

Problem Set #11-Key

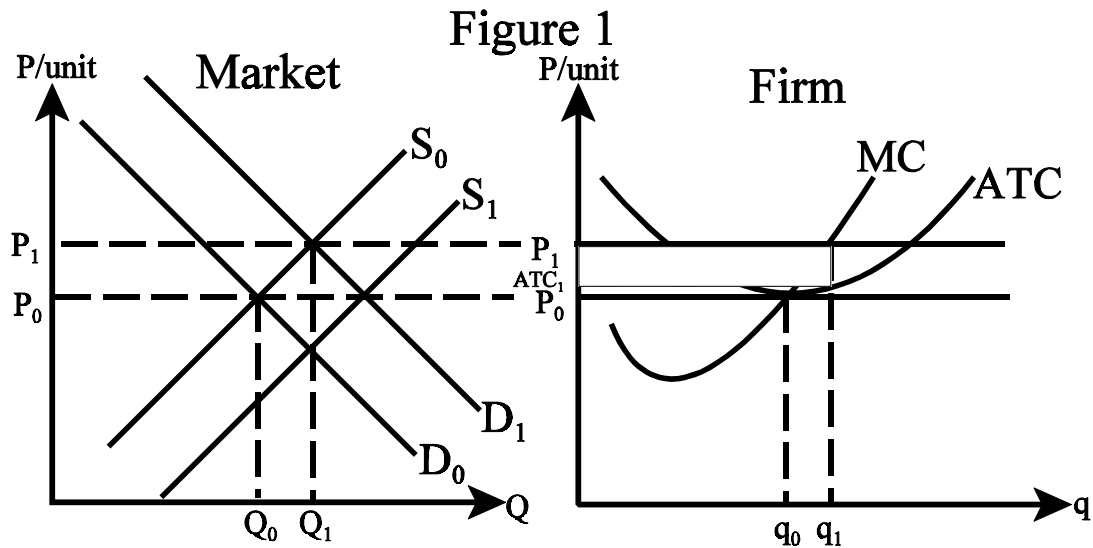


Figure One shows the supply and demand curves for a constant cost competitive industry and the cost curves for a representative firm in the industry. Suppose there is an increase in the market demand for the product shown in Figure One.

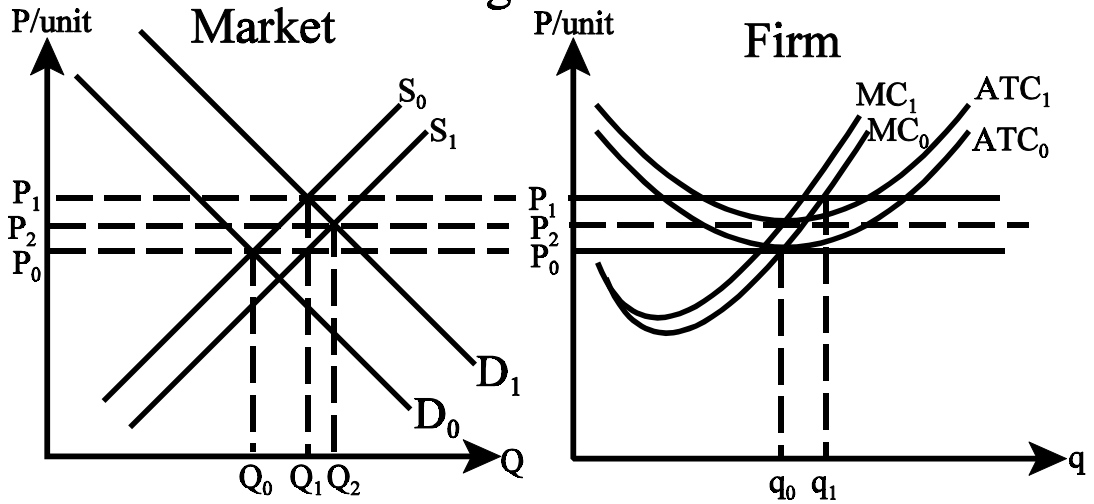
- (1) What are the short run effects on equilibrium price and output of the market and the firm? Show graphically.

The increase in demand raises price from  $P_0$  to  $P_1$  and output from  $Q_0$  to  $Q_1$ . The firm responds to the higher price by increasing output from  $q_0$  to  $q_1$ .

- (2) What are the short run effects on the firms profits? Show graphically.  
The firm will experience positive profits equal to  $\pi = (P_1 - ATC_1)q_1$
- (3) Explain the long run adjustment process and what instigates the adjustment process? Show graphically.
- (4) What are the long run effects on market price and total market output?
- (5) What are the long run effects on the firms profits and output? Show graphically.
- (6) How would your answer change if this were an increasing cost industry? Explain fully and show graphically.
- (7) How would your answer change if this were a decreasing cost industry? Explain fully and show graphically.

