

LONG RUN EQUILIBRIUM in MONOPOLY MARKET

Comparison of Long run equilibrium in PC and Monopoly

Perfect Competition

Only normal profit can be enjoyed.

In PC equilibrium always occurs at optimum scale of plant.

In the optimum scale of plant there is just normal profit.

Monopoly

We get supernormal profit or normal profit due to barriers to entry.

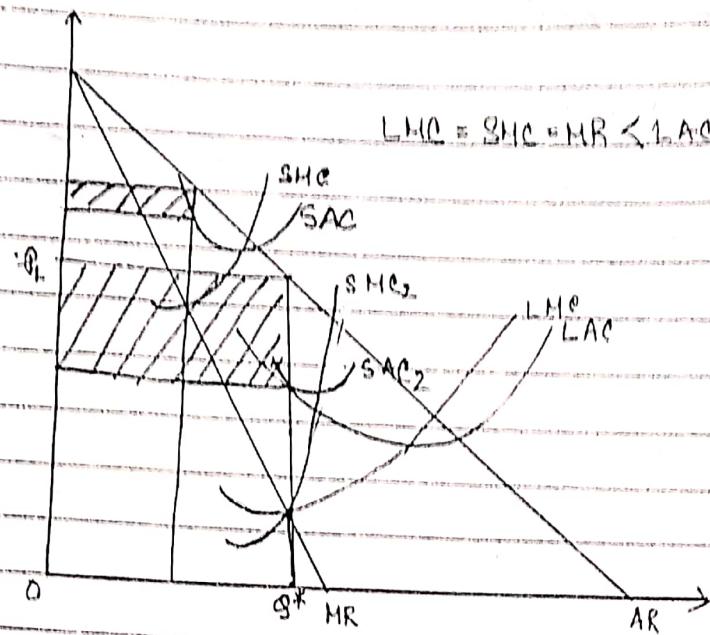
In the case of monopoly the long run equilibrium occurs with less than optimum scale of plant, greater than optimum scale of plant or at the optimum scale of plant.

In the optimum scale of plant there can be super normal profit.

In the long run the monopolist is endowed with the time to expand her plant or to use her existing plant at any level, which maximises her profit. Generally if the firm earns a short run profit with its original plant, it must determine whether a plant of different size will earn a larger profit. This concept introduces the use of long run MC.

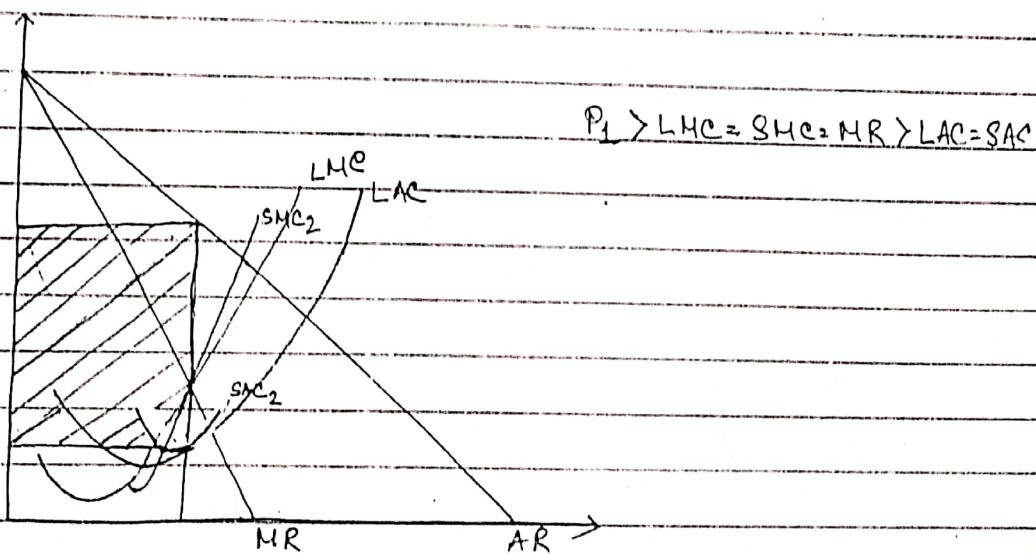
In the long run it is not necessary for the monopolist to reach an optimum scale and the monopolist will most probably continue to earn super normal profit even in the long run (given that entry is barred) and she will not stay in business if she makes losses in the long run. However the size of the plant and the degree of its utilisation crucially depends upon the market demand condition.

