

Lecture 1: Introduction to Macroeconomics

Prof. Laura Murphy

ECON 101: Intermediate Macroeconomic Theory
Winter 2026

Roadmap for today

1. Introductions
2. Course overview and logistics
3. Introduction to modern macroeconomics: growth and business cycles

About me

- ▶ From Toronto, Canada
- ▶ PhD in Economics from Northwestern University (2025)
- ▶ Joined Economics Department at UCSB July 2025
- ▶ Research interests: Macroeconomics, with a focus on labor markets and household finance decisions

Getting in touch

Teaching Assistants

- ▶ **Head TA (administrative questions):**
Rihyeon Kang – rkang@ucsb.edu
- ▶ **Section TAs (course content questions):**
Problem sets, lecture material, and practice problems
- ▶ Contact information for all TAs is posted on the syllabus on Canvas.

Instructor

Prof. Laura Murphy – laura_murphy@ucsb.edu
(Note: not lauramurphy@ucsb.edu)

Course logistics: problem sets

Problem Sets

20% of final grade

- ▶ Seven problem sets
- ▶ Due Sundays at 11:59PM via Gradescope
- ▶ Best 5 count; no late submissions

Details are on the syllabus on Canvas.

Course logistics: exams

Exams

Two midterms + final

80% of final grade

- ▶ **Two midterms and a final**

- ▶ Midterm 1: Jan. 29
- ▶ Midterm 2: Feb. 26

- ▶ **Exam grading rule**

- ▶ Best exam counts 35%
- ▶ Middle exam counts 25%
- ▶ Lowest exam counts 20%

All exam details and policies are listed on the syllabus on Canvas.

How learning works in this class

Lectures

Introduce concepts

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TA Sessions

Introduce applications

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Problem Sets & Practice Problems

Practice and check understanding

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Problem Sets & Practice Problems

Practice and check understanding



Midterms / Final

Test understanding

Advice

Spend time on problem sets and TA sessions.

- ▶ Problem sets and TA sessions focus on applications.
- ▶ Lectures focus on concepts.
- ▶ Both are important, but exams emphasize applications.

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Use AI as a tutor, not someone to copy from.

- ▶ “Explain why this is the answer using economic intuition.”
- ▶ “Walk through the logic step-by-step.”
- ▶ “Generate new practice problems testing the same concept.”

Advice

Don't panic about the math.

- ▶ Math is a tool to think about economic concepts more clearly.
- ▶ Focus on the economic intuition behind the models.
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Be proactive. If you feel lost, contact me. I can only help if you ask.

Why Macroeconomics?

- ▶ Microeconomics studies **individual decisions and markets**
 - ▶ Why are some goods expensive?
 - ▶ How do people choose occupations? Education?
 - ▶ Why do firms produce one good rather than another?
- ▶ These questions focus on **individual agents in isolation**
- ▶ Macroeconomics studies what happens when **many decisions interact**
- ▶ This interaction shapes **growth, recessions, and living standards**

Micro vs. Macro

- ▶ **Microeconomics:** studies individual agents and markets
 - ▶ Households
 - ▶ Firms
- ▶ **Macroeconomics:** studies outcomes at the level of the entire economy
 - ▶ Economic growth and living standards
 - ▶ Booms, recessions, and unemployment

Macroeconomics also studies topics such as aggregate inequality, public debt, inflation, and economic crises.

How micro and macro are connected

- ▶ Households and firms make **individual decisions**
- ▶ These decisions interact in **markets**
- ▶ When decisions are **aggregated**, they generate economy-wide outcomes
 - ▶ GDP and income
 - ▶ Employment and unemployment
 - ▶ Economic growth and recessions

Two core objects of study in macro

Macroeconomics

Two central questions

- ▶ **Long-run economic growth:** why living standards rise (or stagnate)
- ▶ **Business cycles:** why economies fluctuate (booms and recessions)
- ▶ Growth is the *trend*; cycles are the *wiggles around the trend*

How macroeconomics answers these questions

- ▶ The economy is complex: many agents, many interactions
- ▶ To understand it, economists use **models**
- ▶ A model is a **simplified representation** designed to answer a specific question

Why use models?

