Course Overview

EC502 Macroeconomics
Topic 0

Masao Fukui

2026 Spring

Course Logistics

- Lecture:
  - Fridays 2:30-5:00pm, in PHO 206

- Instructor:
  - Masao Fukui (mfukui@bu.edu)
  - Office hours: Mon 2:30-5:30pm in SSW Room 400

- TA:
  - Martin Martinez (martin22@bu.edu)
  - Office hours: TBA

- Sections:
  - Tue 5:00-6:15pm in SAR 103

Course Logistics

- No required textbook. See the syllabus for useful references.

- Grades:
  - 40% midterm exam: held during Section on **March 3**
  - 50% final exam: time and location TBA (during the exam period)
  - 10% problem sets

- There will be several problem sets
  - Grading based on three scales: ✔+, ✔, ✔−
  - Strongly encouraged to work in a group
  - Strongly encouraged to write it up electronically
  - The first problem set is already posted. Due Feb 7

Course Logistics

- Class attendance is not required

- However, it is entirely your responsibility to make up for the missed class

- I will not answer any question about

  - the announcement I made during the class you missed
  - the contents covered during the class you missed

- I strongly encourage you to ask questions **during** the class

  - You are welcome to interrupt me as much as you want

- More questions during the class $\Rightarrow$ the better understanding for **all** students

- I will not have any conversation about your grades under any circumstances

Course Outline

What is macroeconomics? — Study of economic aggregates!

1. The long-run

   - Why are some countries richer than others?
   - Why do economies grow?
   - Why do some countries work more than others?
   - What determines inequality?

2. The short-run

   - What causes recessions and booms?
   - What determines inflation?
   - How do monetary policies affect the real economy?
   - Why do financial crises happen?
   - Why does unemployment rise during recessions?

Approach

1. Document the facts

2. Develop a model

3. Compare the predictions of the model with the original facts

4. Use the model to make other predictions that may eventually be tested

What is GDP?

What is GDP?

- What is Gross Domestic Product (or GDP)?
  GDP is the market value of the final goods and services produced in an economy during the year.

- Three equivalent ways to measure GDP:

  1. Production

  2. Expenditure

  3. Income

- In 2022, U.S. GDP = $25 trillion, or $76,000 per person (current $).

National Income Identity

$$Y = C + I + G + NX$$

Y: GDP

C: Consumption

I: Investment

G: Government expenditure

NX: Net exports = exports - imports

The Composition of U.S. GDP

Source: Jones (2020)
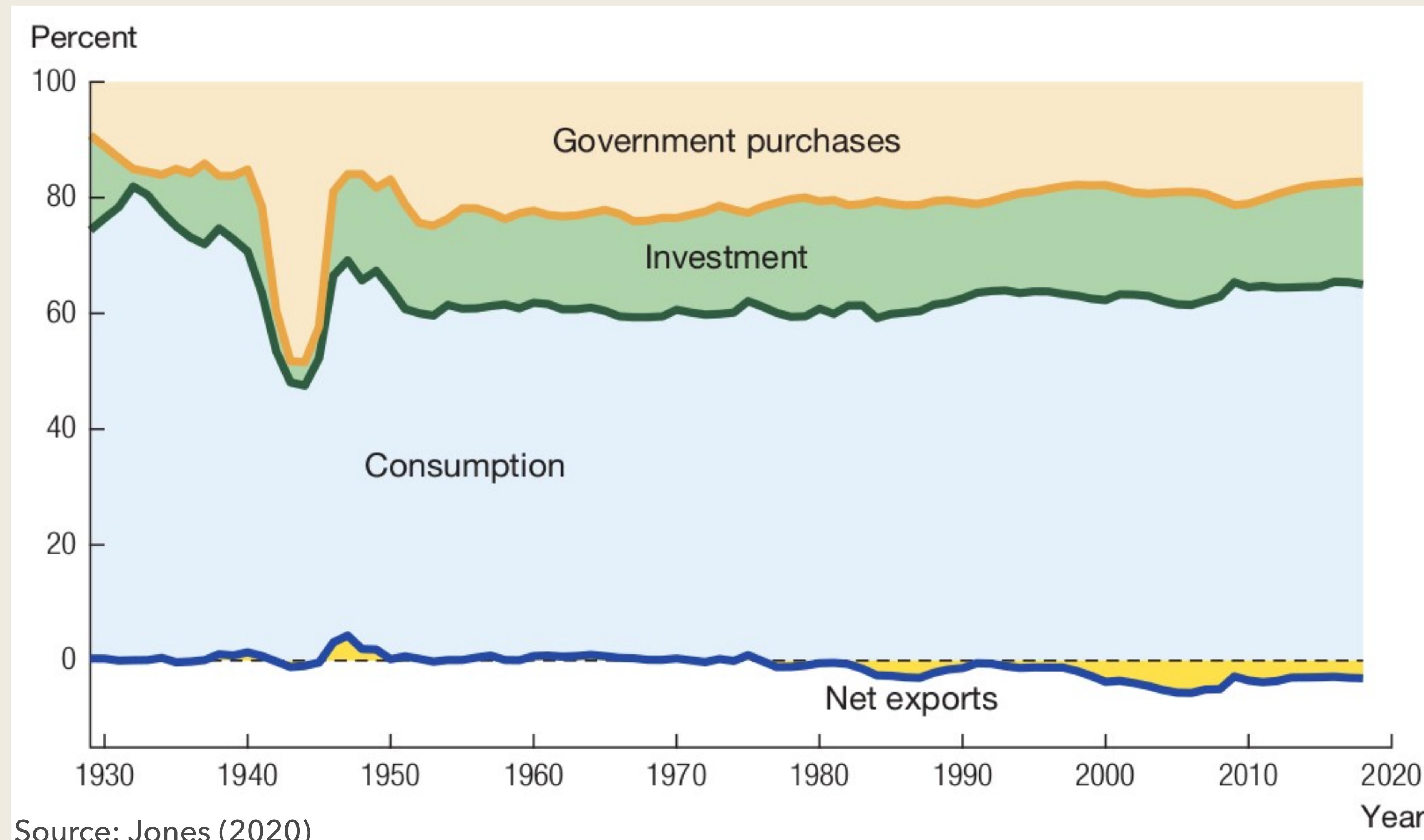
The Composition of China's GDP

Source: Jones (2020)
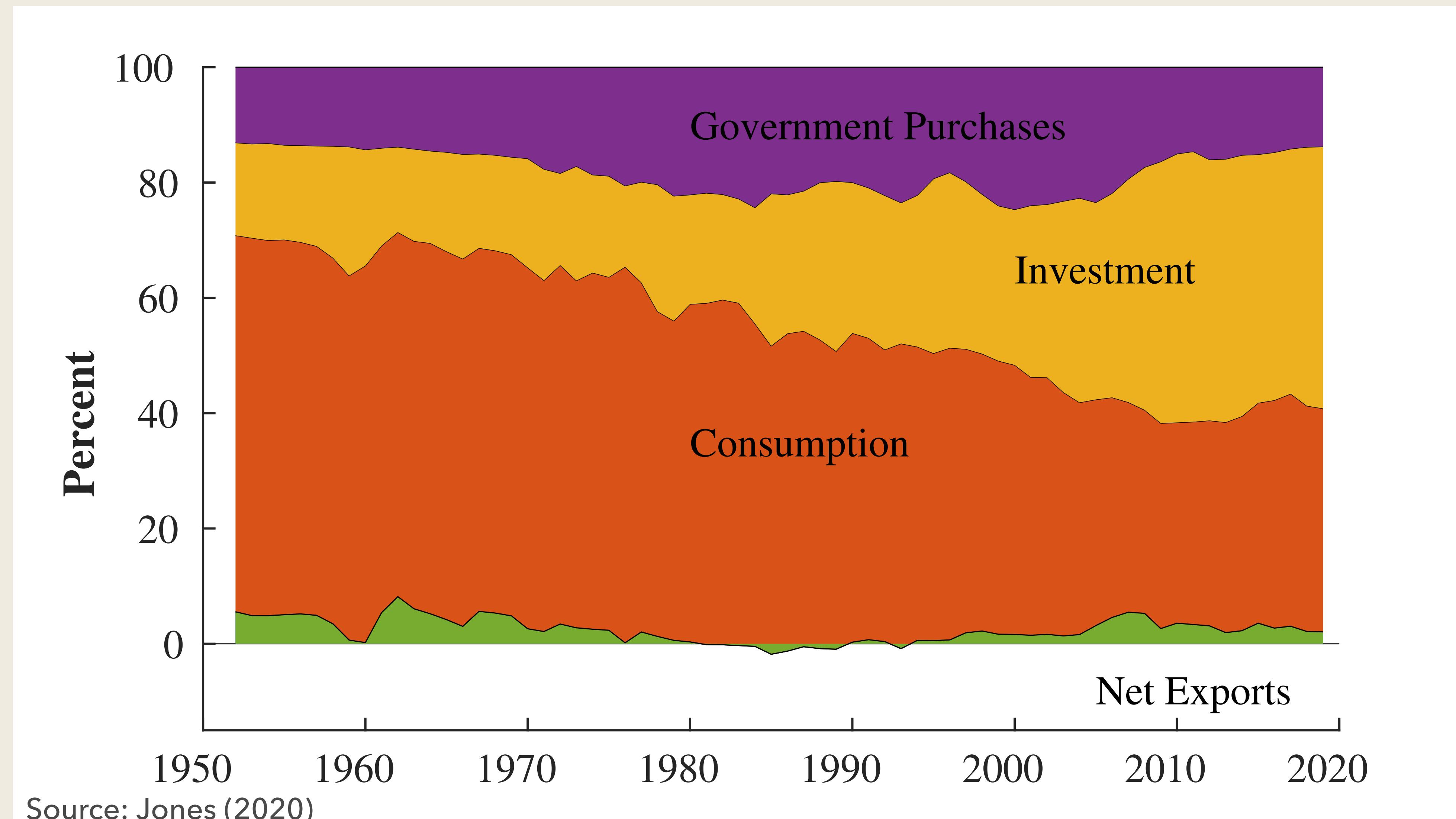
Real vs Nominal GDP

- GDP in 2022 was $25 trillion, in 1995 was $7.4 trillion.

