changes in prosperity from before colonization (circa 1500) to today in the *former colonies sample*.

Measuring prosperity before national accounts

- To answer these questions, we need a measure of prosperity before the modern era.
- Urbanization is a good proxy for GDP per capita
- Only societies with agricultural surplus and good transportation network can be urbanized.
- Urbanization is highly correlated with income per capita today and in the past.
- We can construct data on urbanization in the past
- In addition, use population density as a check.
  - Useful also because related to the causal mechanism.

Urbanization and income today

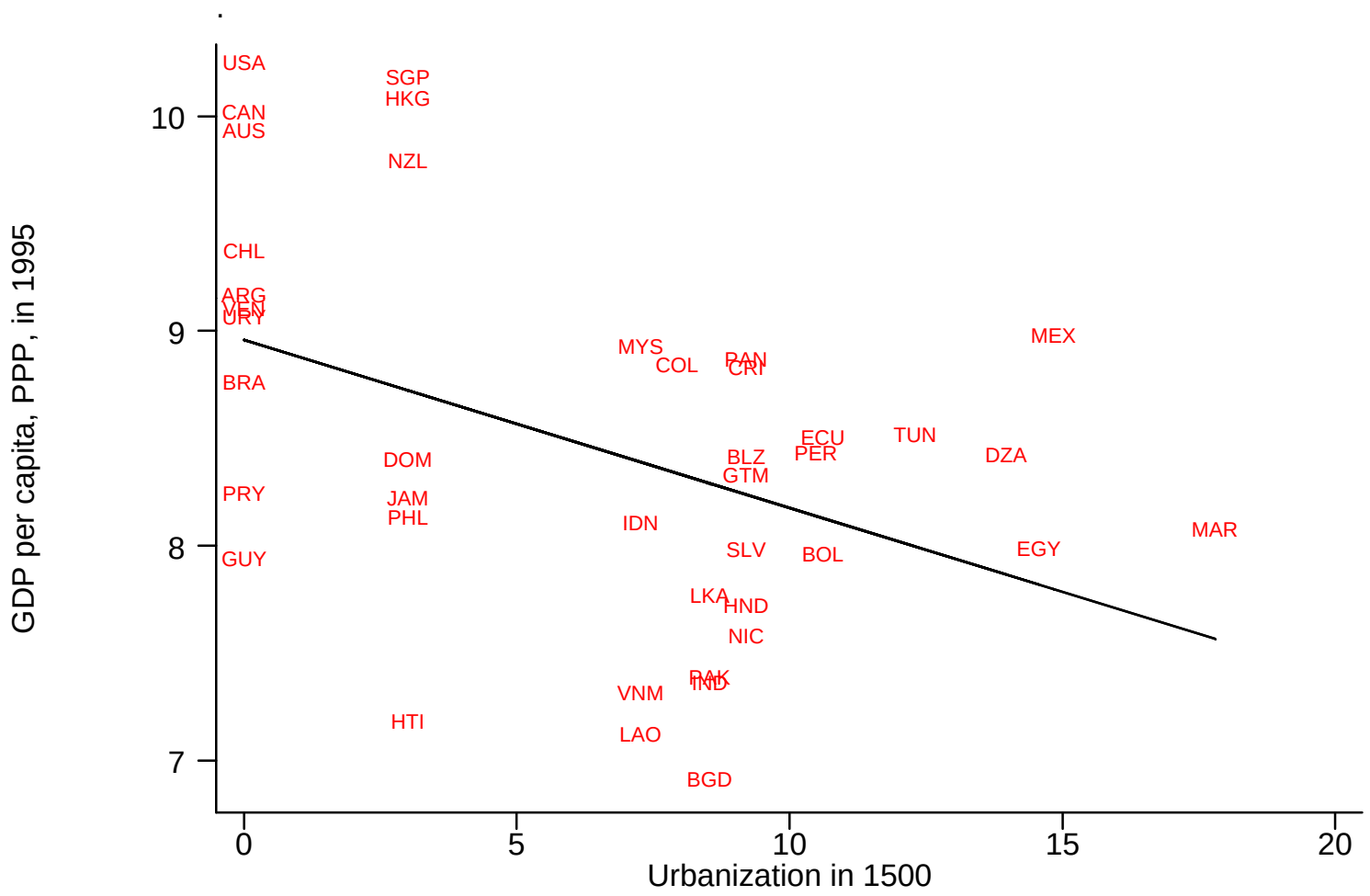


Results: until 1500

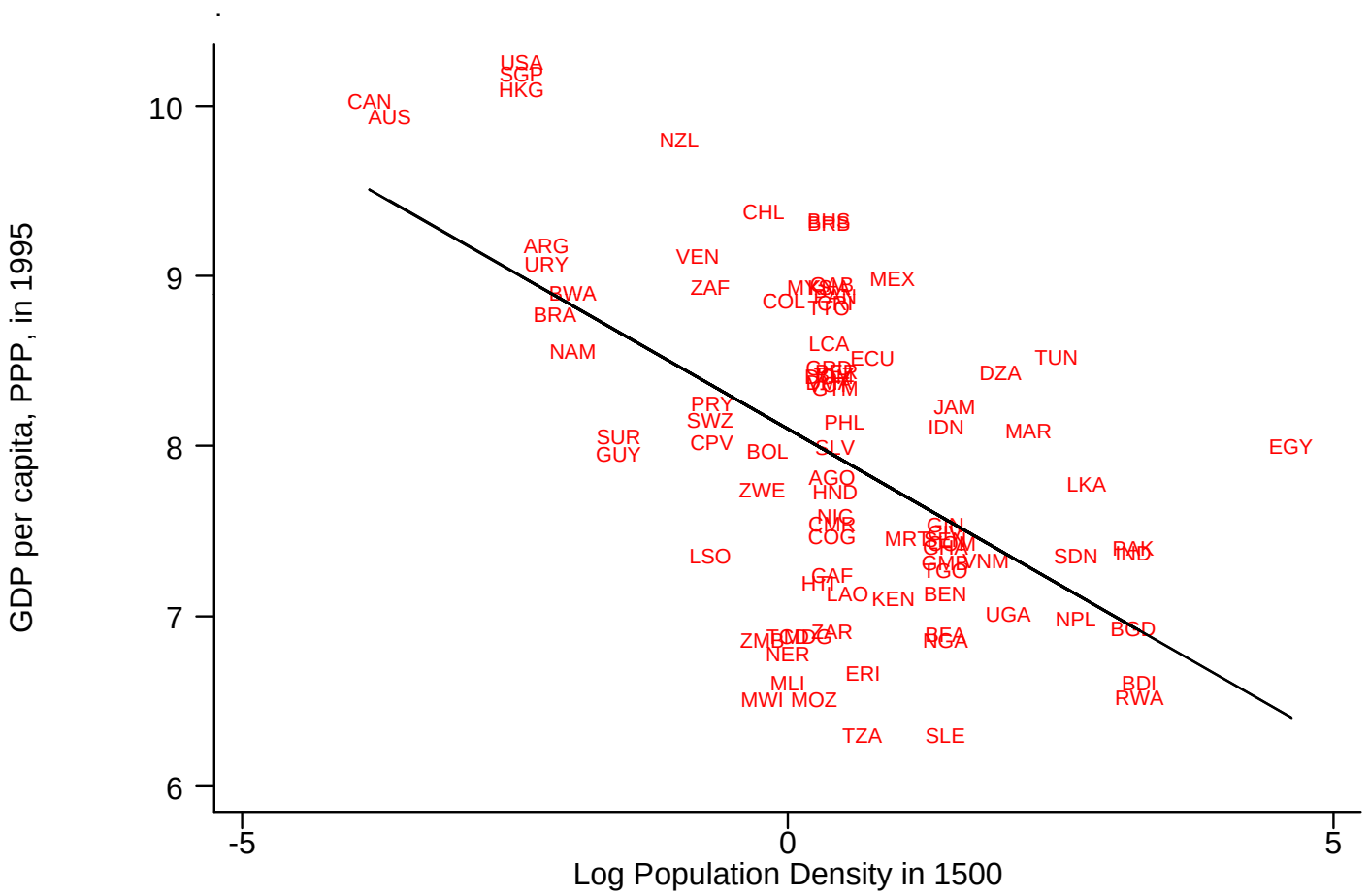
- Persistence is the usual state of the world.
  - There is “mean reversion” and rise and decline of nations, and certainly of cities.
  - But countries that are relatively rich at a point in time tend to remain relatively rich.

