

Big Questions

What dictates:

- The investment rate in new capital? (s_K)
- The investment rate in new human capital? (u)
- The adoption/discovery of new technologies? (μ)
- The level of investment in innovation? (s_R)

These factors all create level effects on output per worker. Why are some countries on a high level, while others remain on a low level?

Big Answers

Several:

- Geography. Easy access to certain resources makes it cheaper to invest/use them.
- Culture. Certain cultures value savings or education more than others.
- Institutions. Rules of the economic game, so to speak.

Olson (1996) - compare several places identical in geography and culture

- North vs. South Korea
- East vs. West Germany
- China vs. Taiwan and Hong Kong

They differ in institutions.

Investment Problem

How do we think of institutions?

- Property rights: the ability to keep what you earn in profits, savings, wages
- Transactions: the ability to easily trade assets, sign contracts
- Enforcement: contracts and laws are enforced consistently over time

The overall point is that “good” institutions will encourage people to invest because they can keep what they earn and they can make long-run investments because the rules won’t arbitrarily change over time.

Practical Evaluation

How do we think of this with respect to our existing model. Think of the value of a patent (or value of contract to produce certain intermediate good)

$$P_A = \frac{\pi}{r - n} \quad (1)$$

is the present discounted value of the profits. The value of this dictates how much effort goes into innovating or adopting technology - s_R .

Think of institutions as how they play with this value. Let there be some fixed cost that you have to pay if you buy the patent, F , so now P_A is

$$P_A = \frac{\pi}{r - n} - F \quad (2)$$

In the book, we call $\Pi = \pi/(r - n)$, but same idea.

Fixed Costs

What could make up fixed costs, F ?

- License fees
- Bribes
- Protection money
- Rights to market in some area
- Taxes

Anything that raises F , the fixed cost of owning the patent, will drive down the value of a patent, P_A . The lower P_A , the less innovation/adoption we do, s_R drops.

Doing Business

World Bank collects data on how long it takes to set up businesses, and cost in terms of licenses, fees, etc..

- U.S.: six days and equivalent 1.4% of average income
- India: 29 days and equivalent 50% of average income
- Nigeria: 34 days and equivalent 70% of average income
- Honduras: 14 days and equivalent 63% of average income

It is not trivial to start new firms, invest in new equipment, adopt a new technology in most poor countries.

Corruption

To invest in a Russian company, a foreigner must bribe every agency involved in foreign investment, including the foreign investment office, the relevant industrial ministry, the finance ministry, the executive branch of the local government, the legislative branch, the central bank, the state property bureau, and so on. The obvious result is that foreigners do not invest in Russia. Such competing bureaucracies, each of which can stop a project from proceeding, hamper investment and growth around the world, but especially in countries with weak governments.

Shleifer and Vishny 1993, pp. 61516.

Profits

Institutions also affect the scale of profits.

- Larger markets (more L) means more profits
- Barriers to trade limit market sizes, reduce profits
- Lower profits means less innovation

Rich places:

- U.S.: Can sell in any state with minimal or no additional requirements
- E.U.: Joins many small countries together into one big market

Social Infrastructure

How do you measure institutions?

- You don't, not directly
- Surveys of business conditions
- Evaluations by agencies of costs of doing business
- Very rough rankings of countries

We use a measure of “social infrastructure” that captures six dimensions of governance from the World Bank