- How much is more goods and services, and how much is higher prices?

$$\text{Nominal GDP} = \text{Price level} \times \text{Real GDP}$$

- Nominal GDP = Value in current dollars
- Price Level = Price index
- Real GDP = Quantity of goods and services
  – e.g. "in 2012 dollars" or "in constant prices"

Why Do We Care GDP?

■ Presumably, we care about human welfare rather than GDP

■ But GDP is measurable and objective

• Much less clear how we measure "human welfare" objectively

■ Moreover, GDP correlates with other measures of welfare

• Life expectancy
• Leisure
• Lower inequality
• Self-reported life satisfaction!

Life Expectancy and GDP

Life expectancy vs. GDP per capita, 2018

The period life expectancy at birth, in a given year. GDP per capita is adjusted for inflation and differences in the cost of living between countries.

Source: Our World in Data
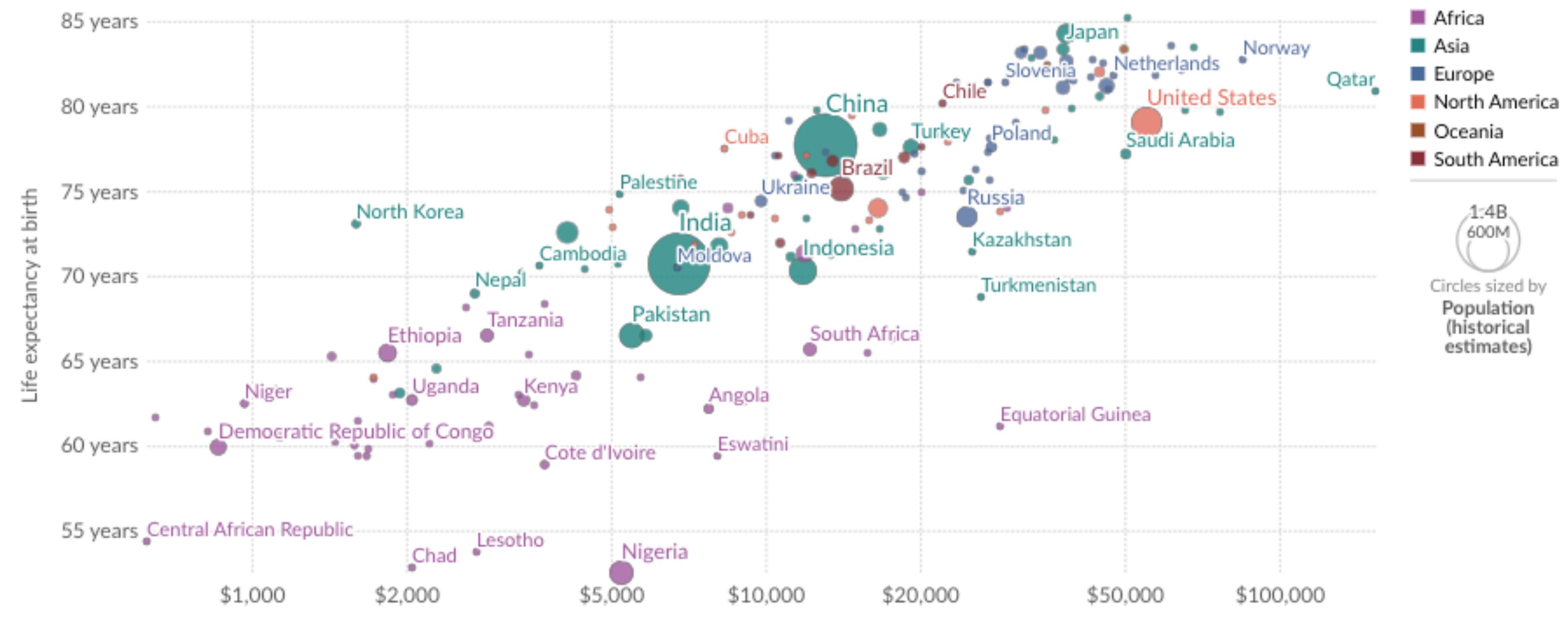
Income Inequality and GDP

Income inequality vs. GDP per capita, 2021

The Gini coefficient measures inequality on a scale from 0 to 1. Higher values indicate higher inequality. GDP is adjusted for inflation and for differences in the cost of living between countries.
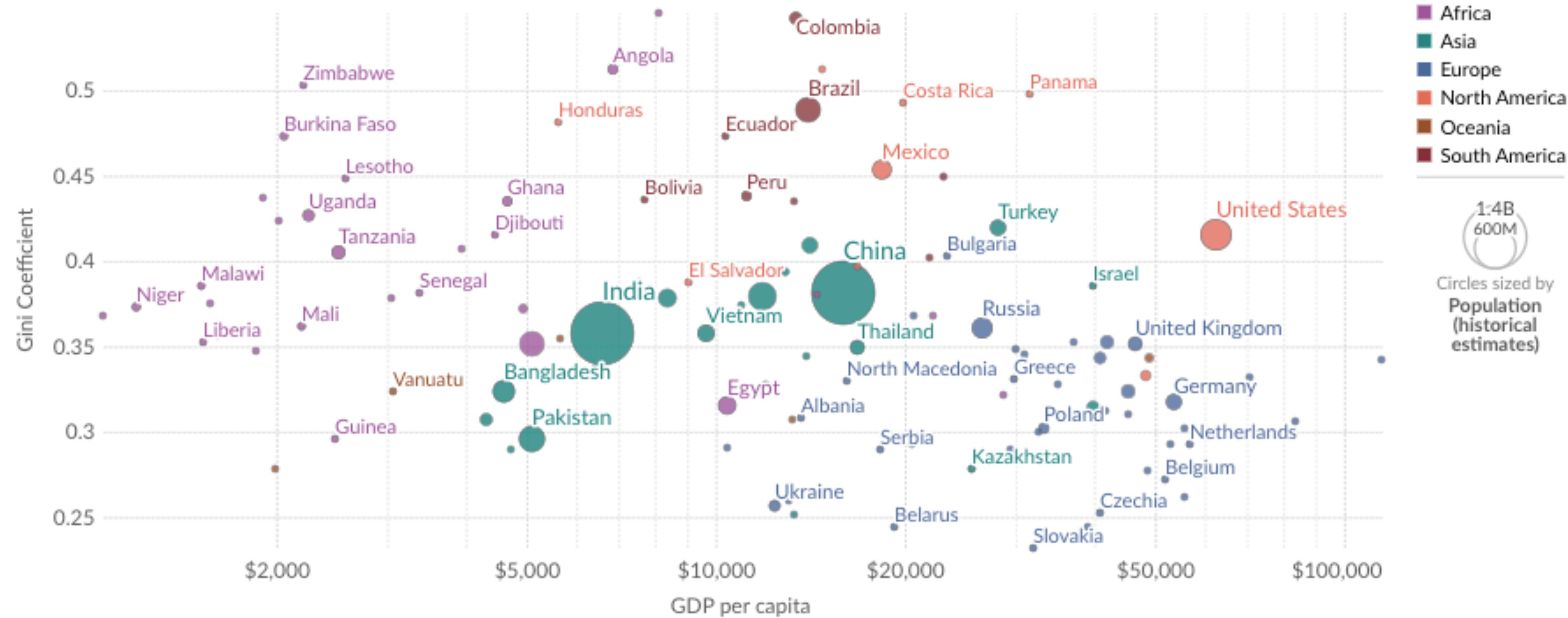
Source: Our World in Data

Life Satisfcation and GDP

Self-reported life satisfaction vs. GDP per capita, 2022

Self-reported life satisfaction is measured on a scale ranging from 0-10, where 10 is the highest possible life satisfaction. GDP per capita is adjusted for inflation and differences in the cost of living between countries.

