Course Introduction

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Macro Questions

We want to study questions such as:

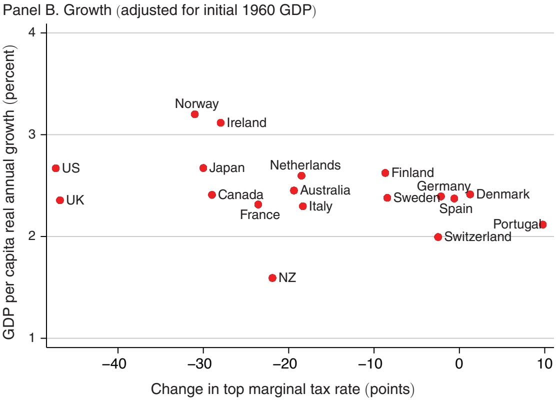
- Does **government spending** crowd out private investment?
  - How about government deficits?
- How does **monetary policy** work?
  - Why hasn't it worked so well lately?
  - Should we worry about inflation?
- Why does the U.S. have a **trade deficit**?
  - What could be done about it?
- Why is there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

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?

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 the set of models as one complicated **super-model** with several special cases.

- short run: prices are fixed (IS/LM)
- medium run: prices adjust, but slowly (AS/AD)
- long run: prices are fully flexible (Solow / Romer)

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 matters

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
- short-run topics
  - business cycles
  - inflation and unemployment

Short-run and Long-run Models

The models used to study short-run vs long-run topics are very different.

For **long-run** questions, we don't have to worry about price adjustments

That means (as we will see) that we also don't have to worry about

- monetary policy, inflation
- aggregate demand

But we need to worry about aggregate **supply**

- productivity, capital accumulation

Short-run Models

For short-run questions, it's the other way around

- business cycles, unemployment, inflation

We need to worry about aggregate demand and supply.

- monetary and fiscal policy
- labor supply

But we don't have to worry about trend growth

- productivity, capital accumulation
- or perhaps we do...?

Structure of the Course

We start with a very short-run model: **IS/LM**

- prices are fixed (very short run)
- there is no supply side at all
- mostly (but not only) useful as a building block for the next model

Then we study a medium-run **AS/AD** model

- prices adjust, but not right away
- there is a supply side
- but no capital accumulation, productivity growth

Finally, we study **long-run** questions

- economic growth, cross-country income differences

Summary

How can we figure out the effects of policies?

- Regressions don't work (omitted variables; reverse causality).
- Natural experiments are rare.
- That's why we have to use **models**.

In the **short / medium run**:

- price adjustments take time
- monetary policy has power
- aggregate demand matters for output

In the **long run**:

- prices had time to adjust
- monetary policy becomes irrelevant
- output is determined by aggregate supply

That's why we have short-run and long-run models.

- the AS/AD model spells out what happens during the transition

References I

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.