



I Love
Economics
ЛЭШ

Программа «Экономика»,
Альфа

Москва, Летово, 2023

Экономический рост

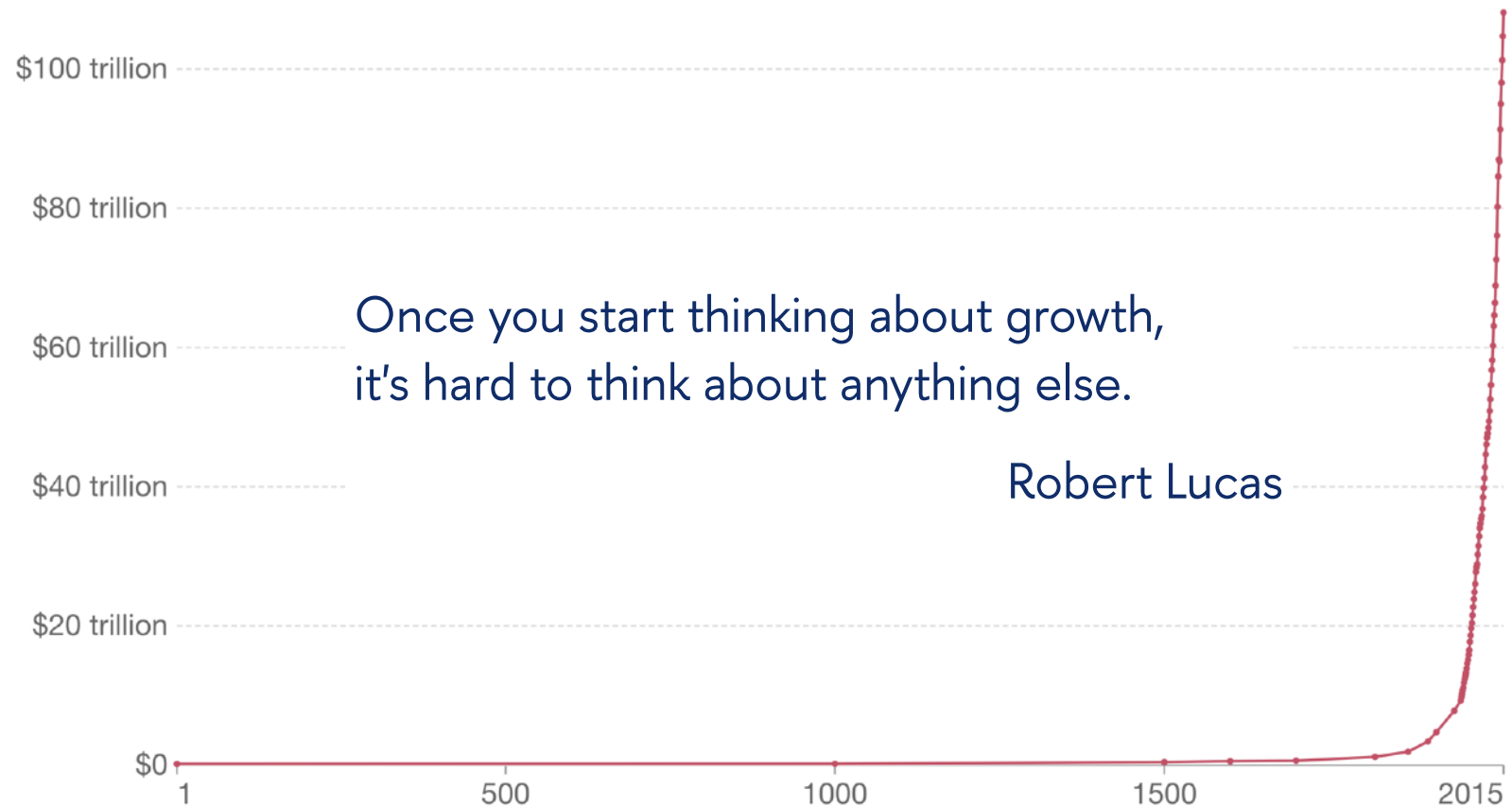
Данил Фёдоровых

Курс «Макроэкономика»



World GDP over the last two millennia

Total output of the world economy. This data is adjusted for inflation and differences in the cost of living between countries.



Source: Our World In Data based on World Bank & Maddison (2017)
Note: This data is expressed in international-\$¹ at 2011 prices.

OurWorldInData.org/economic-growth • CC BY



1. International dollars: International dollars are a hypothetical currency that is used to make meaningful comparisons of monetary indicators of living standards. Figures expressed in international dollars are adjusted for inflation within countries over time, and for differences in the cost of living between countries. The goal of such adjustments is to provide a unit whose purchasing power is held fixed over time and across countries, such that one international dollar can buy the same quantity and quality of goods and services no matter where or when it is spent. Read more in our article: What are Purchasing Power Parity adjustments and why do we need them?



Gross domestic product (GDP) in England

This data is expressed in British pounds, adjusted for inflation.

Our World
in Data



Source: Broadberry, Campbell, Klein, Overton, & Van Leeuwen (2015)

OurWorldInData.org/economic-growth • CC BY

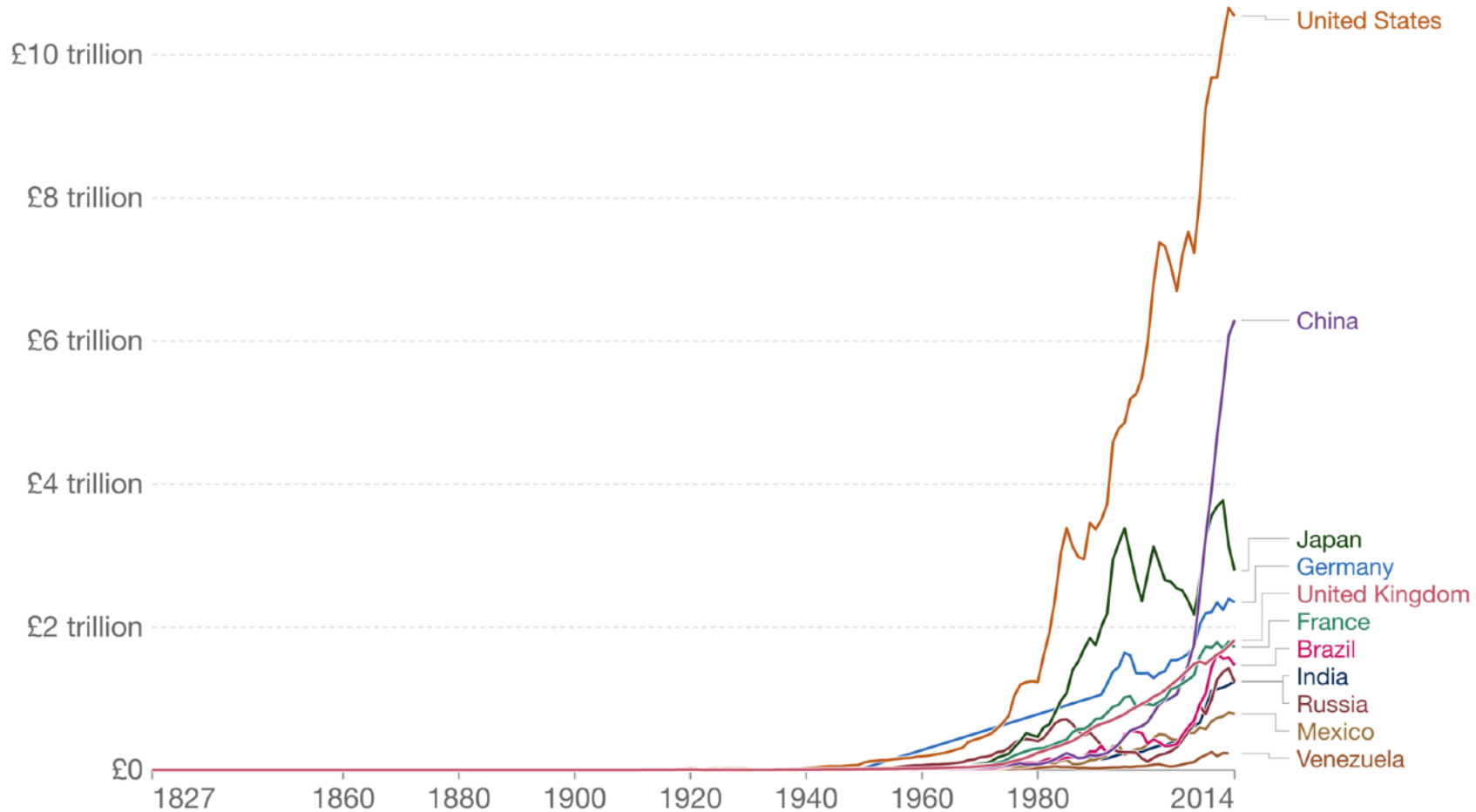
Note: This data is expressed in constant 2013 British pounds. Data refers to England until 1700 and the UK from then onwards.