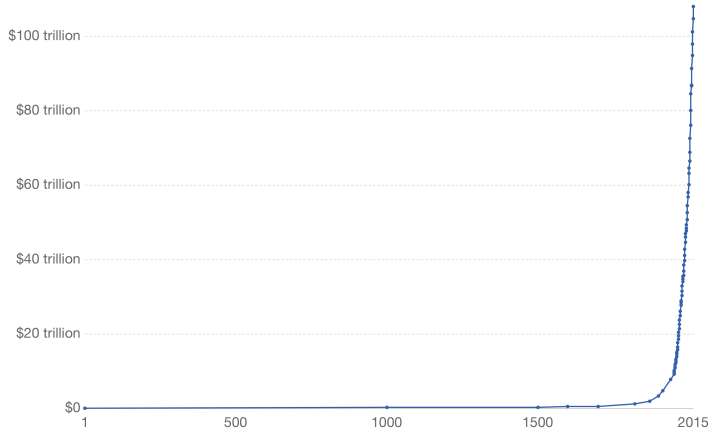
- ▶ Make assumptions explicit
- ▶ Clarify cause and effect
- ▶ Answer counterfactual questions (*what would happen if...?*)

Long-run growth

World GDP over the last two millennia

Total output of the world economy; adjusted for inflation and expressed in international-\$ in 2011 prices.

Our World
in Data



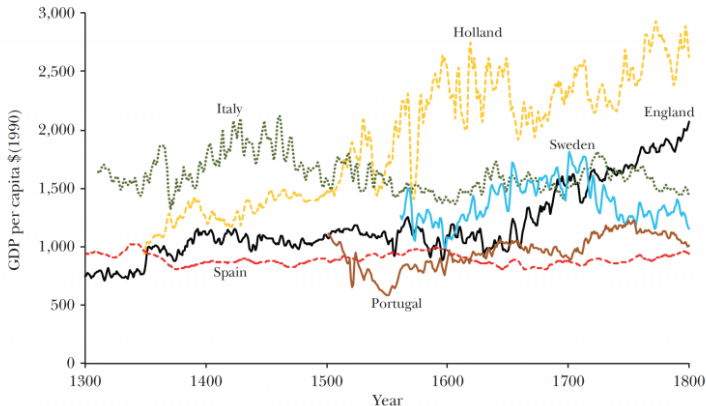
Source: World GDP - Our World In Data based on World Bank & Maddison (2017)

OurWorldInData.org/economic-growth • CC BY

Unsustained economic growth

GDP per Capita in Selected European Economies, 1300–1800

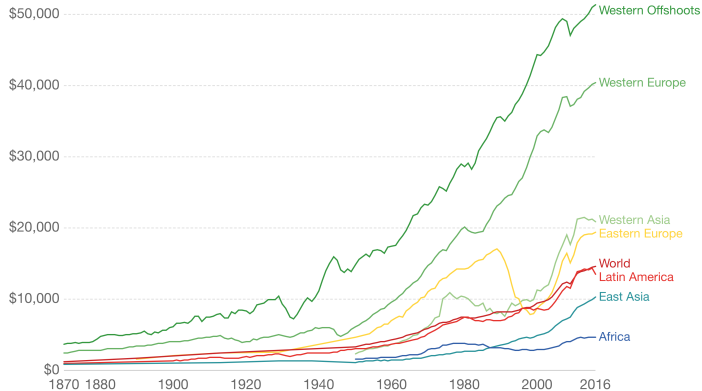
(three-year average; Spain eleven-year average)



Sustained economic growth

Average GDP per capita across countries and regions

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 (2018)

Note: These series are adjusted for price differences between countries using multiple benchmark years, and are therefore suitable for cross-country comparisons of income levels at different points in time.

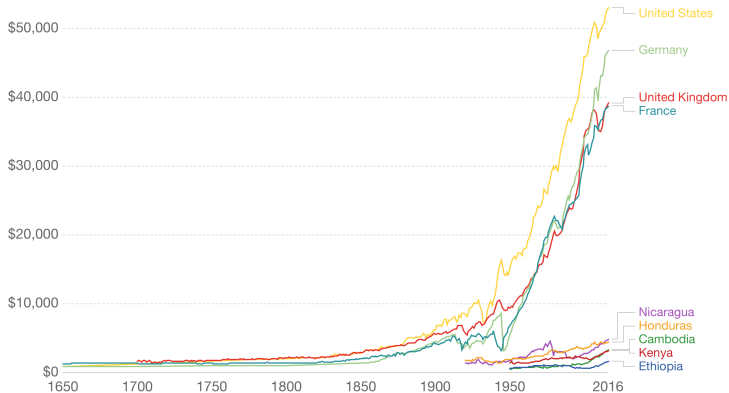
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Divergence in *levels*

