EC569 Economic Growth Introduction Lecture 1

İlhan Güner

2020-03-11

EC569: Economic Growth

- Convenor: İlhan Güner
- Office: Kennedy Building 119
- Office hours: Mondays and Wednesdays 10-11am
    - If you have questions to ask, please don't hesitate to stop by.
- Email: i.guner@kent.ac.uk

Questions

- Why do countries differ in their standards of living?
- Why do countries grow richer or fail to grow richer over time?
- What are the roles of physical capital, population, human capital, ideas, basic science, and public policy for growth?

Topics

- Facts and modern theories of economic growth
- The role of productivity on growth
- The relationship between government policies, income inequality and economic growth

Timetable

- Lectures: Weeks 13-24, Mondays 14:00 - 15:00
- Seminars: Weeks 16-18, 20-22

Assessment

Coursework: 20%

- Essay (10%): Due Friday of Week 24
- 3 Problem Sets (10% total)
    - Problem sets will be assessed through Moodle quizzes
    - Quiz question will be on the problem set questions
    - The average of your highest marked 2 quizzes will be your problem set mark
    - You must take at least 2 quizzes
    - Dates of problem sets:

	Assignment Date	Moodle Quiz Date
Problem Set #1	Monday of Week 15	Week 16 Monday 4pm – Wednesday 4pm
Problem Set #2	Monday of Week 18	Week 19 Monday 4pm – Wednesday 4pm
Problem Set #3	Monday of Week 21	Week 22 Monday 4pm – Wednesday 4pm

Exam: 80%

Assessment of problem sets

- Problem sets will be assessed using Moodle quizzes.
- On the due weeks of problem sets, quizzes will appear on Moodle for *48 hours from Monday 4pm to Wednesday 4pm*.
- To take a quiz, first, *you must submit your work on the problem set in digital form* (typed or scanned copy of your hand-written solution).
- Each problem set quiz will be *on the questions of the problem set.*
- You will have *2 hours to complete the quiz once started*.
- You will have *1 attempt*.
- A mock problem set #0 is up on Moodle today. Quiz will appear on Moodle next week.

Aim of the problem sets

- My intention is *not* assessing you
- Incentivizing you to learn module material on time
- Practice examinable material
- Opportunity to check your understanding

Essay

- Essay questions will be posted by Monday of Week 14
- Essay is due Friday of Week 24
- Approximately 2 thousand words
  - Word limit is not strict at all
  - A 1000 word essay which is clear, is concise, and conveys your arguments in a robust way would earn you at least a first.

Textbooks

- Weil, D., 2013, Economic Growth, 3rd ed., **must read**
- Jones, C. and D. Vollrath, 2013, Introduction to Economic Growth, 3rd ed., **must read**

