Development Policy

Week 3: Growth Theory and Empirics

Lecture 6: The Big Debate

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The Big Debate

Modern growth theory is all about policy—raise the saving rate, lower the population growth rate, open the economy and the growth rate of per capita income will increase according to modern growth theory.

But, what determines policy?

- *Politics*? Then, what determines politics?
- *Institutions*? Then, what determines institutions?
- *History*? Then, what determines history?
- *Geography*? Then, what determines geography?
- *God*? Let's leave God out of it and assume geography is exogenously given, hence a good candidate for the ultimate determinant of growth and prosperity and a good place to start.

Geography, Growth and Prosperity

Geography has long been considered a ultimate determinant of "The Wealth of Nations." Adam Smith taught that productivity depends on specialization and the degree of specialization depends on the size of markets and the size of markets depends on access to global centers of commerce, which depends on location (proximity to an ocean)—in other words, wealth depends on geography.

Some facts: only 17% of the world's landmass is within 100km of an ocean, but this 17% is home to 50% of the world's population and accounts for 68% of world GDP.

There is more to geography than proximity to navigable water transportation. Other proponents of the "Geography Hypothesis" emphasize climate (Jarard Diamond, Jeffrey Sachs).

Some facts: Countries located in temperate climates have (for biological reasons) higher levels of agricultural productivity and lower levels of human, animal and plant disease than countries located in tropics. Econometric studies find a statistically significant negative relation between the percent of population in the topics and per capita income.

Jared Diamond, Guns, Germs and Steel: The Fates of Human Societies (hereafter GGS), 1997

GGS attempts to answer Yali's Question

Why is that you white people developed much cargo and brought it to New Guinea, but we black people had little cargo of our own?

...

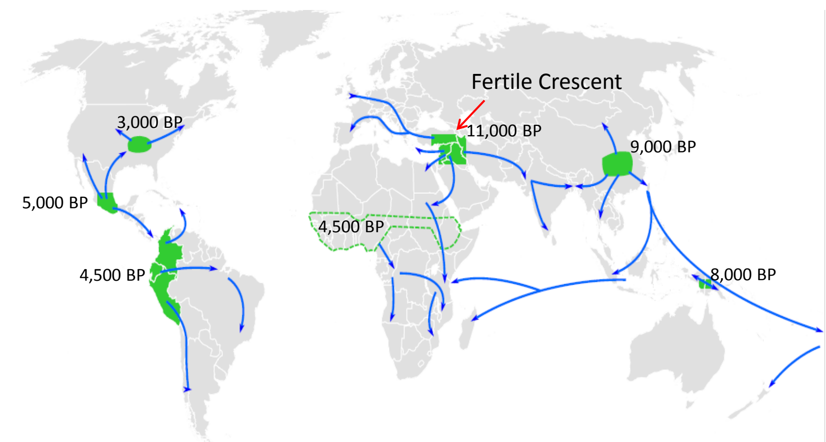
Why did wealth and power become distributed as they now are, rather than in some other way? For instance, why weren't Native Americans, Africans, and Aboriginal Australians the ones who decimated, subjugated, or exterminated Europeans and Asians?

Jared Diamond, Guns, Germs and Steel, 1997

Guns, germs and steel were the means by which Eurasians conquered and subjugated other societies, but how and why did Eurasians get GGS and not other societies? Diamond's answer is geography.

It all goes back to the **<u>Neolithic Revolution</u>**, which began 12,000 years ago, when homo sapiens (hunters and gatherers the previous 100,000 years) began to engage in agriculture. Agriculture liberated humans from the bare subsistence income that could be had from hunting and gathering.

Where and When Agriculture Originated



BP = before the present

Agriculture began independently in several location around the world, but it got a head start and expanded faster in Eurasia (**the Fertile Crescent**) than elsewhere. *(Note: Small differences in growth over a long time have big effects.)*

The Eurasian Advantage

1. Greater availability of high protein plants that could be domesticated (e.g. barley, wheat, pulses, flax)
2. Drier climate which allowed storage of grains
3. More species of large animals that could be domesticated (13 species domesticated in Eurasia, only 1 in South America, and none in Africa).
4. Animal domestication exposed Eurasians to viruses (e.g. smallpox) to which they became immune. Other societies did not develop immunity to these diseases and were decimated by epidemics when contact was made with Eurasians.
5. Eurasia runs East-West, while the Americas, Africa and Australia run North-South. Eurasia expanded within the temperate latitudes, while expansion in other areas was hindered by the "tropical barrier."
6. In West Eurasia (Europe) geography favor the formation of many small nation-states that competed with each other, while in East Eurasia (China) geography favored large, monolithic empires that sometimes made massive mistakes (e.g. banning the building of ocean-going ships in China).

Acemoglu and Robinson (AR), *Why Nations Fail: The Origins of Power, Prosperity, and Poverty*, 2012

AR dismiss the "geography hypothesis" and argue instead that world income inequality is entirely explained by the nature of economic institutions, which in turn are explained by the nature of political institutions, i.e. whether they are inclusive (democratic) or exclusive (non-democratic).

