

ECON 184

Economic Growth: the role of institutions

Contents

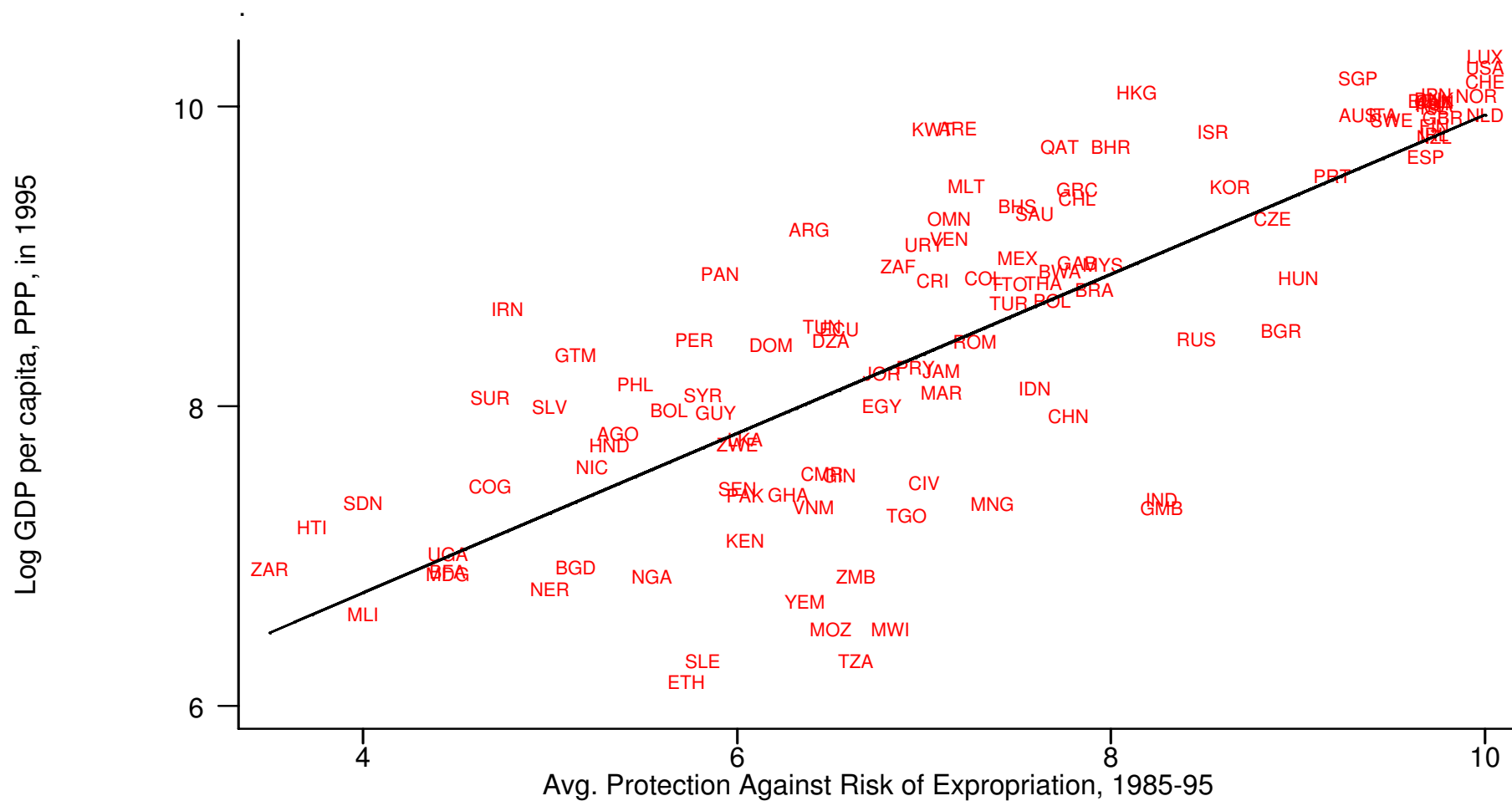
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1 Institutions and growth: initial analysis