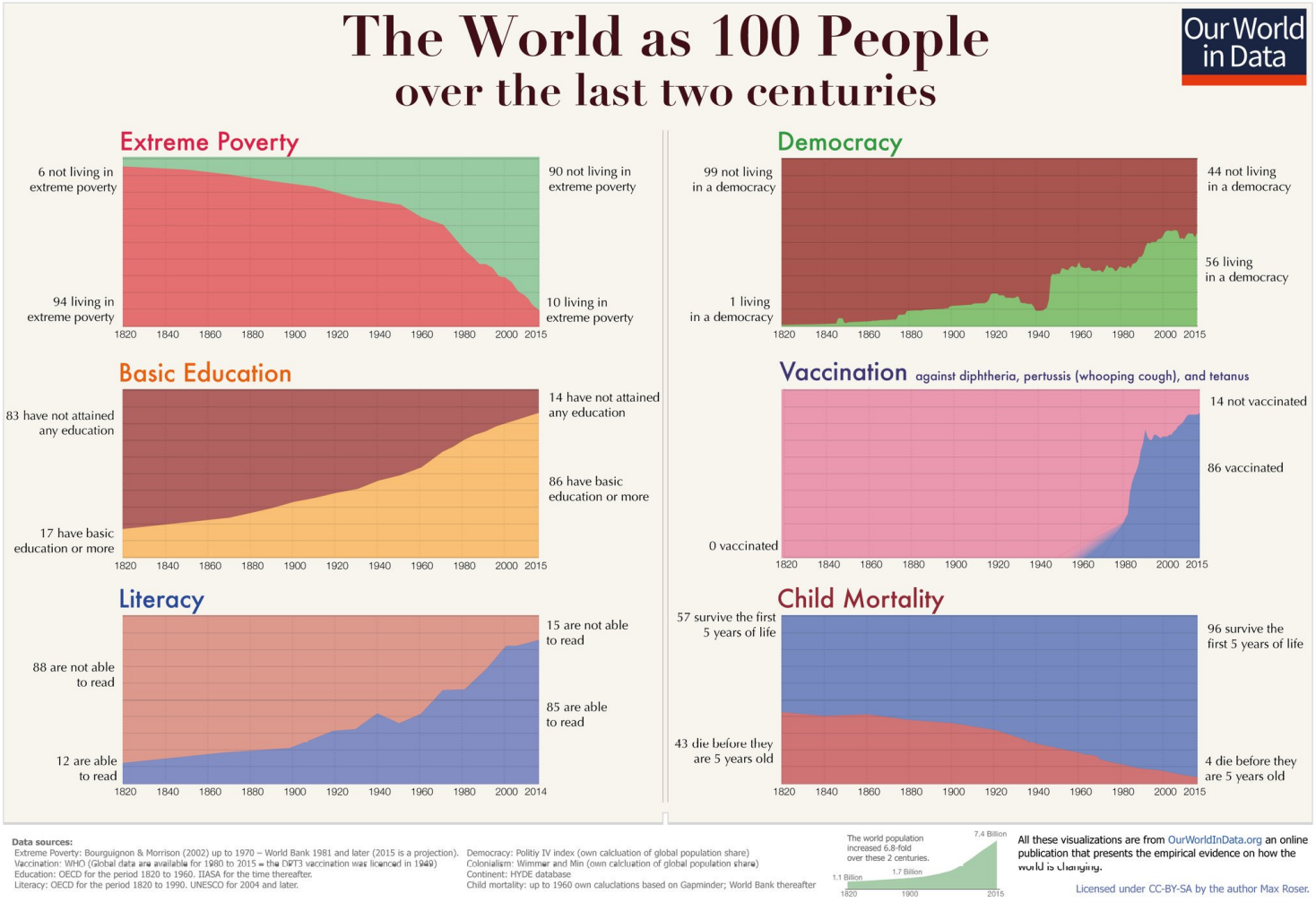
Seminars

- Questions will be available on Moodle before seminars
  - Data analysis
  - Questions from required readings
  - Problems
- Everyone is responsible for reading the material and answering the questions.
- Mandatory papers/articles are marked with (*) on the Module outline.
- There will be exam questions on them.

Other Resources

- CORE The Economy: Economics for a Changing World. Oxford University Press, First Edition, 2017, ISBN 9780198810247.
- https://ourworldindata.org : A thoughtful collection of essays on changing living conditions around the world, supplemented with striking visualization of recent data.
- Rosling, H., Rosling, O., & Rönnlund, A. R. (2018). Factfulness: Ten Reasons We're Wrong about the World--and why Things are Better Than You Think. St Martin's Press.
- Economical Writing by Deirdre N. McCloskey
- The Book of Why: The New Science of Cause and Effect by Judea Pearl and Dana Mackenzie
- https://voxeu.org : VOX-CEPR Policy Portal, “Research-based policy analysis and commentary from leading economists”. Here, economists write about their research in an accessible style.
- https://growthecon.com/blog/ : Blog of Dietrich Vollrath.
- https://gunerilhan.github.io/teaching/ : My personal webpage where I post module related material.

ourworldindata.org



Factfulness

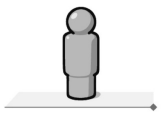
LEVEL 1.

Water

Transport

Cooking

Plate of food



Source: Dollar Street

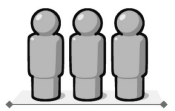
LEVEL 2.

Water

Transport

Cooking

Plate of food



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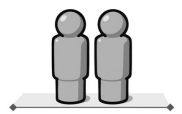
LEVEL 3.

Water

Transport

Cooking

Plate of food



Source: Dollar Street

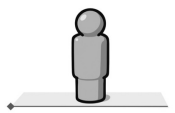
LEVEL 4.

Water

Transport

Cooking

Plate of food



Source: Dollar Street

How do I get a first?

- Work hard!
- Read relevant textbook chapters
- Keep pace with lectures
- Take problem sets seriously, make sure you can solve the question in an exam environment
- Don't postpone studying for the module till a few days before the exam

