

Lecture 1: Government in a market economy

Economics 336

Key questions

Key questions in public economics:

- 1 When should government intervene in a market economy?
- 2 How should government intervene?
- 3 How do we evaluate the effects of government policy?
- 4 What can go wrong with government policy?

Note this course is about *positive analysis* and *normative analysis* of government.

When should government intervene?

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- equity:

- ▶ government should redistribute resources to ensure fairness of allocation among people
- ▶ competitive equilibrium may be efficient – but inequitable

How should government intervene

Types of government policies:

- taxes/subsidies for private transactions
- regulations
 - ▶ floor/ceiling prices
 - ▶ bans/mandates/restrictions on consumption
- public provision: public control of quantities consumed

Exercise

Give examples of all these policy types in the fields of:

- urban transportation
- welfare/income support
- environmental policy

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 - ▶ example: **effects of a minimum wage**
- measuring welfare changes
 - ▶ willingness to pay for a price change
 - ▶ comparing costs and benefits of policy accruing to different groups of people
 - ▶ example: **effects of AirBNB on the housing market**

What can go wrong?

- government failure versus market failure
- political economy of government policy:
 - ▶ electoral competition
 - ▶ lobbying/special interests
 - ▶ bureaucratic politics
 - ▶ competition and coordination among governments

Theoretical tools

Key formal ideas:

- 1 First Welfare Theorem: When should government intervene?
- 2 Second Welfare Theorem: How should government intervene?
- 3 Equity–efficiency tradeoff: What are the costs of intervention?

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Smith’s Invisible Hand: a self-interested economic actor

“intends only his own security; and by directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention. Nor is it always the worse for the society that it was not part of it.”

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A contentious idea...

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An allocation (x_1, x_2, y_1, y_2) is *feasible* if

$$x_1 + x_2 \leq a_1 + a_2$$

$$y_1 + y_2 \leq b_1 + b_2$$

First Welfare Theorem

A *competitive equilibrium* is an allocation and prices (p, q) such that

- 1 demand equals supply, and
- 2 consumers maximize utility: for any other bundle (x'_i, y'_i) , if $u_i(x'_i, y'_i) > u_i(x_i, y_i)$ then

$$px'_i + qy'_i > pa_i + qb_i$$

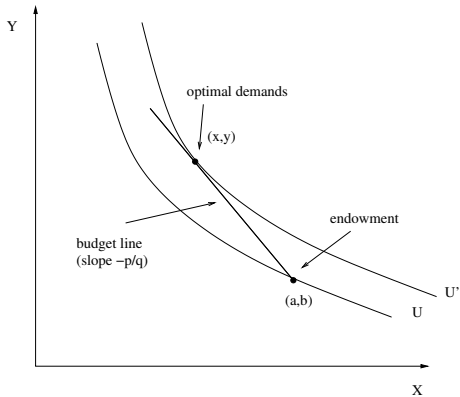


Figure: Utility maximization

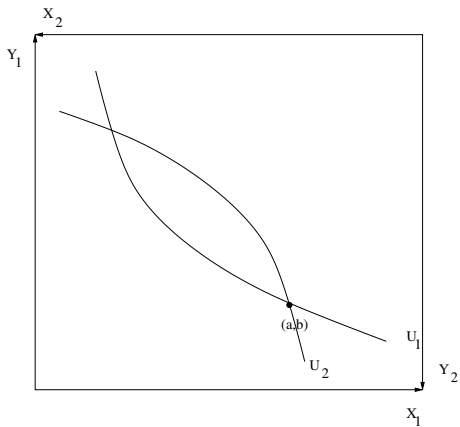


Figure: The Edgeworth box

Pareto efficiency

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One formalization:

An allocation (x, y) is *Pareto efficient* if there is no other feasible allocation that all consumers prefer: there does not exist (x', y') such that

- $u_i(x'_i, y'_i) > u_i(x_i, y_i)$ for all i , and
-

$$x'_1 + x'_2 \leq a_1 + a_2$$

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In the Edgeworth box, which allocations are Pareto efficient?