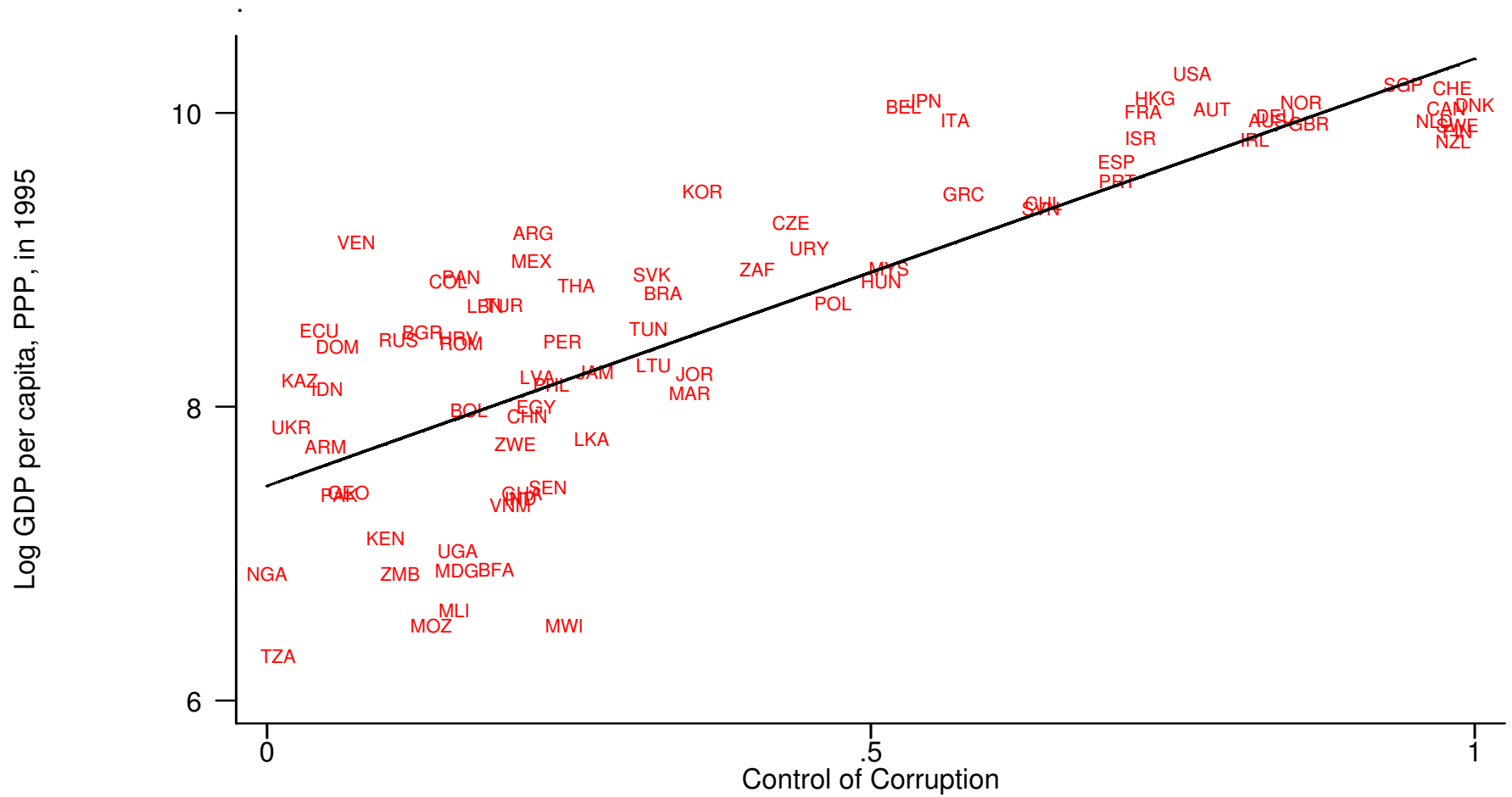
Definitions

- Institutions: societies's rules of the game; the humanly devised constraints that shape human interaction.
- Examples:
 - Expropriations.
 - Corruption.
 - Democracy.
 - Constraints on executive.
 - Judicial independence.
- Let's look at some correlations.

