**Government Intervention as Implicit Taxation**

- Government intervention in the form of price controls can be viewed as a combination tax and subsidy.
- A *price ceiling* is an implicit tax on producers and an implicit subsidy to producers that causes a welfare loss identical to the loss from taxation.
- A *price floor* is a tax on consumers and a subsidy for producers that transfers consumer surplus to producers.

**Price Ceilings**

- A *price ceiling* is a government-set price below market equilibrium price.
- It is an implicit tax on producers and an implicit subsidy to consumers.

**Effect of a Price Ceiling**

- *P₀* is the market equilibrium price.
- *Q₀* is the market equilibrium quantity.
- A *price ceiling* at *P₁* causes a shortage of *Q₃* - *Q₁*.
- Consumer surplus is transferred from producers to consumers.
- Welfare loss is depicted by the triangle *ABC*.
- Producer surplus is depicted by the triangle *FDE*.
Price Floors

- A **price floor** is a government-set price above equilibrium price.
- It is a tax on consumers and a subsidy to producers.
- Price floors transfer consumer surplus to producers.

![Effect of a Price Floor](image)

The Difference Between Taxes and Price Controls

- Price ceilings create shortages and taxes do not unless people try to evade them.
- Taxes leave people free to choose how much to supply and consume as long as they pay the tax.
- Shortages also create black markets.

A Price Ceiling with Forced Supply

- The draft is an example of a price ceiling with forced supply.
- A draft must be imposed when the wage offered by the army is below equilibrium and the quantity of soldiers supplied is below the quantity demanded.
- The surplus is transferred from the ones drafted to the government.
Effect of a Draft on Surplus

\[ Q_S = \text{Draft} \]

Surplus transferred to the government

Deadweight loss caused by draft

Rent Seeking, Politics, and Elasticities

- Price controls reduce total producer and consumer surpluses.
- Governments institute them because people care more about their own surplus than about total surplus.
- Individuals spend money to lobby governments to institute policies that increase their own surplus.

Rent Seeking – activities designed to transfer surplus from one group to another.

Public choice economists integrate economic analysis of politics with their analysis of the economy.

They argue that when all rent seeking and tax consequences are netted out, there is often not a net gain to the public.

Inelastic Demand and Incentives to Restrict Supply

- When demand is inelastic, such as the demand for food, producers have incentives to restrict supply.
- Advances in farming productivity increase supply, but decrease price.
- Since demand is inelastic, lower prices decrease total revenue.
- Farmers have an incentive to restrict supply in order to raise price and increase total revenue.
Inelastic Demand & Producing more

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Price</th>
<th>Total Revenue</th>
<th>Revenue gained</th>
<th>Revenue lost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q_0</td>
<td>P_0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q_1</td>
<td>P_1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Inelastic Demand and Incentives to Restrict Supply

- When supply is inelastic, consumers have incentives to restrict prices.
- When supply is inelastic and demand increases, prices increase causing consumers to lobby for price controls.
- Rent control in New York City is an example.

Price Floors and Elasticity of Demand and Supply

- The surplus created by a price floor is larger if demand and supply are elastic.
The Long-Run/Short-Run Problem of Price Controls

• The problem of price controls worsen from the short run to the long run.
• In the long run, supply and demand tend to be much more elastic than in the short run.

The Long-Run/Short-Run Problem of Price Controls

• In the short run there will be small effects from the price controls.
• There will be huge effects in the long run.

The Long-Run/Short-Run Problem of Price Controls

• In the face of price controls, potential new competitors hate to enter the market thereby strangling supply.
• Vacancy rates drop as potential new renters scramble to find shrinking affordable housing.

The Long-Run/Short-Run Problems of Price Controls

• In the long-run, supply and demand tend to be much more elastic than in the short run.
• In the short run, when demand and supply are more inelastic, the effects of price controls are small.
• In the long run, with more elastic demand and supply, the shortages or surpluses are larger.
Long-Run and Short-Run Elasticities

Summary

- Consumer surplus is the net benefit a consumer gets from purchasing a good.
- Producer surplus is the net benefit a producer gets from selling a good.
- Equilibrium maximizes the combination of consumer and producer surplus.
- Taxes create a loss of consumer and producer surplus known as deadweight loss, which is graphically represented by the welfare loss triangle.

Summary

- Price ceilings and floors, like taxes, result in loss of consumer and producer surplus.
- Price ceilings transfer producer surplus to consumers; they are a tax on producers and a subsidy to consumers.
- Price floors transfer consumer surplus to producers; they are a tax on consumers and a subsidy to producers.
- The more elastic supply and/or demand is, the greater the surplus with an effective price floor and the greater the shortage is with an effective price ceiling.
Review Question 7-1  Given the following demand and supply of pizza, find consumer and producer surplus.

Consumer surplus: \( \frac{1}{2} \times (10-6) \times 100 = \$200 \)

Producer surplus: \( \frac{1}{2} \times (6-4) \times 100 = \$100 \)

Review Question 7-2  Given the following demand and supply of pizza, show the effects of a price floor at $8.

Consumer surplus

Deadweight loss

Producer surplus