CHAPTER OUTLINE:

I. The Deadweight Loss of Taxation
   A. Remember that it does not matter who a tax is levied on; buyers and sellers will likely share in the burden of the tax.
   B. A tax places a wedge between the price buyers pay and the price sellers receive. Because of this tax wedge, the size of the market for that good shrinks.

C. How a Tax Affects Market Participants
   1. The benefit received by buyers in a market is measured by consumer surplus. The benefit received by sellers in a market is measured by producer surplus. The benefit received by the government is measured by tax revenue.

   \[ \text{Tax Revenue} = T \times Q \quad (T = \text{the size of the tax}; \ Q = \text{the quantity of the good sold}) \]
2. Welfare without a Tax
   a. Consumer surplus = A + B + C.
   b. Producer surplus = D + E + F.
   c. Total surplus = A + B + C + D + E + F.

3. Welfare with a Tax
   a. Consumer surplus = A.
   b. Producer surplus = F.
   c. Tax revenue = B + D.
   d. Total surplus = A + B + D + F.

4. Changes in Welfare
   a. Consumer surplus changes by: -(B + C)
   b. Producer surplus changes by: -(D + E)
   c. Tax revenue changes by: +(B + D)
   d. Total surplus changes by: -(C + E)

5. Definition of deadweight loss: the fall in total surplus that results from a market distortion, such as a tax.
D. Deadweight Losses and the Gains from Trade

1. Taxes cause deadweight losses because they prevent buyers and sellers from realizing some of the gains from trade.

2. This occurs because the quantity of output declines; trades that would be beneficial to both the buyer and seller will not take place because of the tax.

II. The Determinants of the Deadweight Loss

A. The price elasticities of supply and demand will determine the size of the deadweight loss that occurs from a tax.

1. Given a stable demand curve, the deadweight loss is larger when supply is relatively elastic.

2. Given a stable supply curve, the deadweight loss is larger when demand is relatively elastic.
III. Deadweight Loss and Tax Revenue as Taxes Vary

A. As the tax increases, the deadweight loss from the tax rises more quickly than the size of the tax.

B. As the tax increases, the level of tax revenue first rises; but then, as the tax gets larger, tax revenue falls because the higher tax reduces the size of the market.

C. The Laffer curve depicts the relationship between the size of a tax and the level of tax revenue.