Expropriation and income (Acemoglu et. al)



Corruption and income (Acemoglu et. al)



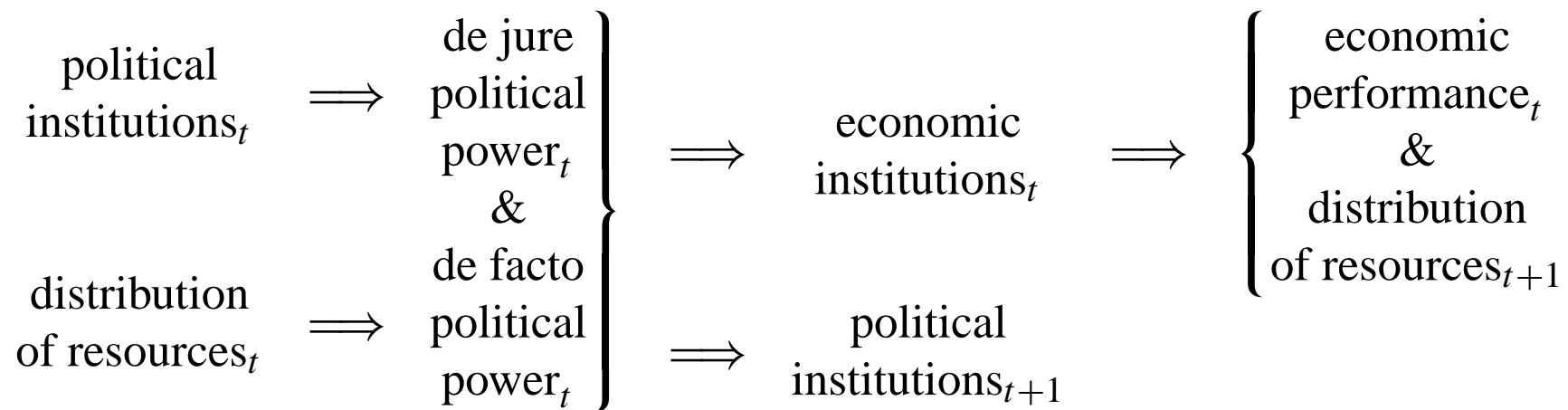
2 How can institutions affect economic growth?

Arguments

1. Economic institutions matter because they shape incentives
 - Geography and culture matter but not too much.
 - It also affects distribution of resources.
2. Economic institutions are *endogenous*.
 - They are the collective choice of society.
 - Hence, not all individuals are going to have same institutions.
 - It creates a conflict of interests.
 - And it will depend on political power
3. Efficiency and distribution are not separable
 - Those in power don't have incentives to benefit others.
 - Pro-growth policies might go against those in power.

4. Distribution of political power is *endogenous*
 - De jure political power: originates from political institutions.
5. De facto political power depends on distribution of resources
 - Agents with de jure political power can have de facto political power.
 - Land and wealth can give you (de jure) political power.
6. Key variables:
 - Political institutions.
 - Distributions of resources.

The big picture



3 Reversal of fortune

3.1 The idea

- How can you measure economic performance in 1500?
- Historians suggest that population density or urbanization are good predictors of economic performance.
- If so, we can measure economic performance in 1500 by looking at the urbanization rate in those years.
- Acemoglu, Johnson and Robinson (QJE, 2002) followed that idea.

