Economics of the Public Sector

Tutorial 1 (May 1, 2024)

Utrecht School of Economics
2023–2024

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Introduction & Set-up

Introduction

Set-up

1. Group formation
   - 3–4 students/group (strict requirement)
   - Choose a practical example of market failure
   - DEADline: May 6, 2023 at 23:59

2. For technical details, please refer to Appendix B of the course manual

Recap

Objectives of the welfare state

1. **Efficiency**. Aspects:
   (i) Macro-efficiency
   (ii) Micro-efficiency
   (iii) Consumption smoothing
   (iv) Risk sharing
   (v) Incentives
2. **Equity**. Aspects:
   (i) Relieving poverty
   (ii) Reducing inequality: vertical equity and horizontal equity
   (iii) Addressing social exclusion: social cohesion and dignity
3. **Administrative feasibility**. Aspects:
   (i) Intelligibility
   (ii) Absence of abuse

Libertarian views

1. **Natural-rights libertarians**
   (a) Everyone has the right to distribute the rewards of his own labour (Nozick, 1974).
   (b) Only one public good can be provided—the defence of our person and property, including enforcement of contracts (a 'nightwatchman' state).
   (c) Taxation is regarded as theft.
2. **Empirical libertarians**
   (a) The primacy of individual freedom: The absence of coercion or restraint, including political liberty, free speech, and economic freedom.
   (b) The value of the market mechanism: It is beneficial because it protects individual freedom and creates economic benefits.
   (c) The pursuit of social justice is not only fruitless, but also actively harmful.

Liberal theories of society

1. **Utilitarianism**
   (a) The aim is to distribute goods so as to maximise the *total* utility of the members of the society.
   (b) Two aspects of maximising total welfare: goods must be produced and allocated efficiently, and goods must be distributed in accordance with equity.
   (c) Utilitarianism, however, can justify harm to the least well-off if this maximises total utility—distribution is ignored.
2. **Rawls on social justice**
   (a) The natural right is social justice, i.e. it is desirable.
   (b) Justice has a twofold purpose: it is desirable for its own sake on moral grounds; and institutions will survive only if they are perceived to be just.
   (c) The principles of justice: the first principle (the 'liberty principle'), the second principle (the 'difference principle'). In case of conflict, the 'priority principle' gives the first principle absolute priority.

Collectivist views

Central aims of socialists: (i) equality, (ii) freedom, and (iii) fraternity.

1. **Democratic socialism**
   (a) The crucial element of justice is equality.
   (b) The concept of freedom is broad, from freedom of choice, legal and political relations, to economic security.
   (c) Fraternity suggests cooperation and altruism rather than competition and self-interest.
   (d) Criticism of the free market:
      (i) The motive attributed to individuals to pursue personal advantage rather than the general good.
      (ii) The market is deemed undemocratic as major decisions with great impacts are taken by a small elite.
      (iii) The market is unjust.
      (iv) The free market is not self-regulating, i.e. it is full of frictions.
      (v) The market has not been able to abolish poverty.
   (e) In conclusion, democratic socialism sees mixed economy (private enterprise and state intervention) as compatible with socialist objectives.

Collectivist views

2. **Marxists**
   (a) For most people, selling their labour is their only means of subsistence, since other methods (e.g. the cultivation of common land) are in large part blocked.
   (b) In Miller's terms, the Marxist definition of justice is based largely on needs, with less weight accorded to rights and with only a small place for deserts.
   (c) Equality and analysis of class conflict calls a highly active role for government.
   (d) One essential element is nationalising the means of production.
   (e) The Marxist society would combine public ownership and government planning with wide-scale participation by workers in decisions affecting their lives.

Select Exercises

Select exercises

1. Explain how you would expect a libertarian, a liberal, and a collectivist to reach to the following policies!

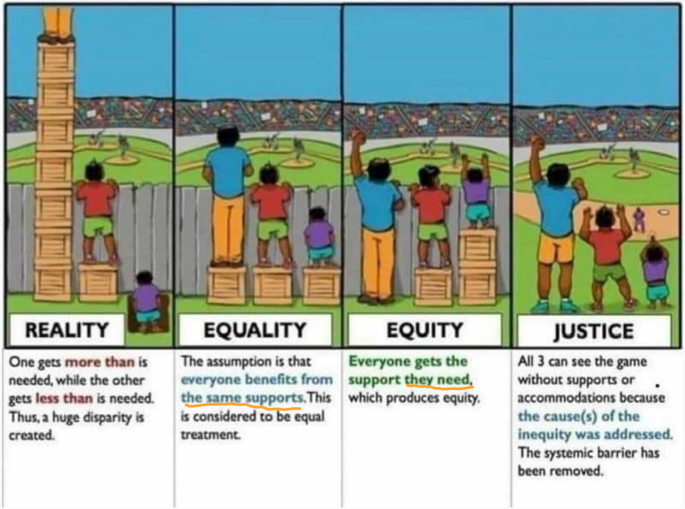
    (a) An increase in unemployment benefits