ask for specific feedback

JULIA EVANS
@b0rk

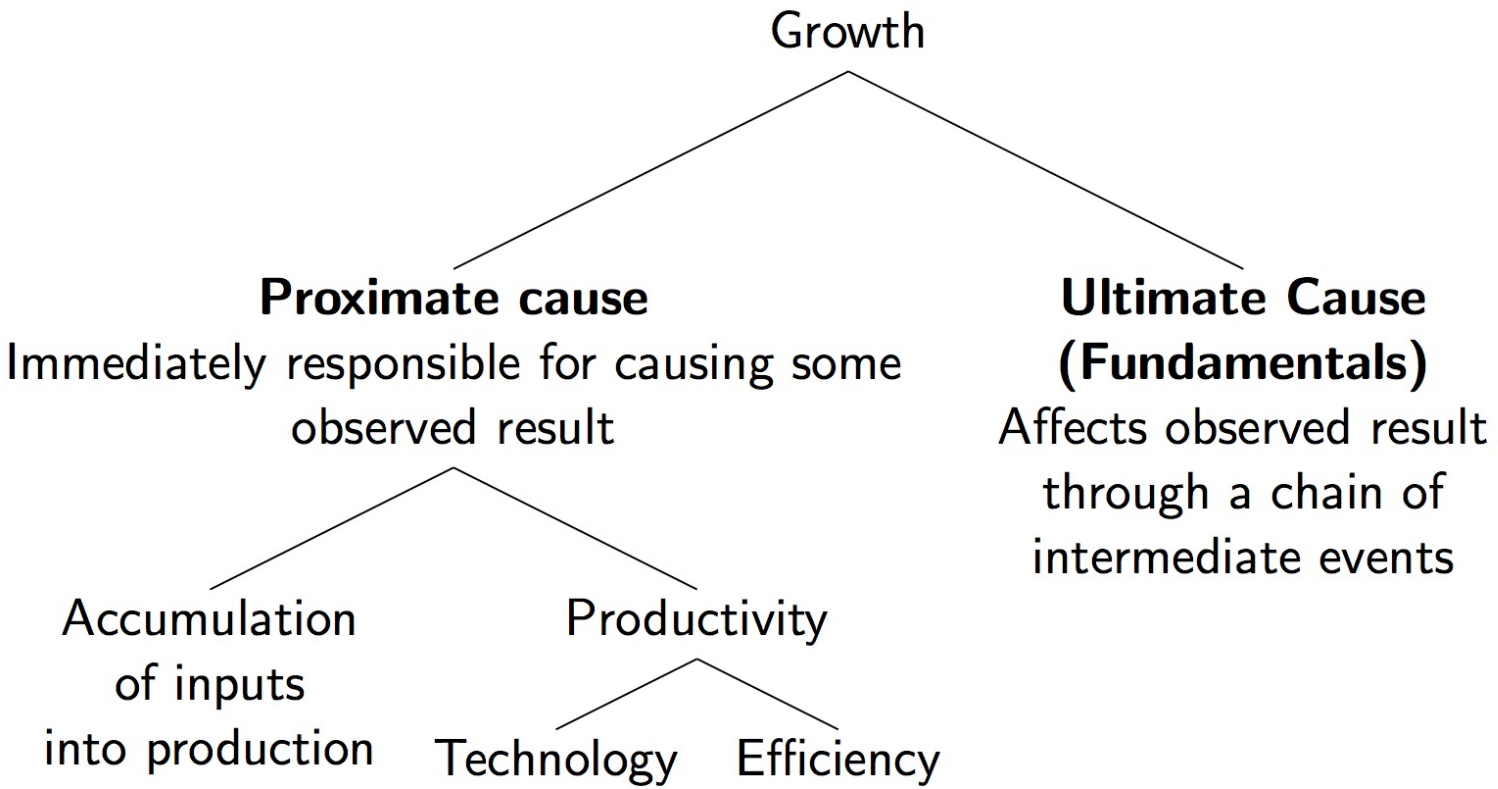
I used to ask for feedback like this:

I've learned that I get ★WAY BETTER★ answers if I ask more specific questions!

When I ask ★specific★ questions, it's way easier for my manager to give me answers that help me improve ♥

Read the Module Outline

Overview of the module



Gross Domestic Product (GDP)

GDP: Market value of all the goods and services produced in a country within a period.

- GDP = output = income
- GDP is a rough-and-ready measure of standard of living.
- How to compare GDP of countries with different currencies and of a single country in different years?
    - Purchasing Power Parity (PPP) exchange rates: artificial exchange rates based on the prices of a standardized basket of goods and services (both traded and non-traded).

