Fiscal Policy and Inequality
1. Introduction

Elliott Ash (ashe@ethz.ch)

ETH Zurich

September 24, 2018

Public Finance - Overview

- Public economics is the study of the role of the government in the economy
- Public *finance* is a similar concept, but with stronger focus on how the government raises revenues to finance its expenditures
- This module will focus primarily on taxation and its relationship to important economic issues
  - The origin of states
  - Effectiveness of public policies
  - Implications for inequality and redistribution policies

What should government do?

What should government do?

- Collect **taxes**
  - About 35-50% of GDP in advanced countries
- Expenditures on **public goods**
  - Infrastructure, defense, education
- Regulate **externalities**
  - Laws, regulation, judicial system, enforcement
- Manage **macro stabilization** policies
  - Interest rates and inflation (Central bank), fiscal stimulus, bailout policies
- **Redistribution** and **social insurance**
  - Progressive taxation, welfare, health care, pensions, etc.
- Anything else?

Public Finance questions

1. **When** should the government intervene in the economy?
2. **How** might the government intervene?
3. **What** is the **effect** of those interventions on economic outcomes?
4. **Why** do governments choose to intervene in the way that they do?

When should the government intervene?

1. **Market Failures** [Failure of 1st Welfare Theorem]
   - 1.1 Externalities $\Rightarrow$ Pigouvian taxes
   - 1.2 Imperfect competition $\Rightarrow$ Anti-trust rules
   - 1.3 Asymetric/imperfect information $\Rightarrow$ Transparency regulation
   - 1.4 Bounded rationality $\Rightarrow$ Forced savings
2. **Redistribution** [Failure of 2nd Welfare Theorem]
   - 2.1 Market economy generates substantial inequality in economic outcomes across individuals
     - 2.1.1 Government intervention may reduce inequality through taxes and transfers
     - 2.1.2 But this may distort incentives and lead to efficiency losses

$\Rightarrow$ **Equity-efficiency trade-off**

How might the government intervene?

1. Taxes or subsidies
   - 1.1 Tax goods that are overproduced (eg, carbon tax)
   - 1.2 Subsidize goods that are underproduced (eg, vaccines)
2. Restrictions or Mandates
   - 2.1 Restrict the sale of overproduced goods (eg, unhealthy foods, fuel standards)
   - 2.2 Mandate the private purchase of underproduced goods (eg, car insurance)
3. Direct public provision:
   - 3.1 Defense, primary education, infrastructure
4. Public financing of private provision:
   - 4.1 Private education, private pension plans, charitable donations

What are the effects of government intervention?

- **Direct effects ("mechanical")**
  - Effects that would be predicted if individuals did not change their behavior in response to the intervention
  - Easy to calculate, but often will give the wrong answer
- **Indirect effects ("behavioral")**
  - Effects that arise because individuals change their behavior in response to the intervention (aka "unintended" effects)

$$\begin{aligned} \text{Total effect} &= \text{Direct+Indirect} \\ &= \text{Mechanical} + \text{Behavioral} \end{aligned}$$

- Example: what is the effect of an increase in tax rates for the top 1% of earners?

Why do governments intervene the way they do?

- **Political economy**
  - Theory of how the political process produces decisions that affect individuals and the economy
  - Example 1: higher taxes overall as voting rights were extended to the full population, rather than only the richest
  - Example 2: tariffs for agricultural imports because they have a strong lobby, whereas the rest of the population are almost indifferent

Positive vs. Normative Public Economics

- **Positive** public economics:
  - Analysis of how things really are: e.g., do higher taxes reduce labor supply?
  - Mostly empirical
- **Normative** public economics:
  - Analysis of how things should be: eg, how high should income taxes be?
  - Mostly theoretical
    - Often involves **welfare analysis**: what is the best outcome (ie, most efficient) for society as a whole?
    - Need to set up a social welfare function (SWF) to define what is the society's objective [often controversial]

Empirical methods

- Randomized experiments
  - the gold standard for empirical social science
- Panel regressions
  - compare differences between treatment and control group, before and after treatment.
- Synthetical control
  - use combination of several regions/countries to build a synthetic control group for the "treated" region.
- Regression discontinuity
  - Look at outcomes after very close elections to see how politicians matter.
- Bunching
  - Look at distortions in behavior around discrete policy thresholds to estimate policy effects.
- Instrumental variables
  - the secret sauce of applied microeconometrics

Readings

- Mostly **academic journal articles**
- Textbooks useful for certain topics (recommended, but not required):
  - Salanie (2011): *The Economics of Taxation*
  - Gruber (2013): *Public Finance and Public Policy*
  - Angrist and Pischke (2014): *Mastering Metrics: The Path from Cause to Effect*
- The exam will not include anything from the readings that wasn't mentioned in the slides.

Homework Assignments

- There will be three homework assignments.
- These will ask you to do some applied math and applied statistics:
  - solve a utility maximization problem:
    - for example, how many hours will a person work as a function of an income tax?
  - run an empirical analysis:
    - for example, how much did wages change in Canton Z after the tax increase?

Course Exam

- There will be a written exam on the last day of the course that will cover the material from the whole term.
- We will have a review session.

Term Paper

- The biggest piece of your grade is a term paper, due a month after the exam.
  - do a short empirical analysis on a topic related to political economy or public finance.

Statistical Software

- The homeworks and term paper will require the use of statistical software.
- I will use Stata
  - Free to use any software you like (e.g., R, Python)
- Why STATA?
  - Easy to use!
  - Most applied economists use it
  - Large on-line community
  - Drawback: proprietary software