

APEC 3001 Discussion

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Today's Agenda

- 1 Housekeeping
- 2 Midterm Exam I - What to study? (5 minutes)
- 3 Externalities (15 minutes)
- 4 Practice Problem (15 minutes)
- 5 Questions on Midterm Exam I Material (15 minutes)

Housekeeping

- State your presence in the Zoom chat for a record of attendance
- Take a minute to download these slides from [Canvas under Week 4](#)
- First midterm exam is Thursday (Feb. 18th)
- Follow link in TA bio on course Canvas page to sign up for [Wednesday office hours](#)

Midterm Exam I - What to study?

- Demand & Supply Curves
- Factors Influencing Demand & Supply Curves
- Market Equilibrium
- Elasticities of Demand & Supply
- Consumer & Producer Surplus
- Price & Quantity Regulations
- Deadweight Loss
- Taxes & Subsidies
- Externalities
- Correcting Externalities
- Public Goods

Externalities

- **Externalities** occur when market transactions impact third parties not directly involved in the transaction
- **Negative externalities** occur when costs are imposed on other consumers or producers
- **Positive externalities** occur when benefits are incurred by other consumers and producers
- **External marginal costs (EMC)** are costs imposed on a third party when an additional unit of a good is produced or consumed
- **External marginal benefits (EMB)** are benefits incurred by a third party when an additional unit of a good is produced or consumed
- Add the EMC to the marginal cost (MC) curve (inverse supply curve) to derive the **social marginal cost (SMC)**
- Add the EMB to the inverse demand curve to derive the **social demand (SD)**

Externalities - Cont'd

- Impose a **Pigouvian tax** equal to the EMC on MC to correct a negative externality
- Offer a **Pigouvian subsidy** equal to the EMB on inverse demand to correct for a positive externality

Some helpful tips to remember:

- When analyzing the effects of a tax/subsidy on market equilibrium or on the social optimum, rewrite demand & supply curves in terms of EITHER P_s , the price the seller receives, OR P_b , the price the buyer pays; then solve for new prices and quantity
- When determining the social optimum under a positive or negative externality, convert the demand/supply curves to inverse demand/inverse supply (MC) curves and add the EMB/EMC directly to them; then solve for the socially optimal price and quantity

Practice Problem - Paper Market

Assume that notebook paper is sold in a perfectly competitive industry. The industry short-run supply curve (or marginal cost curve) is $P = MC = 2Q$, where Q is measured in millions of reams per year. The inverse demand for notebook paper is $P = 40 - 8Q$

- 1 Find the equilibrium market price and quantity sold
- 2 Suppose that, in their production processes, paper manufacturers have been dumping waste in nearby streams. The external marginal cost is estimated to be \$0.50 for each ream produced. Calculate the socially optimal level of output and price for the paper industry.
- 3 Suppose the government places a \$0.50 tax on each ream of paper sold, what price would buyers pay, and what price would sellers receive (net of the tax)?
- 4 How many reams of paper would be sold under the \$0.50 tax?

Questions on Midterm Exam I Material

Any questions about material to be covered on Midterm?

Questions

Any remaining questions?

Additional Support Resources

- Boynton Mental Health Services
- Student Counseling Services
- Let's Talk
- Educational Workshops
- Academic Skills Coaching