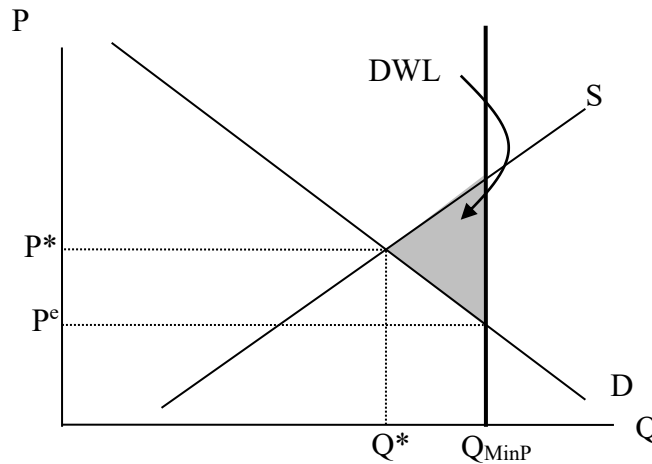


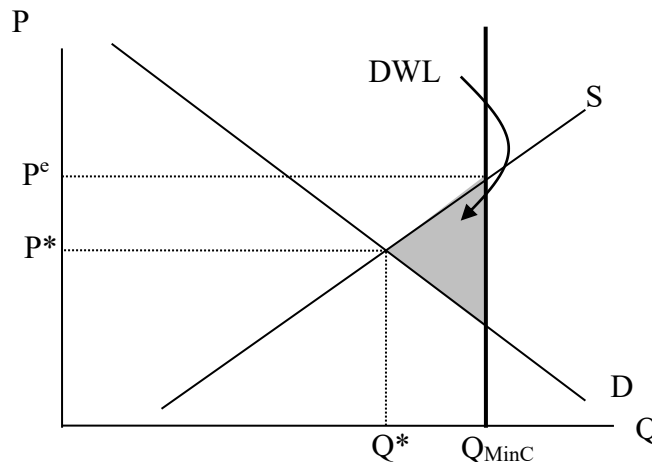
TOPIC 26: QUOTAS & TRADEABLE ALLOWANCES

I. Minimum Quotas

- a. Quotas are just like price controls except they set quantity rather than price. They come in two stripes: production quotas and consumption quotas
- b. Consider this minimum production quota, set above equilibrium.



- i. In the above diagram, companies are required to over-produce. With so much in the market, the price, as determined by Demand, is lower than the market price.
- c. Now consider this minimum consumption quota set above equilibrium.

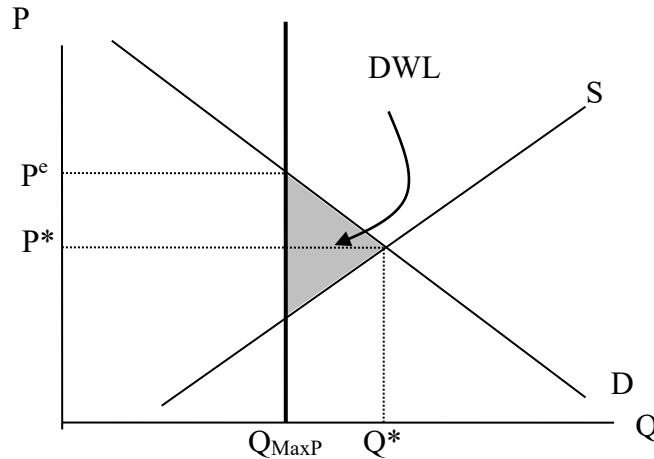


- i. Now that consumers are forced to overconsume, the price is above the optimal, rather than below it.

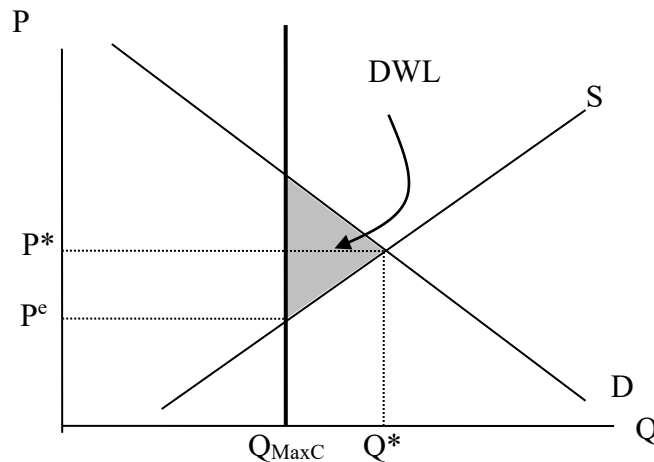
- d. Like price controls, production quotas can be completely ineffective. Minimum quotas set below equilibrium do nothing.

II. Maximum Quotas

- a. Now consider this maximum production quota set below equilibrium.



- i. With companies not allowed to produce more, prices rise (note the similarity between this and our monopoly model).
- b. And here's a maximum consumption quota set below equilibrium.



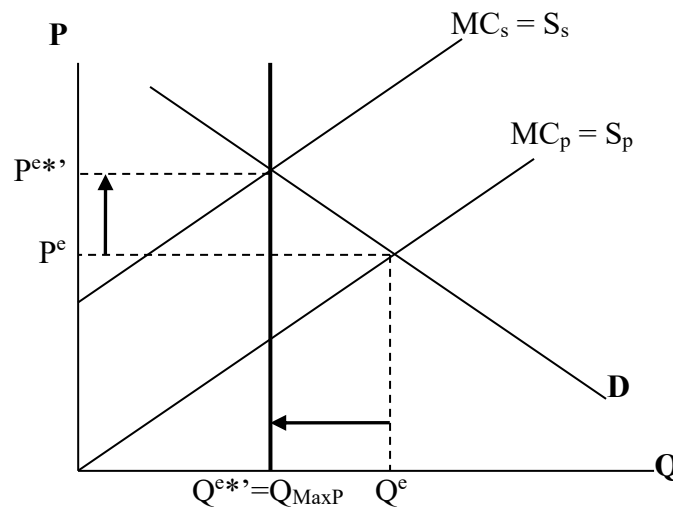
- i. With so few people allowed to buy, the price falls.
- c. Maximum quotas set above equilibrium do nothing.

III. Tradeable Allowances

- a. Externalities exist because of a lack of private property. One way to solve them is establish private property. (Note this is an application of the Coase Theorem.)
- b. Tradeable allowances are one such way. The government caps pollution (or fishing, or whatever) at a certain level and then allows

private individuals to purchase the ability to pollute (or fish, or whatever).

- i. These allowances are private property: you can buy or sell them.
 - ii. Thus you must pay to externalize a cost, which, in practice, is the same as a tax. The difference is you have direct control over how much negative externality there is, rather than having direct control over how much more the negative externality will cost.
- c. Note that anyone can purchase these allowances, including environmental groups and ordinary citizens like you and me! We can buy the right to pollute and then not use it.
- d. Tradeable allowances are an efficient version of quotas. Rather than dragging Q^e away from Q^* , we bring Q^e to Q^* by setting the quota to the optimal quantity.



- i. Much like Pigouvian corrections, the optimal level is hard to figure out. But it may be sometimes easier to figure out optimal quantity levels than the size of the externality even if both are hard to do.