Contents

General Notes:

Problem Set - 33%

Final Exam - 66%

- Part problem set
- Part on papers/slides

Lecture 1: Introduction

History of the subject:

Political Economy (18th Century) → Public Finance (19th Century) → Public Economics (1960s)

History

History - 18th Century

Adam Smith

History - 19th Century

- German School:
  - Economics more favourable to the public sector
- French School
  - Focus on infrastructural spending (Bridges, railroads)
- Italian School
- Stockholm School

Two types of questions

- Positive Approach
  - How can economic policy help?
- Normative Approach
  - How should economic policy be enacted to attain a certain desired social goal?

Spending Money

Growth of the State

In the 19th Century governments were minimal

- Spending made up approx 10% of GDP
- Mostly on Police and Military
- Almost no Social Spending

In the 20th Century the spending grew

- Spending now makes up on average approx. 45% of GDP
- Huge increase in social spending
- This is true for developed countries but not so in less developed

The Rise of Social State

- Bismarck Social Insurance (1883)
- Beveridge National Insurance (1941)
- Sécurité Sociale (1945)

Public social insurance spending explains a large part of overall differences in public spending (notably pension spending)

Raising Money

Taxation

Logically, as state spending grows (as a share of GDP), so does Taxation.

Headline tax burden statistics can hide nuanced differences similarities between countries.

- France has a lower tax burden that spending per GDP
  - They make money from state ownership of companies which adds to their revenue

Structure of Revenue

5 main components:

- Personal Income Tax
- Corporate Income Tax
- Social Security Contributions
- Consumption Tax
- Property Tax

Growth of the State Literature

Wagner:

Demand for Public Goods grows with income. (Elasticity > 1)

Baumol's cost disease:

Economics of performing arts $\rightarrow$ Productivity increases in the private sector mean that the cost to provide labour intensive public services increases (leading to higher spending)

- Not that convincing to explain the large increase

Ratchet Effect Theory:

Wars increase government spending and taxation, which was not then reversed after these events.

Leviathan Theory

Governments are controlled by self-interested in politician-bureaucrats

- Also shit

Political Economy

As states become more democratic, the poor are better represented and vote for greater public spending.

- Chicken or egg theory?

Fundamental Theorems of Welfare Economics

Lecture 2: Tools of Welfare Analysis

The Concept of Economic Surplus

The amount by which buyers and sellers benefit from participating in the market.

Consumer Surplus

Harder to calculate consumer surplus because we need measure a monetary equivalent of utility. To do this we find the difference between:

What someone *would* pay for a good and what someone *did* pay for a good

Two exact measures of changes in consumer welfare:

- Compensating variation
- Equivalent variation

We use **Quasi-Linear Utility**

- Only appropriate when the good:
  - Costs a small percentage of income (Income effects are negligible)
  - Has no close substitutes

This choice of model is a significant restriction.

Model

NB: Marshallian Demand: Demand as a function of price and income
Hisksian Demand: Demand as a function of price and utility.

Willingness to Pay (WTP)

$$U(x_0, m - WTP) = U(0, m)$$

$$WTP = v(x_0) - v(0) = \int$$

Consumer Surplus Equation

Equivalent and Compensating Variation

Problem: Changes in CS are and exact measure of consumer's welafare change only if utility is quasilinear (no income effects).

Compensating Variation:
Amount of money that must be taken away from consumer after the change to restore her original utility level.

- Willingness to Pay

Eqivalent Variation:
Amount of money that must be given to the consumer before the change to leave her as well off as the change.

- Willingness to Accept

The value of income is not the same

For a ***Normal Good***:

$$CV < \Delta CS < EV$$

Producer Surplus

Naturally in monetary terms → easier to calculate

Willingness to Sell - How much you receive

Closely related to profit:

$$Producer\ Surplus = Profit + Fixed\,Costs$$

Firms produce output only if the producer surplus is positive. If not they shut down.

Competitive Equilibrium and Social Efficiency

The First Theorum of Welfare
The competitive equilibrium maximises social efficiency.

