

Price controls: Price Ceilings

Econ 1101

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1. Quick review of taxes and subsidies (DWL)
2. Introducing price ceilings in EconLand
3. Analyzing price ceilings in Aplialand
4. Price ceilings with Resale

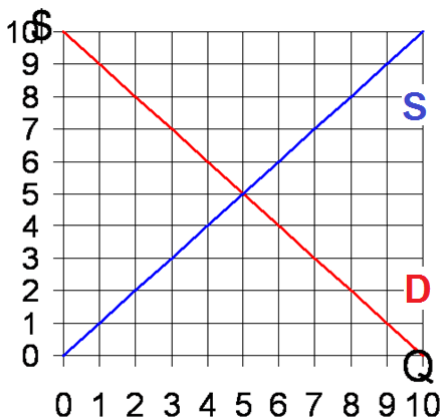
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1. Review of Taxes and Subsidies

Focus on dead weight loss and Pareto efficiency

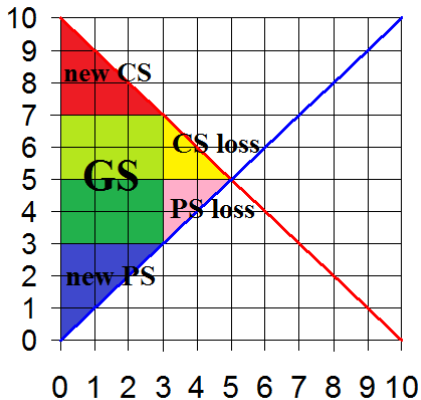
Recall Econland



1. \$4 tax on widgets

- Left side of the market equilibrium
- Allocation with \$4 tax is:
 - $P(d) = 7$ $P(s) = 3$
 - $Q = 3$
- Welfare analysis
 - Calculate CS, PS, GS, TS
 - Dead weight loss = $TS(\text{in free market}) - TS(\text{with tax}) = 4$

1. \$4 tax on widgets



2. \$4 subsidy on widgets

- Right side of the market equilibrium
- Allocation with \$4 subsidy is:
 - $P(s) = 7$ $P(d) = 3$
 - $Q = 7$
- Welfare analysis
 - Calculate CS, PS, GS, TS
 - Dead weight loss = $TS(\text{in free market}) - TS(\text{with subsidy}) = 4$

3. Discussion about Pareto efficiency

With a tax on the good itself, there is a dead weight loss:

- The allocation of resources in the economy is NOT Pareto efficient

Why?

- The pie is not as big as it could be - there is an alternative allocation better for all
- Government collects LESS than what consumers and producers lose in surplus

With a subsidy on the good itself, there is a dead weight loss:

- The allocation of resources in the economy is NOT Pareto efficient

Why?

- There is an alternative allocation better for all
- Government pays MORE than what consumers and producers get in what they gain in surplus.

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2. Price Ceilings in EconLand

Price ceilings in EconLand

- Definition of ceiling

How to calculate allocation with ceiling:

① Binding ceiling:

- Price

- $Q(D), Q(S)$
- $Q^{ceiling} = \min\{Q(S), Q(D)\}$

② Not Binding: free market allocation

Price ceilings in EconLand

Welfare analysis (surpluses)

- PS: standard
- CS: (two extreme cases)
 - Perfectly efficient rationing
 - Perfectly inefficient rationing
- Not Pareto efficient: principle 3 and 1 are violated

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3. Price ceilings in Aplialand (uniform rationing)

Aplia experiment

- Market (S) and (D) chart
 - $p^{ceiling} = 30$
 - $Q^{ceiling} = 100$
 - discussion and explanations
- Sales pattern and learning with rounds
- PS, CS \Rightarrow uniform rationing

Uniform Rationing

- Definition
- Problem: principle 1 is violated
- Discussion of real world
- Is there a way out?
 - can we have price ceilings without violating principle 1?
 - yes: RESALES

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3. Price ceilings with Resales

Price ceilings with Resales

- Resale market:
 - s1-s10 can not sell for more than ceiling,
 - D's can buy and resale at any price
- 4 steps process to determine equilibrium in resale market
 - comment of opportunity cost ($p(e)$)
 - outcome: D1-D3 high valuation consumers consume (improve efficiency principle 1)
- Welfare analysis
 - PS (standard)
 - CS: area between D and resale price
 - Area in the middle: Scalping profit
 - $DWL = 4$

Notes

- For this lecture: we worked mainly in the whiteboard
- Slides are not self contained for this particular class
- To see more slides about this topic look at moodle lec 5(i)