- The data confirm this persistence.
  - After the initial spread of agriculture, there was remarkable persistence in urbanization and population density.
  - Largely true from 1000 BC to 1500 AD, and also for subperiods.
  - More important, true also in the former colonies sample.

Reversal since 1500 (1)



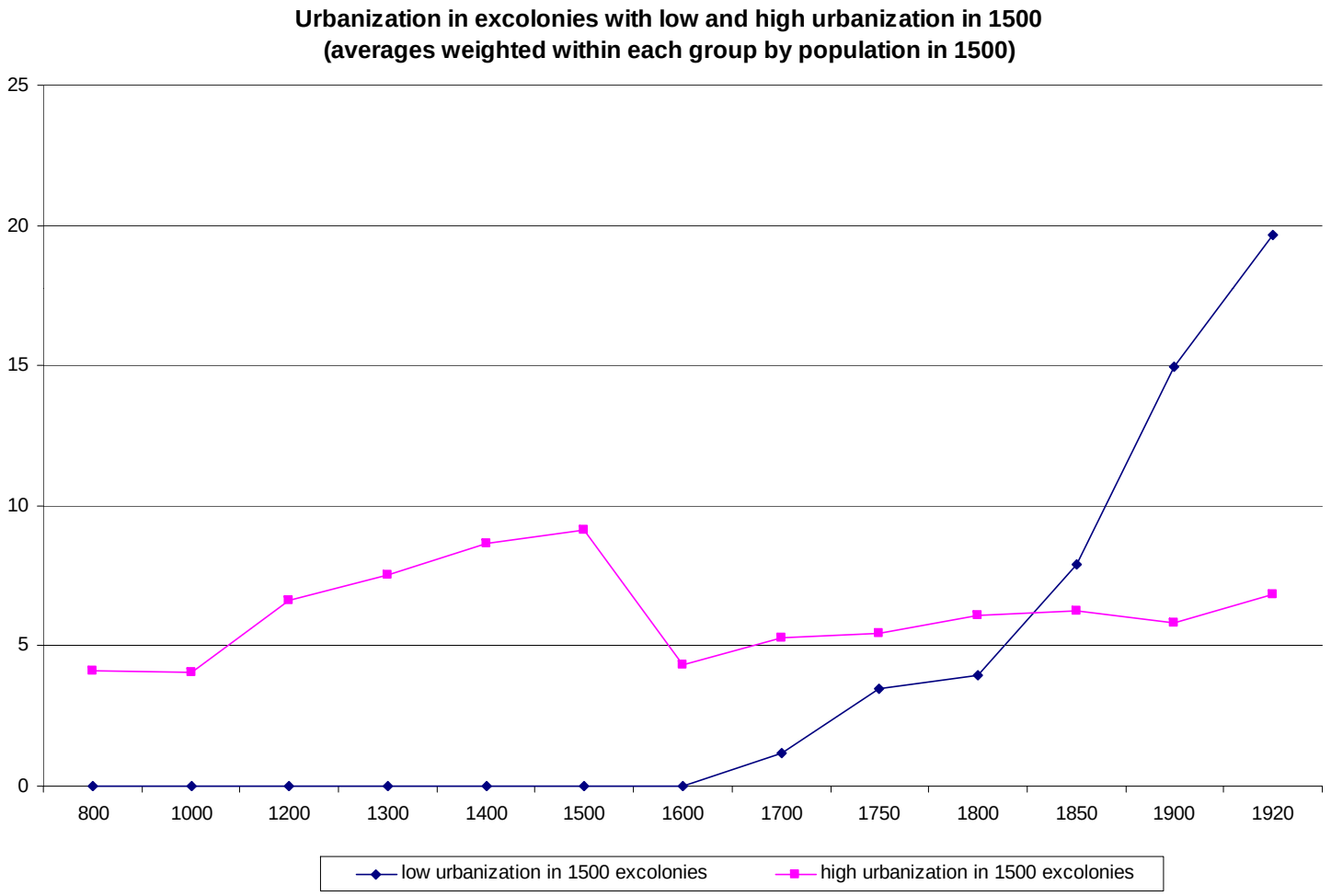
Reversal since 1500 (2)



Reversal of Fortune

- The strong negative relationship indicate a reversal in the rankings in terms of economic prosperity between 1500 and today.
- In fact, the figures show that in 1500 the temperate areas were generally less prosperous than the tropical areas.
- This reversal is evidence against the most standard versions of the geography hypothesis discussed earlier.
- It cannot be that the climate, ecology or disease environments of the tropical areas condemn them to poverty today, since these areas with the same climate, ecology and disease environments were *richer* than the temperate areas 500 years ago.

When did the reversal happen?



What's happening?

- Former colonies with high urbanization and population density in 1500 have relatively low GDP per capita today, while those with low initial urbanization and population density have generally prospered.

- (Simple) Geography hypothesis?
  - It cannot be geographical differences; no change in geography.