LESS THAN OPTIMUM SCALE



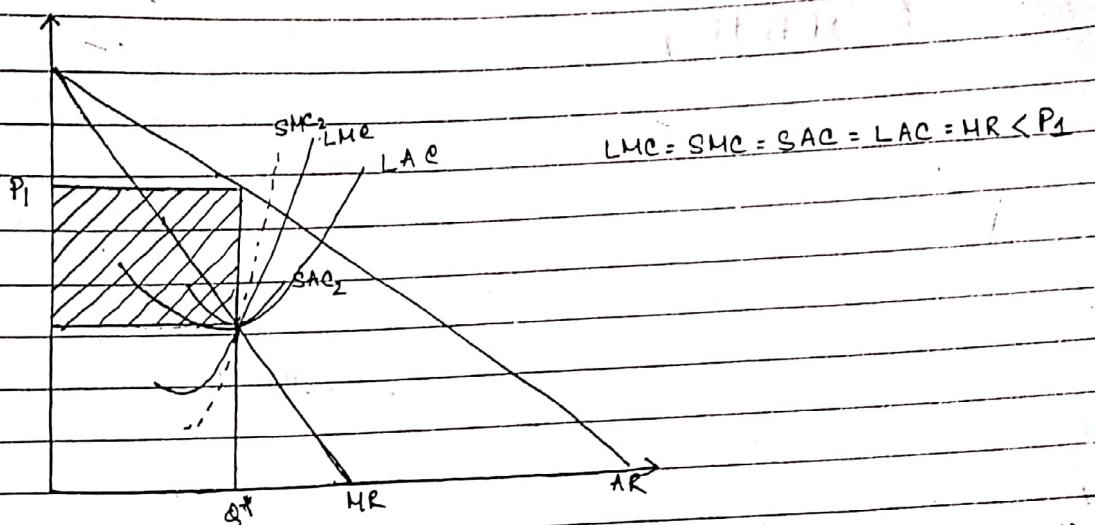
In the figure in the long run plant is of suboptimal size and is also under utilised. Here market size does not permit the monopolist to expand to the minimum point of LAC. So plant in this case has excess capacity.

OVER UTILISATION OF CAPACITY



In this case monopolist in order to maximise profit must build a plant size greater than optimal size (right of the minimum point of LAC) and we overutilise it. This happens when market size is unduly large.

