Equilibrium with Different Cost Functions

• We have discussed equilibrium when all firms, both potential and actual, have the same cost function.

• We now turn to the case where there are different cost functions.

The Graphical Analysis

The basics are still the same. Each firm has a MC and AC function.

At $p_1$, the firm will supply $q_1$ units.

At $p_2$, the firm will supply $q_2$ units.
Equilibrium with Different Cost Functions

The Graphical Analysis

At $p_{min}$, the firm will supply $q_{min}$ units.

Supply with Three Firms

When $p = p_{1}$, only one firm produces.

When $p$ rises to $p_{2}$, the first firm increases output and a second enters.

At $p = p_{3}$, the third firm enters.

At $p = p_{4}$, even more output.

Each firm sets $MC = P$. 

Equilibrium with Different Cost Functions
Equilibrium with Different Cost Functions

The Industry Supply Curve

No output until price rises to $p_1$. There, the first firm begins producing.

As price rises from $p_1$ to $p_2$, the first firm moves along its marginal cost curve.

At $p_2$, the second firm begins producing.

As price rises from $p_2$ to $p_3$, the first two firms move along their marginal cost curves.

At $p_3$, the third firm enters.

As price rises to $p_4$ and beyond, all three firms move along their marginal cost curves.
The Industry Supply Curve

The Supply Curve as a Horizontal Sum

Equilibrium with Different Cost Functions
Equilibrium with Different Cost Functions

The Supply Curve as a Horizontal Sum

End

©2005 Charles W. Upton