- Sophisticated geography hypothesis? Certain geographic characteristics that were good in 1500 are now harmful?
  - no evidence to support this view; reversal related to industrialization, and no empirical link between geography and industrialization.

Understanding the patterns from 1500 to 2000

- Reversal related to changes in institutions/social organizations.

- Relatively better institutions "emerged" in places that were previously poor and sparsely settled.
  - E.g., compare the United States vs. the Caribbean or Peru.

- Thus an *institutional reversal*
  - Richer societies ended up with worse institutions.
  - Europeans introduced relatively good institutions in sparsely-settled and poor places, and introduced or maintained previously-existing bad institutions in densely-settled and rich places.
    - E.g.; slavery in the Caribbean, forced labor in South America, tribute systems in Asia, Africa and South America.

- Institutions have persisted and affected the evolution of income, especially during the era of industrialization

The institutional reversal (1)

Contrast: Urbanization in 1500 and GDP per capita are positively correlated among non-colonies

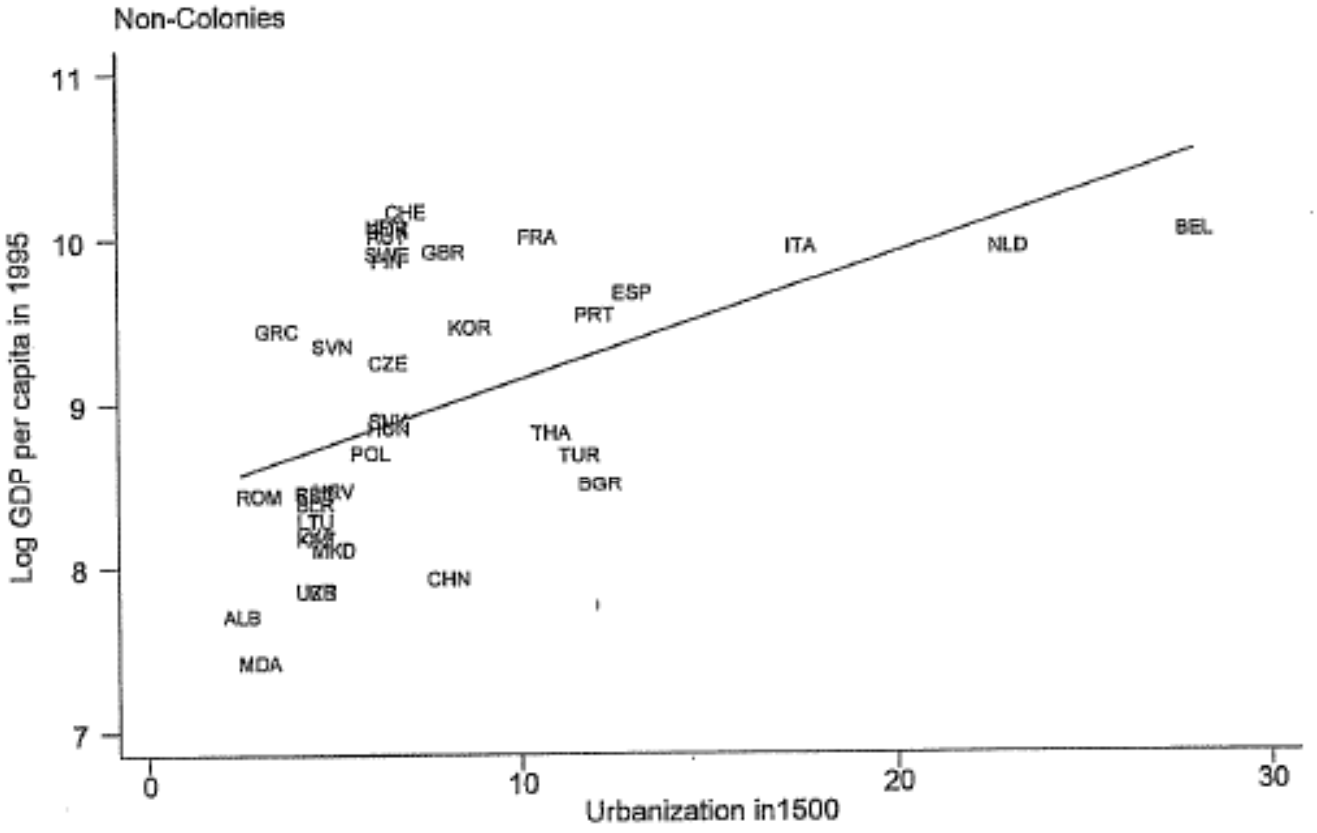


Figure 9. Urbanization in 1500 and log GDP per capita in 1995, among non-colonies.

The institutional reversal (2)

Contrast: urbanization persistent before 1500

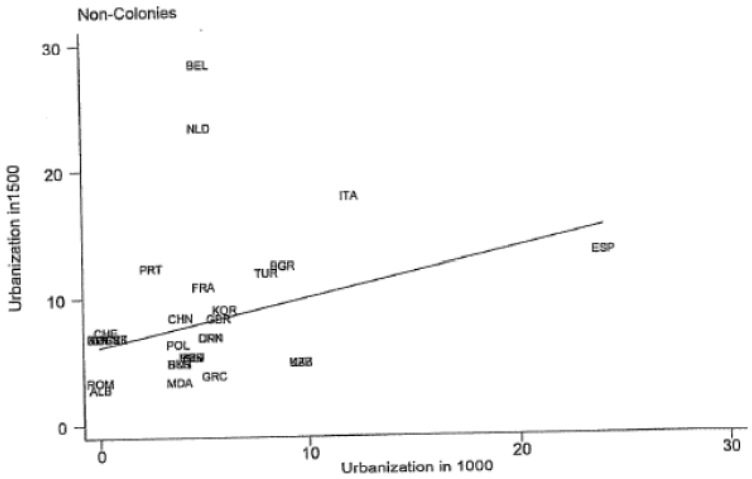


Figure 7. Urbanization in 1000 and 1500, among non-colonies.

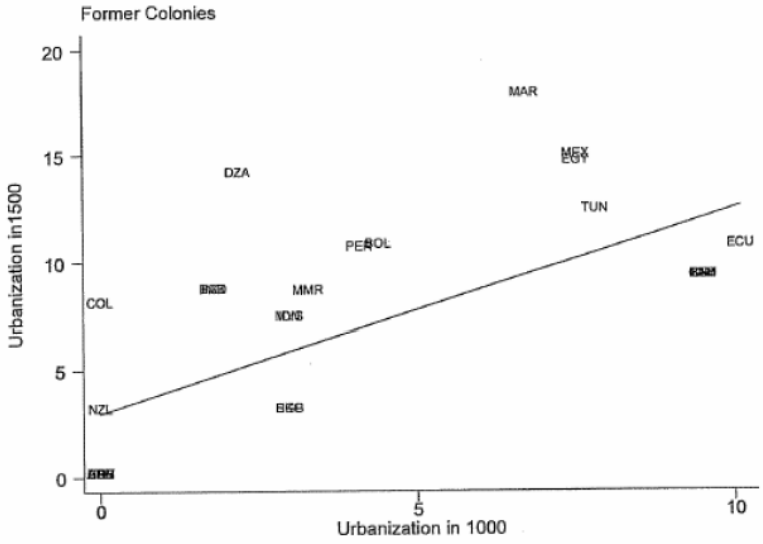


Figure 8. Urbanization in 1000 and 1500, among former European colonies.

