Course Introduction

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Macro Questions

We want to study questions such as:

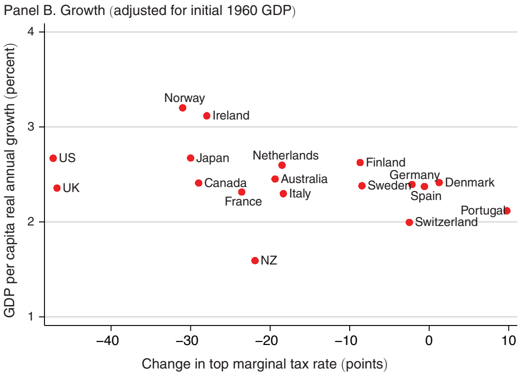
- Does **government spending** crowd out private investment?
  - How about government deficits?
- How does **monetary policy** work?
  - Why hasn't it worked so well lately?
  - Should we worry about inflation?
- Why does the U.S. have a **trade deficit**?
  - What could be done about it?

How Can We Answer such Questions?

Example: Do higher income taxes reduce growth?

What **methods** could we use to answer this question?

Growth vs. Taxes



Source: Piketty et al. (2014)

Are you convinced? – What else could we do?

Experiments

This is what "hard sciences" would do:

- Divide the world into **treatment** and **control** countries.
- Randomly assign each country a tax rate.
- Wait 50 years.
- Compare growth rates between high and low tax countries.

"**Randomized controlled trial**" (RCT)

- the gold standard for establishing cause-effect
- required for drug approvals

RCTs are not feasible for macro questions. – So what can we do?

Models

This is why economists use models:

- We can perform thought experiments (ceteris paribus)
- "What are the effects of government debt holding everything else constant?"

Models help us to keep track of complex cause-effect chains

- Government spending $\Longrightarrow$ interest rates $\Longrightarrow$ private investment ...

Limitations of Using Models

The answer is only as good as the model.

Models are simplifications

- what to include / what to abstract from?

How to choose between competing models?

These are issues that we will discuss.

Why So Many Macro Models?

You have probably seen

- growth models (Solow, Romer, ...)
- short-run IS/LM models
- medium-run AS/AD models

Why isn't there one model?

Why Isn't There One Model?

Think of these models as **special cases** of one complicated **super-model**

Each special case focuses on one set of questions:

- **short run** models:
  - prices are fixed (IS/LM)
  - business cycle (short duration) events
  - we don't worry about inflation
- **medium run** models:
  - prices adjust, but slowly (AS/AD)
  - business cycle events
  - we worry about inflation
- **long run** models:
  - prices are fully flexible (Solow / Romer)
  - we are interested in long-run growth

Why Isn't There One Model?

In the **short to medium run**: price adjustment **frictions**

- even nominal shocks change relative prices
- frictions give rise to unemployment, business cycles, ...
- monetary policy has **real effects**

In the **long run**: prices fully adjust

- nominal shocks only change the price level
- money becomes "neutral"
- monetary policy only affects prices; no the real economy
- aggregate demand becomes less and less important

The **AS/AD model** that we study later spells out the details.

But for now, we start simple and focus on the short run only.

The Short Run and the Long Run

Now we see why macro analysis is divided into:

- long-run topics
  - economic growth
  - cross-country income differences
  - focus on **supply side** (productivity, capital accumulation)
- short-/medium-run topics
  - business cycles
  - inflation and unemployment
  - focus on the **demand side**

Summary

Why do macroeconomists use models?

- Regressions don't work (omitted variables; reverse causality).
- Experiments are rarely feasible.
- Models are the fallback method for answering cause-effect questions.

References

Piketty, T., E. Saez, and S. Stantcheva (2014): "Optimal taxation of top labor incomes: A tale of three elasticities," *American economic journal: economic policy*, 6, 230–271.