Our World in Data

Source: Our World in Data
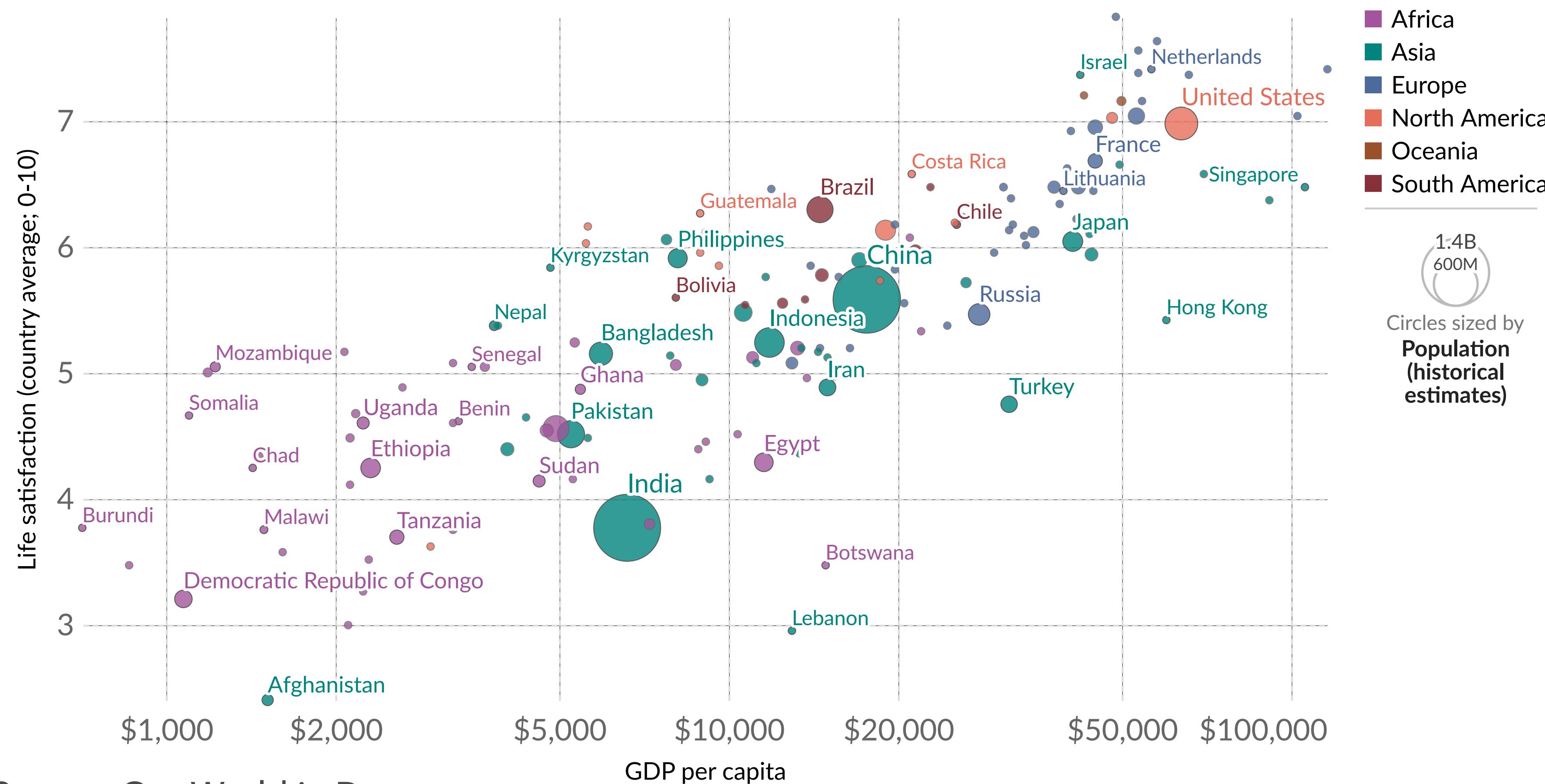
The Macroeconomics of the Long-Run

U.S. GDP per capita

PER CAPITA GDP (2022 DOLLARS)

Source: Jones (2020)

YEAR
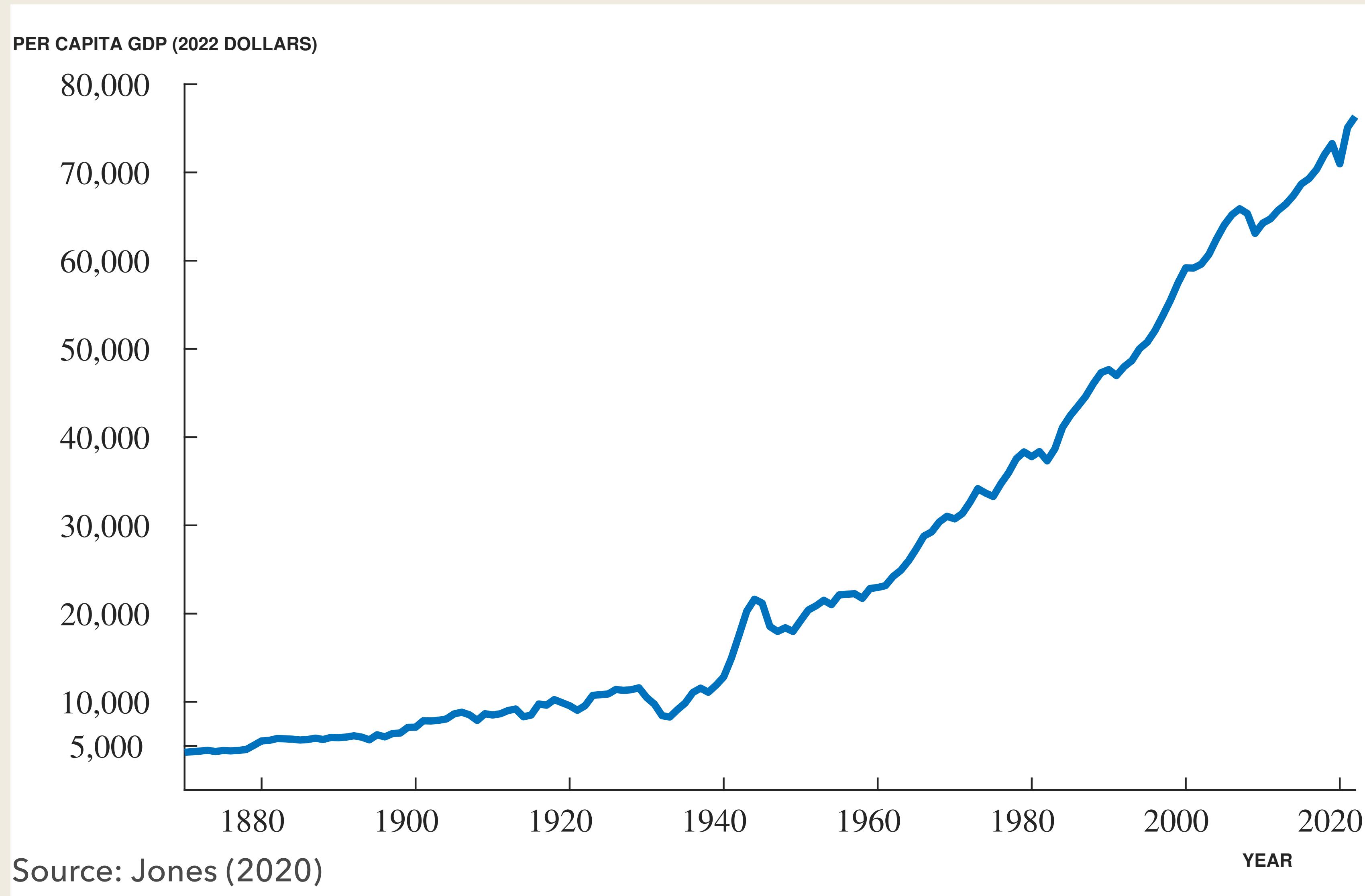
U.S. GDP per capita in Log Scale

PER CAPITA GDP (RATIO SCALE, 2022 DOLLARS)