    (b) A decrease in the tax rate for the highest earners

    (c) Mandatory publicly-provided primary education

    (d) Nationalisation of a private bank

Equality versus equity



Source: BU Diversity & Inclusion

Select exercises

2. Take a look at the Edgeworth diagram from the book and the lecture video!

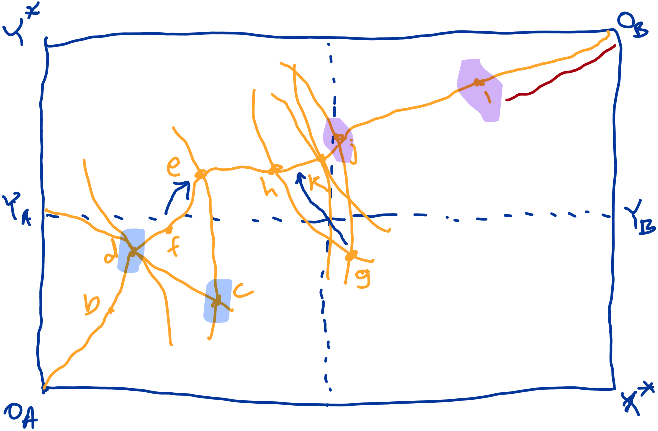
    (a) Is the movement from point f to point e a Pareto improvement (PI)? Why (not)?

    (b) Is the movement from point g to a point between h and k a PI? Why (not)?

    (c) Is the movement from point l to point j a PI? Is it a Rawlsian improvement (RI)? Is it a socialist improvement (SI)? Why (not)?

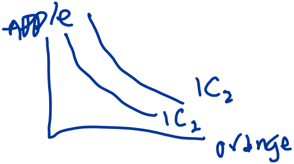
    (d) Is the movement from c to d an SI? Why (not)?

    (e) If b and l show subsistence for individuals A and B, respectively, is the point between l and O_B acceptable for natural-right libertarians? What about empirical libertarians?



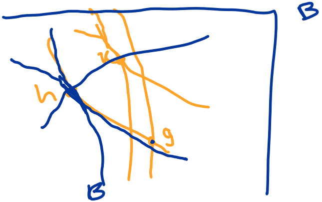
- Players/agents
- Goods/commodities

- Indifference curves of each agent
- Contract curve that connects all Pareto-efficient points



2. a) The movement from point f to point e is not a PI because B is worse off from the trade.

b)



Yes, it is a PI because B can be made better off without making A worse off.

c) i) It is not a PI because B is better off at the expense of A's utility.

ii) It is a Rawlsian improvement because the least well-off improves (Agent B).

iii) It is also a socialist improvement because it increases B's relative share of output.

d) It is not necessarily a socialist improvement. It depends on the agent A's relative share of output.
If it were from point c to any points between e and h, then it could have been a SI.

Break until 16.18.

3. Frank's utility function: $U(c_1, c_2) = \ln(c_1 c_2)$. The budget constraint is given by

$$\underline{p_1 c_1 + p_2 c_2 = p_1 \omega_1 + p_2 \omega_2}$$

Goal: Deriving Frank's demands for commodity 1 and commodity 2 as a function of the prices and endowments. Formally, $Q^D_{c_i}(\boldsymbol{P}, \boldsymbol{\Omega})$, $i = 1, 2$. Here, $\boldsymbol{P} = [p_1, p_2]$ and $\boldsymbol{\Omega} = [\omega_1, \omega_2]'$.

$$\underbrace{p_1 c_1 + p_2 c_2 - p_1 \omega_1 - p_2 \omega_2}_{\text{constraint in the function}} = 0$$

I. utility function
budget constraint

$\ln(AB) = \ln A + \ln B.$

Lagrange function:

$\mathcal{L}$ = utility $-\lambda$ (constraint)