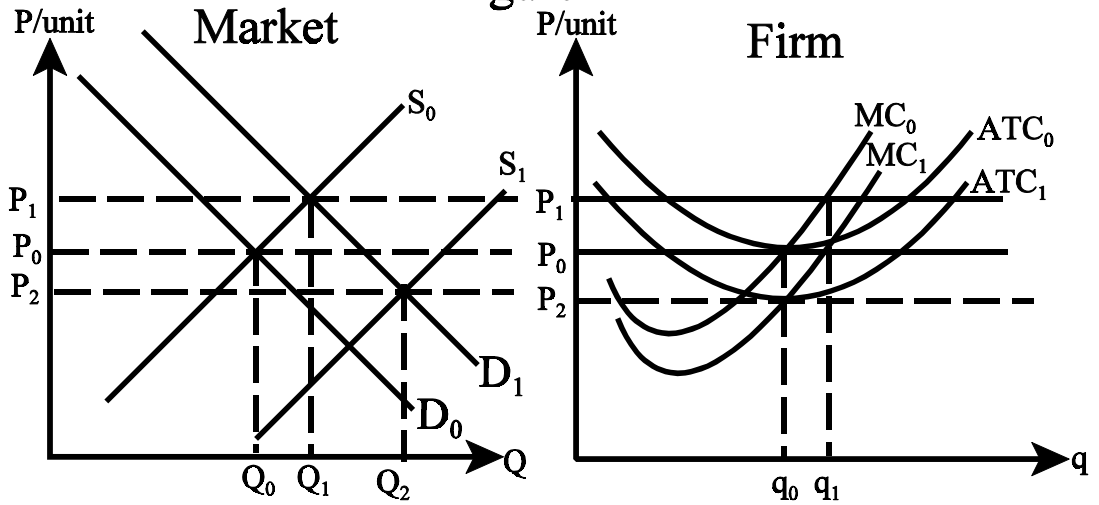
Increasing Cost Industry

Figure 1



Decreasing Cost Industry

Figure 1



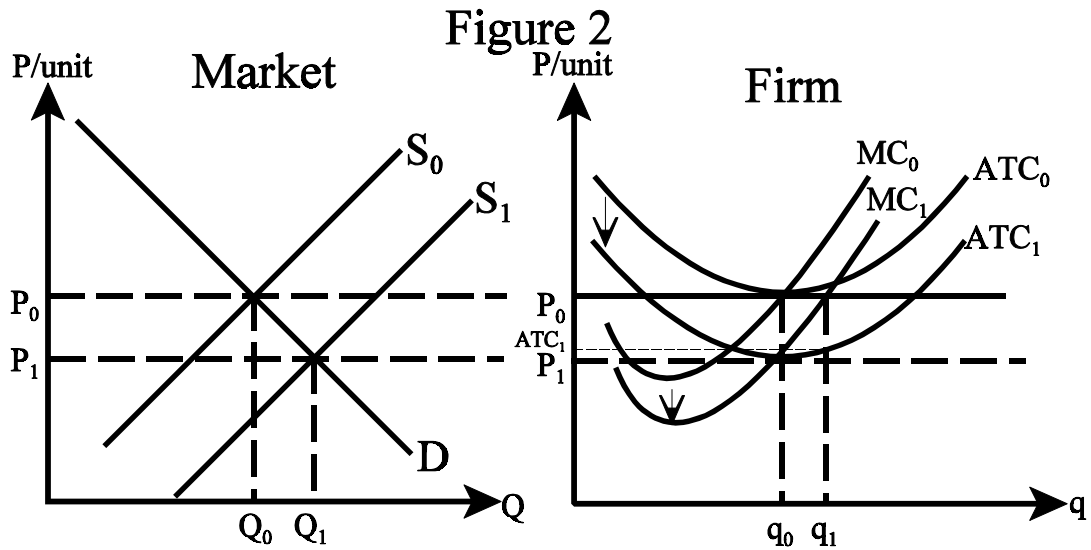


Figure Two shows the supply and demand curves for a constant cost competitive industry and the cost curves for a representative firm in the industry. Suppose that the firm in Figure Two develops a new more efficient technology in its production process.

- (8) What are the short run effects on equilibrium price and output of the market and the firm? Show graphically.

There are no short run effects on the market price or quantity. For the firm, the cost curves shift down and output increases to  $q_1$  where  $MR = MC$ .

- (9) What are the short run effects on the firms profits? Show graphically.  
The firm will experience positive profits equal to  $\pi = (P_0 - ATC_1)q_1$

- (10) Explain the long run adjustment process and what instigates the adjustment process? Show graphically.

- (11) What are the long run effects on market price and total market output?  
The long run equilibrium price will be  $P_1, Q_1$ .

- (12) What are the long run effects on the firms profits and output? Show graphically.