Gross domestic product (GDP), 1827 to 2014

This data is expressed in British pounds. It is not adjusted for inflation or differences in the cost of living between countries.

Our World
in Data





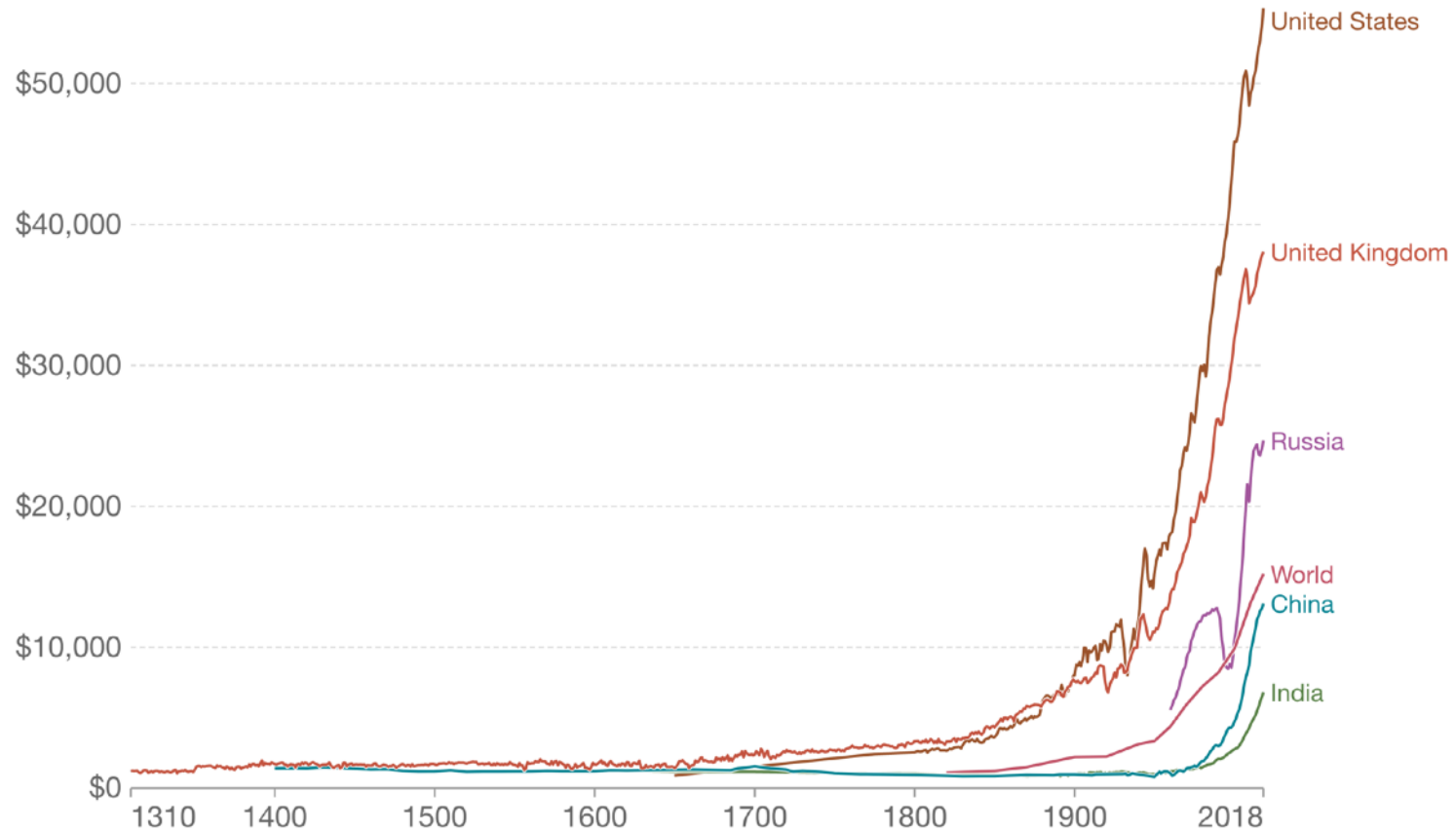
Income per person

- There was no or virtually no economic growth before 1800
- First Britain
- India and China — only in the 20th century

GDP per capita, 1310 to 2018

This data is adjusted for differences in the cost of living between countries, and for inflation. It is measured in constant 2011 international- $\$$.

Our World
in Data



Source: Maddison Project Database 2020 (Bolt and van Zanden, 2020)

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Questions

1. Why didn't countries grow?
2. Why are they growing now?
3. Why do they grow differently?
4. Why do we care?



1. Why didn't countries grow before?



Thomas Malthus

- Must it not then be acknowledged by an attentive examiner of the histories of mankind, that in every age and in every State in which man has existed, or does now exist?
- That the increase of population is necessarily limited by the means of subsistence,
 - That population does invariably increase when the means of subsistence increase, and,
 - That the superior power of population is repressed, and the actual population kept equal to the means of subsistence, by misery and vice.

