Equilibrium of Producer under Perfect Competition

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Features of Perfect Competition

- Large number of Sellers
- Large number of Buyers
- Free Entry and Exit of Firms
- Perfect Substitute

Demand and Revenue Curves under Perfect Competition

- AR and MR are constant and equal
- AR and MR curves are horizontal lines parallel to X-axis

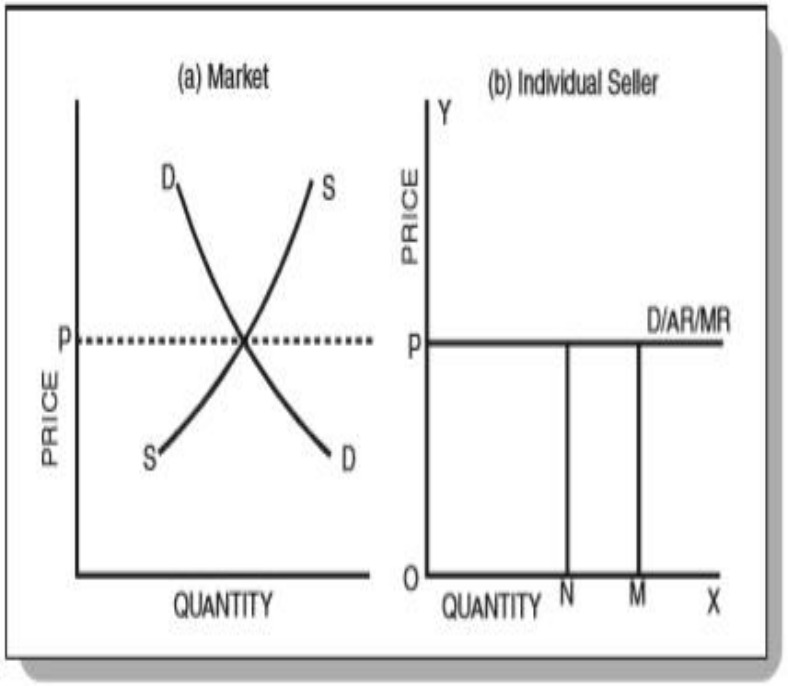


Fig. 2 : The firm's demand curve under perfect competition

Determination of Price and Output under Perfect Competition

- Total Revenue and Total Cost Analysis
- Marginal Revenue and Marginal Cost Analysis

Total Revenue and Total Cost Analysis

- Slope of Total Revenue is equal to slope of Total Cost

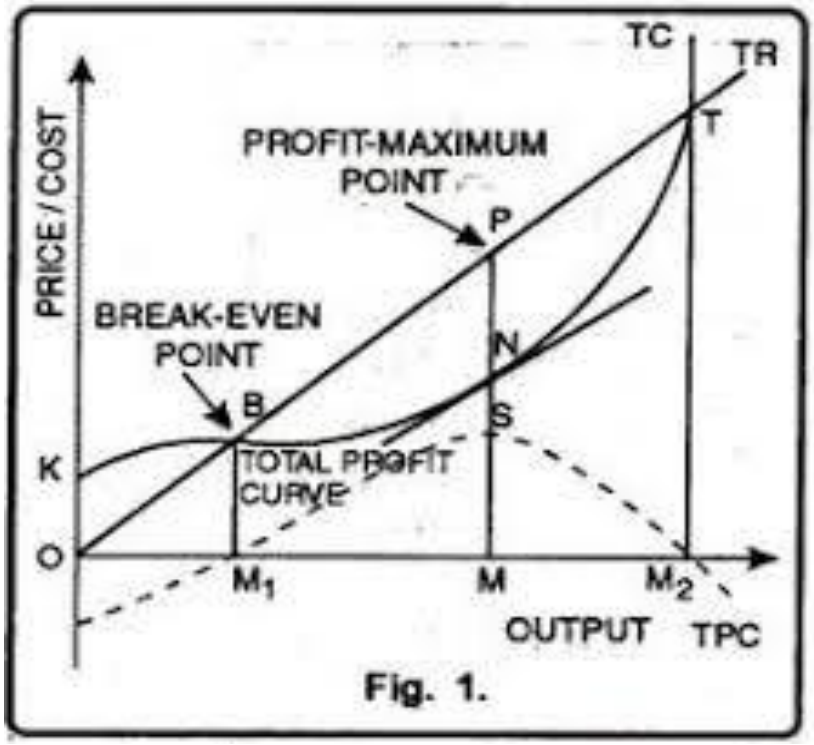


Fig. 1.