Institutions matter

- Reversal in prosperity resulting from the institutional reversal, combined with persistence in institutions
  - Countries with “better” institutions prosper, while those with “bad” institutions stagnate or decline.
  - The reversal also emphasizes that the differences are not only between capitalist and communist systems.
  - What matters more is the “type” of capitalism.

The role of culture

- Can all this be related to culture?
- Culture not useful in understanding the Korean divergence
  - North and South were culturally homogeneous.
- Possible that the reversal related to culture.
  - But the growth trajectories of British colonies similarly to Spanish, Portuguese and French colonies once we control for differences in local conditions.
- Reversal also not related to the presence of Europeans.
  - Examples of prosperity in Singapore and Hong Kong, where population is now almost entirely non-European, but institutions protect investment.
- Overall, no evidence that European values or culture played a special role.

Why differences in institutions?

Four meta-theories of institutions:

1. Efficiency: institutions that are efficient for society (e.g., for aggregate growth or welfare) will be adopted.

2. Ideology: differences in beliefs determine institutions (societies choose radically different institutions because citizens or elites have different beliefs about what's good for economic growth).
   - Perhaps North Korea chose planned economy because its leaders believed it was "better".

3. History: institutions determined by historical accidents or unusual events, and are unchanging except for random events and further accidents.
   - Legal system today determined by past historical accidents.

4. Social conflict: institutions chosen for their distributional consequences by groups with political power.

Which approach? (1)

- Efficient institutions view: not a useful framework
  - Every set of institutions creates different losers and beneficiaries. Efficient institutions require either the losers to be compensated or the beneficiaries to impose their choice.
  - But in practice, losers generally not compensated ex post, and often can be powerful enough to block institutional change that is beneficial in the aggregate.
  - Empirically, efficient institutions view cannot help us understand why some societies adopt institutions that were disastrous for economic growth.

Which approach? (2)

- Ideology view: not a useful framework by itself either

- Clearly, beliefs across societies differ, and existing regimes remain in place by gaining some degree of approval.
  - Propaganda and media extremely important for regime survival.

- But many empirical patterns cannot be explained by ideology.
  - In the Korean case, the original divergence in institutions partly related to ideology, but the persistence of communist system not only because of ideology; those with political power want the continuation of the system that is good for them.

- For the reversal, same or similar groups of colonists opting for very different sets of institutions in colonies with different local conditions. Clearly not related to their beliefs about what's good for the society as a whole.

Which approach? (3)

- History: ample evidence that institutional choices persist.
- But they are also choices, not simply dictated by history.
- Need to understand why institutions persist, and why, and how, they change.
- Examples:
  - While the communist system persisted in North Korea, it collapsed in Eastern Europe and Russia.
  - Persistence in China until 1978 and change thereafter.
  - Very different institutions in North and South America during the early colonial era and after independence.

Which approach? (4)

- Institutions and social conflict:

- (Economic) Institutions shape incentives and determine the allocation of resources
  - Each set of institutions creates beneficiaries and losers; certain groups obtain high incomes, rents and privileges.
  - Thus “distributional” implications from institutional choices.
  - Preferences over institutions determined by their distributional implications.
    - E.g.: a monopolist would be opposed to a reduction in entry barriers even if these increase aggregate income.

- Empirically more promising:
  - We can explain inefficient choices, even when their consequences are understood by the key actors.
  - Also we can investigate when institutions will be more or less efficient, that is, “comparative static” exercises.

Institutions and social conflict

- Institutions chosen for their economic consequences.
  - In particular, economic institutions which shape incentives and determine distribution of resources.
- But also taking account of their “distributional implications”
- How does society make decisions in conflictual situations (i.e., when there is no agreement on what should be done?)
- Importance of *political power*
  - Political power: the power to impose or secure social choices against the wishes of other groups.
- Political power → social choices
- Political power → economic institutions

Sources of inefficiency: commitment problems in politics

- Why doesn't society buy off politically powerful losers?

- Key problem: commitment.
  - Promise of compensation after institutional change not credible.
  - Political power creates commitment problems.
  - Contrast contracting between two private citizens versus political contracting between two parties one of whom holds political power

The two private citizens can write contracts enforced by a third party with enforcement power.

In contrast, in politics, the party with political power cannot commit to refrain from hold up; promise of a dictator not to expropriate after investments is not credible.

There is also no credible transfer of political power in exchange for future payments; promise of payments to a dictator after he relinquishes power is not credible.

Towards a theory of institutions: comparative statics

- When do we expect a society to adopt good institutions?

1. When those holding political power also will benefit from well enforced property rights (and financial development, free entry, functioning markets etc.)

2. When there are relatively few resources to be extracted or exploited using political power

The Institutions view of the reversal

- Densely populated and urbanized countries in 1500 ended with worse institutions
- In densely-settled and relatively-developed places, extractive institutions existing or to be created
- In sparsely-settled areas, institutions protecting private property rights

History, ideology and social conflict in the colonial experience

- Those with political power, the “Europeans”, set up different economic institutions in different colonies.
  - Smallholder production in northeastern U.S., slavery in the Caribbean, forced labor in Central America.

- Not historical accident.
  - Europeans did restructure existing institutions, and introduce new institutions in many colonies.

- Not ideology
  - the same British groups, opting for different structures and different colonies; e.g., the U.S. vs. Caribbean, Massachusetts Bay vs. Providence Island.

- Social conflict and political power are key.
  - Europeans monopolized political power and set up institutions for their own benefit, even if not beneficial for the society at large.

The colonial experience

- More profitable to set up good institutions when Europeans themselves will benefit.
  - Better institutions in places where Europeans settle and become a significant fraction of population (typically places with low initial population density).

- More profitable to set up good institutions when little to expropriate.
  - Better institutions in places with low population density and/or fewer resources to extract (i.e., low prosperity, low urbanization).

Hierarchy of institutions

- What about political institutions?
  - Political institutions determine the distribution of political power and regulate its use → sources of political power.

- Association between economic and political institutions
  - E.g., democratic systems emerged in European colonies which were smallholder societies with secure property rights.
  - Coercive states with few constraints emerged in societies with slave production, forced labor and tribute systems.