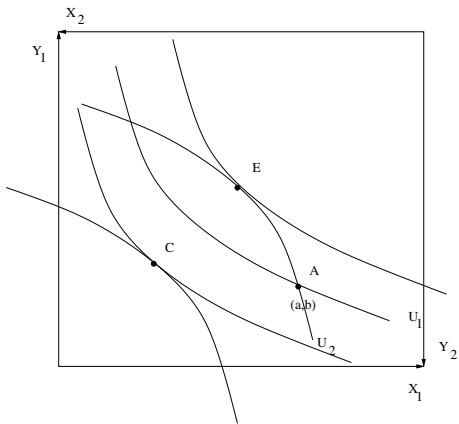


Figure: Pareto efficiency in the Edgeworth box

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But then $MRS_1 = MRS_2$: indifference curves are tangent to each other.

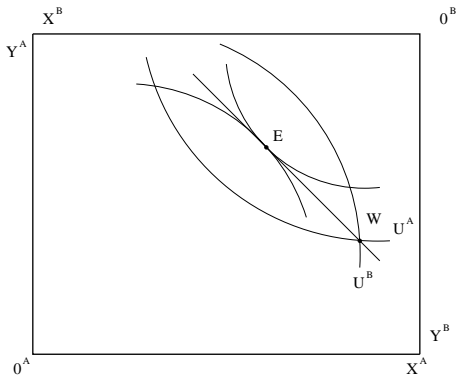


Figure: Efficiency of competitive equilibrium in an exchange economy

More on FWT

Extensions to production economies:

- 1 Product-mix efficiency: If some commodity is not being produced and consumers willing to pay its cost, profit-maximizing firms will provide it (price equals marginal cost).
- 2 Production efficiency: If firms are not producing at minimum cost then competition will drive them out.

Second Welfare Theorem

Problems with Pareto efficiency:

- many allocations are efficient
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Prescription: just make income transfers to the needy and let the market work. Government should not e.g. tax cars, supply public housing, have affirmative action, provide free education.

SWT: An example

In an exchange economy, Boris is endowed with 14 hours of labour and Natasha is endowed with 2 kg of rice each day. The competitive equilibrium price of labour is 40 grams of rice per hour, and Boris supplies 10 hours per day to Natasha in exchange for 400 grams of rice.

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Government could increase equity by taxing 1 kg of rice per day from Natasha and transferring it to Boris. Although labour supplied by Boris may fall, and the price of labour may rise, the new equilibrium is still Pareto efficient.

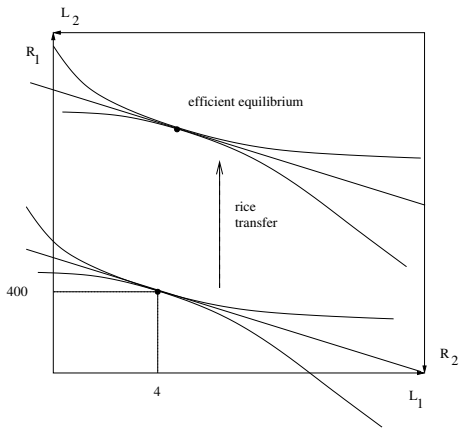


Figure: Effect of a lump-sum transfer

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Alternatively, consider a labour subsidy of 40 grams of rice *per hour worked*, which is still financed by a lump-sum tax on Natasha's rice endowment. Is the new equilibrium efficient? Why not?

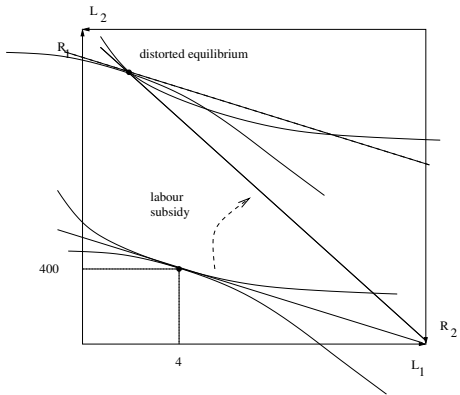


Figure: Effect of a distortionary subsidy

Equity–efficiency tradeoff

In practice, government redistributions usually take the form of distortionary subsidies rather than lump-sum transfers. (Is a welfare payment to low-income families lump-sum or distortionary?) Why is this so?

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We call lump-sum transfers *first-best* and distortionary subsidies *second-best* redistribution. When policies are second-best, achieving greater equity often (not always) results in departures from Pareto efficiency – the *equity–efficiency tradeoff*.

Key concepts

- positive and normative analysis
- market failure
- Pareto efficiency
- competitive equilibrium
- First Welfare Theorem
- Second Welfare Theorem
- equity–efficiency tradeoff