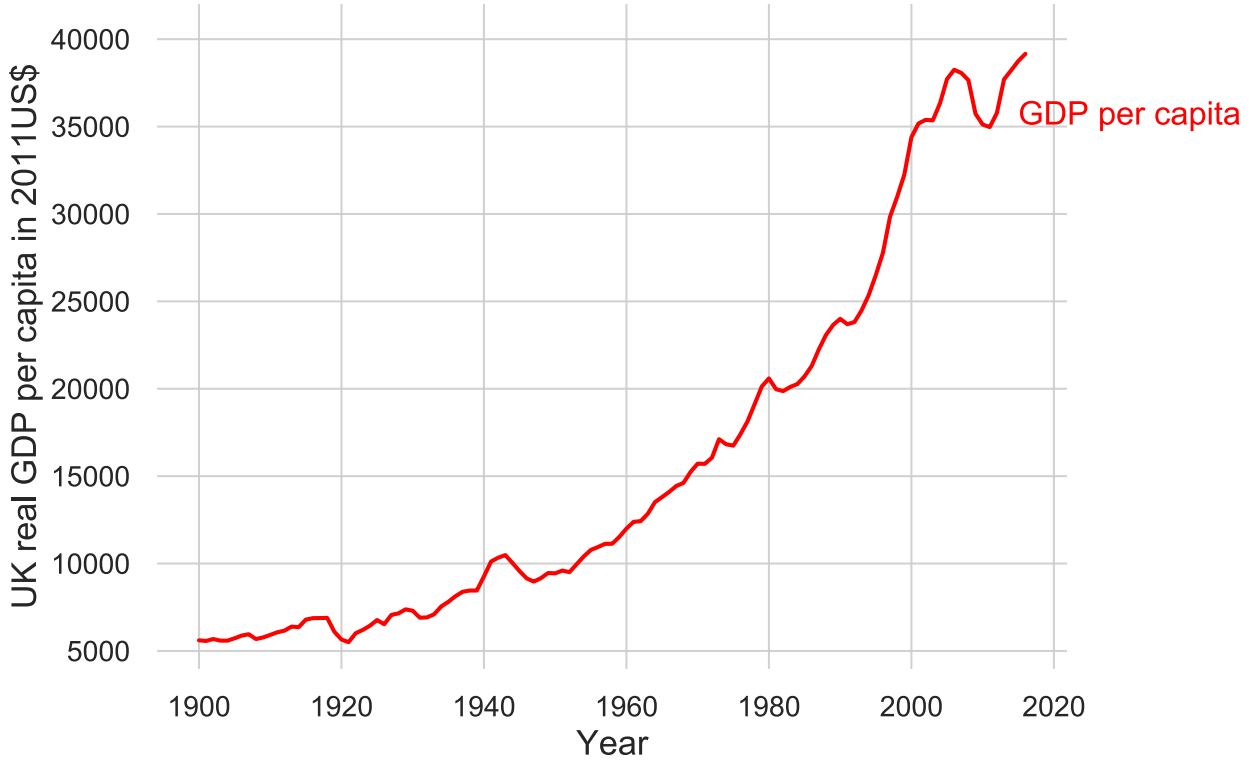
GDP per capita

GDP per capita = average income

$$y_t = \frac{\text{total GDP}}{\text{population}}$$

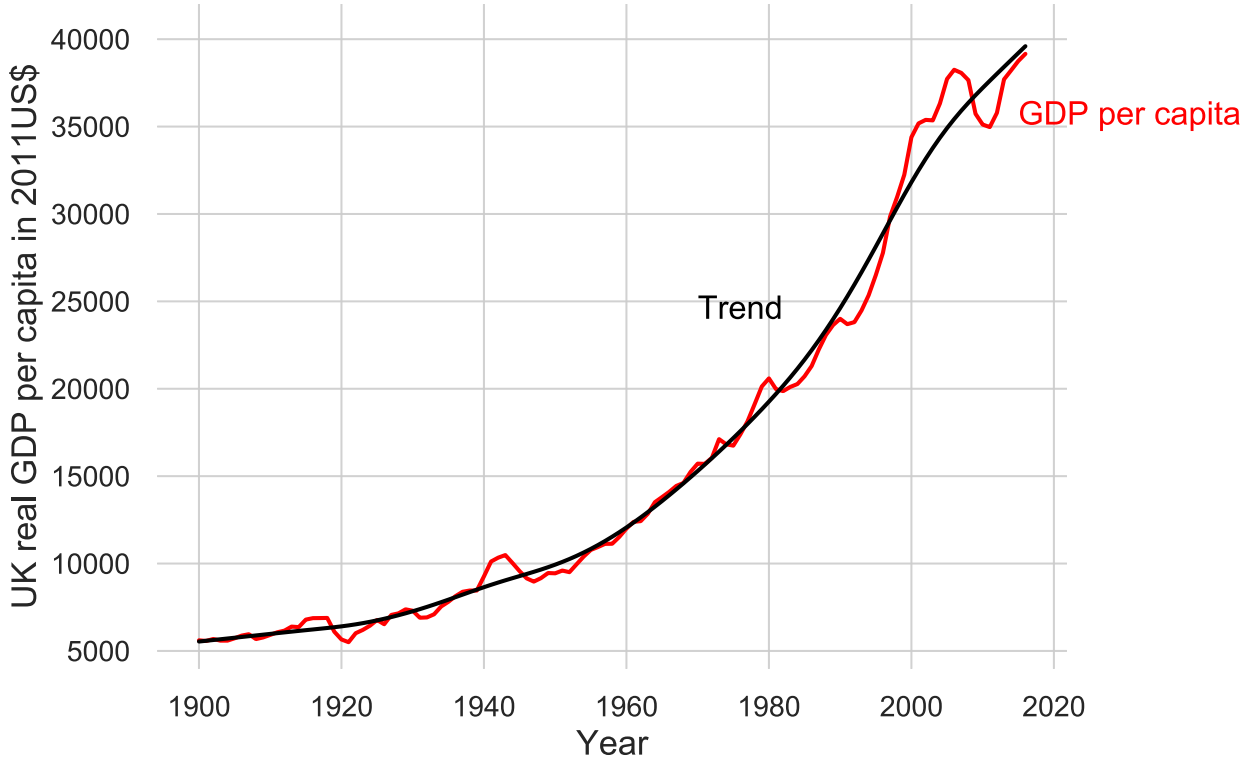
- Total GDP could be large because of high average income and/or large population
- US has high GDP per capita but China and India do not