$= \ln c_1 + \ln c_2 - \lambda(P_1 c_1 + P_2 c_2 - P_1 \omega_1 - P_2 \omega_2)$

$Y = \ln X$

$\frac{\partial Y}{\partial X} = \frac{1}{X} \cdot \underbrace{X'}_{=1}$

$= 1/X.$

Apply partial derivative w.r.t. the commodities

i) $\frac{\partial \mathcal{L}}{\partial c_1} = \frac{1}{c_1} + 0 - \lambda P_1 + 0 - 0 - 0 = 0$

$= \frac{1}{c_1} - \lambda P_1 = 0 \Rightarrow \lambda P_1 = 1/c_1.$

ii) $\frac{\partial \mathcal{L}}{\partial c_2} = 0 + 1/c_2 - 0 - \lambda P_2 - 0 - 0 = 0$

$= \frac{1}{c_2} - \lambda P_2 = 0 \Rightarrow \lambda P_2 = \frac{1}{c_2}.$

We divide one expression by the other.

$$\frac{\lambda P_1}{\lambda P_2} = \frac{\frac{1}{c_1}}{\frac{1}{c_2}}$$

$$\frac{\cancel{\lambda} P_1}{\cancel{\lambda} P_2} = \frac{c_2}{c_1} \implies \underbrace{P_1 C_1 = P_2 C_2}.$$

Frank is willing to spend an equal amount of money on the two commodities.

II. We need to solve for C_1.

We substitute the equation above into the budget constraint.

$$P_1 C_1 + \underbrace{P_2 C_2} = P_1 \omega_1 + P_2 \omega_2$$

$$P_1 C_1 + P_1 C_1 = P_1 \omega_1 + P_2 \omega_2$$

$$2 P_1 C_1 = P_1 \omega_1 + P_2 \omega_2$$

$$2p_1 c_1 = p_1 \omega_1 + p_2 \omega_2$$

$$c_1 = \frac{p_1 \omega_1 + p_2 \omega_2}{2p_1}$$

$$= \frac{1}{2}\omega_1 + \frac{1}{2}\frac{p_2}{p_1}\omega_2 .$$

$$c_2 = \frac{1}{2}\omega_2 + \frac{1}{2}\frac{p_1}{p_2}\underbrace{\omega_1} . \qquad \square$$

numminator

positive effect on the demand for c_2.

4. Consider an economy with two people, Nancy and Roger, and two commodities, cups of tea and biscuits. Initially, Nancy and Roger both would be willing to substitute two cups of tea for one biscuit. Furthermore, if the economy were to produce one less cup of tea, the resources released from tea production could be used to produce three more biscuits.
   - (a) What is the value of the marginal rate of substitution and the marginal rate of transformation?
   - (b) Is the allocation in this hypothetical economy Pareto-efficient? Show graphically by drawing the indifference curves and the production possibility frontier (PPF). If not, should there be more tea or more biscuits?

Discussion Topics

Discussion

1. 'Property is theft' (Karl Marx, quoting Pierre-Joseph Proudhon). 'Taxation is theft' (Robert Nozick). Who is right? [qn 1, ch. 2, from Barr, 2019]
2. What sort of welfare state would writers such as Hayek and Friedman advocate? Does any country have that sort of welfare state? [qn 2, ch. 2, from Barr, 2019]
3. How much inequality would you allow if you were designing a society from behind the veil of ignorance? [qn 4, ch. 2, from Barr, 2019]
4. What are the relative weights given to rights, deserts, and needs in your country? [qn 5, ch. 2, from Barr, 2019]
5. 'Markets are self-regulating. Governments should not interfere.' Discuss. [qn 1, ch. 3, from Barr, 2019]

Multiple-Choice Questions

MCQ

1. Which of the following claims is true:
    (a) Empirical libertarians accept the existence of an institutional welfare state.
    (b) Natural-right libertarians consider redistribution a valid objective in some cases.
    (c) All Marxists agree that the welfare state is good.
    (d) Liberals tend unambiguously to support the welfare state.
2. Which of the following is not an efficiency objective of the welfare state?
    (a) Risk sharing
    (b) Poverty relief
    (c) Incentives
    (d) Consumption smoothing

MCQ

3. Consider the following two statements:
   I. 'How much redistribution (of income, wealth, power, etc.) should there be?' is an example of a positive question.
   II. According to Rawls, behind the veil of ignorance, a group of rational individuals would decide to follow the 'maximin rule', which maximises the position of the least well-off individual or group.
   (a) Only I is true
   (b) Only II is true
   (c) Both are true
   (d) Both are false

Thank you for your participation!