2.0% per year

Source: Jones (2020)
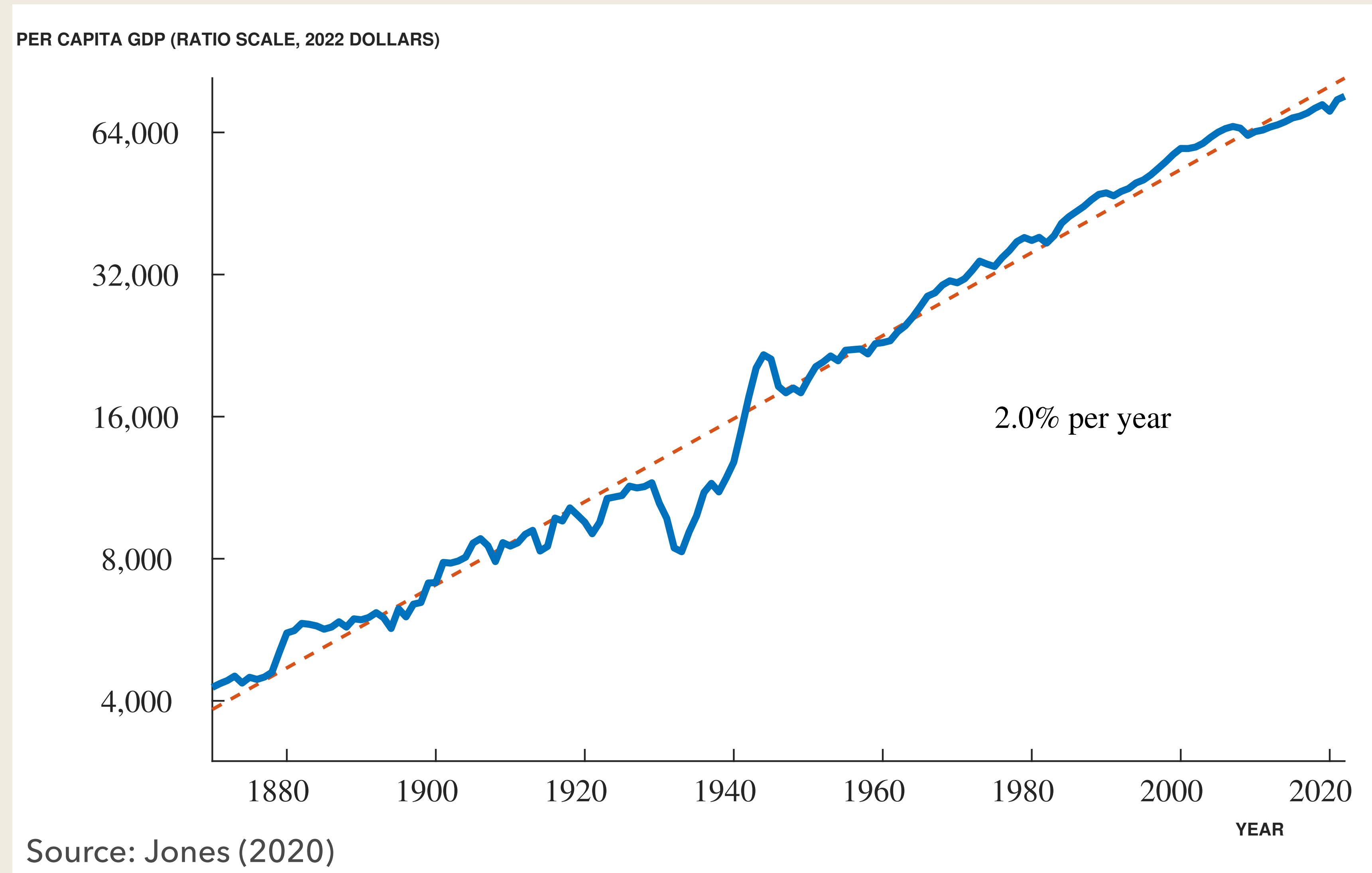
Different Countries, Different Paths

Source: Jones (2020)
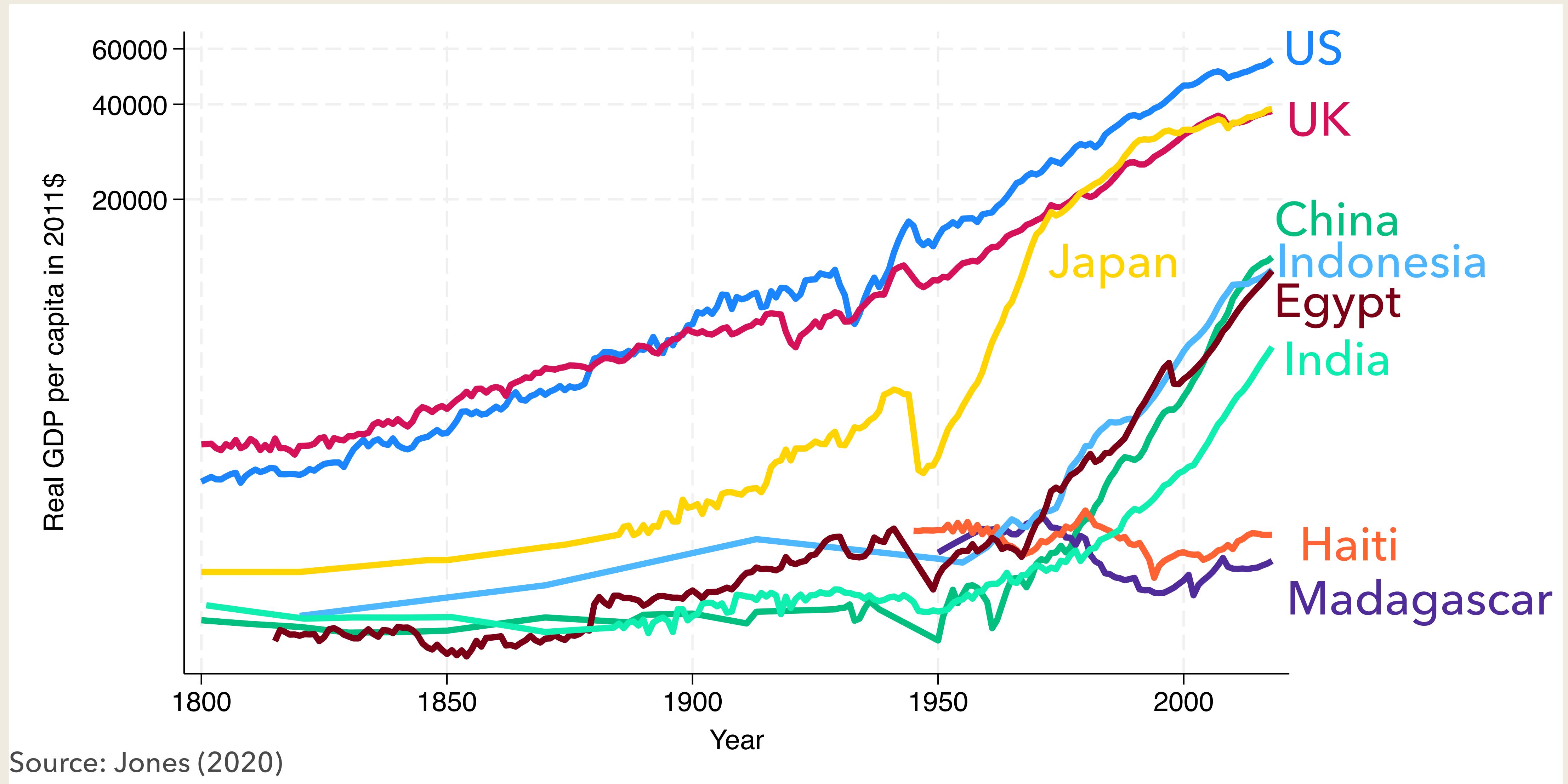
Famous Lucas Quotation

I do not see how one can look at figures like these without seeing them as representing possibilities. Is there some action a government of India could take that would lead the Indian economy to grow like Indonesia's or Egypt's? If so, what exactly? If not, what is it about the "nature of India" that makes it so? The consequences for human welfare involved in questions like these are simply staggering: Once one starts to think about them, it is hard to think about anything else.

— Robert E. Lucas, Jr., 1995

Outline

1. Development and Growth Accounting

2. Capital Accumulation and Growth

3. Ideas and Growth

4. What is TFP? – Misallocation and Institution

5. Income Inequality

6. Labor supply

The Macroeconomics of the Short-Run

Famous Keynes Quotation

But this "long run" is a misleading guide to current affairs. "In the long run" we are all dead. Economists set themselves too easy, too useless a task if in tempestuous seasons they can only tell us that when the storm is long past the ocean is flat again.