Marginal Revenue and Marginal Cost Analysis

Conditions

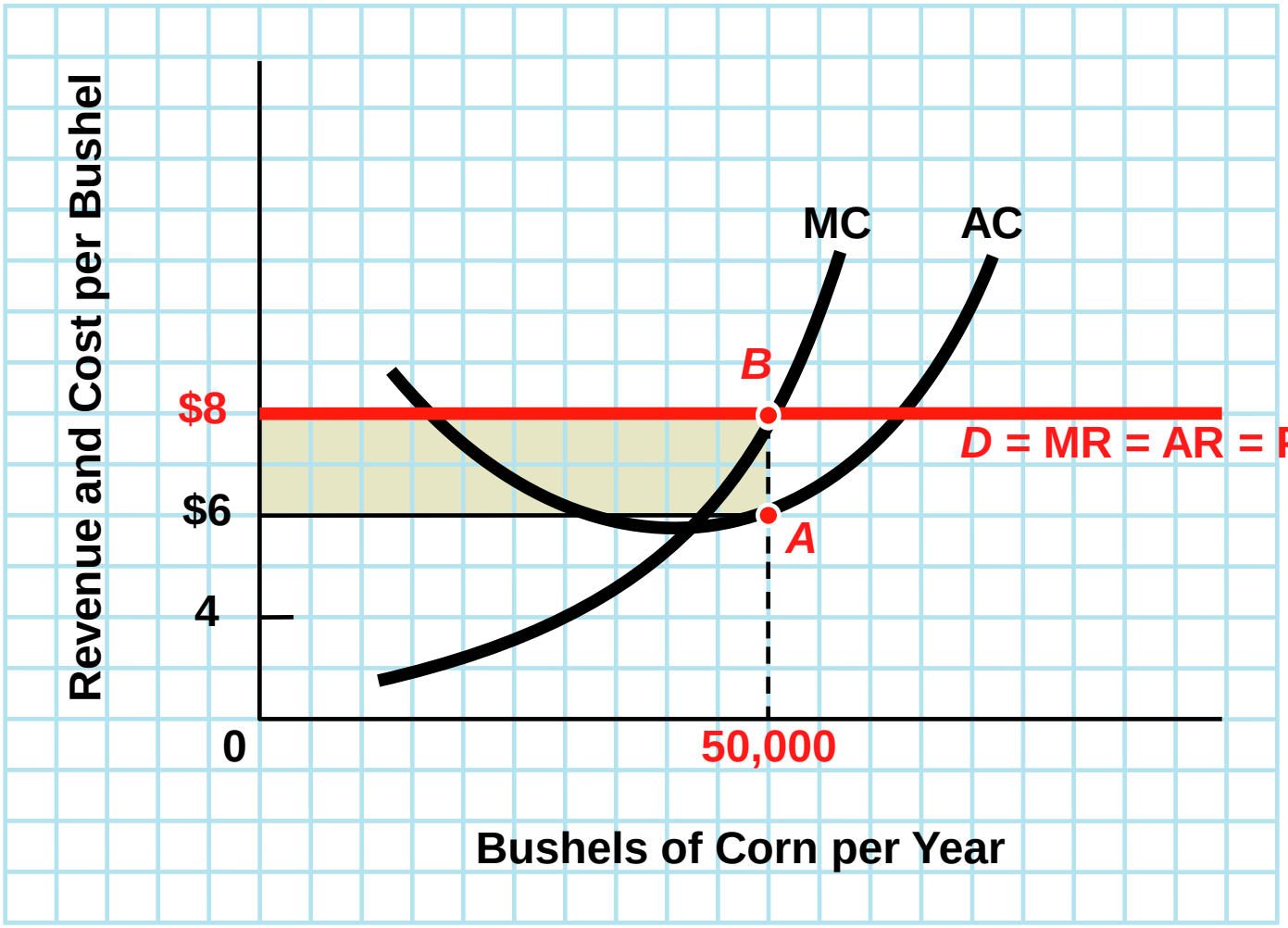
- Marginal Revenue is equal to Marginal Cost