Cycles vs trends



Source: Maddison Project Database (MPD) 2018

Cycles vs trends



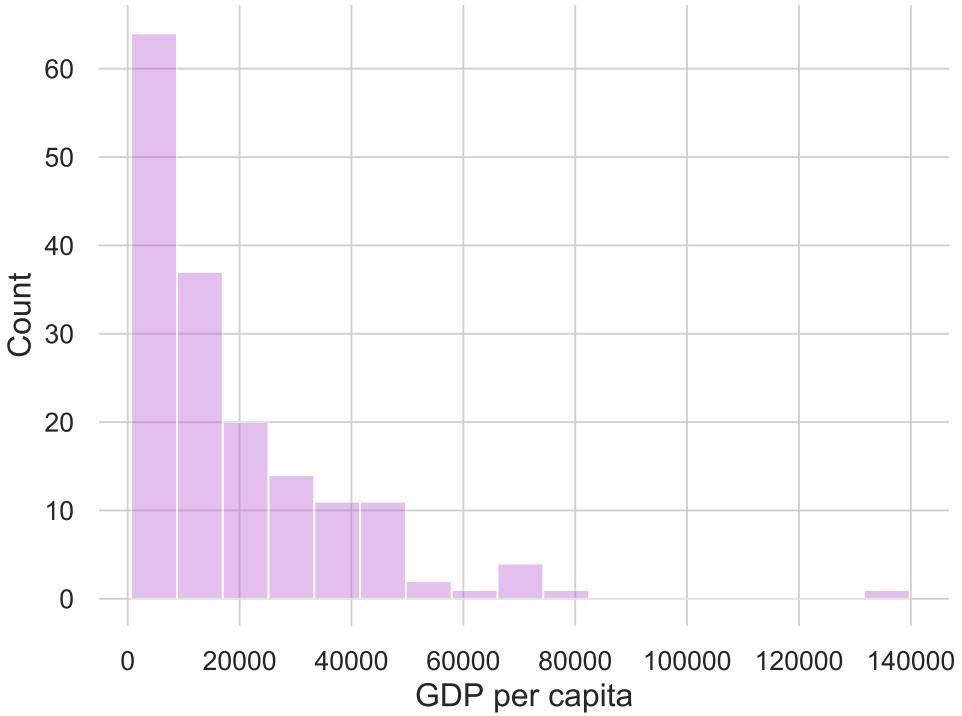
Source: Maddison Project Database (MPD) 2018

- **Our primary focus is the long-run (or trend) component of GDP per capita over time.**

Facts to be explained

Fact 1: There is a high variation in per capita income across countries.

Histogram of real GDP per capita in 2016 in 2011US$



Source: Maddison Project Database (MPD) 2018

Statistic	GDP per capita
# of Countries	166
Mean	18591.7
Std. deviation	19393.2
Minimum	619
25%	3892.25
50%	12134.5
75%	26450.5
Max	139783

Fact 1

- Per capita income in the poorest countries are less than 5% of per capita income in the richest countries.
- GDP per capita in 2016 (in 2011 US dollars)

$$\frac{\text{US } (\$53015)}{\text{Iran } (\$15529)} \approx \frac{\text{Iran } (\$15529)}{\text{Moldova } (\$5851)} \approx \frac{\text{Moldova } (\$5851)}{\text{Ethiopia } (\$1659)} \approx 3$$

- The 20% of world population that lives in the richest countries receive 60% of world income.

Rich countries

Country	Year	GDP per capita	GDP per worker	E/pop	Avg. Growth (1960-2016)	Years to double
Spain	2016	31556	79356.5	39.8	2.9	24.9
France	2016	38758	93949.6	41.3	2	36.2
United Kingdom	2016	39162	81439.1	48.1	1.8	39.7
Japan	2016	36452	68097	53.5	3.2	22.6
United States	2016	53015	112765	47	1.9	37.4

Data source: Maddison Project Database (2018)

The GDP data are in 2011 dollars.

Rule of 72:

- x% economic growth rate
- It takes 72/x years to double the income

Poor Countries

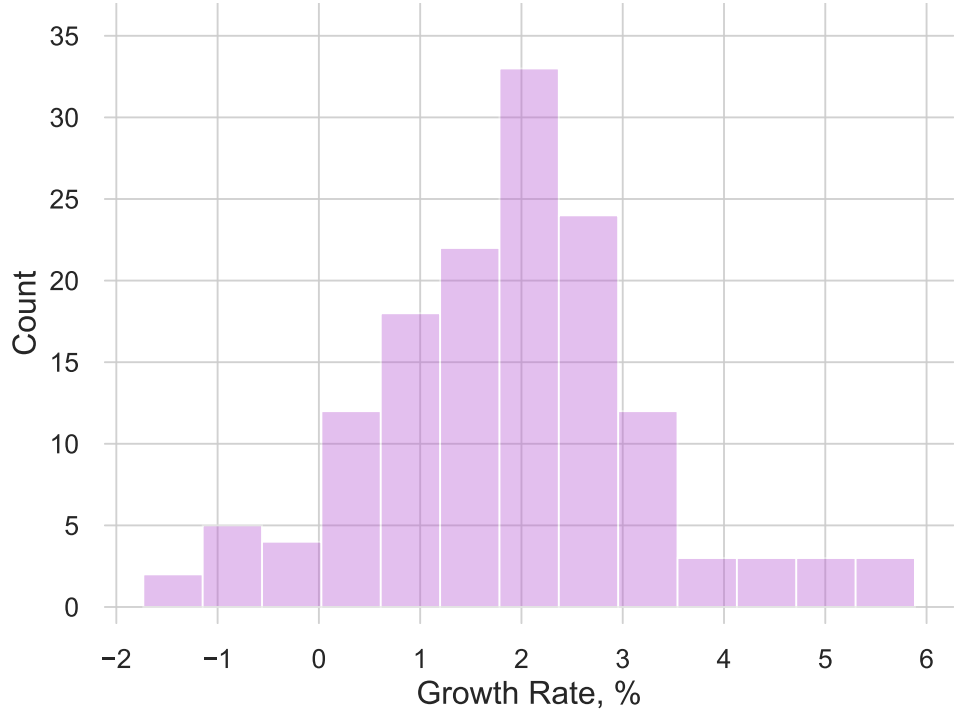
Country	Year	GDP per capita	GDP per worker	E/pop	Avg. Growth (1960-2016)	Years to double
India	2016	5961	14248.7	41.8	3.2	22.3
Nigeria	2016	5323	15641.8	34	1.6	43.8
Uganda	2016	1909	5036	37.9	1	69.3

Data source: Maddison Project Database (2018)

The GDP data are in 2011 dollars.