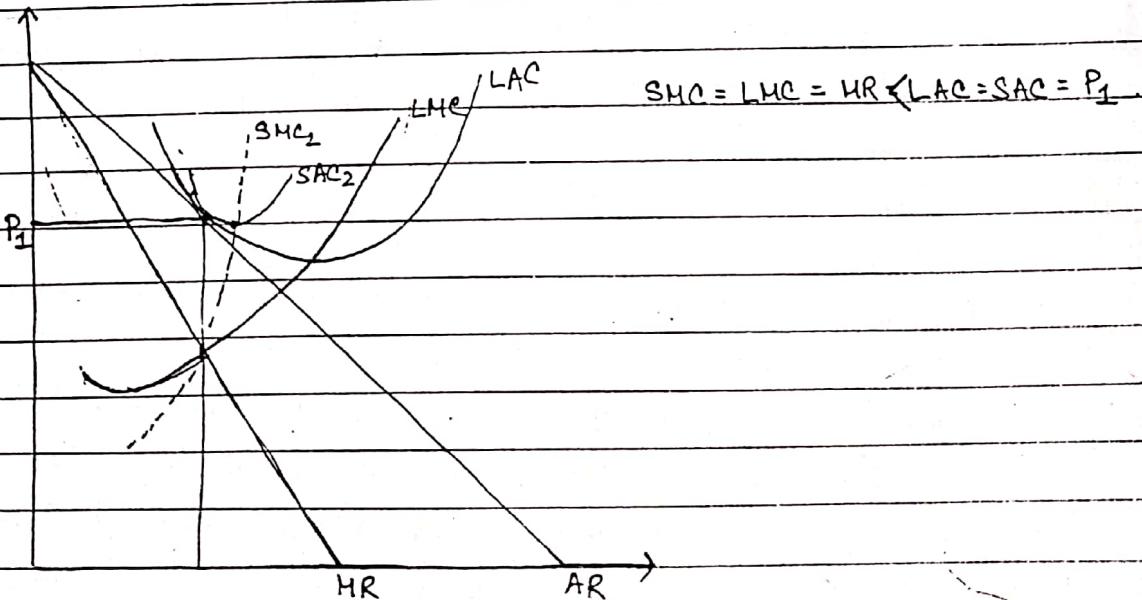
AT THE OPTIMUM SCALE



In this case market size is just large enough to permit the monopolist to build the optimum plant and to use it at full capacity.

CASE IV

In the case of monopolist depending on the demand condition the firm may just earn only normal profit hence $P \geq LAC$ in the long run in the pure monopoly case , case IV shows the case where economic profit is zero.



NATURAL MONOPOLY

BASIC POINTS

- Public Utility Services
- which has a higher fixed cost
- Entire range of demand is guided by strong economies of scale(s)
- Sub-additivity $\rightarrow C(Q) < C(a_1) + C(a_2) + \dots + C(a_n)$
where $Q = a_1 + a_2 + \dots + a_n$

A natural monopoly is a market in which the industry's output can be efficiently produced only by a single firm. In this case economies of scale may be so large that it is efficient for a single firm to supply the entire market rather than several firms compete.

CONDITIONS

The conditions for natural monopoly are:

- $C(Q) < C(a_1) + C(a_2) + \dots + C(a_n)$ where $Q = a_1 + a_2 + \dots + a_n$
thus the least expensive way to produce is to have one firm to produce all the Q units. A cost function is said to be sub-additive at Q if this inequality holds i.e. the existence of sub-additivity is a necessary condition for the existence of natural monopoly.

NOTE — Let the total cost function is $C = 50 + 10Q$. If output per day is 25 one firm can produce this amount at an AC of Rs 12 and the TC of Rs 300. On the other hand if there are two firms and one produces 12 unit and other produces 13 units then the total cost of production is $170 + 180 = 350$ which is greater than the cost of product of a single firm.

- The proportion FC to TC is very high in such an industry. Since the proportion of variable or operational cost is very low, the MC of supplying 1 extra unit is very low.

④ Because of the predominance of FC in these industries the economies of scale and optimum scale of production is very high so marginal and AC tend to decline even as output becomes very large.

⑤ Establishment of these industries require huge initial capital investment in fixed assets as a result when an enterprise operates below the optimum scale society is obliged to bear a heavy burden in terms of opportunity cost of unexhausted scale economies and underutilised fixed assets.

So these above four characteristics show why the supply of public utility services is economically viable only when there is a natural monopoly.

REGULATION OF NATURAL MONOPOLY

Government have often used the argument of natural monopoly to prevent private firms from operating in market but over time state ownership has proved to be an unsatisfactory instrument because they have been perceived to be much more inefficient than private enterprise for these reasons government might allow a single private firm to serve the market but would try to regulate its operation. We therefore turn to the case where the government allows a private firm to serve the market and tries to regulate it to limit any departure from competitive norms.