  MR=MC
- Marginal Cost cuts Marginal Revenue from below

TABLE 1. Revenues, Costs, and Profits of a Competitive Firm

Quantity (1,000's of bushels)	Total Revenue ($1,000's)	Marginal Revenue ($1,000's)	Total Cost ($1,000's)	Marginal Cost ($1,000's)	Total Profit ($1,000's)
0	0	------	0	------	0
10	80	80	85	85	-5
20	160	80	150	65	10
30	240	80	180	30	60
40	320	80	230	50	90
50	400	80	300	70	100
60	480	80	450	150	30
70	560	80	700	250	-140

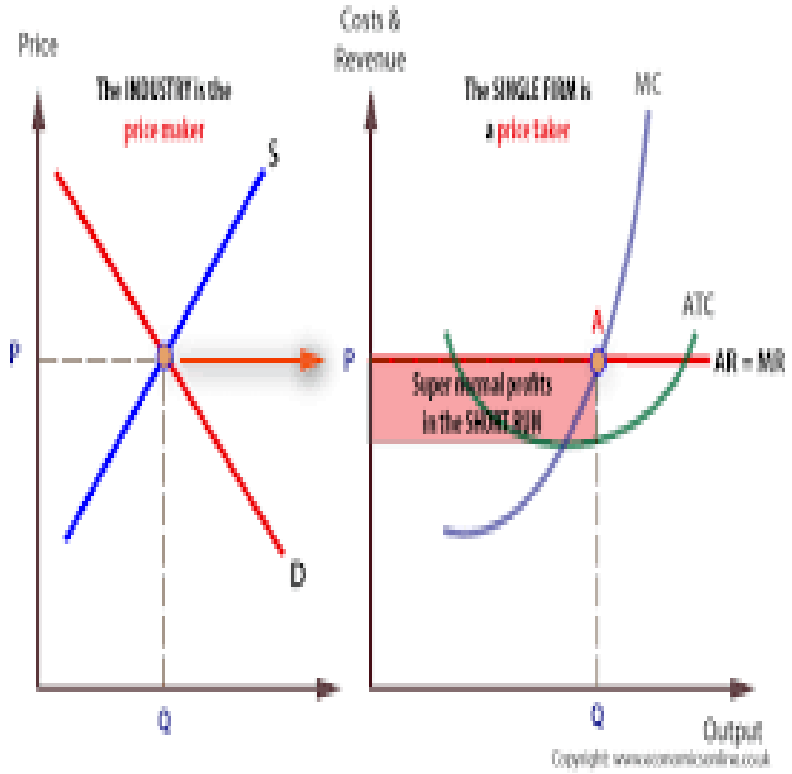
FIGURE 2. Short-Run Equilibrium of the Perfectly Competitive Firm



Short Run Equilibrium

Supernormal Profits

- Marginal Revenue is equal to Marginal Cost
- Marginal Cost cuts Marginal Revenue from below
- Average Revenue is more than Average Cost



Short Run Equilibrium

Normal Profits

- Marginal Revenue is equal to Marginal Cost
- Marginal Cost cuts Marginal Revenue from below
- Average Revenue is equal to Average Cost

Normal Profits : AR=SAC

- A Firm in Equilibrium earns normal profit, when average revenue (price per unit) determined by the Industry is equal to its short-run average cost (SAC)
- Firm equilibrium point=E, where MR (=AR) = SMC
- Equilibrium output=EM
- At this output AR and SAC both are equal to EM and Firm is earning normal profit per unit of output
- It results in no gain in terms of money for an entrepreneur as this profit is included in the cost of production