Fact 2: There is substantial variation in the rates of economic growth across countries.

Histogram of average GDP per capita growth from 1960 to 2016



Source: Maddison Project Database (MPD) 2018

Statistic	Avg. Growth (1960-2016)
# of countries	144
Mean	1.9
Std. deviation	1.34
Minimum	-1.73
25%	1.12
50%	1.89
75%	2.66
Maximum	5.89

Growth Miracles

Country/Province	Year	GDP per capita	GDP per worker	E/pop	Avg. Growth (1960-2016)	Years to double
Hong Kong	2016	47043	89121	52.8	4.3	16.7
Republic of Korea	2016	36151	71246.1	50.7	5.5	13.2
Singapore	2016	67180	108866	61.7	4.8	14.9
Taiwan	2016	42304	84298.5	50.2	5.4	13.2

Data source: Maddison Project Database (2018)

The GDP data are in 2011 dollars.

Growth Disasters

Country	Year	GDP per capita	GDP per worker	E/pop	Avg. Growth (1960-2016)	Years to double
Haiti	2016	1636	4066.2	40.2	-0.7	-107.8
Madagascar	2016	1307	2528.6	51.7	-0.9	-80.8
Venezuela	2016	13159	28878.4	45.6	0.2	375.1
Zimbabwe	2016	1729	2845.4	60.8	-0	-6205.2

Data source: Maddison Project Database (2018)

The GDP data are in 2011 dollars.

Fact 3: Growth rates are not usually constant over time

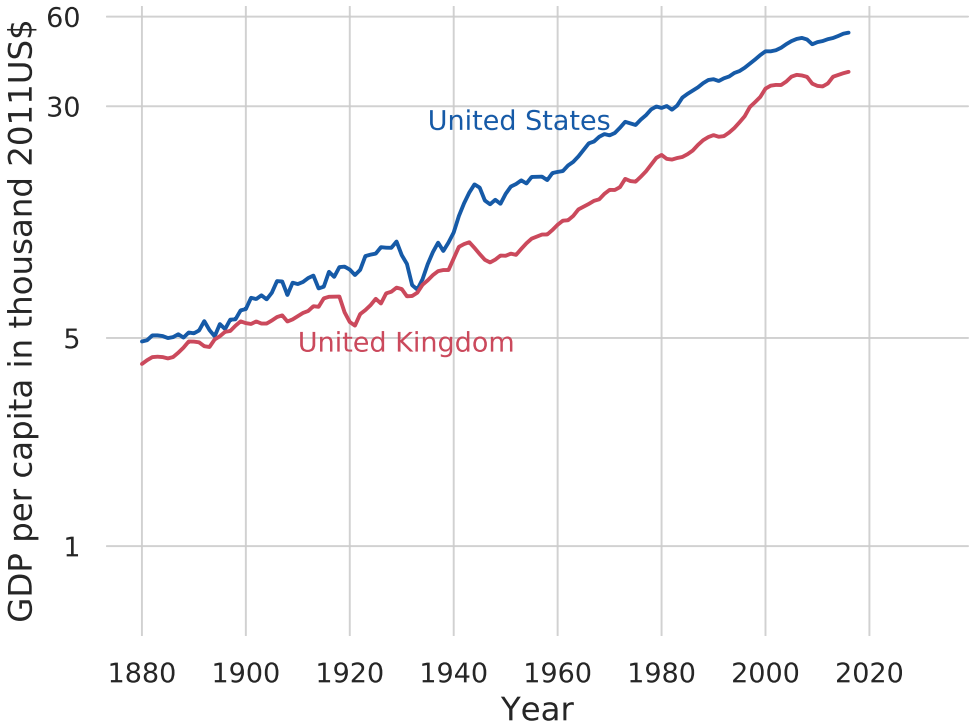
- The pace of growth worldwide has accelerated
  - 1500 - 1700: .04%
  - 1700 - 1970: .2%
  - 1870 - 1950: 1.1%
  - 1950 - 2008: 2.26%
- Changes in growth rates of invididual countries

Country	Period	Average growth rate
India	1960-1980	2%
India	1980-2008	3.7%
China	1960-1978	2.1%
China	1978-2008	7.7%

Fact 4: A country's relative position in the relative income rank may change over time

- "Poor" countries can move to be "rich"
- "Rich" countries can move to be "poor"