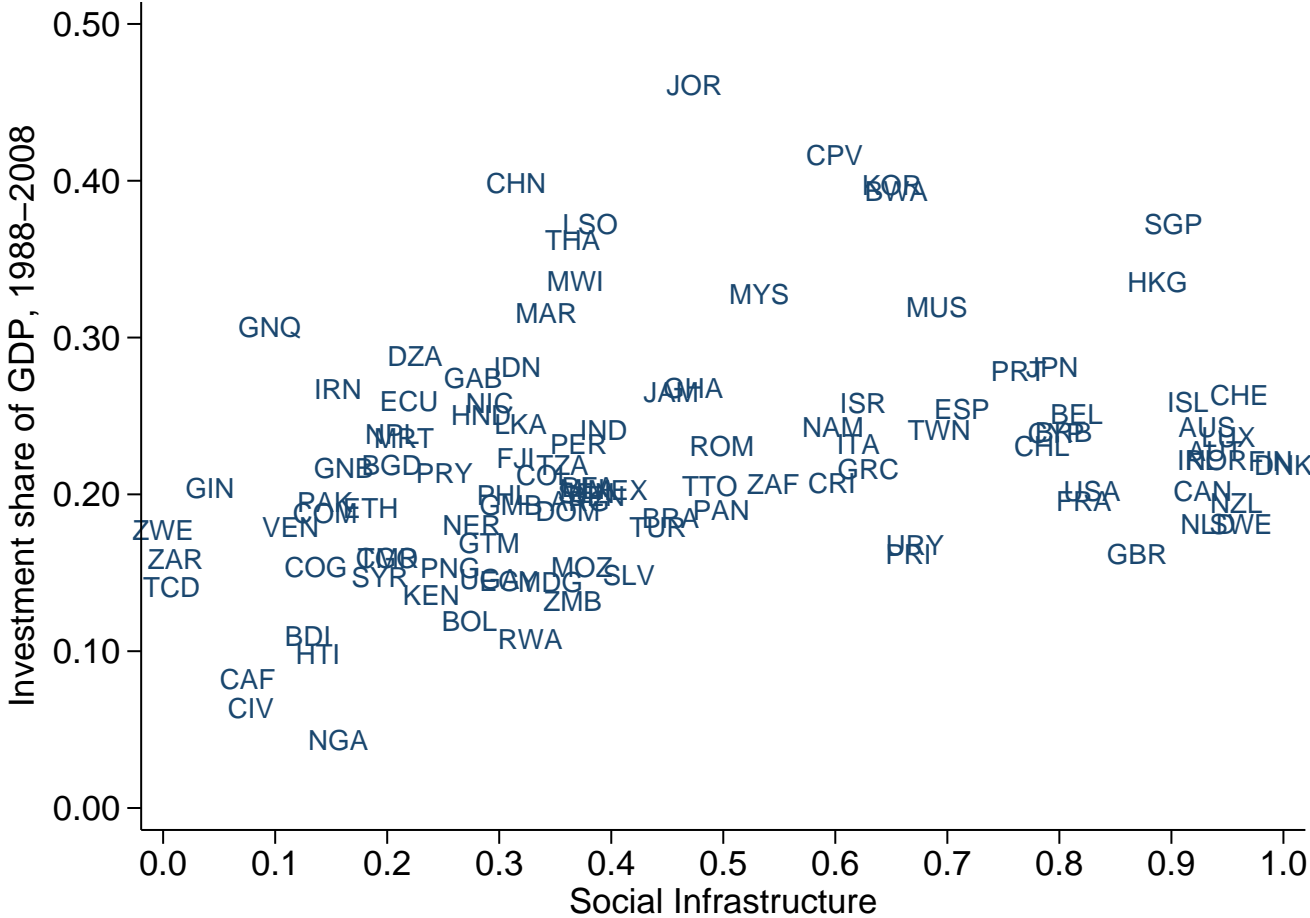
- Accountability of politicians
- Political stability
- Government effectiveness
- Regulatory quality
- Rule of law
- Control of corruption

Overall index runs from 0 (worst) to 1 (best)