Institutions view

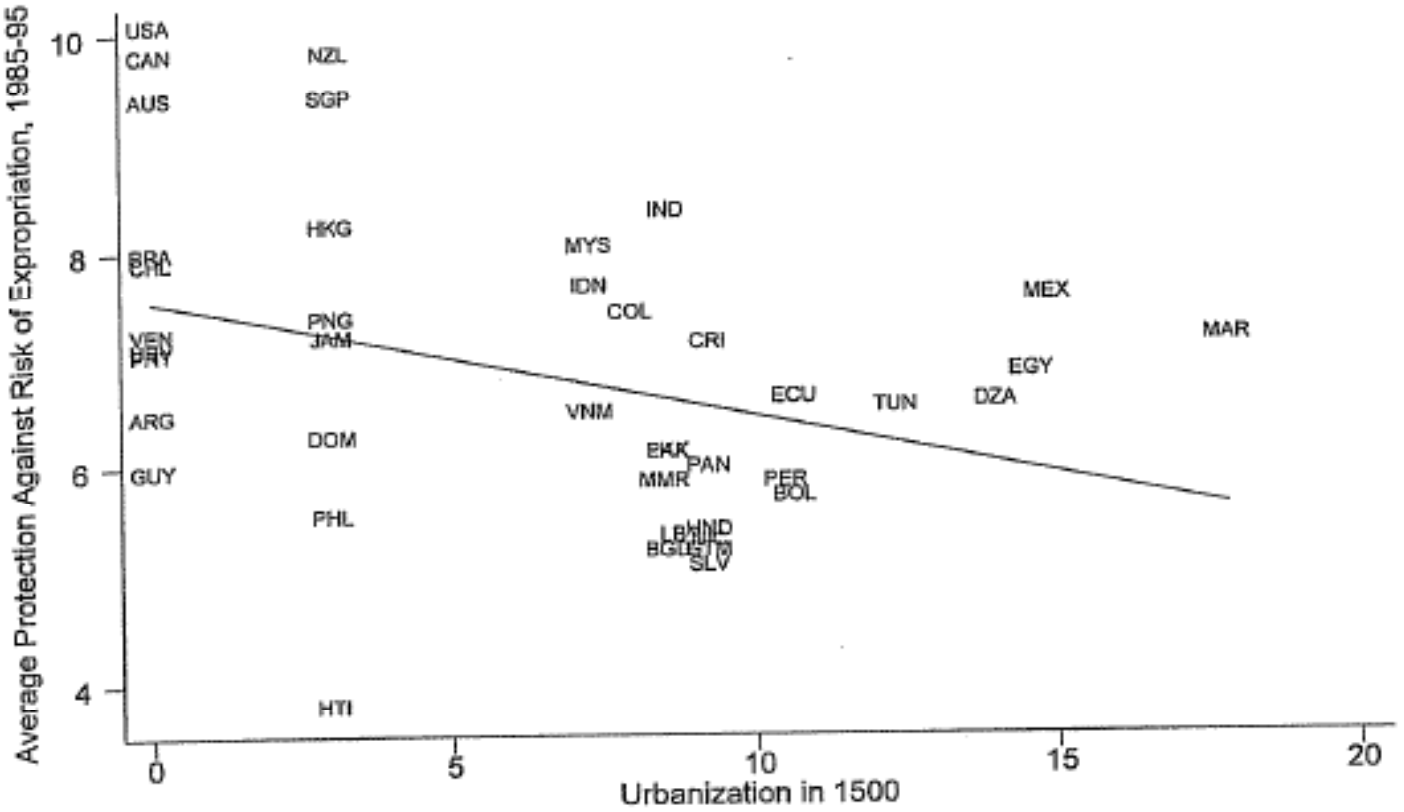


Figure 12. Urbanization in 1500 and average protection against risk of expropriation 1985–95.