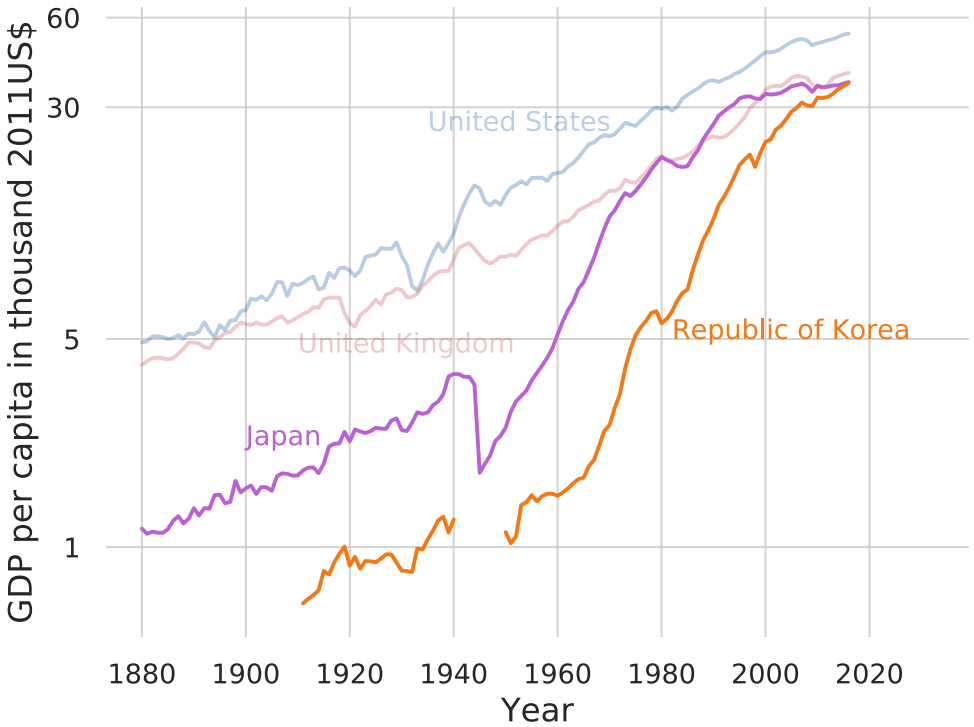
GDP over time



Importance of small difference in the rate of economic growth

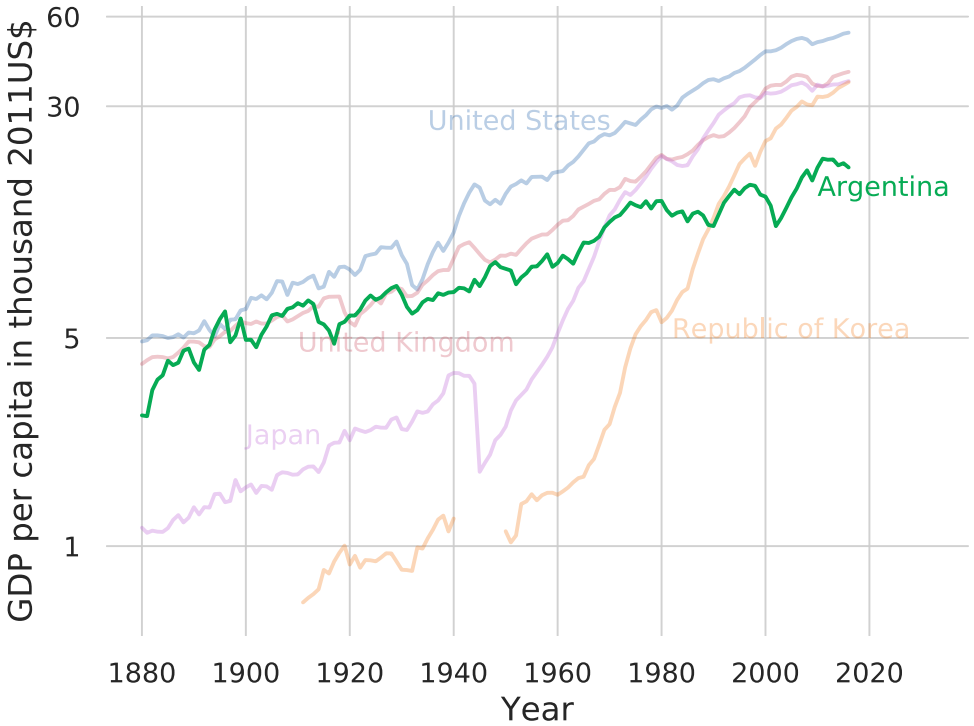
- US GDP per capita in 2016 was 14 times as large as GDP capita in 1870
  - 1.8% average growth rate per year (US)
  - 1.3% average growth rate per year (UK)
- In 1870, UK was 30% richer than the US
- In 2016, UK was 30% poorer than the US