AR offer two arguments against the "geography hypothesis"

<u>First, Next door neighbor comparisons</u>: "If the geography hypothesis cannot explain the differences between the north and south of Nogales, or North and South Korea, or those between East and West Germany before the fall of the Berlin Wall, could it still be a useful theory for explaining the differences between North and South America? Between Europe and Africa? Simply, no." (AR, p. 49)

Is this a *non sequitur?* *(i.e. a*n inference or conclusion that does not follow from the premises or evidence.)

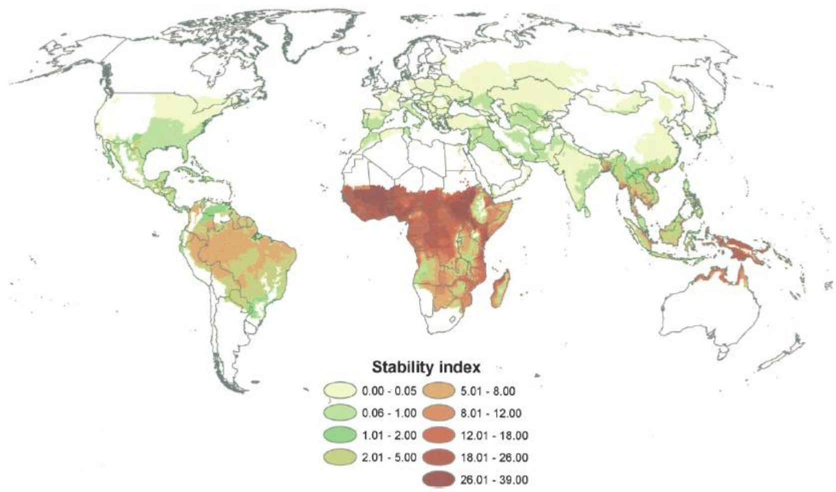
Acemoglu and Robinson (AR), *Why Nations Fail: The Origins of Power, Prosperity, and Poverty*, 2012

Second, the Reversal of Fortune argument: "The tropics in the Americas were much richer than the temperate zones [before 1492], suggesting the "obvious fact" of tropical poverty is neither obvious nor a fact. Instead, the great riches in the United States and Canada represent the stark reversal of fortune relative to what was there when the European arrived. This reversal *clearly* had nothing to do with geography and, as we have already seen, something to do with the way these areas were colonized."

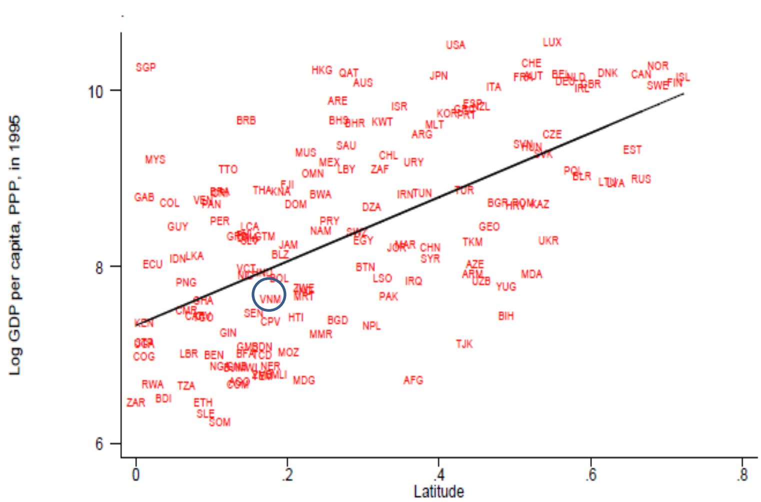
Another non-sequitur? Is this like saying that since oil-rich Persian Gulf states were nothing but fishing villages 150 years ago, their reversal of fortune is due to politics and not the geography of oil deposits? (Sachs, 2012)

Another AR argument against geography: "Tropical diseases obviously cause much suffering and high rates of infant mortality in Africa, but they are not the reason that Africa is poor. Disease is largely a consequence of poverty and of governments being unable or unwilling to undertake the public health measures necessary to eradicate them." **True of false?**

This map of the Distribution of Malaria Risk Index suggests AR's argument is **false**. Even in the U.S and Europe, the risk of Malaria is higher in areas with a warmer climate.



AR's dismissal of the "geography hypothesis" confronts the fact that even today a country's climate (as indicated by its latitude) is significantly correlated with its per capita income, as illustrated in the figure below.



Acemoglu and Robinson (AR), ***Why Nations Fail: The Origins of Power, Prosperity, and Poverty*****, 2012**

The AR hypothesis:

The relative wealth of nations today was largely determined by the political actions of Europeans one to two centuries ago. During the 18th and 19th centuries, European colonizers spread throughout the world. In each part of the world, the Europeans faced a choice: whether to set up "settler colonies" where large European populations would live, or to set up colonies ruled from Europe. They decided this on the basis of disease, migrating and settling in the healthier places and exploiting the less healthy ones from afar.

