Price controls: Price Ceilings
Econ 1101

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ECON 1101 Lecture 5.2

1. **Quick introduction to price floors**

2. **Supply controls: quotas and Canadian Dairy Market**

3. **Summary of Government Policies**

4. **Price ceilings with Resale**

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1. Quick introduction of price floors

Price Floors

- Definition
- Binding and not binding
- Finding the allocation with a binding floor

- Comment on excess supply

- Welfare analysis:
  - CS is normal
  - PS: depends on rationing

- Not pareto efficient

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2. Supply controls and the canadian dary market

(a) introducing quotas

(b) aplication: canadian dary market

(c) modeling a quota

Supply controls

- Introduction: one possible instrument to achieve a high price for producers

- Mechanics: it works limiting the quantity produced in the market by giving quotas to producers
  - Quota (definition),
  - note: farmers are free to buy and sell quota in the quota exchange

- Example: Aplication Canadian Dary Market

Canadian Dary Market

We will deal with the Canadian dairy market from the reading

- How does the Canadian government control supply?
  - Each farmer must own a quota, (recall: right to sell milk created by the government and in limited quantity)
  - More production requires the purchase of more quotas
  - One quota corresponds approximately to the right to sell the milk of one cow per day

- By limiting the number of quotas, the Canadian government can limit the amount of milk in the market

Canadian Dary Market

How it currently works in Canada?

- After collecting quotas from the government, farmers can buy and sell them on a quota exchange
  - quota exchange: a market for buying and selling quotas
  - currently trading for $25,000 for one quota unit.

- This cost is much larger than the cost of milking a cow or the cow itself
  - In fact this is the biggest cost of being in the dairy business.
  - A farm described in the reading had a total value of $5.8 million
  - $2.8 million (almost half) was in costs of the quota

Modeling a Quota

Back to econland but now we produce milk!

- Determining P and Q of milk with quota

- Determining Price of quota
  - comment on opportunity cost
  - comment on present value

Comment on present value

- The $4 we just calculated is the what the use of the quota for one day

- In Canada, quota is good for today, tomorrow, the next day, etc

- The asset value is calculated by adding up the values of these various payments. We need to do present value calculations that involve interest rates that we will skip here

- But just to make the point, If we give the people in Econland a year to live, (and we don't worry about interest rates) then the asset value of a unit of quota at the beginning of the year equals $4Œ365 = $1,460

Modeling a Quota

Welfare analyisis

- surpluses

- quota rent

- DWL

- Comment on similarities to consumer resale market
  - DWL: not pareto efficient (principle 3 is violated)
  - if we compare vs no quota market (now principle 2 is volated)

- Similarities with taxes:
  - no GS, but quota rent

Summary of price and supply controls

- The government can use price ceilings and floors to set a maximum and minimum price in a market, and can use supply controls to restrict the quantity traded

- In general controls cause a failure of principle 3, efficient production quantity; as a result total welfare will be lower than under a competitive equilibrium (though some may win and some may lose from the policy)

- Because of rationing under price and supply controls, we may also face a failure of principle 1 or 2 (efficient allocation)

- Resale markets or quota markets can ensure the supply that does exist is sold to the highest value consumer or produced by the lowest cost producers so principle 1 holds

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3. Summary of Government Policies

Summary of Government Policies
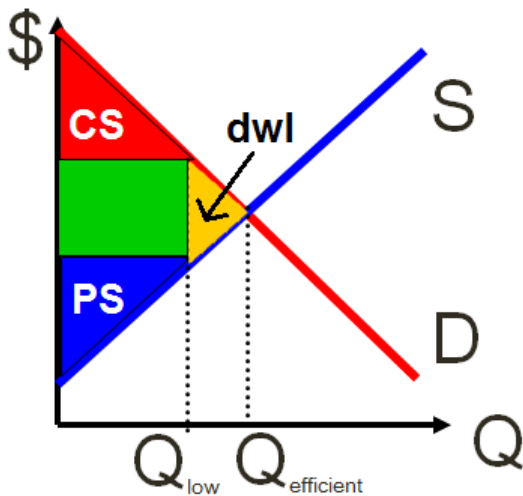
To whom does the green box go?

We can summarize it based on the type of policy implemented:

Policy	Green box owner
Tax	Government
Quota	Quota Owners
Price Ceiling (efficient)	Consumers
Price Ceiling	Partly destroyed by inefficient allocation
Price Floor (efficient)	Producers
Price Floor	Partly destroyed by inefficient allocation

Review of Health Care Application:

Tax	Q	Revenue	Dead-wgt Loss	Dead-wgt loss per $ rev
1	4.5	4.5	.25	**.056**
2	4	8	1	**.125**
4	3	12	4	**.333**
5	2.5	12.50	6.25	**.50**
6	**2**	**12**	9	.75

The greater the tax, the higher the deadweight loss per $ revenue (the more inefficient!)

Note on Midterm

Midterm

- **Bring: #2 Pencils, University I.D**

- **Don't Bring: Calculator, scratch paper**

- Syllabus on Academic Dishonesty
  "The test-taking period begins when a student is handed the question sheet and ends after the student's answer sheet has been collected. During the test-taking period, a student may not speak with any other student, nor use any communication device or notes. Any violation of this rule, regardless of the subject matter of the communication, is considered a form of academic dishonesty, and it will not be tolerated in this class."

Coverage

Everything up to this lecture.

- Supply and Demand
- Elasticity
- Efficiency of the Free Market (the first welfare theorem)
- Government intervention in markets
  - taxes and subsidies
  - price floors and ceilings
  - supply management

Best way to study – do sample midterms and also read through lecture notes

On top of that, read these articles assigned on Moodle
   1) Electric Power
   2) Long and Short Run Elasticity
   3) Supply Management

Notes

- For this lecture: we worked in the whiteboard
- Slides are not self contained for this lecture (5.2)
- To see more slides about this topic look at moodle lec 5(ii)
- Reading 3: Supply Management of the Dairy Industry in Canada (moodle)