Measuring Inefficiency: Deadweight Loss

Cause the market economu to deliver outcomes that do not maximise efficiency

- Imperfect competition
- Public Goods
- Externalities
- Asymetric Info

Can also result from Government intervention

Loss of Monopoly Pricing

Rent Control

Leads to shortages.

N.B. This graph assumes that people are getting the house recieve the in order of their marginal valuation.

However, if you assume housing is randomly allocated:
There is a potentially an extra cost to consumers in the form of lost consumer surplus due to misallocation.

The Efficiency Cost of Taxation

The government raises taxes for two main reasons

- Raise revenue to finance government expenditure
- redistribute income

Ideally: Use lump-sum taxes that don't lead to changes in peoples behaviour (ie. a tax on height). These are not feasible and so Govs must rely on **distortionary** taxes.

Goal: How do we minimise these distortionary effects?

LOOK AT PAPERS EXAMPLE IN SLIDES

Externalities

An externality is a situation where the action of one party directly makes another part worse off/better off, yet the first party does not bare the cost nor benefits of doing so.

- Important distinction between pecuniary and non-pecuniary

Social Optimum

$$\text{Private Marginal Benefit} = \text{Private Marginal Cost} + \text{Marginal Cost}$$

Take-away lessons:

- Private markets do not produce Pareto efficient outcomes because firms/consumers do not take into account marginal damage (MD) or external marginal benefit (EMB) of production/consumption
- Completely eliminating the externality is not necessarily desirable
- Need to know the shapes of PMB, PMC and MD/EMB to implement the socially optimal level

Measuring Externalities

By definition, no direct market can be used to recover WTP to reduce negative externalities / increase positive externalities (if there were a market, there would be no externality!)

Direct Valuation

Directly measure the physical effects of externalities (e.g., material deteriorations, damages to health, etc.) and use existing market prices (e.g., medical expenses, wages) to assign a monetary value to these physical effects.

Problem: individuals may compensate for increases in pollution by reducing their exposure, resulting in estimates that understate the full welfare costs of air pollution (avoidance behaviour is costly!)

Moretti and Neidell (2011)

The use daily variations in ozone levels due to boat arrivals in two major LA ports as instrument for air pollution; because boat traffic is generally unobserved by local residents, it is assumed to be uncorrelated with pollution avoidance behaviour.

Limitations

- Direct-cost valuation of externalities is difficult to implement in practice:
  - requires identifying all the channels through which an externality may affect welfare (e.g., damages caused by nuclear leakage?)
  - market prices not always available to assign a monetary value to external effects (e.g., cost of noise?)

Contingent Valuation

Ask people directly about their willingness-to-pay (WTP)

Limitations

- Cost of designing and conducting survey
- Framing Effects (Ex: whales then seals vs. seals then whales)
- "Embedding" effects (Ex: WTP to clean one lake = WTP to clean 5 lakes)
- Strategic responses

Hedonic Valuation

Method for estimating the value of a traded good: decompose the good (e.g., a house) into a set of characteristics (e.g., size, local amenities, pollution) and estimate the specific contribution of each characteristic to the overall value.

- That way you can find out to what extent pollution level contributes to housing prices
- Allowing you to reveal their willingness-to-pay for lower pollution.

Chay and Greenstone (2005)

Correcting Externalities

Private Solutions

Coasian Bargaining

Externalities emerge because property rights are not well defined. Hence, all we need to do is establish property rights to create markets for pollution.

Two-parts:

1. With well-defined property rights and ***costless bargaining***, negotiations between the parties creating/affected by the externality can bring about the social optimum.
2. The efficient solution does not depend on how property rights are assigned.
    - This only effects distribution but not efficiency

However: The assumption of costless bargaining is very strict and rarely, if ever, holds.

Public Solutions

Command-and-control

Market-Based

Reading

Tools of Welfare Analysis

Auerbach, A. (1985). "The Theory of Excess Burden and Optimal Taxation"

Cohen, P., Hahn, R., Hall, J., Levitt, S. and Metcalfe, R. (2016). "Using Big Data to Estimate Consumer Surplus: The Case of Uber"

Marion, J. and Muehlegger, E. (2008). "Measuring Illegal Activity and the Effects of Regulatory Innovation: Tax Evasion and the Dyeing of Untaxed Diesel"