Lecture #14:

I. Monopoly.
   A. Profit maximization.

II. Monopoly versus perfect competition.
   A. Production Efficiency.
   B. Deadweight loss.

I. Monopoly.

A. Profit maximization.

Monopoly profit

Monopoly with a loss

Monopoly with zero economic profit
II. Monopoly versus perfect competition.

![Graph comparing Monopoly and Perfect Competition](image)

Comparing the long-run equilibrium in a perfectly competitive market with a monopolistic market.

<table>
<thead>
<tr>
<th>Perfect Competition</th>
<th>Monopoly</th>
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<tbody>
<tr>
<td>1. Firms earn zero economic profit.</td>
<td>Monopolist earns positive economic profit.</td>
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<tr>
<td>2. Firms produce at the minimum of their average total cost (ATC) curve.</td>
<td>Monopolist does not necessarily produce at the minimum of ATC.</td>
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<tr>
<td>3. Firms produce where ( P = MC )</td>
<td>Monopolist produces where ( P &gt; MC ).</td>
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A. Production Efficiency.

In the long-run competitive equilibrium, firms produce at the minimum of their average total cost curves. That is productively efficient because it means that there is no way to produce the same total output at a lower total cost. A monopoly may produce at a quantity where there are economies or diseconomies of scale. That means that it is possible to produce the same total output at a lower total cost, using a different number of firms.

B. Deadweight loss.

A monopolist produces where \( P > MC \). That means that for units between \( Q^* \) and \( Q_e^* \) on the graph above, consumers are willing to pay more than it would cost the monopolist to produce those units. The monopolist will not produce those units because, if it must charge the same price for every unit, then it must lower the price it charges for the first \( Q^* \) units to sell the additional units.

A monopoly creates deadweight loss equal to the area \( a + b + c \).