Institutions view

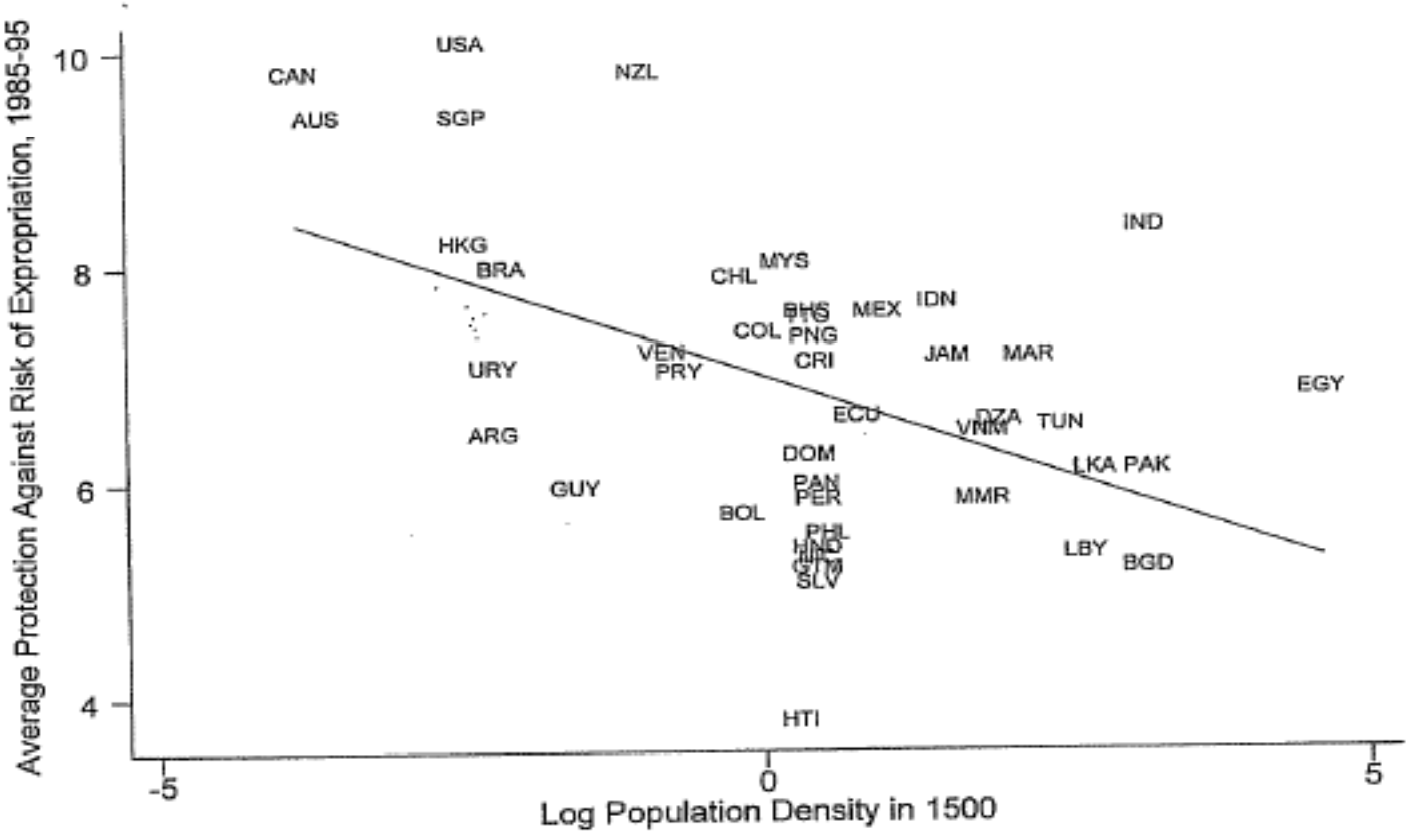


Figure 13. Log population density in 1500 and average protection against risk of expropriation 1985–95.

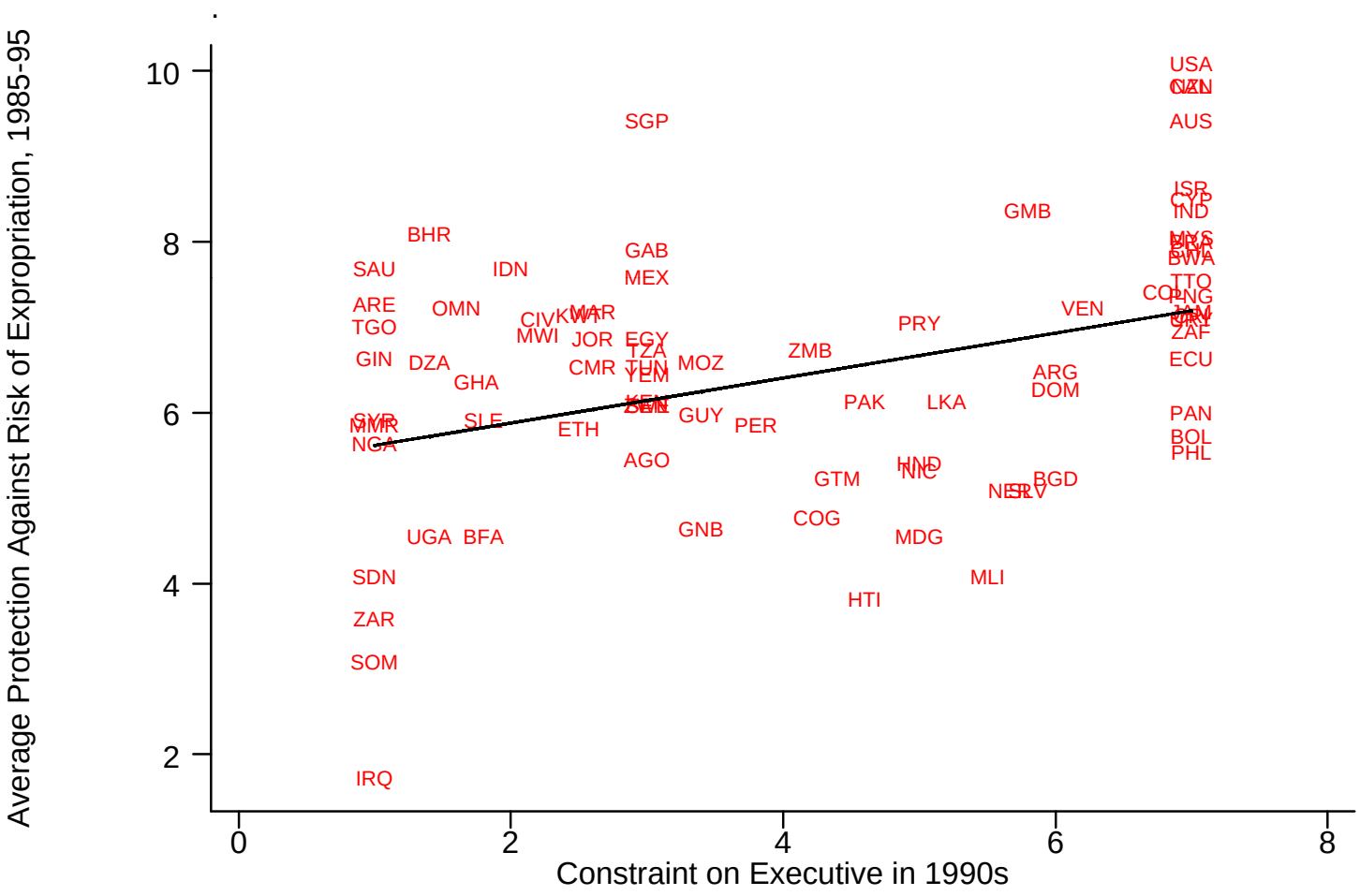
Understanding the timing of the reversal

- Why did the reversal take place in the 19th century?

- Coercive institutions imposed by Europeans not extremely costly when they dominated the major productive opportunities.
  - E.g., the plantation complex generated investment in sugar production; Barbados, Cuba, Haiti, Jamaica among the richest places in the world at some point between 16th and 19th centuries.

- The major cost of these institutions arises when new opportunities, in this instance in industry and commerce, require investment by new groups and broad-based participation.
  - 19th century was a period of industrialization, and societies with relatively democratic institutions were the ones allowing free-entry by new entrepreneurs.
  - Highlights that the same set of institutions can have very different effects under different circumstances.

Economic and political institutions



Sources of political power

- Two types of political power:

- De jure (formal) political power
  - Allocated by political institutions
  - E.g., political power allocated to a party or Prime Minister by an election.

- De facto political power
  - Determined by economic and military power, or access to extra-legal means
  - E.g., the political power of rebel groups in a Civil War, or of masses who can create social unrest or a revolution.
  - De facto political power typically relies on military superiority or on solving the “collective action problem”.

- Distribution of political power in society determined by the distribution of de jure and de facto political power.

Political institutions and political power

- Political institutions are highly persistent; thus de jure political power is persistent.

- De facto political power, which relies on military superiority and solution to the collective action problem, is by its nature transient.

Economic institutions and political power

- The interplay between economic institutions and political power adds to institutional persistence.