Institutions

Economic Growth

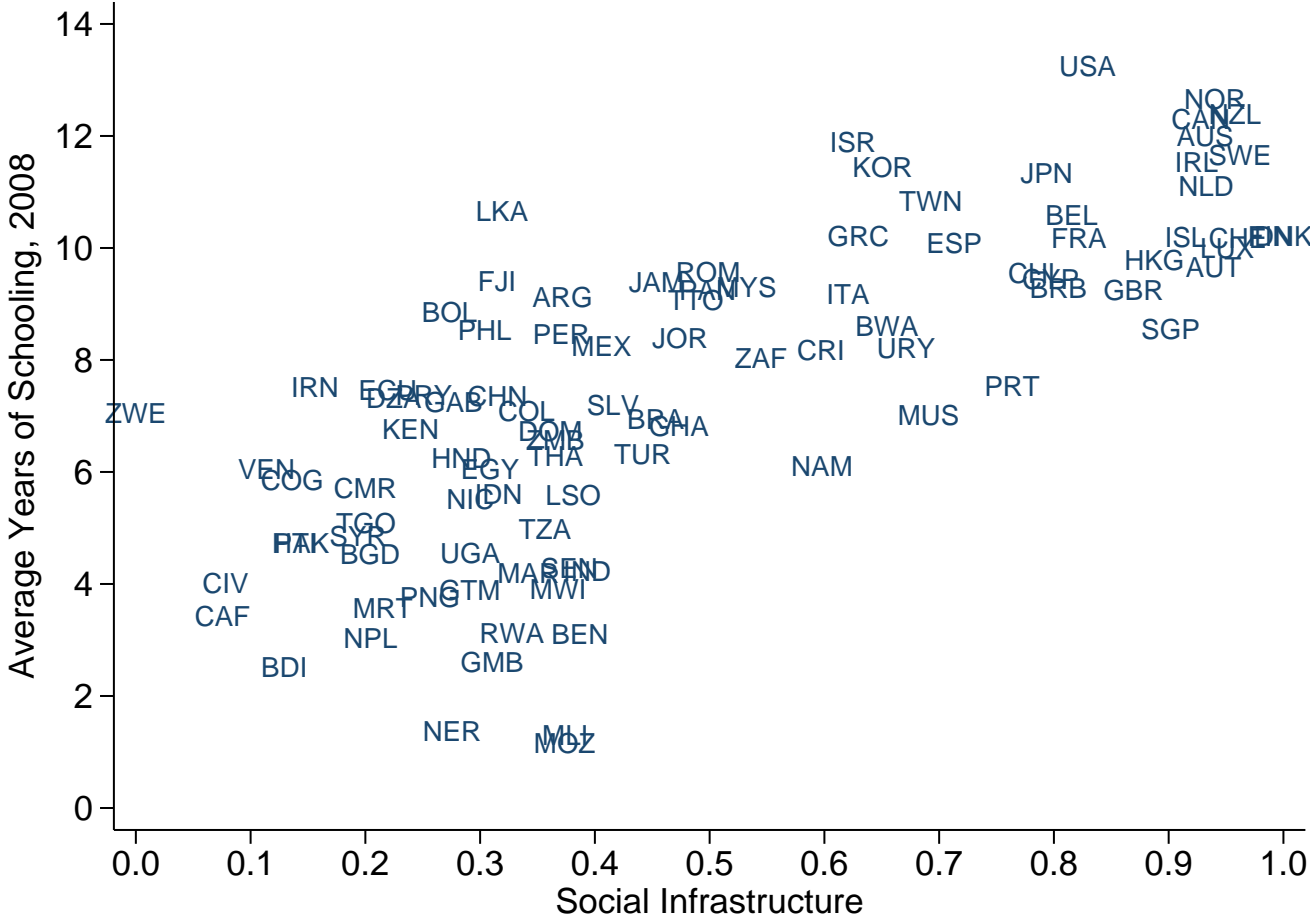
Savings and Institutions



Institutions

Economic Growth

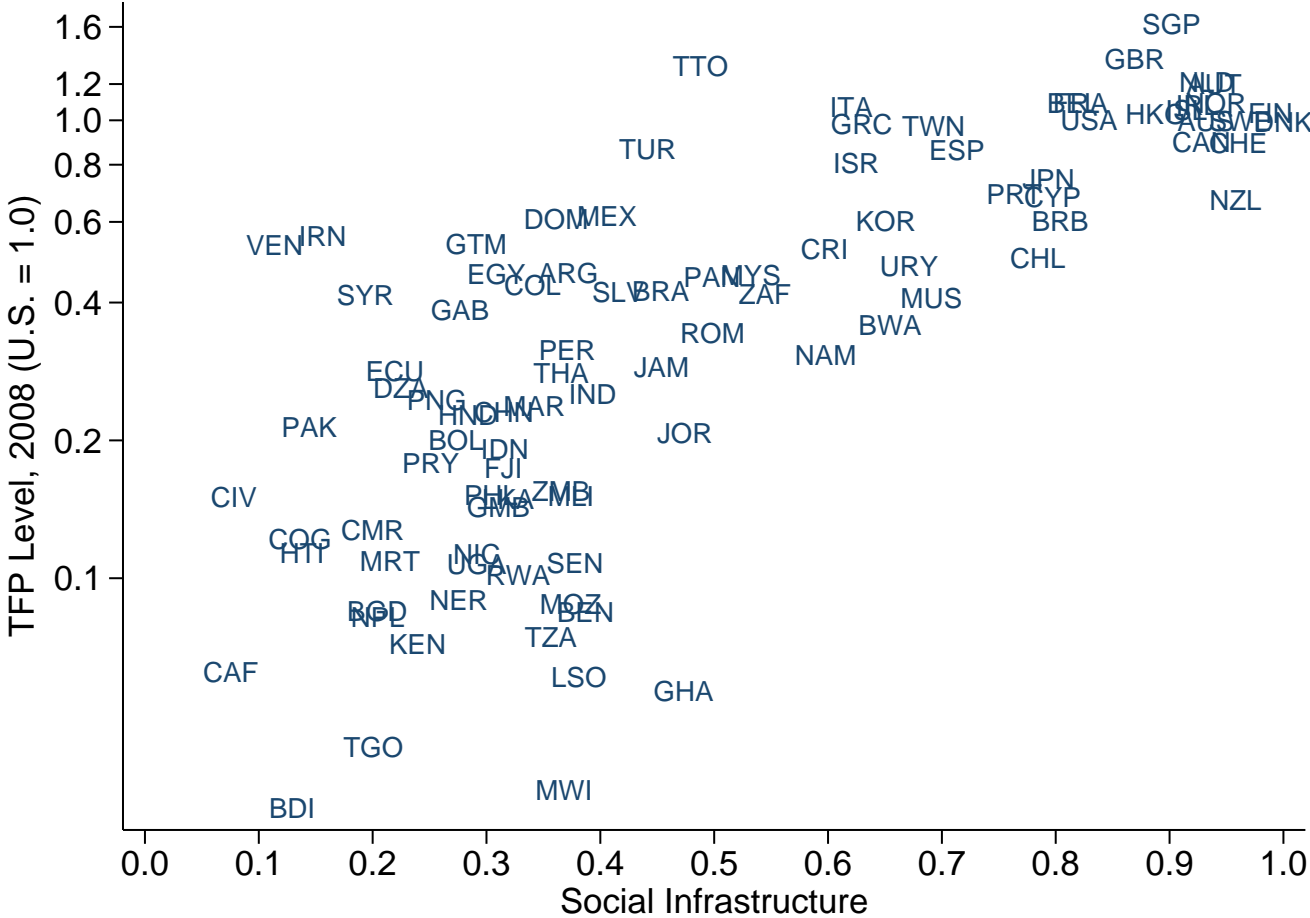
Human Capital and Institutions



Institutions

Economic Growth

TFP and Institutions



Institutions

Economic Growth

Choosing Institutions

If good institutions generate big economic gains, why don't all countries have them?

- Institutions are human-designed and malleable
- Can't we bargain with each other to get good institutions?
- Can't elites take smaller slice of a bigger pie?
- Example: offer beauracrats higher salaries in exchange for not taking bribes

Acemoglu and Robinson (2005,2012) say we cannot because of commitment problems.

- The beauracrats will take higher salary, and then still ask for a bribe
- Elites cannot credibly promise to take smaller slice.
- Non-elites cannot credibly promise not to replace elites.

Institutions appear to be very persistent, and historically contingent