GDP per capita

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

Our World
in Data



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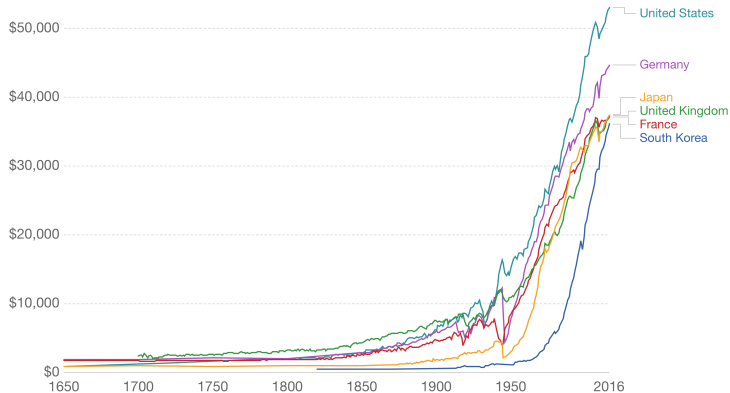
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Catch-up in levels

GDP per capita

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

Our World
in Data



Source: Maddison Project Database (2018)

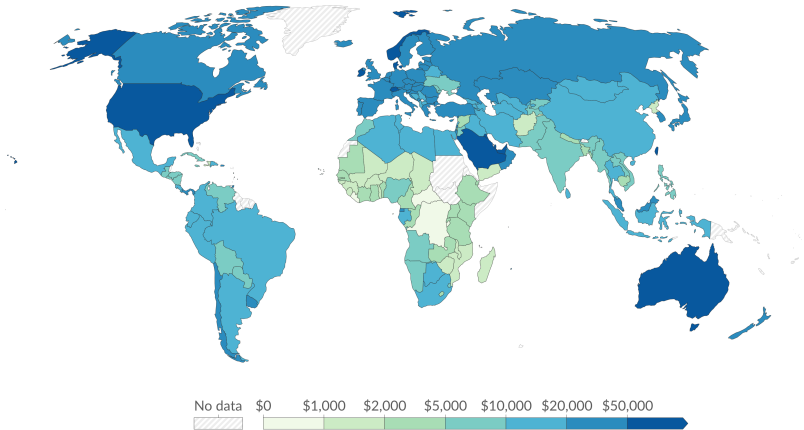
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Note: These series are adjusted for price differences between countries based on only a single benchmark year, in 2011. This makes them suitable for studying the growth of incomes over time but not for comparing income levels between countries.

GDP per capita around the world today

GDP per capita, 2022

GDP per capita is a country's gross domestic product¹ divided by its population. This data is adjusted for inflation and differences in living costs between countries.



Data source: Bolt and van Zanden – Maddison Project Database 2023

Note: This data is expressed in international-\$² at 2011 prices.

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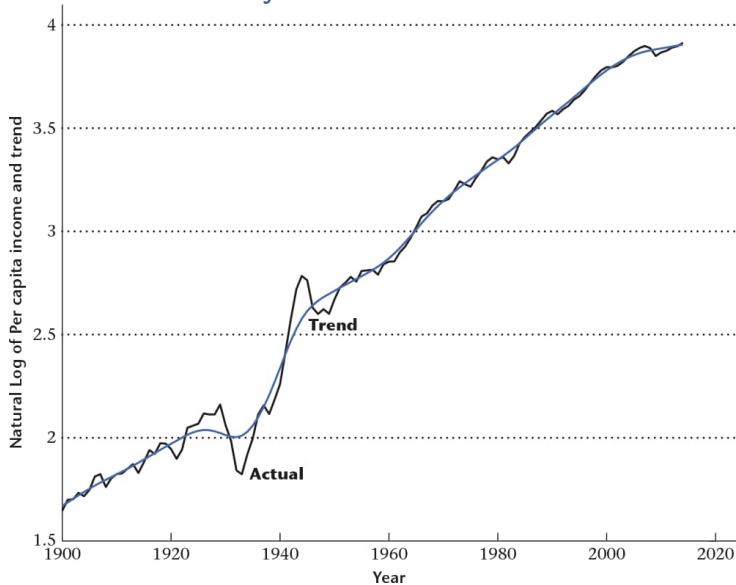
Economic growth over time

- ▶ Before the 19th century, most countries had relatively similar (low) income levels
- ▶ Over the last 200 years, incomes rose dramatically in some places but much less in others
- ▶ *One goal of growth theory: explain both the takeoff and the cross-country gaps*