  Political power → economic institutions

  Economic institutions → distribution of resources

  Distribution of resources → de facto political power

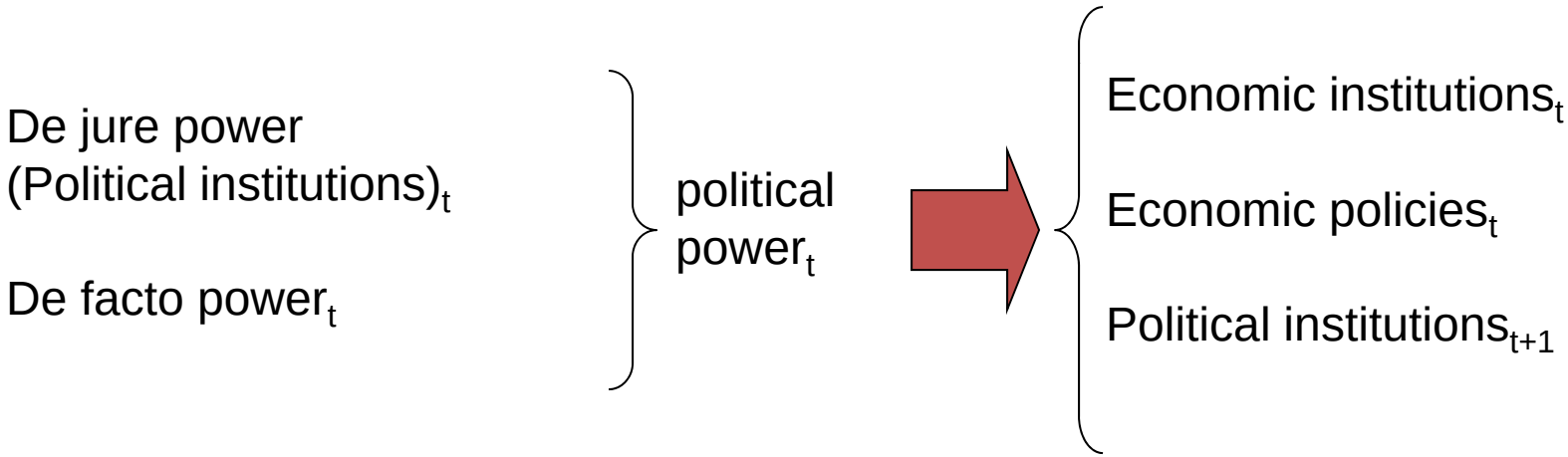
- Example: colonialism in the Caribbean;
  - Planters monopolized political power, which enabled them to capture the majority of the gains from sugar and other products.
  - The planters' incomes enabled them to dominate military power and control the state → persistence of the system

A theory of institutions

In the presence of social conflict;

- political power →economic and political institutions.
  - good institutions emerge when they benefit those with political power
- political institutions → de jure political power
  - Constraints on elites often conducive to better institutions.
- de facto political power → political institutions → de jure political power, both today and in the future.
  - Toward a theory of institutional change
- political power → institutions → political power
  - Source of persistence.

Dynamic linkages (summary)



The causal effect of institutions on prosperity

- Evidence so far that institutions important for cross-country differences in prosperity and long-run growth
  - But what is the magnitude of the effect? How much of differences in prosperity can be explained as a result of institutions?

- We need an empirical framework to estimate causal effect of institutions on economic outcomes.
  - We need a source of exogenous variation; an instrument for institutions.
  - Instrument: affects institutions, but no direct effect, or effect through other channels, on economic performance.

- History + theory → potential instruments.

Theory in action: back to the colonial experience

- Theory →
  - those with political power more likely to opt for good institutions when they will benefit from property rights and investment opportunities.
  - better institutions more likely when there are constraints on elites.

- The colonial context:
  - Europeans more likely to benefit from good institutions when they are a significant fraction of the population, i.e., when they settle
  - Europeans place constraints on elites when there are significant settlements.

  Thus: European settlements → better institutions

- But Europeans settlements are endogenous.
  - They may be more likely to settle if a society has greater resources or more potential for growth.
  - Or less settlements when greater resources; East India Company and Spanish crown limited settlements.

Settlements, mortality and development

- Disease environment
  - lots of variations across colonies
  - consequences for attractiveness of European settlement
  - subsequent impact on institutions
  - institutions persistent

- Instrument: settler mortality in 1500

The theory in action: back to the colonial experience

- In some colonies, Europeans faced very high death rates because of diseases for which they had no immunity, in particular malaria and yellow fever.

- Potential mortality of European settlers → settlements → institutions

- Moreover, for many reasons, already discussed above, institutions persist; so

  potential mortality of European settlers → settlements → past institutions → current institutions