— John Maynard Keynes, 1923

U.S. Real GDP in Recent Years

TRILLIONS OF 2012 DOLLARS

Source: Jones (2020)

YEAR

U.S. Real GDP in Recent Years

TRILLIONS OF 2012 DOLLARS

Potential GDP, 2007 estimate

Potential GDP, latest estimate

Actual GDP

Source: Jones (2020)
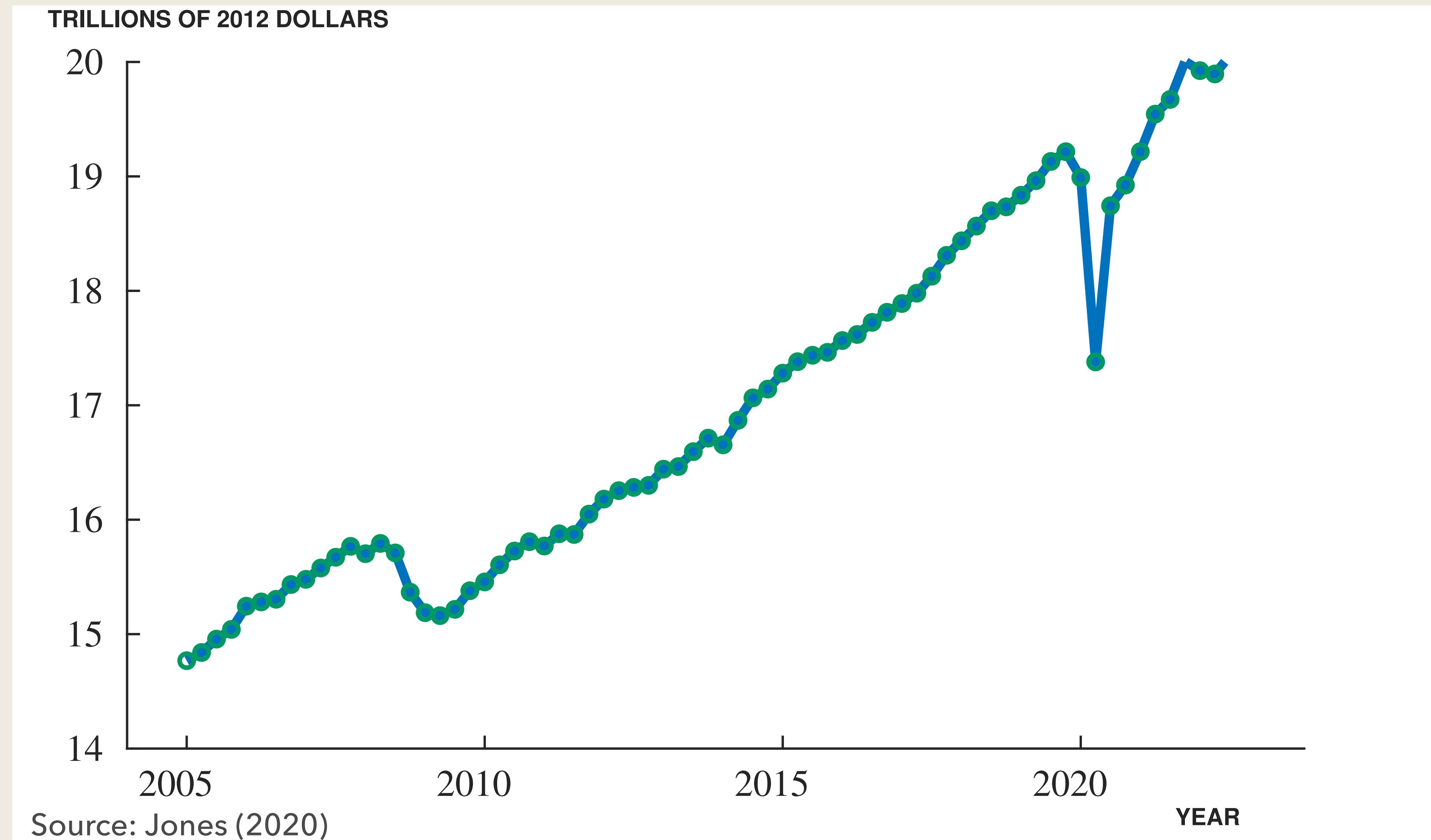
YEAR
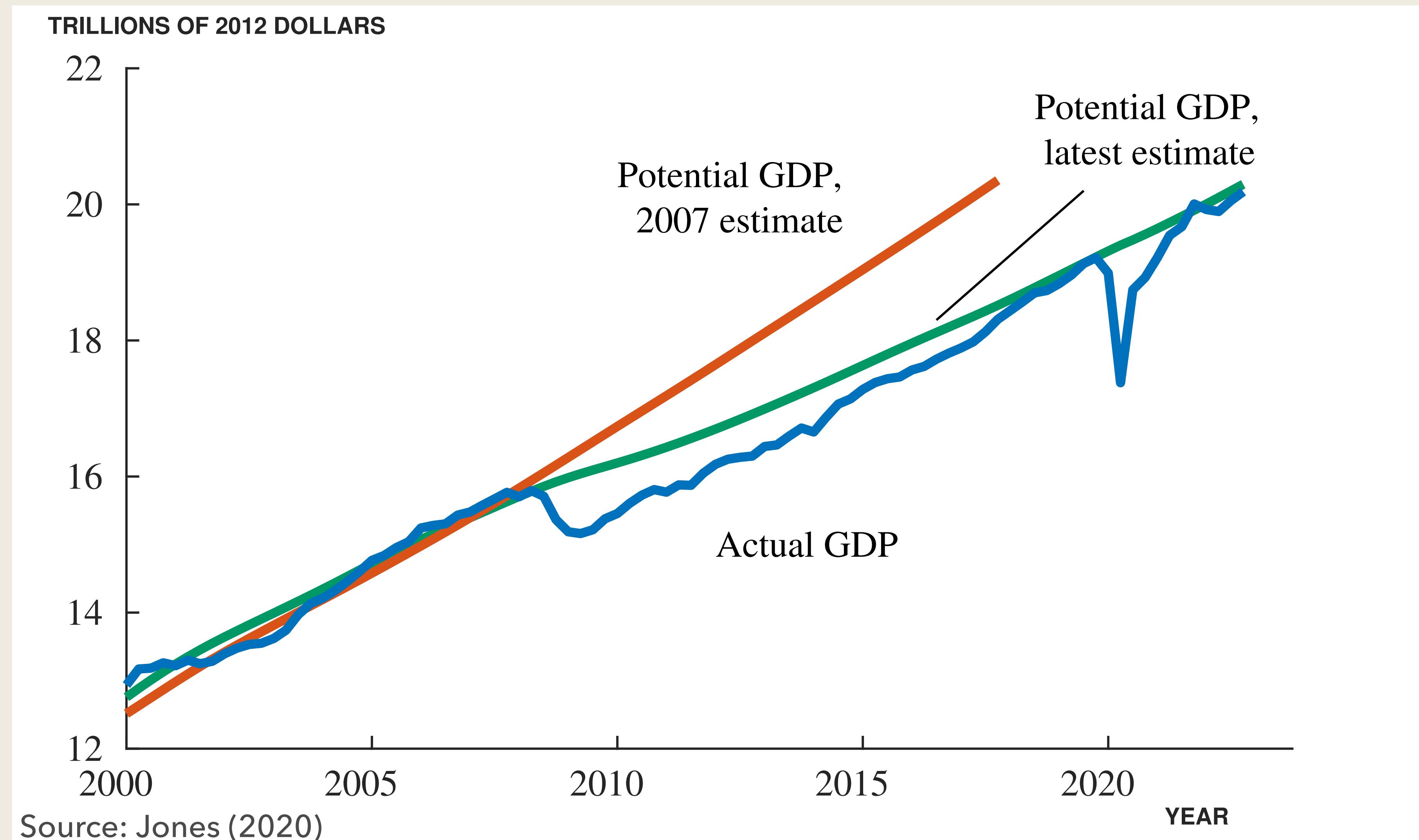
Consumption
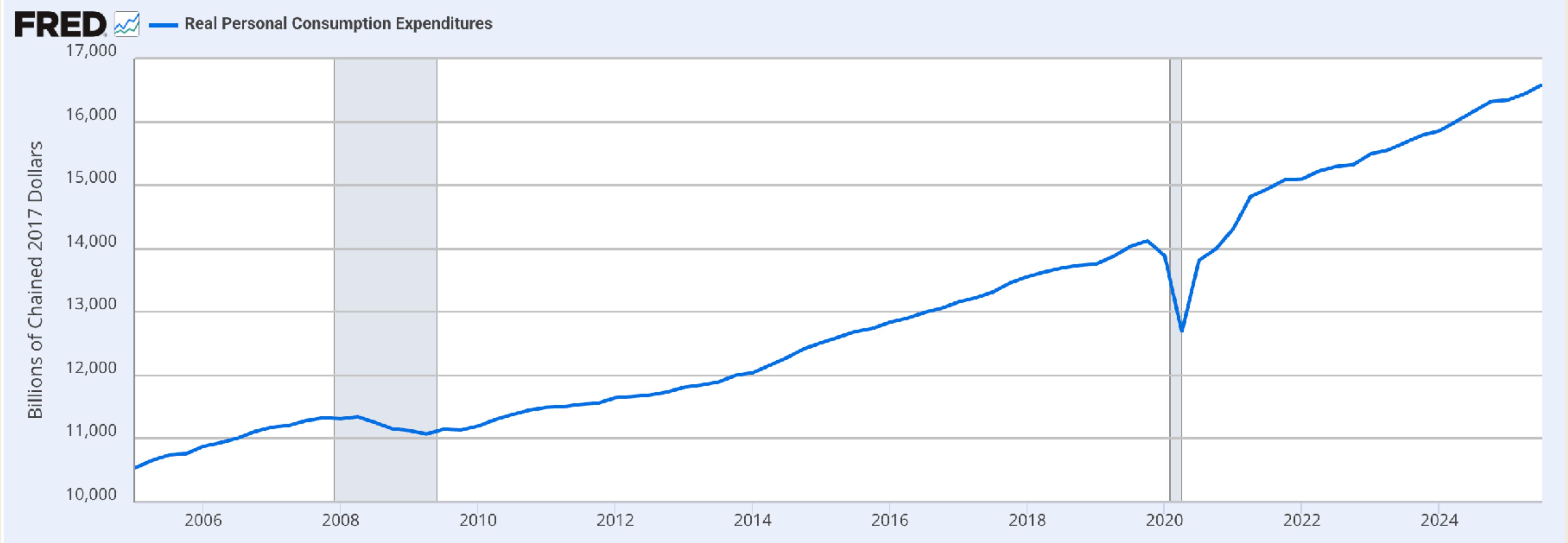
Investment