In places where the Europeans migrated, such as the US and Australia, they set up replicas of Europe, with strong emphasis on private property and checks against government power (i.e. inclusive political institutions). In places they chose to exploit from afar, they imposed undemocratic political institutions (extractive political institutions). These extractive political institutions set in the 19th century remain by and large extractive political institutions today.

Acemoglu and Robinson (AR), ***Why Nations Fail: The Origins of Power, Prosperity, and Poverty*****, 2012**

AR's test of the hypothesis:

In a paper with Simon Johnson (AJR, 2003), they test their hypothesis using a TSLS instrumental variable approach. The use expropriation risk as a proxy for todays political institutions, which they regress on 19th century settler mortality. The predicted value of political institutions is then used as an explanatory variable of current per capita income (together with some other variables which proved not significant). From this they conclude that 19th century mortality rates have had a lasting effect on economic prosperity.

Many problems have been identified with this test. One in particular is that mortality rates in the 19th century correlate with the disease environment today, which has its own direct effect on today's per capita income.

Acemoglu and Robinson (AR), *Why Nations Fail: The Origins of Power, Prosperity, and Poverty*, 2012

Anecdotal Evidence Pro and Con

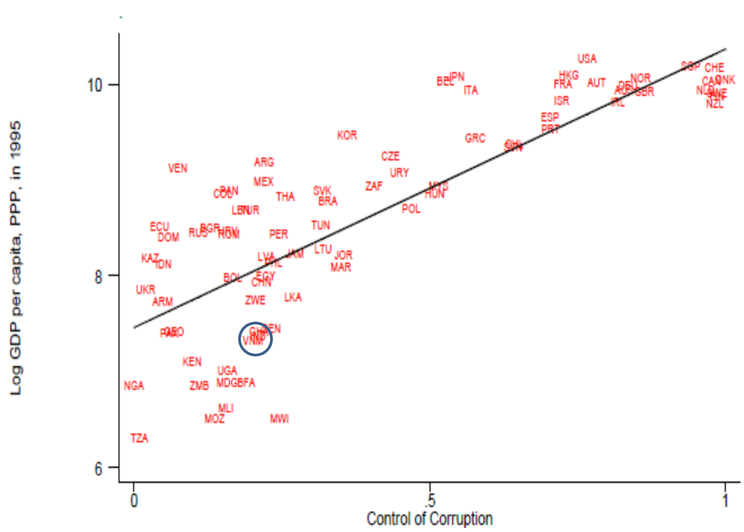
1. The European Replicas (US, Canada, Australia) inherited inclusive institution and are relatively rich, but they also inherited enormous natural resource wealth. How much of their wealth is explained by institutions, how much by geography?

2. Any number of countries with extractive political institutions have achieved high growth, including China, Vietnam. Indeed the authoritarian regimes in these countries have strongly promoted growth for whatever motive (welfare of the citizens, strengthen political legitimacy, maximize rent-seeking opportunities).

3. AR's argument that growth cannot be sustained with inclusive political institutions suggests that they see technology change as derived exclusively from innovation (it may be true that inclusive political institutions are a prerequisite for innovation), but much of the growth in developing countries derives from technology diffusion for which the prerequisite is openness, not democracy.

Summing Up: Geography or Institutions?

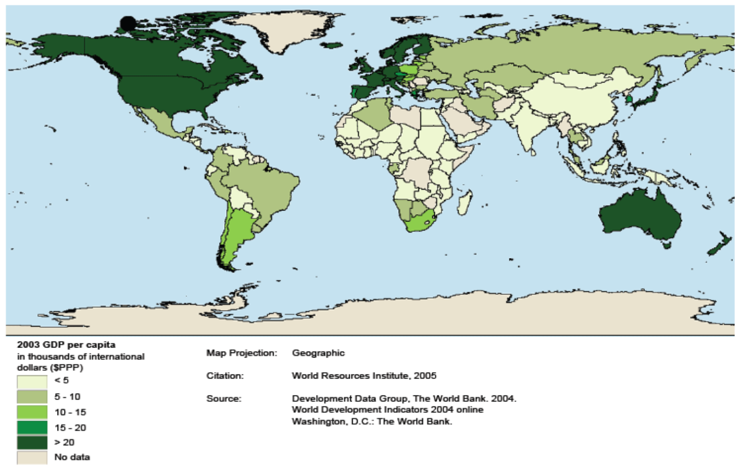
Do institutions matter? AR's claim that they are all that matters does not stand up to scrutiny, but as the figure below indicates they do matter somewhat.



Summing Up: Geography or Institutions?

Does geography matter? The map shown below suggests that it does matter, but its importance is diminishing with the advancement of technology and spread of globalization.

World Distribution of Income Per Capita



How important is policy?

An idea which AR ascribe to most economist is the **Ignorance Hypothesis**, which asserts that world inequality exits because we or our rulers do not know how to make poor countries rich."

If good policy only works where political and economic institutions are good (i.e. inclusive), then it follows that economist (like your teacher) who run around the world telling poor countries how to change policy for the better are deluding themselves—without institutional and political change there can be no sustainable change in economic performance.

True or false? Think of countries that have recently substantially improved their economic performance. What was the deciding factor--geography, culture, institutions or policy?