3.2 What does the data say?

Income might be measured by urbanization rates

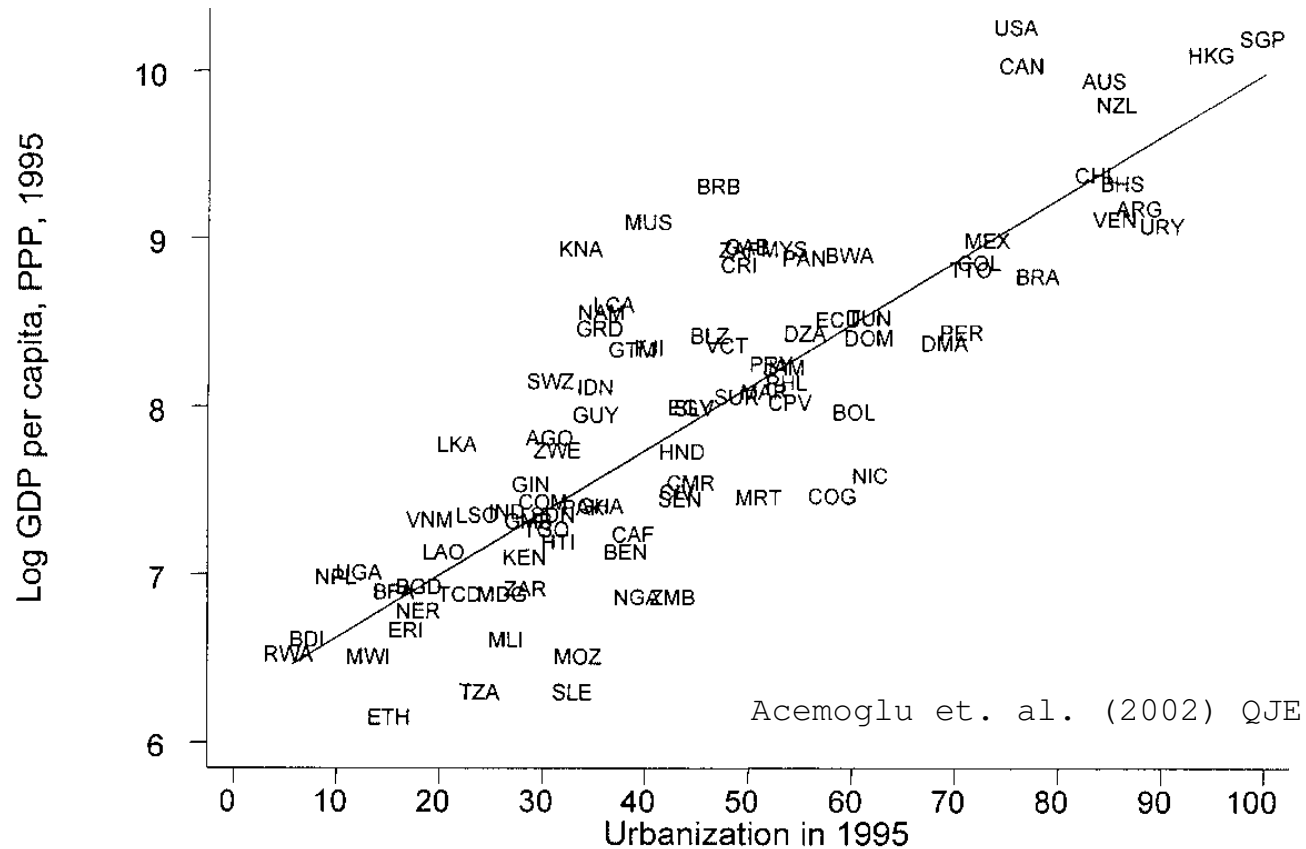


FIGURE III

Log GDP per Capita (PPP) in 1995 against the Urbanization Rate in 1995

Note. GDP per capita and urbanization are from the World Bank [1999]. Urbanization is percent of population living in urban areas. The definition of urban areas differs between countries, but the usual minimum size is 2000–5000 inhabitants. For details of definitions and sources for urban population in 1995, see the United Nations [1998].