Instrument negatively correlated with institutions

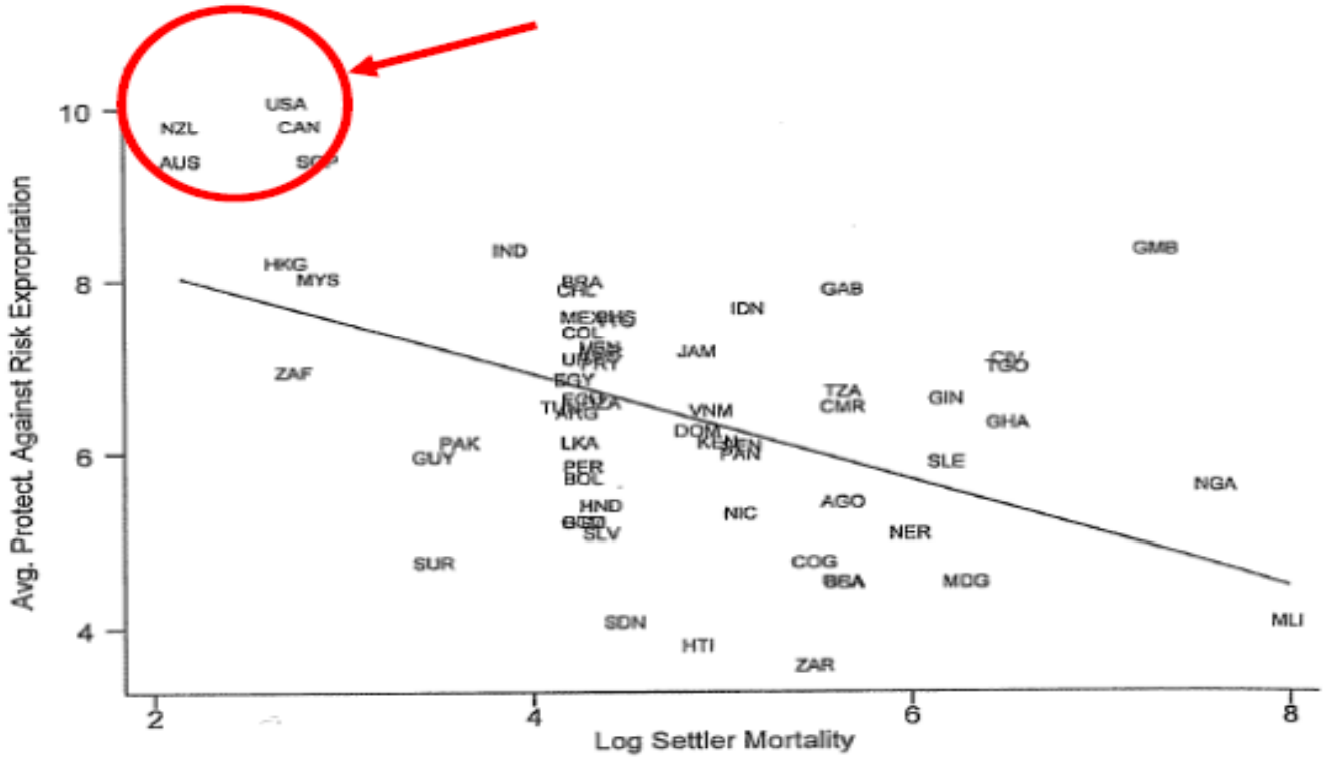
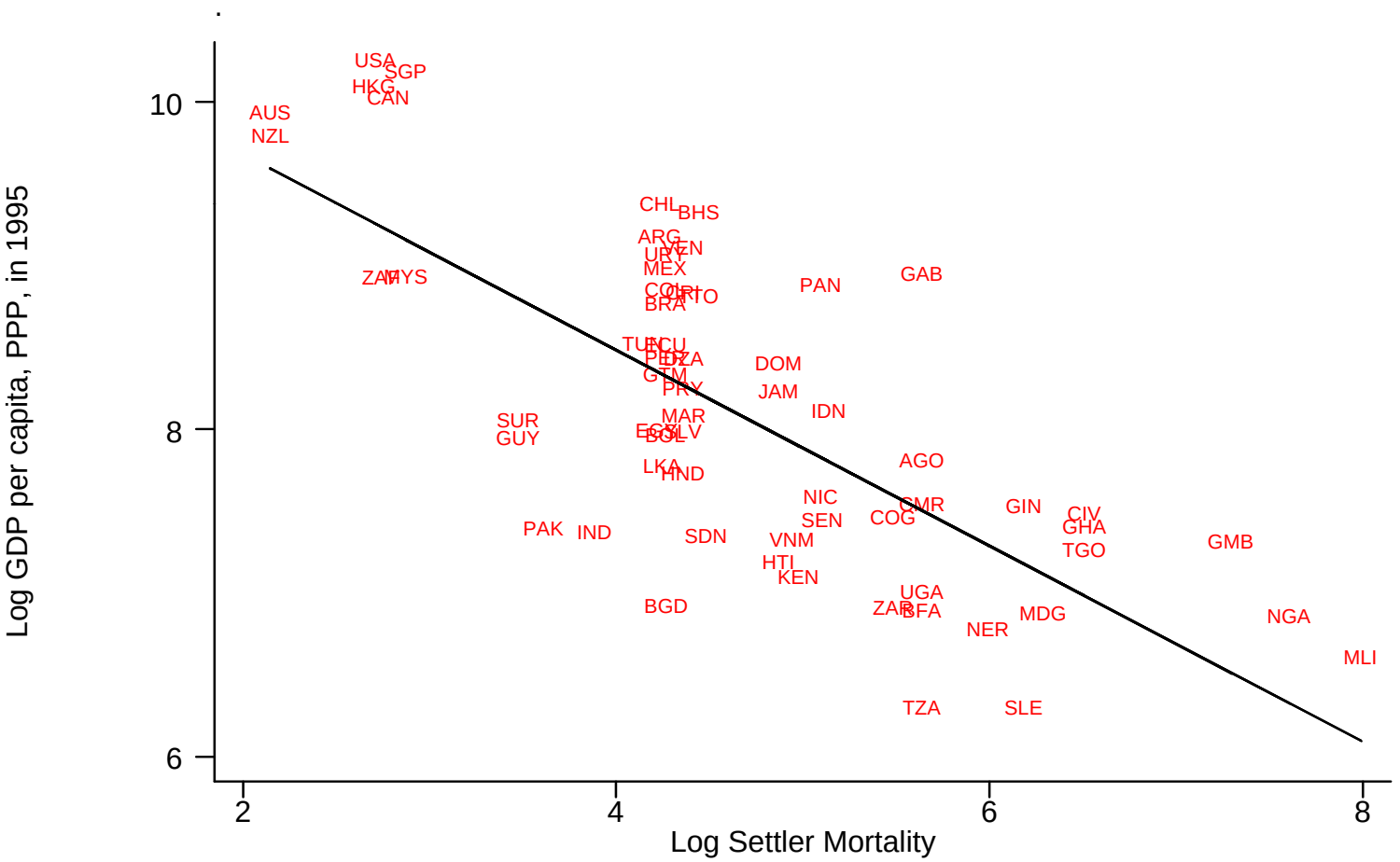


Figure 14. Log mortality of potential European settlers and average protection against risk of expropriation 1985–95.

Lots of variation in mortality: tropical diseases – malaria etc.

R squared = 0.26

Instrument negatively correlated with GDP per capita
"Settler mortality and income per capita today"



Engerman and Sokoloff
"Colonialism, Inequality, and Long-Run Paths of Development"

- Some former colonies are characterized with high inequality while other former colonies are more homogenous and equal, and this pattern seem to be quite persistent since colonization.

- What led to such substantial differences in inequality across colonies in the Americas?

- The article argues that one of the most fundamental impacts of European colonization may have been in altering the composition of the populations in the areas colonized.

Engerman and Sokoloff divide the colonies into three groups:

1. Those with factor endowments suited to the production of valuable cash crops like sugar—tended to import large numbers of slaves (e.g. West Indies).

2. Those with rich mineral resources and large native populations that could be used to extract this wealth—e.g. Mexico, Peru.

3. Those with neither—e.g. New England.

Engerman and Sokoloff's Model:

- Factor endowments in the rich colonies led to highly unequal distributions of wealth.

- Elites in these rich colonies established institutions that would perpetuate their dominance.

- These institutions hampered subsequent industrialization — both in and of themselves and because they kept levels of human and physical capital in the general population low.

Diagram of Engerman and Sokoloff's Argument

Factor Endowments → High Inequality

→ Institutions that Perpetuate Inequality

→ Low Human Capital → Low Growth

Colonialism, Inequality, and Long-Run Paths of Development

- The argument is that greater equality among the population led, over time, to more democratic political institutions, more investment in public goods and infrastructure, and to institutions that offered relatively broad access to property rights and economic opportunities.

- Where there was extreme inequality, political institutions were less democratic, investments in public goods and infrastructure were far more limited, and the institutions that evolved tended to provide highly unbalanced access to property rights and economic opportunities.