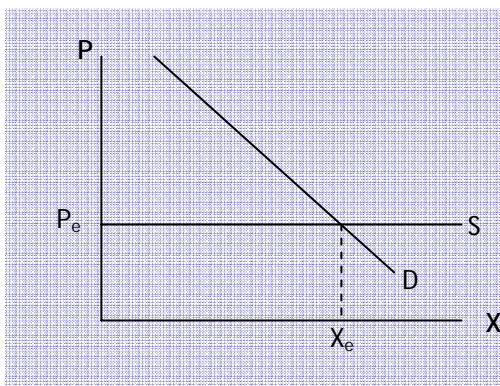


End-of-chapter Questions

Chapter 15: Taxes and Inefficiency: The Excess Burden of Taxation

1. What is Hicks' Equivalent Variation and how is it used to measure the excess burden or deadweight efficiency loss from an excise tax? (Refer to the 2-good consumer model in the beginning of the chapter in answering the question.)
2. In the 2-good consumer model at the beginning of the chapter, why do a lump-sum tax on the consumer and a specific excise tax on good X that raise the same amount of tax revenue place a different amount of burden on the consumer?
3. A price change as a result of a tax on a good leads to a substitution and an income effect on the quantity of the good demanded. Which effect generates an excess burden or deadweight efficiency loss and which does not? Explain. (Refer to the 2-good consumer model in the beginning of the chapter in answering the question.)
4.
 - a. Why must the excess burden or deadweight efficiency loss from an excise tax on a good be measured using the compensated demand curve for the good rather than the actual demand curve?
 - b. Under what conditions are the compensated and actual demand curves of a good the same?
 - c. Do these conditions apply for most goods? Explain.
5. Below are the supply (S) and demand (D) curves for good X before an excise tax is levied on good X. S is perfectly elastic, and the equilibrium is (X_e, P_e) .



Show the effect on the following of a per-unit excise tax on good X levied on the producers:

- a. The equilibrium quantity
 - b. The equilibrium price
 - c. The tax revenue collected
 - d. The excess burden or deadweight efficiency loss.
6. Comment on the following statement: 'Because the supply of labor is essentially perfectly inelastic, a tax on the supply of labor entails (almost) no excess burden or deadweight efficiency loss.'
 7. In the first sections of the chapter, the supply curve of good X is perfectly elastic. How does the excess burden or deadweight efficiency loss of the tax change if the supply curve of X is less than perfectly elastic, but not perfectly inelastic? Explain.
 8. Suppose that two goods, X_1 and X_2 , are substitutes (both actual and compensated substitutes). If the government levies an excise tax on X_2 , would the excess burden or deadweight efficiency loss from the tax be the same whether or not there is already a tax on X_1 ? Explain.
 9. Consider an ad valorem tax on good X at a rate of 20%. Total expenditures (PX) on good X before the tax are \$1 million and the compensated demand elasticity of good X is 0.5. The supply of X is perfectly elastic. Calculate:
 - a. The total excess burden or deadweight efficiency loss from the tax
 - b. The marginal excess burden or deadweight efficiency loss from a small increase in the tax rate
 - c. The marginal excess burden or deadweight efficiency loss per dollar of additional tax revenue from a small increase in the tax rate.
 10. What is the distinction between an ad valorem and a per unit tax?