Government Spending

FRED 📈 — Real Government Consumption Expenditures and Gross Investment
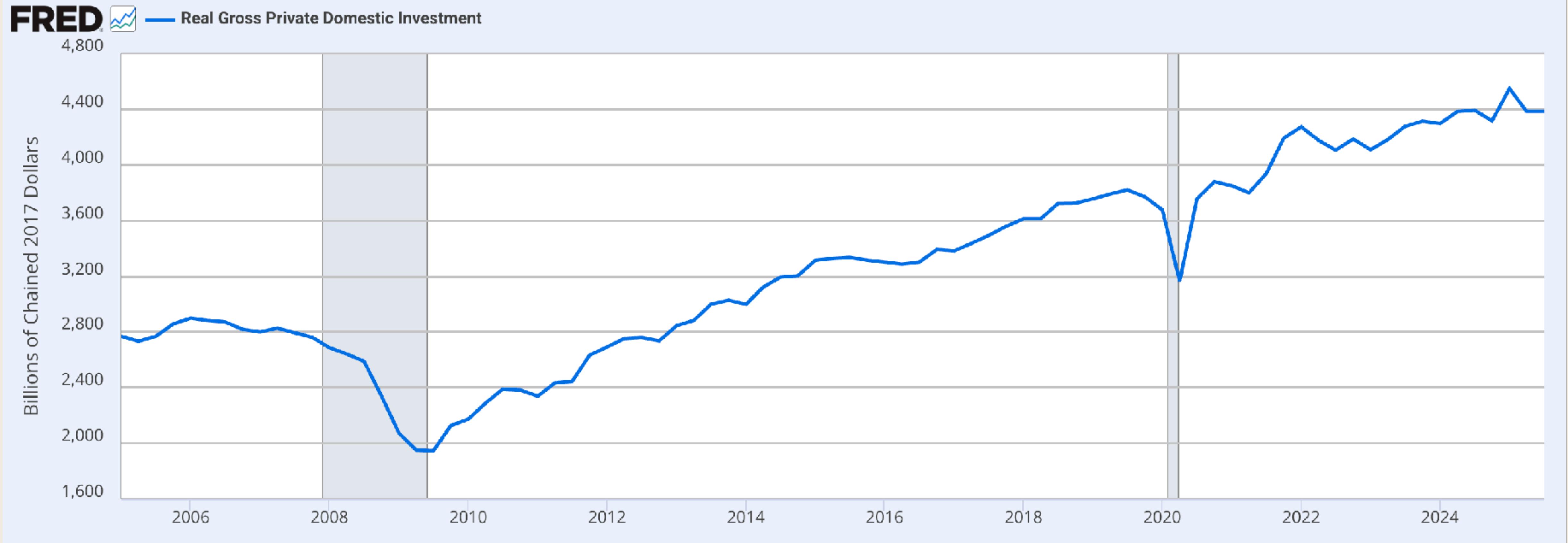
# U.S. Unemployment Rate

Unemployment Rate
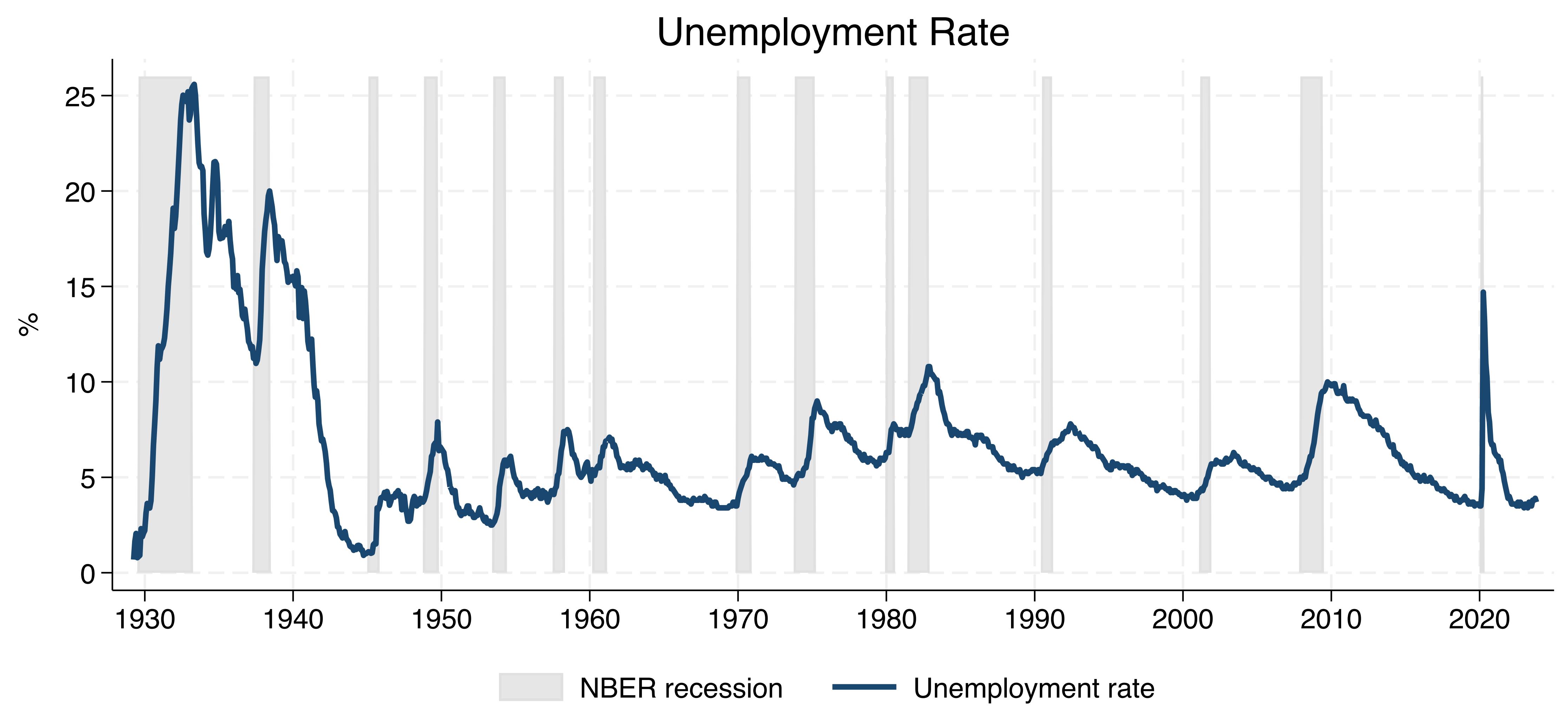
Data: NBER Macro History Database and CPS