Yesterday's "poor" are today's rich

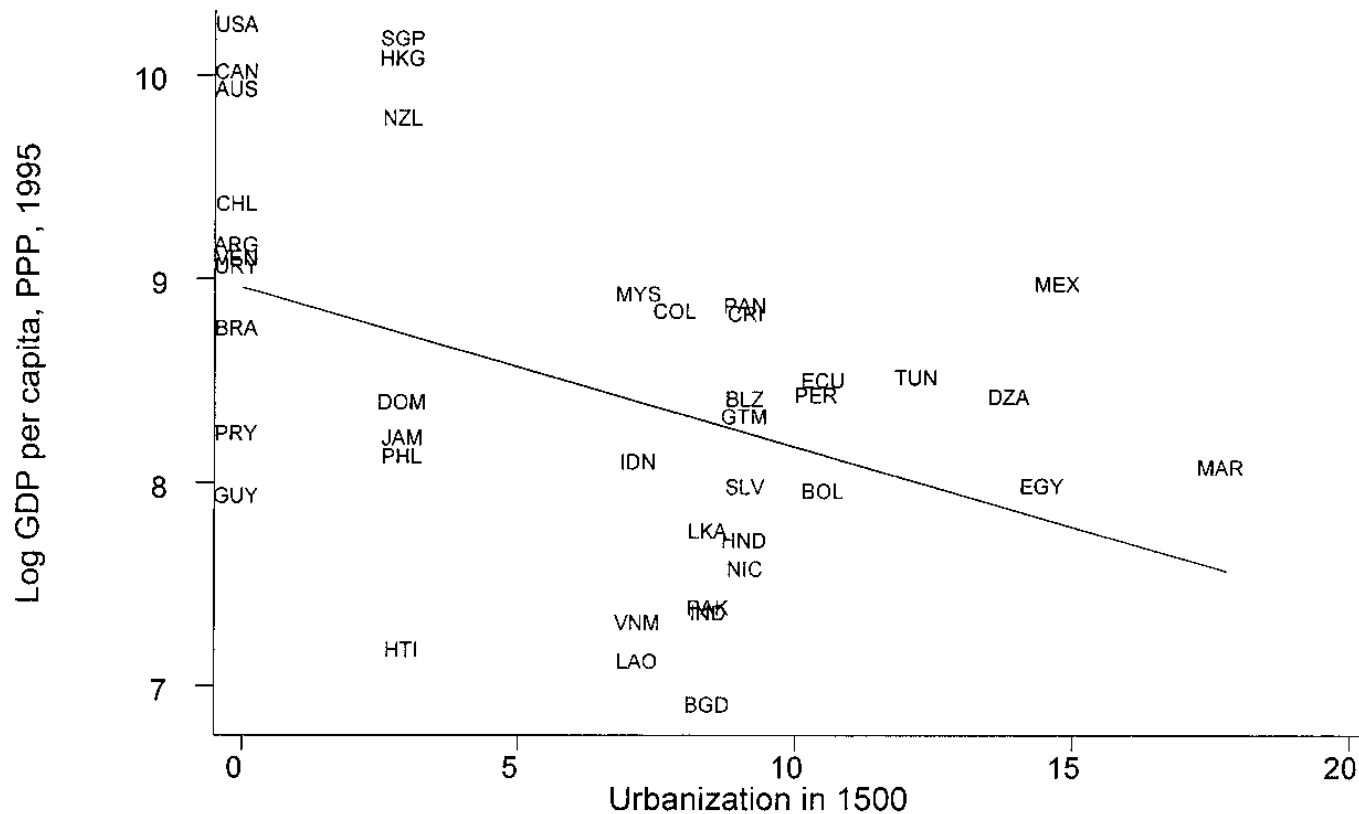


FIGURE I

Log GDP per Capita (PPP) in 1995 against Urbanization Rate in 1500

Note. GDP per capita is from the World Bank [1999]; urbanization in 1500 is people living in towns with more than 5000 inhabitants divided by total population, from Bairoch [1988] and Eggimann [1999]. Details are in Appendices 1 and 2.

