Suppose we have many plants with these MC and AC curves.

The LRMC Curve

LRMC is simply $c_{min}$.

SRMC is $N \times MC$ of existing plants

A Change in Demand

The initial situation

Demand Increases

Demand increases. How does the monopolist respond?
Managing with Multiple Plants

Demand Increases

Demand increases. How does the monopolist respond?

New Equilibrium

Intersection of MC and MR changes

New Equilibrium

Price and Output Rise

Expansion

New Plants!

Expansion

New MR=MC

Back to LRMC

Lower Price, More Output
Managing with Multiple Plants

**Summary**

Increase in demand leads to higher price and output, as monopolist moves along SRMC. *(Red to Green)*

Monopolist builds new plants, returning to LRMC curve. *(Green to Purple)*. As this happens, price falls and output rises.

**Change in Output**

Output > Output > Output

Output > Price > Price

Price > Price

Maybe, maybe not. Depends on impact on $\eta$.

**Change in Price**

Price > Price

But Which Way?

Introducing New Technologies
Managing with Multiple Plants

The Initial Situation

Initially, all plants are as shown. \( c_{\text{min}} \) is LRMC.

If total output = Q, the monopoly operates \( N = \frac{Q}{q_{\text{min}}} \) plants.

A New Technology

Lower MC! Lower AC!

New LRMC

Operating Level for Old Plants
Managing with Multiple Plants

Operating Level for Old Plants

Should old plants be abandoned? Not as long as \(c^*_{min}\) is above the minimum of AVC.

The Old Equilibrium

New LRMC

The New Equilibrium

Revenue Gain

Lose the Grey, gain the Yellow

Revenue Gain-2

The Net
Managing with Multiple Plants

Profit Gain

Cost Cutting Gains

Revenue Gains

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