U.S. Inflation

U.S. Inflation Rate
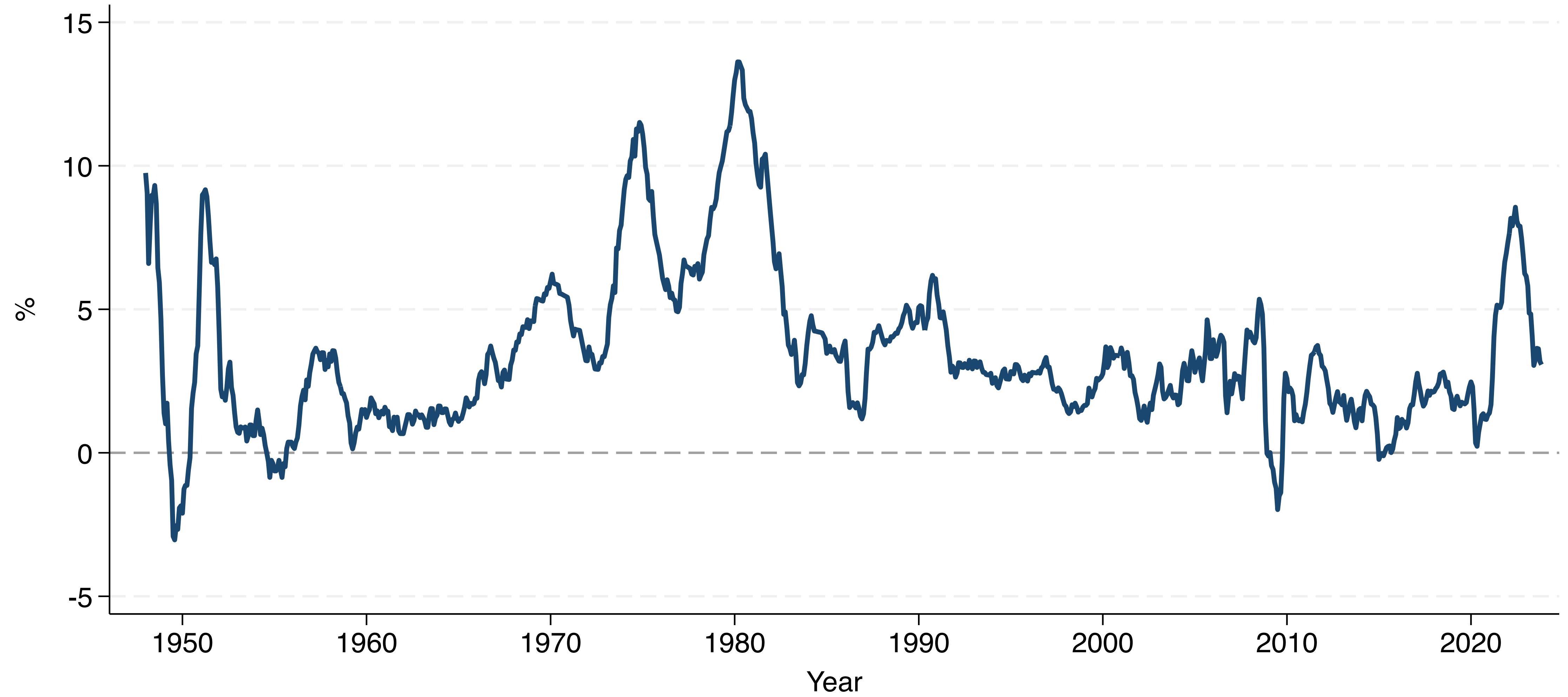
Inflation in 2019

IMF Data Mapper ®

Inflation rate, average consumer prices (Annual percent change, 2019)

- 25% or more
- 10% - 25%
- 3% - 10%
- 0% - 3%
- less than 0%
- no data
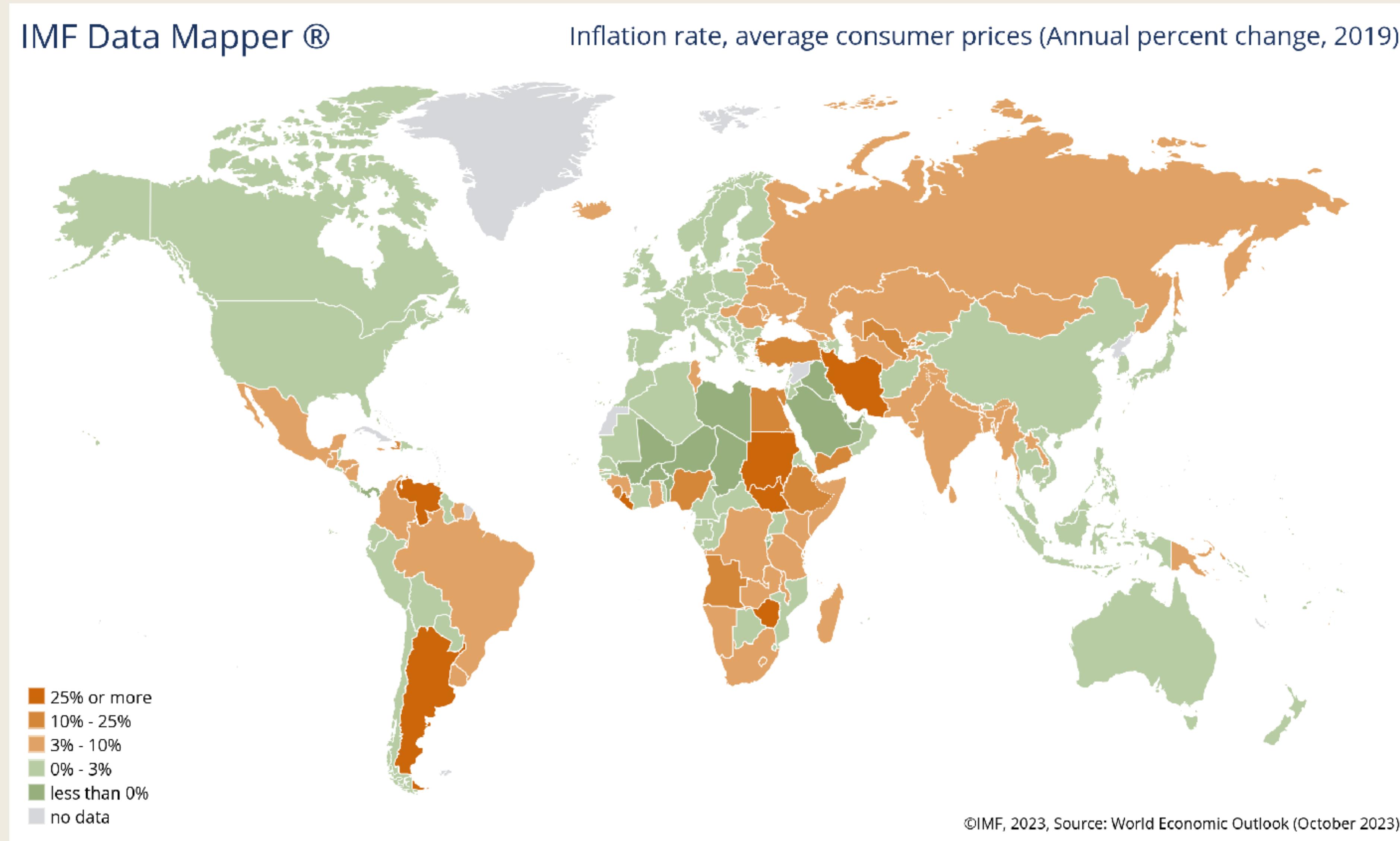
©IMF, 2023, Source: World Economic Outlook (October 2023)

Inflation in 2023

IMF Data Mapper ®

Inflation rate, average consumer prices (Annual percent change, 2023)