Robustness: reversal is found with population density too

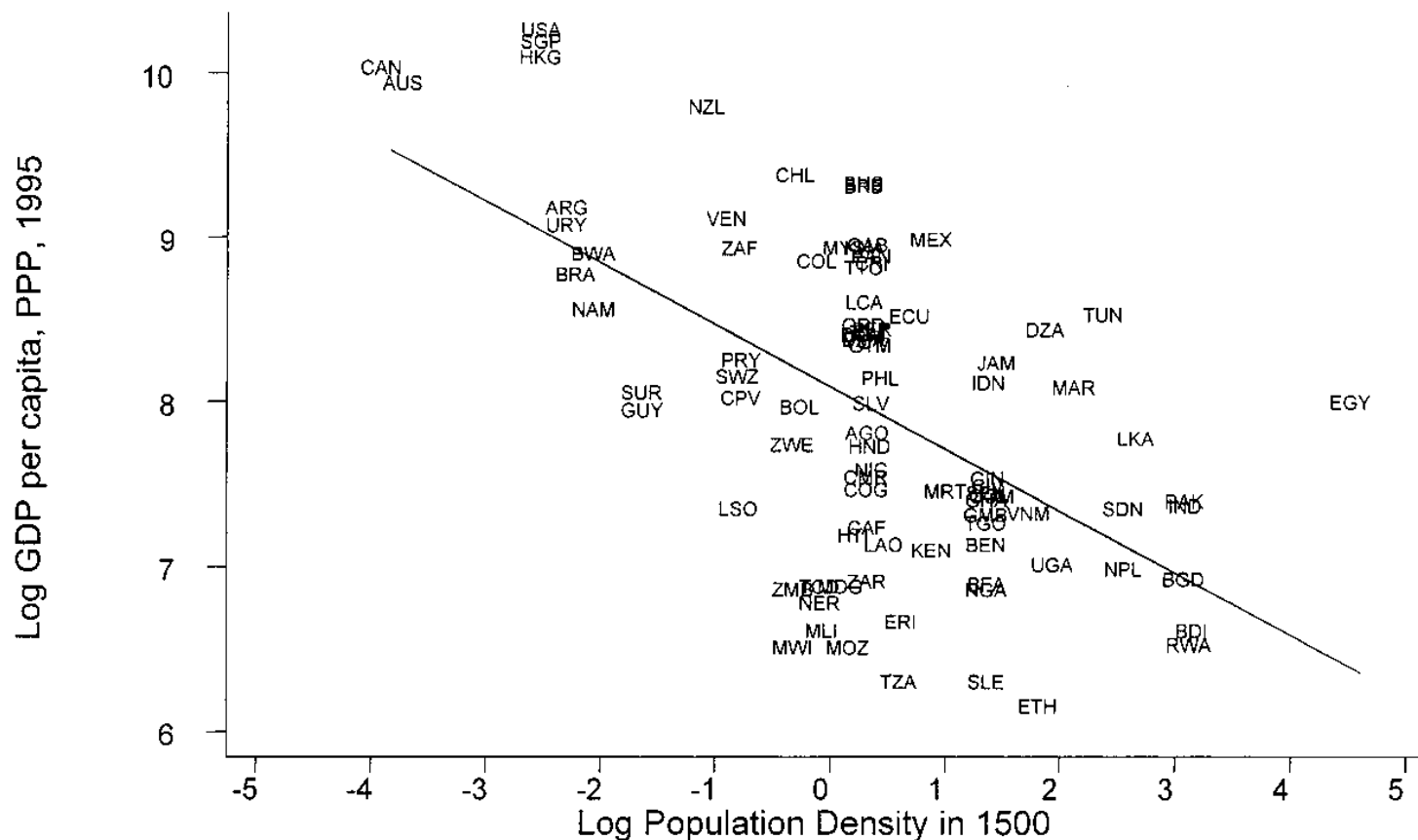


FIGURE II

Log GDP per Capita (PPP) against Log Population Density in 1500

Note. GDP per capita from the World Bank [1999]; log population density in 1500 from McEvedy and Jones [1978]. Details are in Appendix 2.

It started between 1750-1850

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



- Can geography explain the reversal?
- Not likely. Geography (broadly defined) remained constant.
- Institutions:
 - High population density provides labor supply for extractive economic institution (e.g. mining or agriculture.)
 - How easy was for European to establish settlements depended negatively on population density.