An essay on the principle of population (1798)



Thomas Malthus

“Virtues”

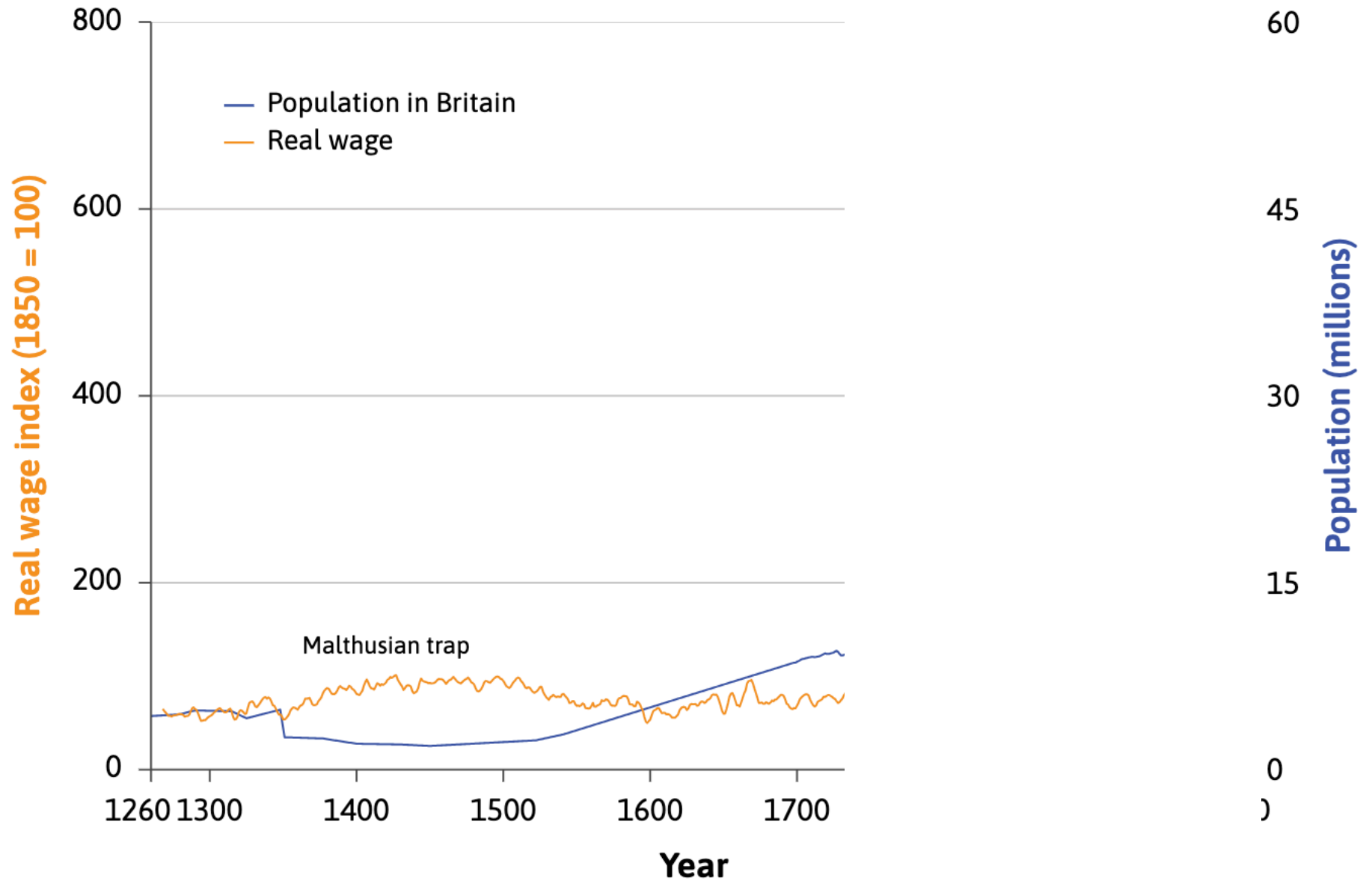
Fertility Limitation
 Bad Sanitation
 Violence
 Harvest Failures
 Infanticide
 Income inequality
 Selfishness
 Indolence

“Vices”

Fecundity
 Cleanliness
 Peace
 Public Granaries
 Parental solicitude
 Income equality
 Charity
 Hard Work



Wages of
craftsmen
(skilled workers)
in London





2. Why are countries growing?

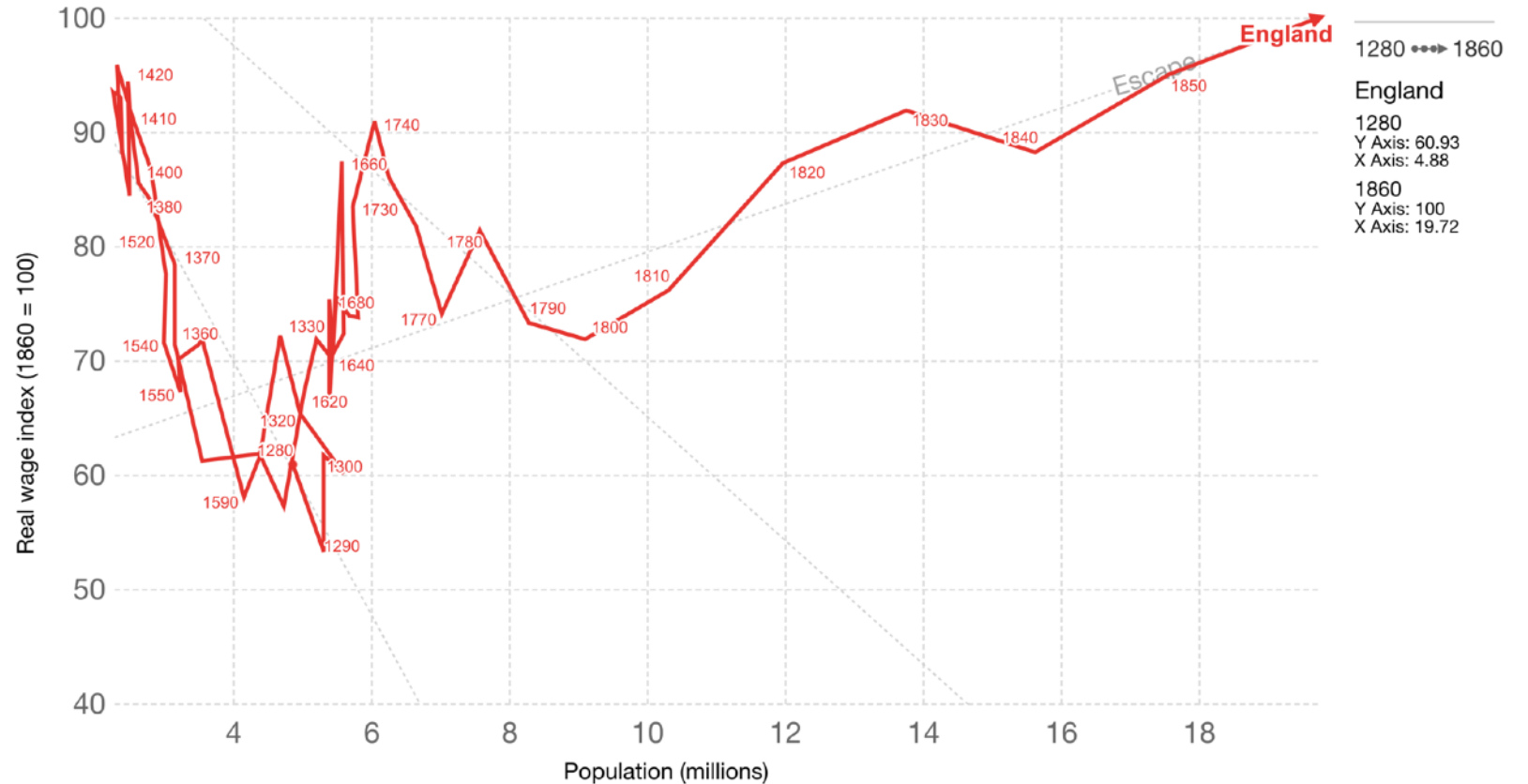


Escaping the Malthusian Trap

Escaping the Malthusian trap: Population and real wages in England, 1280 to 1860



Unit 2 'Technology, population, and growth' Section 2.10 'Escaping from Malthusian stagnation' in The CORE Team, The Economy. Available at: <https://tinyco.re/21020330> [Figure 2.20]



Source: Clark (2005)

Note: The data points at each year are calculated averages over the succeeding decade. CC-BY-ND-NC

tinyco.re/21020330 • Powered by ourworldindata.org



Technology

Industrial Revolution — a wave of technological advances starting in Britain in the 18th century, which transformed an agrarian and craft-based economy into a commercial and industrial economy.