- 25% or more
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- 3% - 10%
- 0% - 3%
- less than 0%
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©IMF, 2023, Source: World Economic Outlook (October 2023)
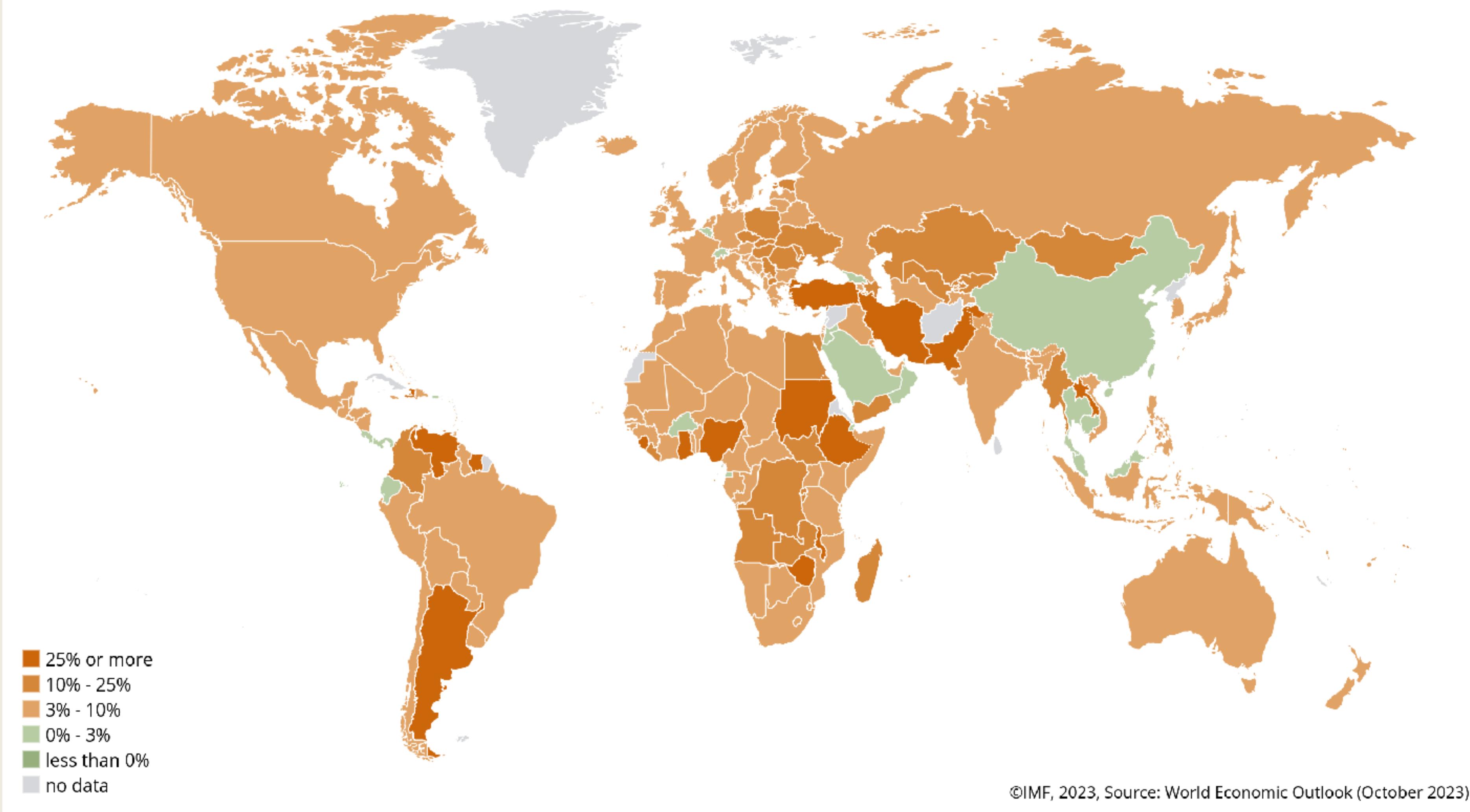
Inflation in Argentina and Japan
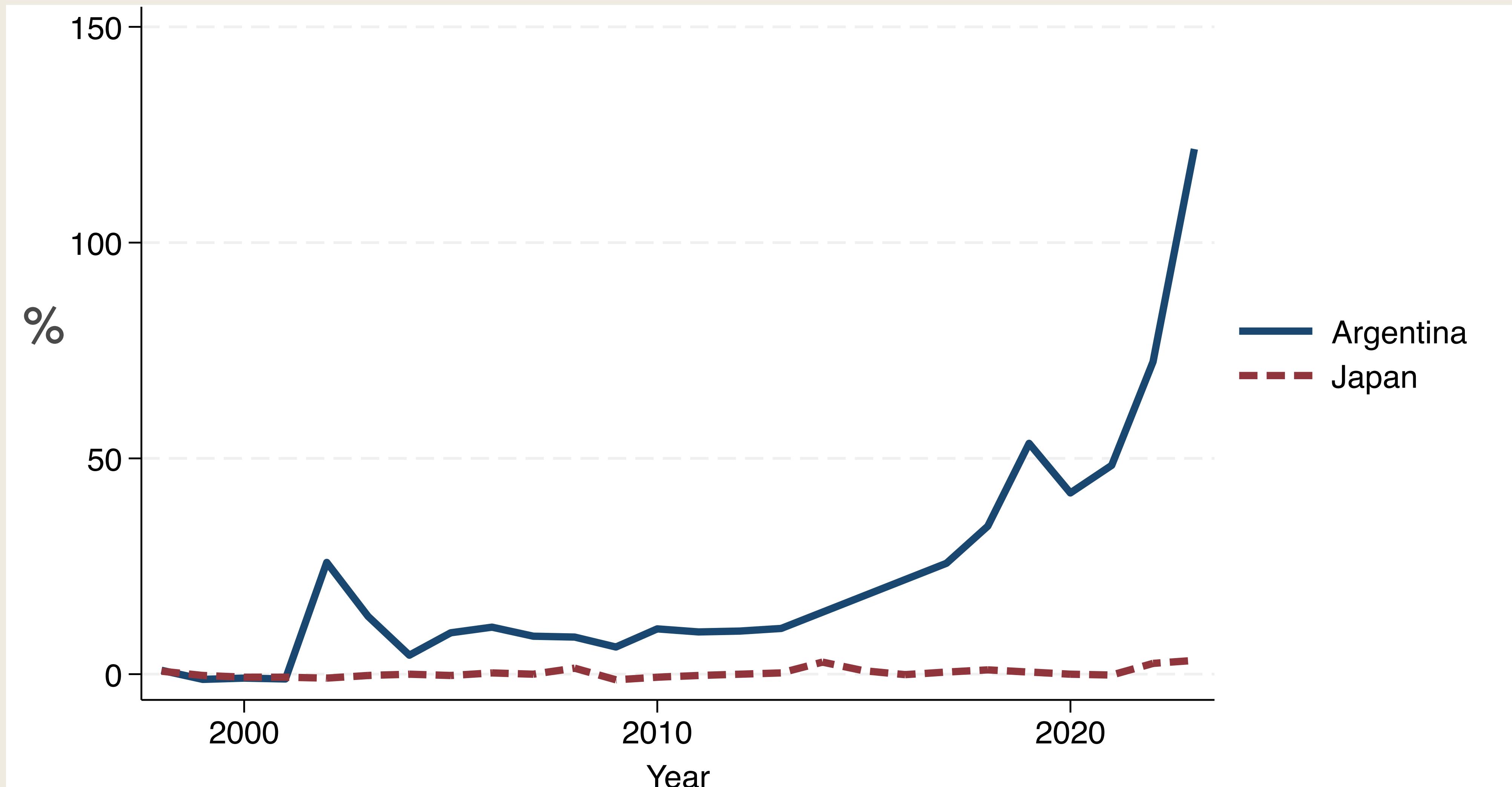
Federal Funds Rate

Source: Jones (2020)
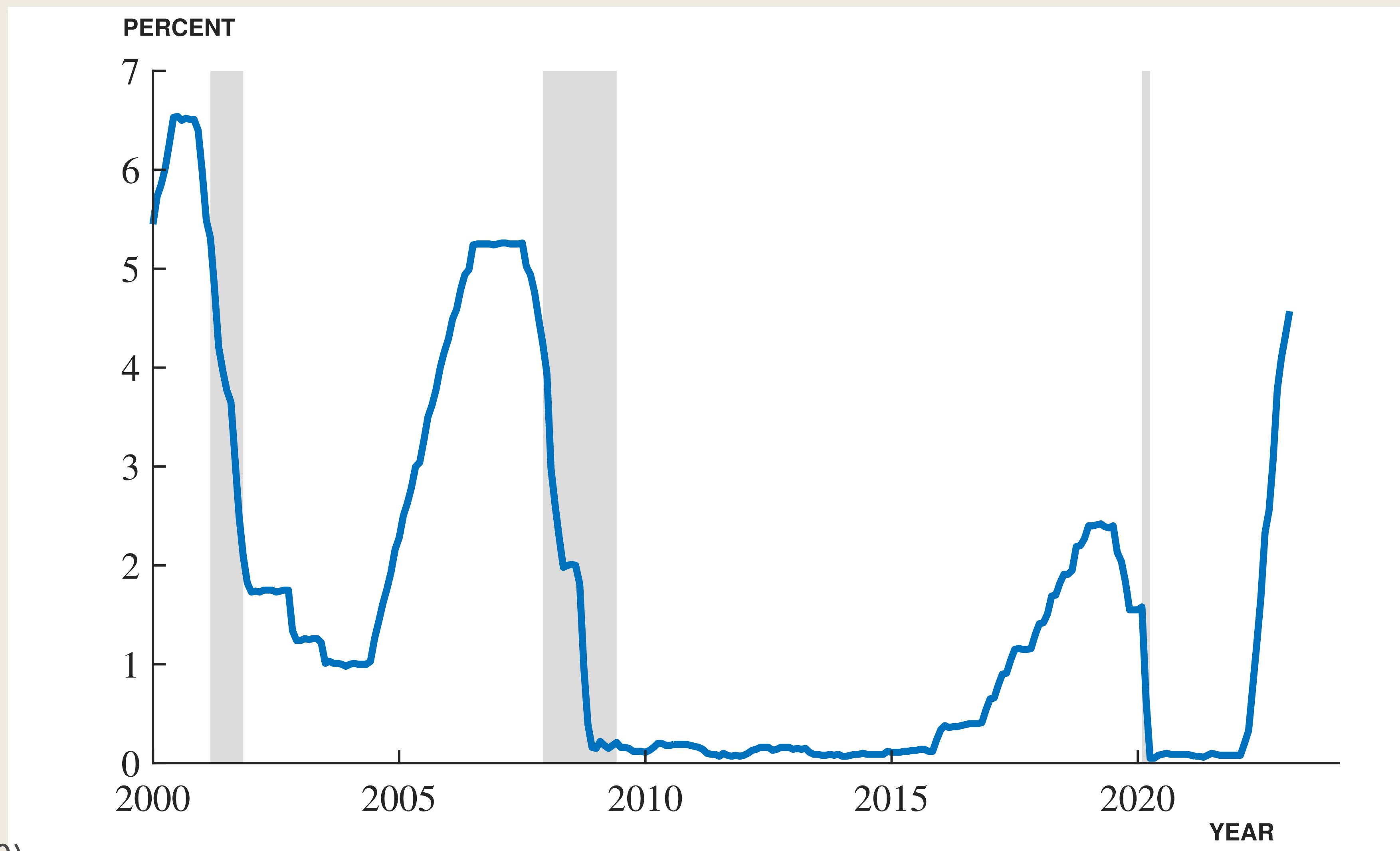
Outline

7. Consumption

8. Investment

9. Business Cycles

10. Monetary Policy

11. Fiscal Policy

12. Financial Crisis

13. Unemployment