GDP over time



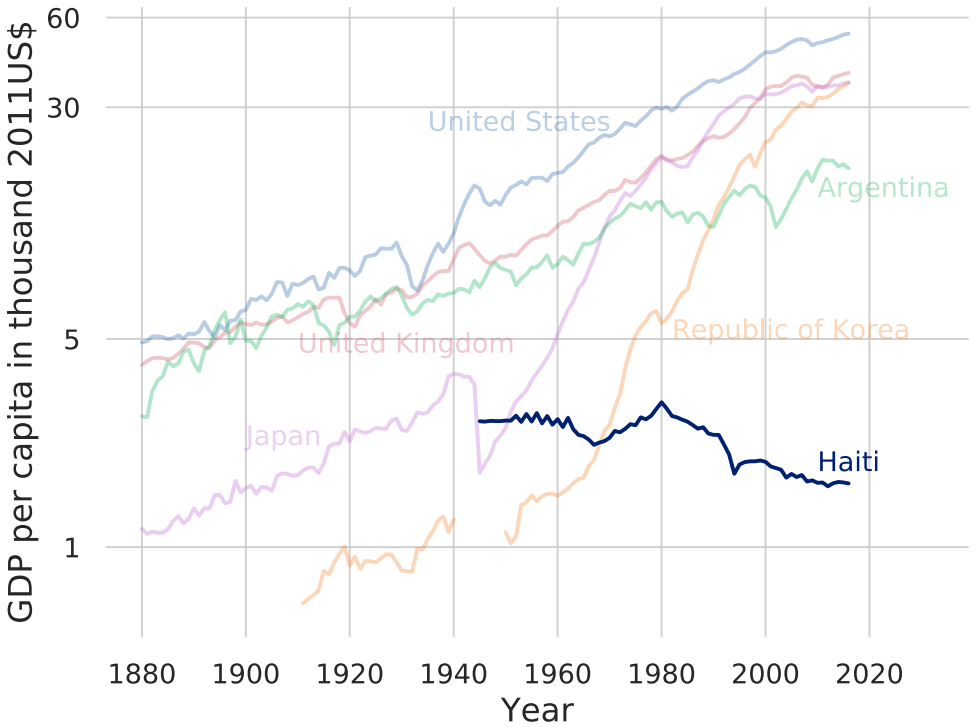
- Japan and Korea are examples of countries which managed to reach high income levels

GDP over time



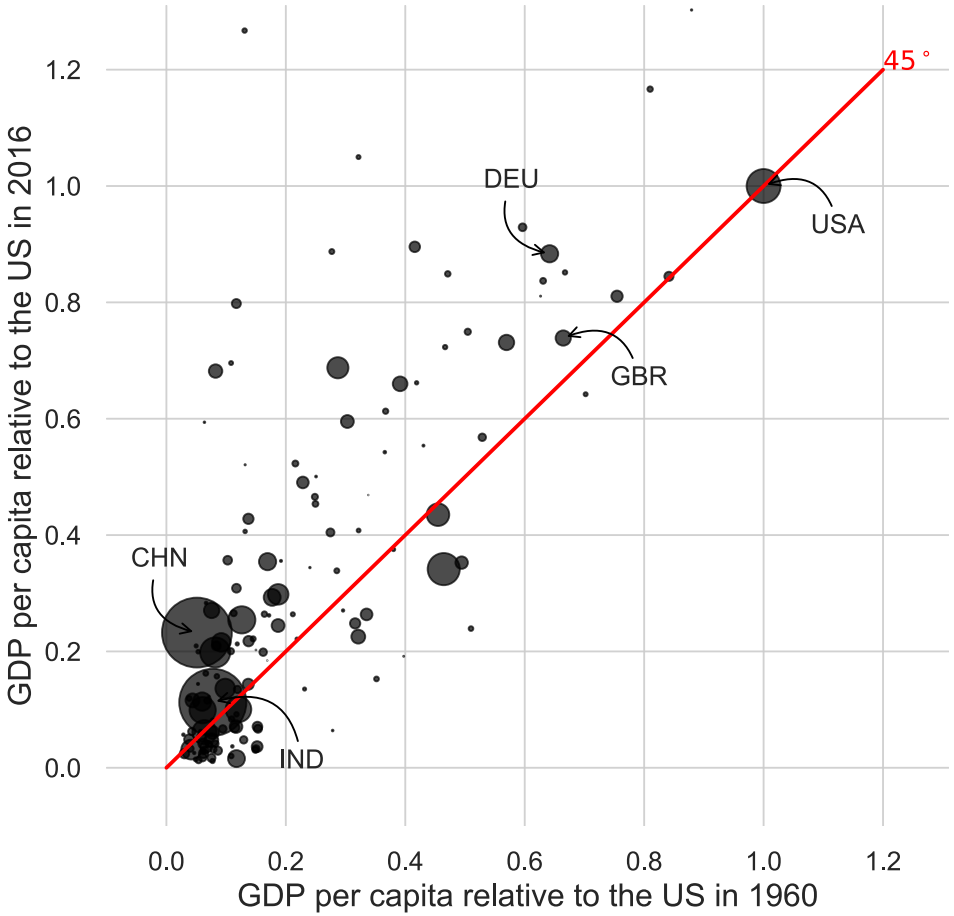
- Argentina was as rich as the US and UK in late 19th century.
- GDP per capita of Argentina in 2016 is about 35% of the US.

GDP over time



- Haiti is an example of countries with negative average growth since mid-20th century.
- In 2016, Haiti's GDP per capita was about 3% of the US.

Persistence of income rankings



- Income rankings of the countries may change
  - Not all of them are on the 45-degree line
- Income rankings are highly persistent
  - Strong positive correlation of the 1960 and 2016 income levels
- Countries with larger populations are usally poorer than the US
  - Size of the circles is proportional to the population of the countries

Next Week

- Learn about the Solow Growth Model
  - A model to explain the role of factor accumulation in economic growth