Basics of Economics

Alvin Lin

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1 Perfect Competition

A perfectly competitive market involves many firms selling an identical product to many buyers, no restrictions on entry, and no advantage to established firms where buyers and sellers are informed about prices.

1.1 Marginal Revenue (MR)

Marginal revenue is the change in total revenue obtained by a seller as a result of a change in the total quantity sold.

1.2 The Rule for Maximizing Profit

If a perfectly competitive firm produces, it choose a quantity such that $MC = MR$. Since $MR = p$ for a perfectly competitive firm, $p = MC$ gives the profit maximizing quantity for a perfectly competitive firm.

1.3 Supply Curve of the Firm

There exists a point called the shutdown point where $p < AVC$. The firm shuts down at this point. The supply curve of the firm is the MC curve lying above the AVC curve.

If a firm chooses $q^* > 0$, then:

$$\begin{aligned}
\text{profit} &= p \times q^* - TC(q^*) \\
&= p \times q^* - TVC(q^*) - TFC \\
&= p \times q^* - q^* AVC(q^*) - TFC \\
&= q^*(p - AVC(q^*)) - TFC
\end{aligned}$$

1.4 Possible Outcomes in the Short Run

- If $p < AVC$, the firm chooses $q = 0$ and loses its total fixed cost.
- If $AVC \leq p < ATC$, the firm operates at a loss, but covers a portion of the fixed cost.

- If $p = ATC$, the firm operates with no net gain or loss.
- If $p > ATC$, the firm receives a net gain from operation.

In the long run, firms that fall under the first two cases tend to drop out of the market.

1.5 Economic versus Accounting Profit

1.5.1 Accounting Profit

Accounting profit for an enterprise is represented by the explicit monetary costs and opportunity costs of operating business.

1.5.2 Economic Profit

Economic profit for a given enterprise is the accounting profit of the enterprise minus the accounting profit from the next highest perfect competition enterprise.

1.6 Market Short Run Supply Curve

The market short run supply curve is the horizontal sum of all short run supply curves in a given market, much like market consumer demand or market supply. This short run equilibrium will be dependent on the operational choices of firms, which are, in turn, dependent on the whether or not the firm is operating with a net gain.

1.7 Market Long Run Supply Curve

If firms are operating at a loss during the transition from short run to long run, they will not be as viable as other perfectly competitive industries and drop out of the market.

Firms operating at a profit will continue to do so. The market long run supply curve will shift left according to the number of units lost by the firms dropping out and bring the price up. The price will stop increasing and firms will stop dropping out the market price is equal to the average total cost for all firms.

If firms are universally making a profit in the short run, the market is more attractive as it transitions to the long run. Firms will join the market, increasing supply and decreasing the price until it reaches the average total cost.

Essentially, all firms will eventually make enough profit to break even in the long run, regardless of the short run situation.

You can find all my notes at `http://omgimanerd.tech/notes`. If you have any questions, comments, or concerns, please contact me at alvin@omgimanerd.tech