- By reducing the amount of work-time it takes to produce things, technological changes allow increases in living standards.
- Remarkable scientific and technological advances occurred ~ at the same time as the kink in the hockey stick in Britain in the middle of the 18th century.
- Firms can earn **innovation rents** by introducing new technology.
- Firms that cannot keep up with innovation eventually fail (**creative destruction**).



Capital accumulation

At the early stages, a country can grow without innovations (extensively) by accumulating capital.

This cannot be infinite because of **diminishing marginal returns** to capital (**Solow model**).

Technological progress and **capital goods** accumulation are complementary:

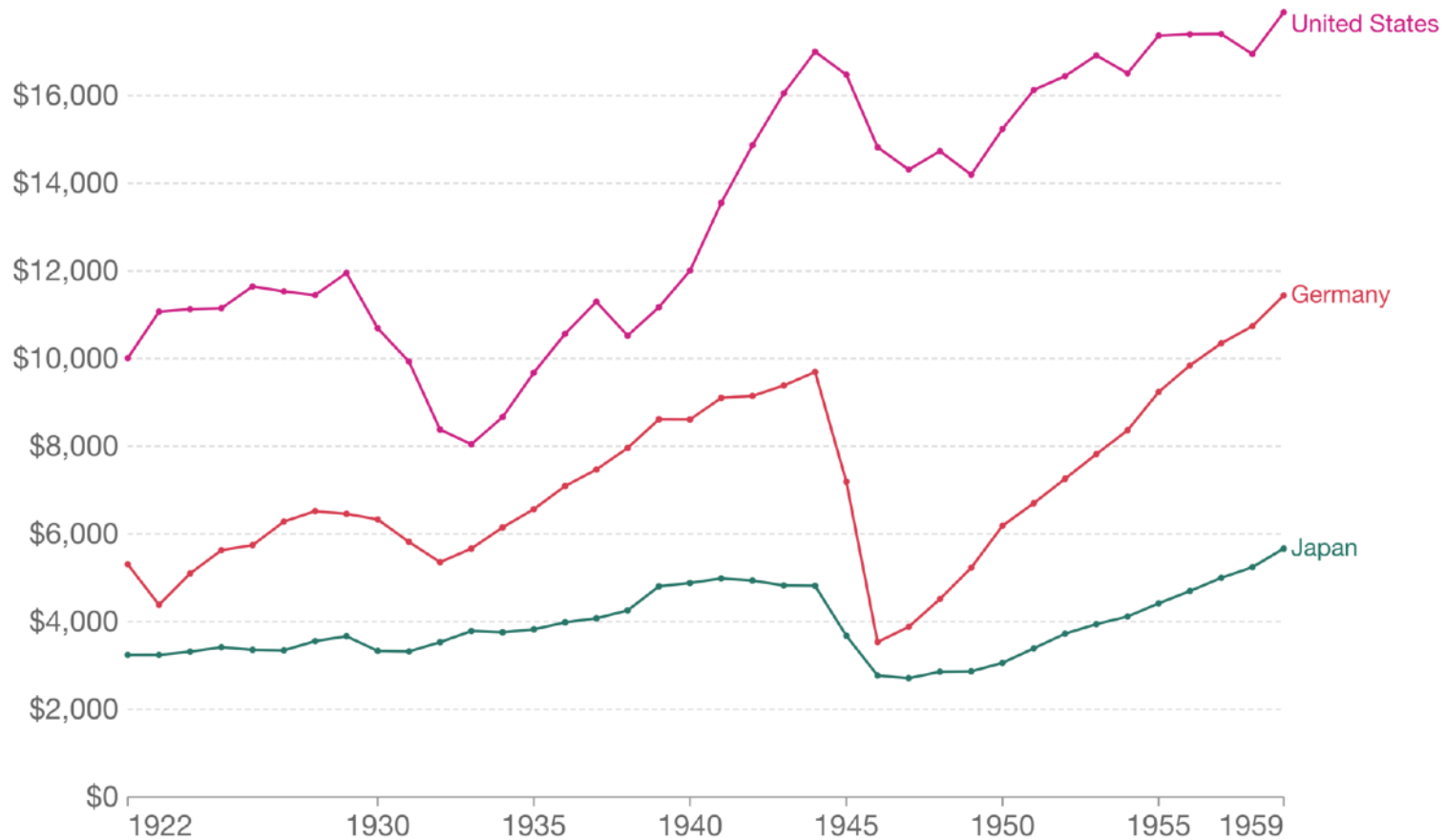
- New technologies require new machines.
- Technological advance is needed for increasingly capital-intensive methods of production to be profitable.
- This process allows a sustained increase in average living standards.



After WW2 growth

GDP per capita, 1922 to 1959

GDP per capita adjusted for price changes over time (inflation) and price differences between countries – it is measured in international-\$ in 2011 prices.



