Calculating a Monopolist's Profit or Loss

Key Concepts:

- A monopolist calculates its profit or loss by using its average cost (AC) curve to determine its production costs and then subtracting that number from total revenue (TR).

Recall from previous lectures that firms use their average cost (AC) to determine profitability. Average cost in this example is average total cost (ATC).

Profit for a firm is total revenue minus total cost (TC), and profit per unit is simply price minus average cost.

To calculate total revenue for a monopolist, find the quantity it produces, $Q^*_m$, go up to the demand curve, and then follow it out to its price, $P^*_m$. That rectangle is total revenue.

Next find the output level on the average cost curve and go to the vertical axis from the AC curve. The portion of the total revenue rectangle that represents production costs is the striped section on the left. The firm’s profit is the small rectangle on the top of the total revenue rectangle. It is $TR-TC$.

If the monopolist’s average cost is greater than the price of its product, the firm would suffer a loss.

In the right-hand graph, the firm’s average cost curve is greater than price, and it is losing money. Total cost is $AC^*_m \times Q^*_m$, but total revenue is only $P^*_m \times Q^*_m$, so $TC>TR$. 