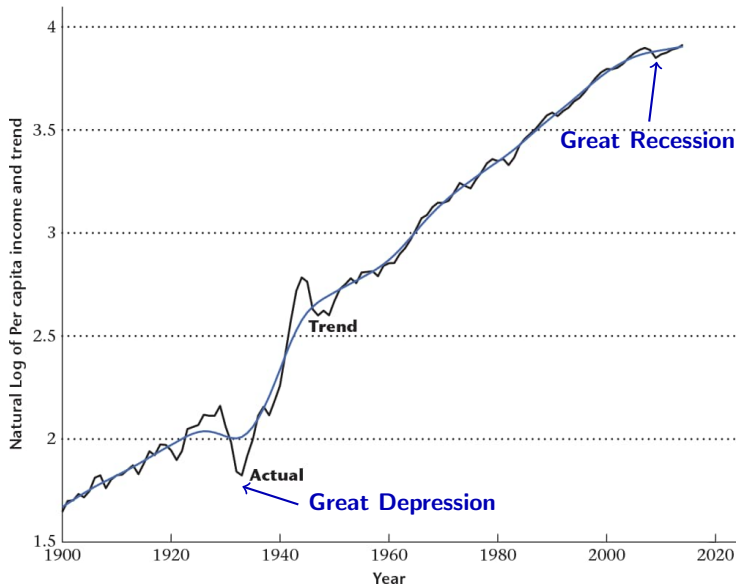
From growth to business cycles

- ▶ Even in a growing economy, **output does not rise smoothly**
- ▶ We see **recessions** (downturns) and **booms** (upturns)
- ▶ **Business cycle analysis** studies these short-run fluctuations and their consequences

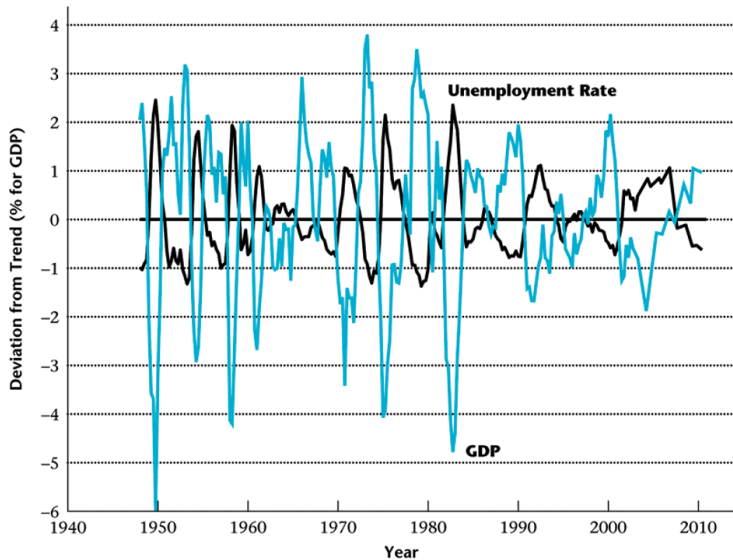
Long-run growth vs business cycles



Long-run growth vs business cycles



Long-run growth vs business cycles



Business cycles: what moves together?

- ▶ Business cycles are **economy-wide fluctuations** around the long-run growth trend
- ▶ In recessions:
 - ▶ **Output (GDP) falls below trend**
 - ▶ **Unemployment rises**
- ▶ Many macro variables **co-move**: employment, investment, incomes, and often inflation
- ▶ *A goal of business cycle theory: explain these co-movements and evaluate policy tradeoffs*

Business cycles: effects beyond employment

- ▶ Business cycles affect more than jobs and unemployment
- ▶ **Earnings and income risk**
 - ▶ Wages fall or grow more slowly
 - ▶ Hours worked decline even for the employed
- ▶ **Long-run career and life outcomes**
 - ▶ Graduating in a recession lowers earnings for many years
 - ▶ Early-career shocks can permanently affect career paths
- ▶ **Consumption and inequality**
 - ▶ Households cut consumption, especially when credit-constrained
 - ▶ Recessions often widen inequality

How this course is organized

Part I: Economic Growth

- ▶ Measuring the macroeconomy
GDP, CPI, etc.
- ▶ Long-run facts
income levels, growth rates
- ▶ Growth models - Malthus & Solow
- ▶ Cross-country differences

Part II: Business Cycles*

- ▶ Business cycle measurement
- ▶ Facts about fluctuations
- ▶ One-period model
Labor market and production decisions
- ▶ Two-period model
Consumption/saving and investment

By the end of this course, you should be able to...

- ▶ **Measure** macroeconomic activity (GDP, inflation, unemployment, etc.)
- ▶ Know key **facts** about long-run growth and business cycles
- ▶ Use **benchmark models** to explain facts and explore mechanisms

Next class

Measuring the Macroeconomy