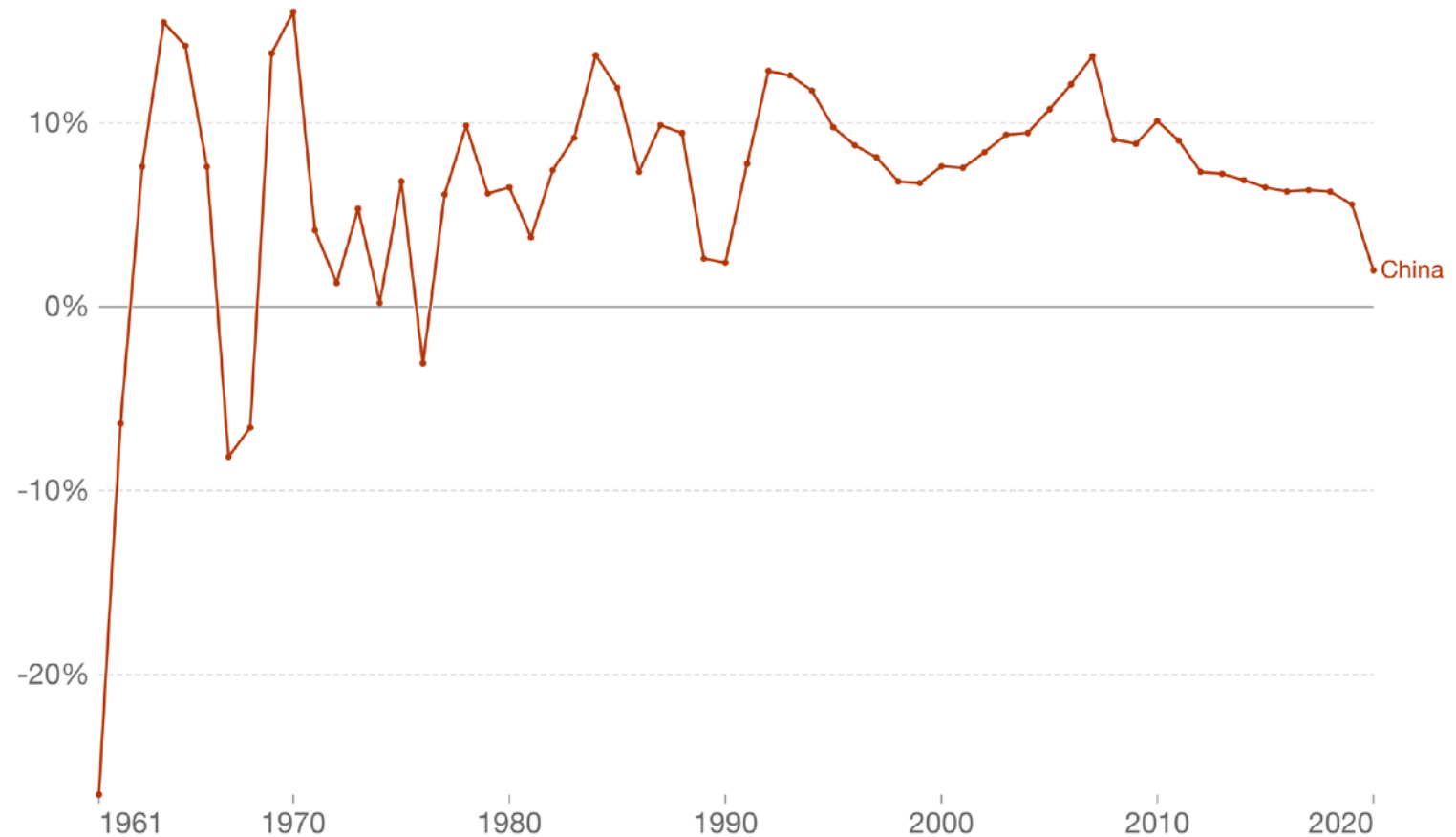
Source: Maddison Project Database 2020 (Bolt and van Zanden (2020))



Chinese growth

Annual growth of GDP per capita, 1961 to 2020

Annual percentage growth rate of GDP per capita based on constant local currency. Aggregates are based on constant 2010 U.S. dollars.



Source: World Bank and OECD



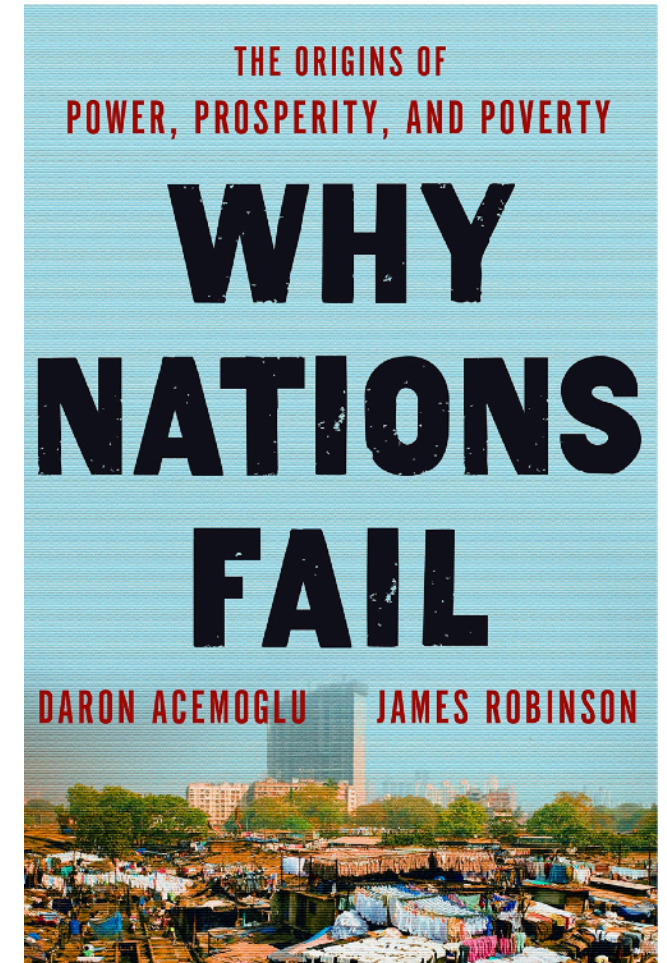
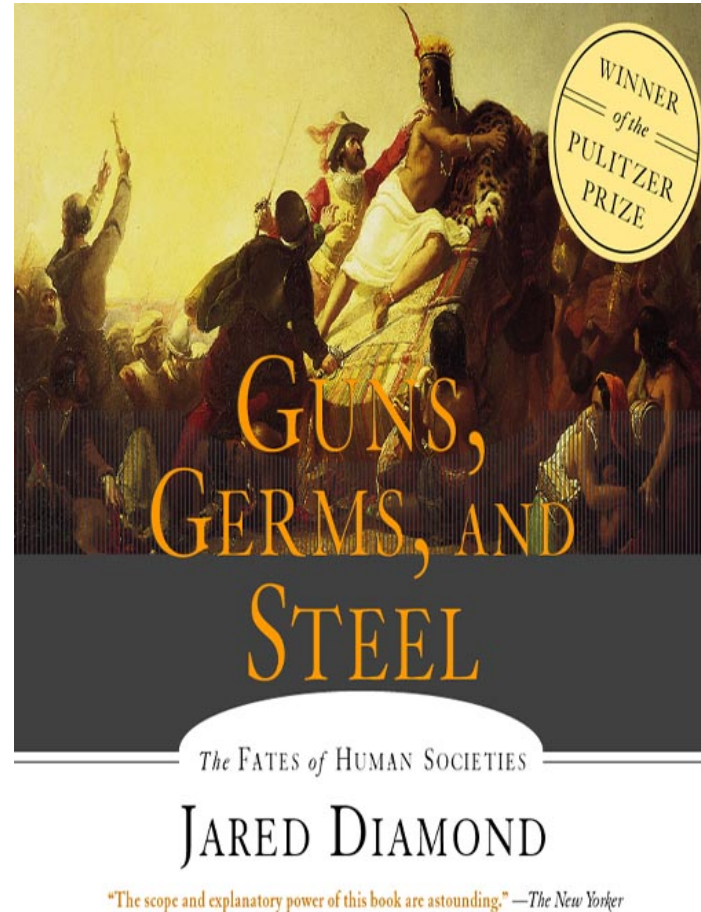
3. Why does the growth differ?



The difference in the pace of innovations doesn't explain the difference in growth.

So, what does?