4 Finding causal effects for institutions

4.1 Methods

- **Question:** can we find causal effect of institutions on economic performance?
- We can start with this model

$$y_i = \alpha + \theta'inst_i + \beta'x_i + e_i$$

- Where y_i be the GDP per capita for country i .
- $inst_i$ set of institution-related variables (e.g. protection against expropriation risk)
- x_i other variables (e.g., education, geography).
- θ is the vector of parameters of interest.
- e_i is the error term. We need this to be uncorrelated with the $inst_i$ variables.

4.2 The strategy

- The idea is to find a variable z_i that can “explain” institutions but that doesn’t explain economic performance.
- z_i is called the “instrument” and the method is called “instrumental variables.”
- Idea: Acemoglu, Johnson and Robinson (AER, 2001) use colonialism as an experiment.
- The argument:
Mortality of settlers (z_i) \Rightarrow settlements
 \Rightarrow early institutions \Rightarrow **current institutions** ($inst_i$)
 \Rightarrow **current performance** (y_i).
- Sample: a cross-section sample of countries.

4.3 Results

The correlation between income and institutions is robust

TABLE 2—OLS REGRESSIONS

	Whole world (1)	Base sample (2)	Whole world (3)	Whole world (4)	Base sample (5)	Base sample (6)	Whole world (7)	Base sample (8)
	Dependent variable is log GDP per capita in 1995						Dependent variable is log output per worker in 1988	
Average protection against expropriation risk, 1985–1995	0.54 (0.04)	0.52 (0.06)	0.47 (0.06)	0.43 (0.05)	0.47 (0.06)	0.41 (0.06)	0.45 (0.04)	0.46 (0.06)
Latitude			0.89 (0.49)	0.37 (0.51)	1.60 (0.70)	0.92 (0.63)		
Asia dummy				−0.62 (0.19)		−0.60 (0.23)		
Africa dummy				−1.00 (0.15)		−0.90 (0.17)		
“Other” continent dummy				−0.25 (0.20)		−0.04 (0.32)		
R^2	0.62	0.54	0.63	0.73	0.56	0.69	0.55	0.49
Number of observations	110	64	110	110	64	64	108	61

Notes: Dependent variable: columns (1)–(6), log GDP per capita (PPP basis) in 1995, current prices (from the World Bank’s World Development Indicators 1999); columns (7)–(8), log output per worker in 1988 from Hall and Jones (1999). Average protection against expropriation risk is measured on a scale from 0 to 10, where a higher score means more protection against expropriation, averaged over 1985 to 1995, from Political Risk Services. Standard errors are in parentheses. In regressions with continent dummies, the dummy for America is omitted. See Appendix Table A1 for more detailed variable definitions and sources. Of the countries in our base sample, Hall and Jones do not report output per worker in the Bahamas, Ethiopia, and Vietnam.

Second step: how “exogenous” institutions affect income

TABLE 4—IV REGRESSIONS OF LOG GDP PER CAPITA

	Base sample (1)	Base sample (2)	Base sample without Neo-Europes (3)	Base sample without Neo-Europes (4)	Base sample without Africa (5)	Base sample without Africa (6)	Base sample with continent dummies (7)	Base sample with continent dummies (8)	Base sample, dependent variable is log output per worker (9)
Panel A: Two-Stage Least Squares									
Average protection against expropriation risk 1985–1995	0.94 (0.16)	1.00 (0.22)	1.28 (0.36)	1.21 (0.35)	0.58 (0.10)	0.58 (0.12)	0.98 (0.30)	1.10 (0.46)	0.98 (0.17)
Latitude		-0.65 (1.34)		0.94 (1.46)		0.04 (0.84)		-1.20 (1.8)	
Asia dummy							-0.92 (0.40)	-1.10 (0.52)	
Africa dummy							-0.46 (0.36)	-0.44 (0.42)	
“Other” continent dummy							-0.94 (0.85)	-0.99 (1.0)	

- Question: what are the policy recommendations you could derive from this approach?
- How can countries choose “good” institutions?