- **Geography** (Diamond, Sachs): climate, access to water, resources
- **Institutions** (North, Acemoglu, Robinson): rules of the game





Political Map in 3500 BC





Political Map in 500 BC



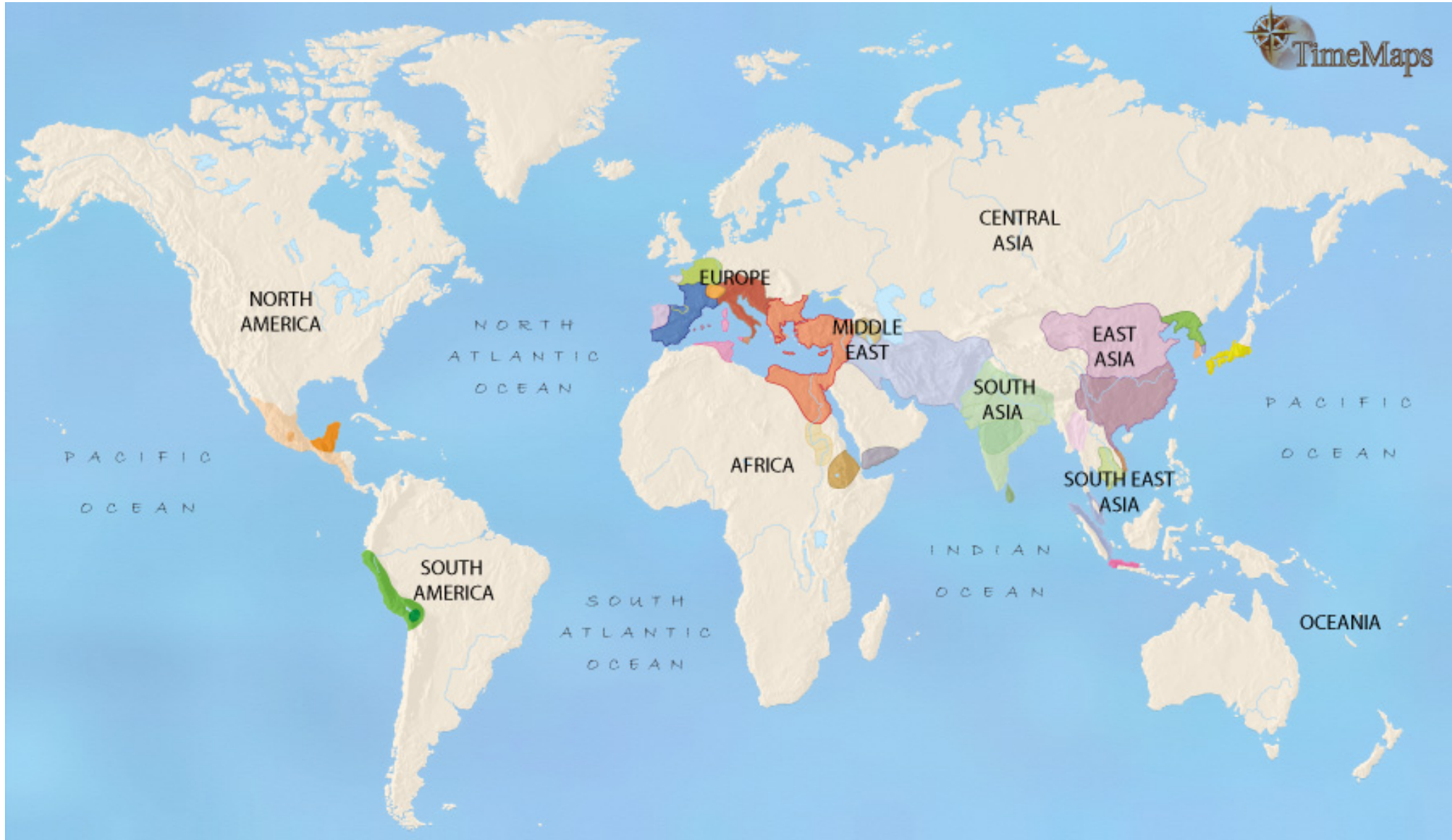


Political Map in 30 BC





Political Map in 500 AD



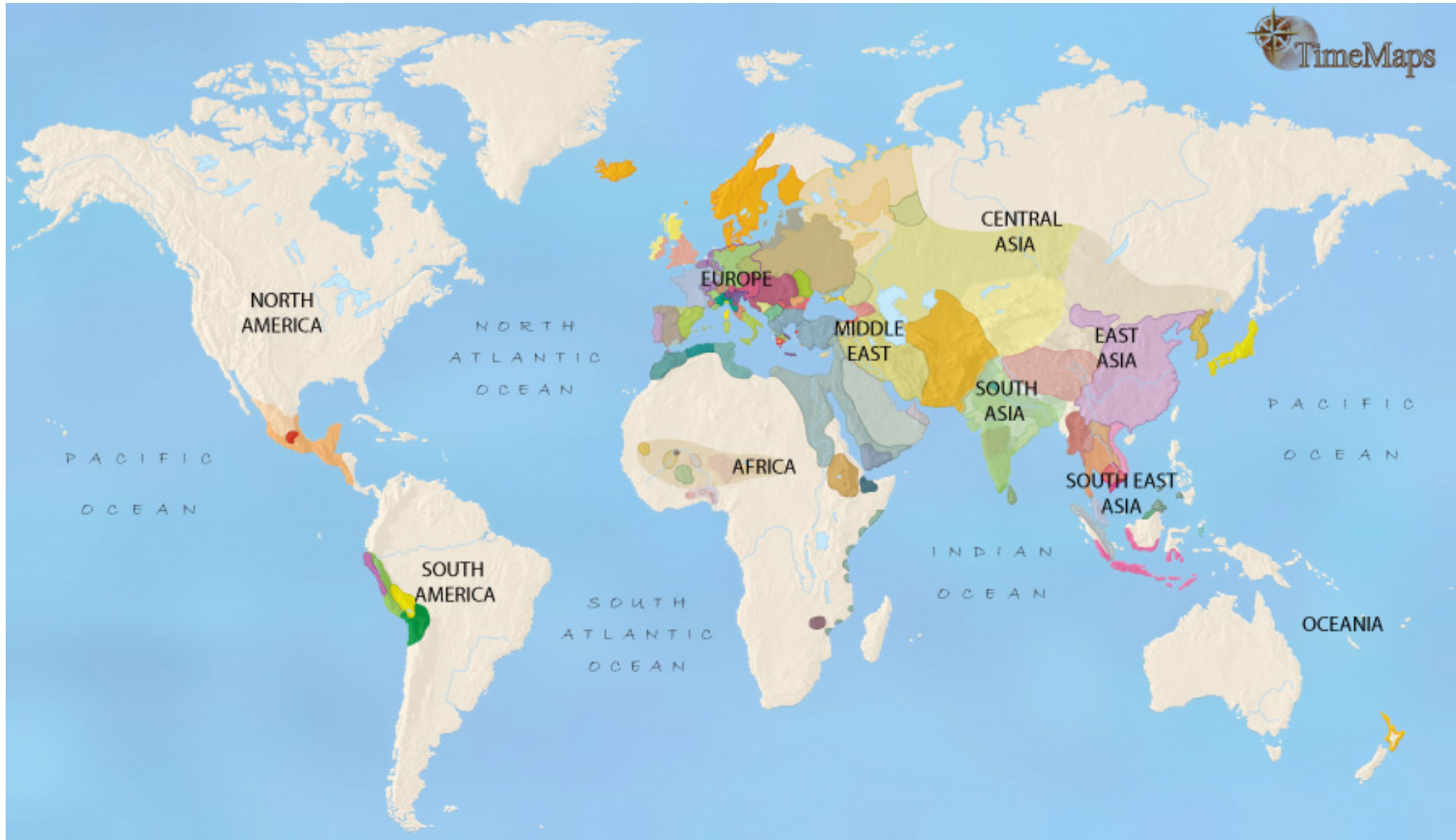


Political Map in 1000 AD





Political Map in 1453 AD



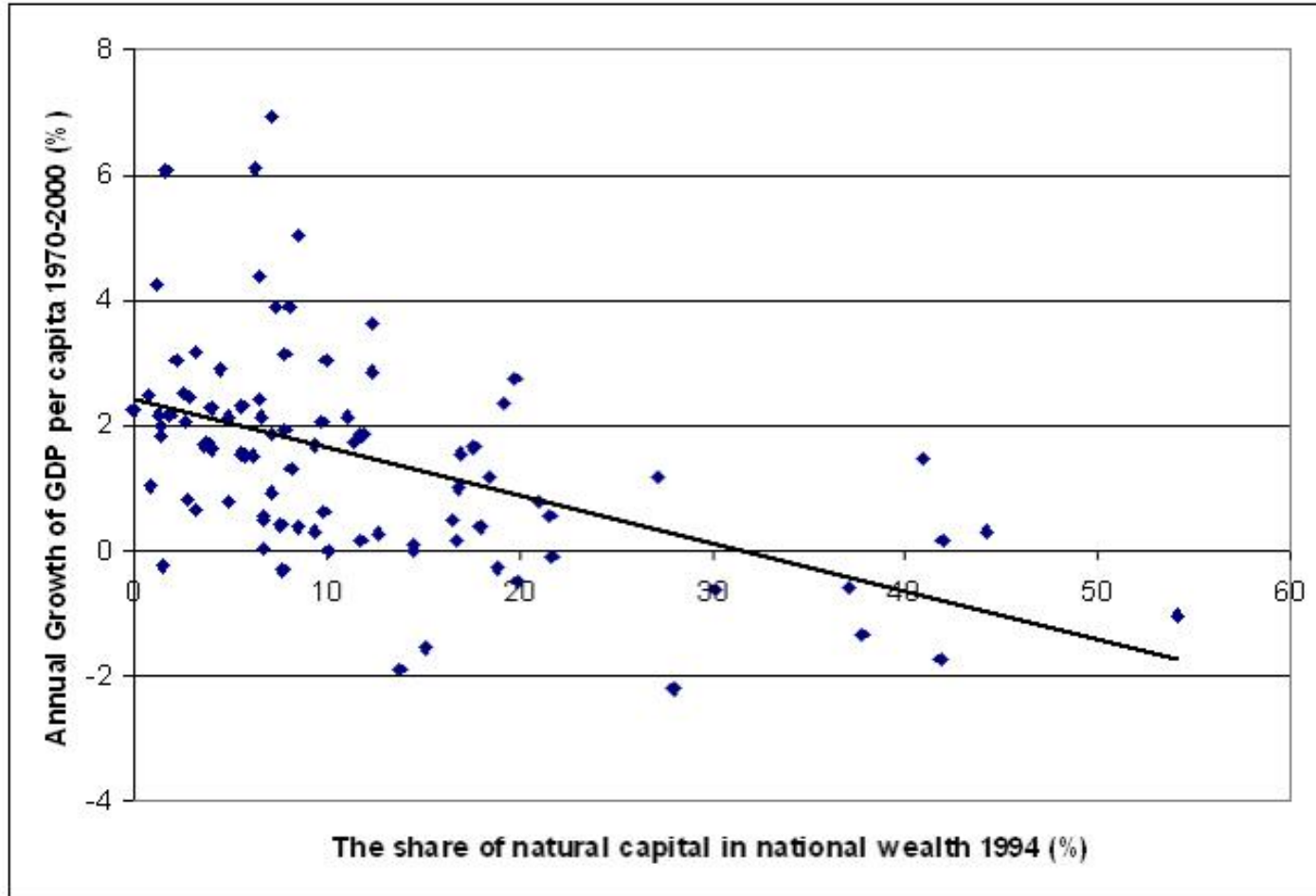


Political Map today

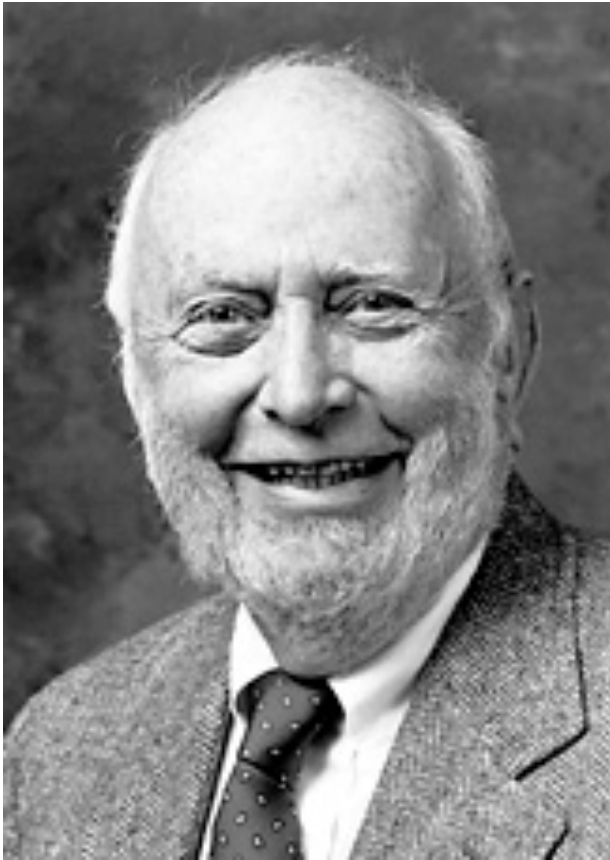




Resources



Source: R. Chanda



Douglass North

- We shouldn't explain growth with innovations, education, and capital accumulation, because **growth is** innovations, education, and capital accumulation
- The main reason is **institutions**.
- Institutions — rules of the game in economy



Institutions

- **Regulation**

- How many days does it take to start a company?

- **Property rights, rule of law**

- Are there risks of expropriation?
- Are individuals bound by the same laws?

- **Contracts enforcement**

- How much does it cost?

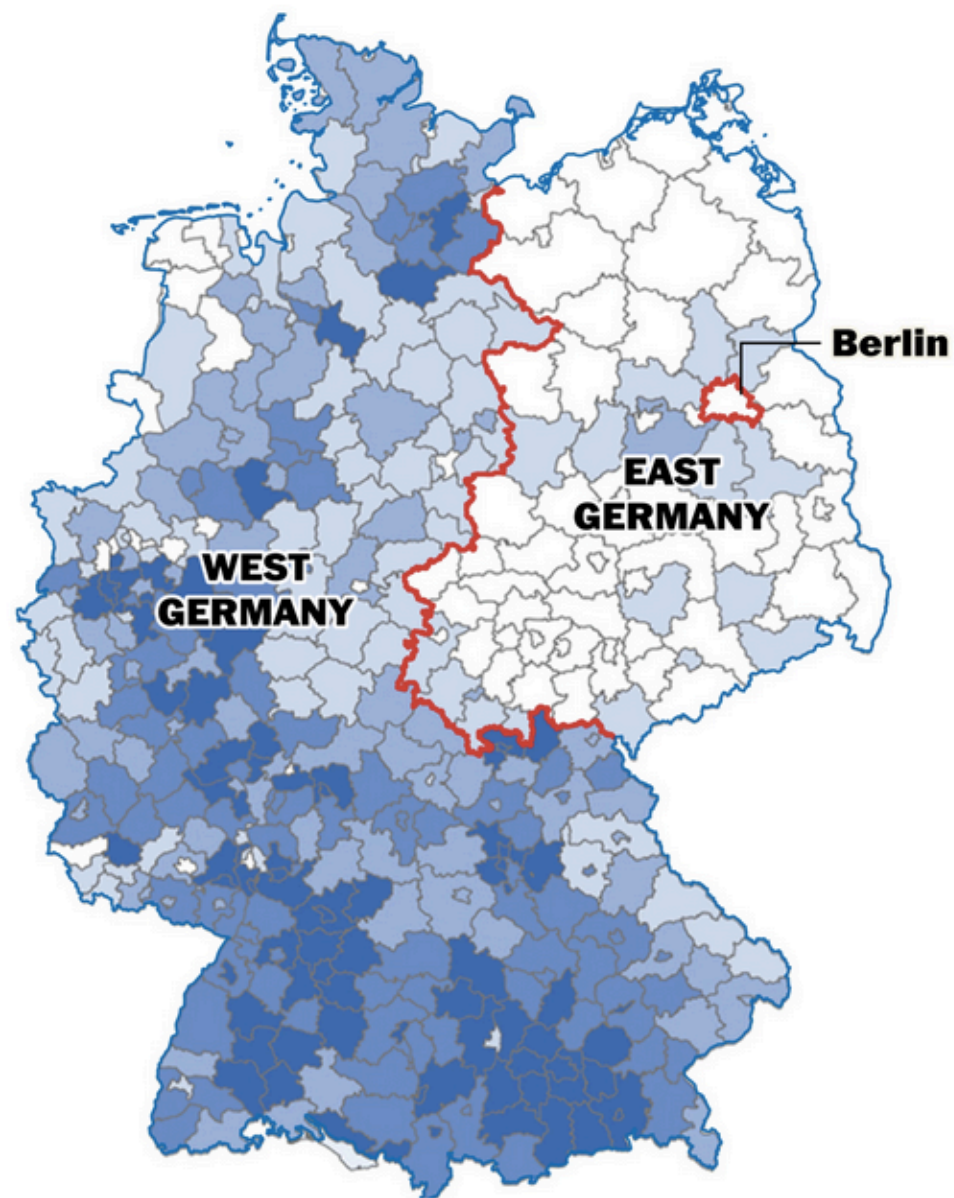
- **Existence of markets**

- **Civil liberties**

- The rights of free speech, assembly, and the press







Disposable Income

Data: 2011

More

Less

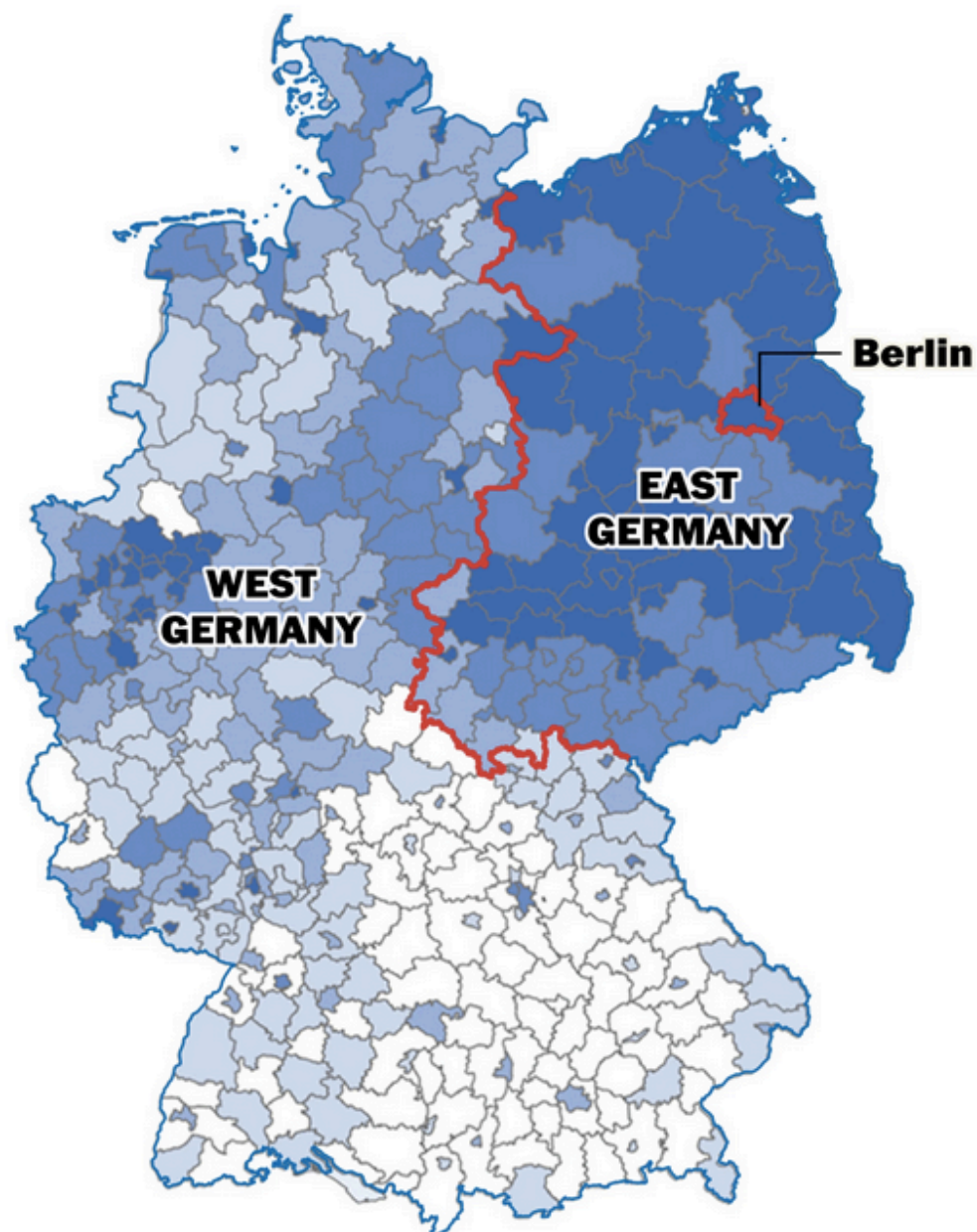


Unemployment rate

Data: 2013

Higher

Lower





4. Why do we care

GDP and Life Expectancy