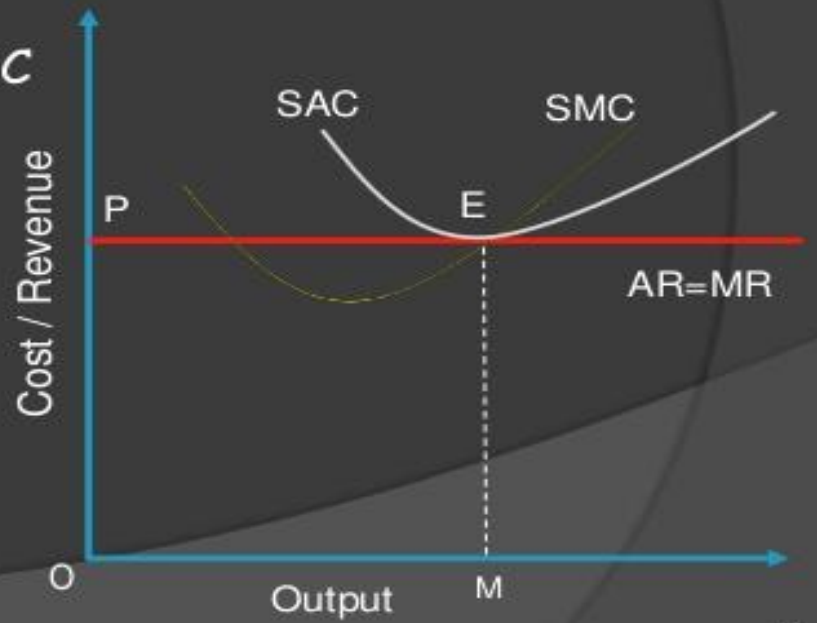
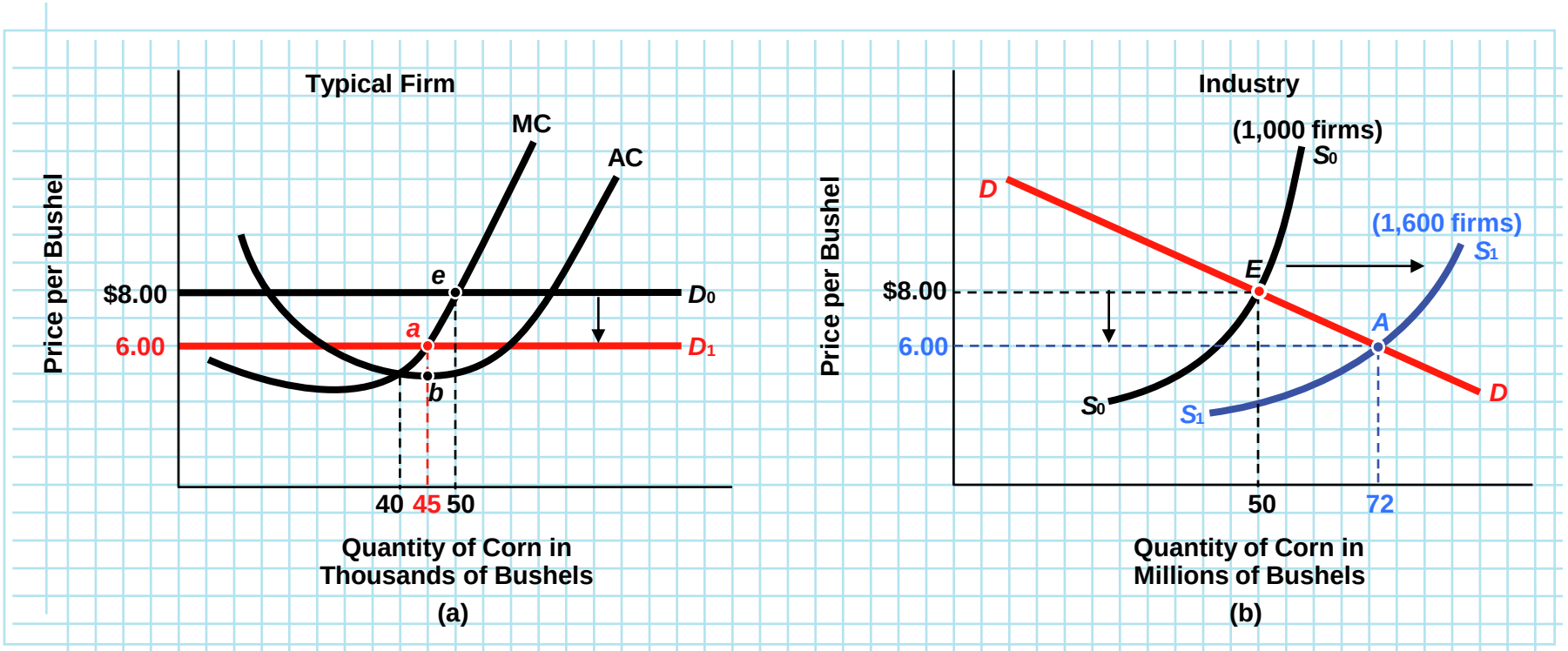


FIGURE 7. Entry of Firms into the Competitive Industry



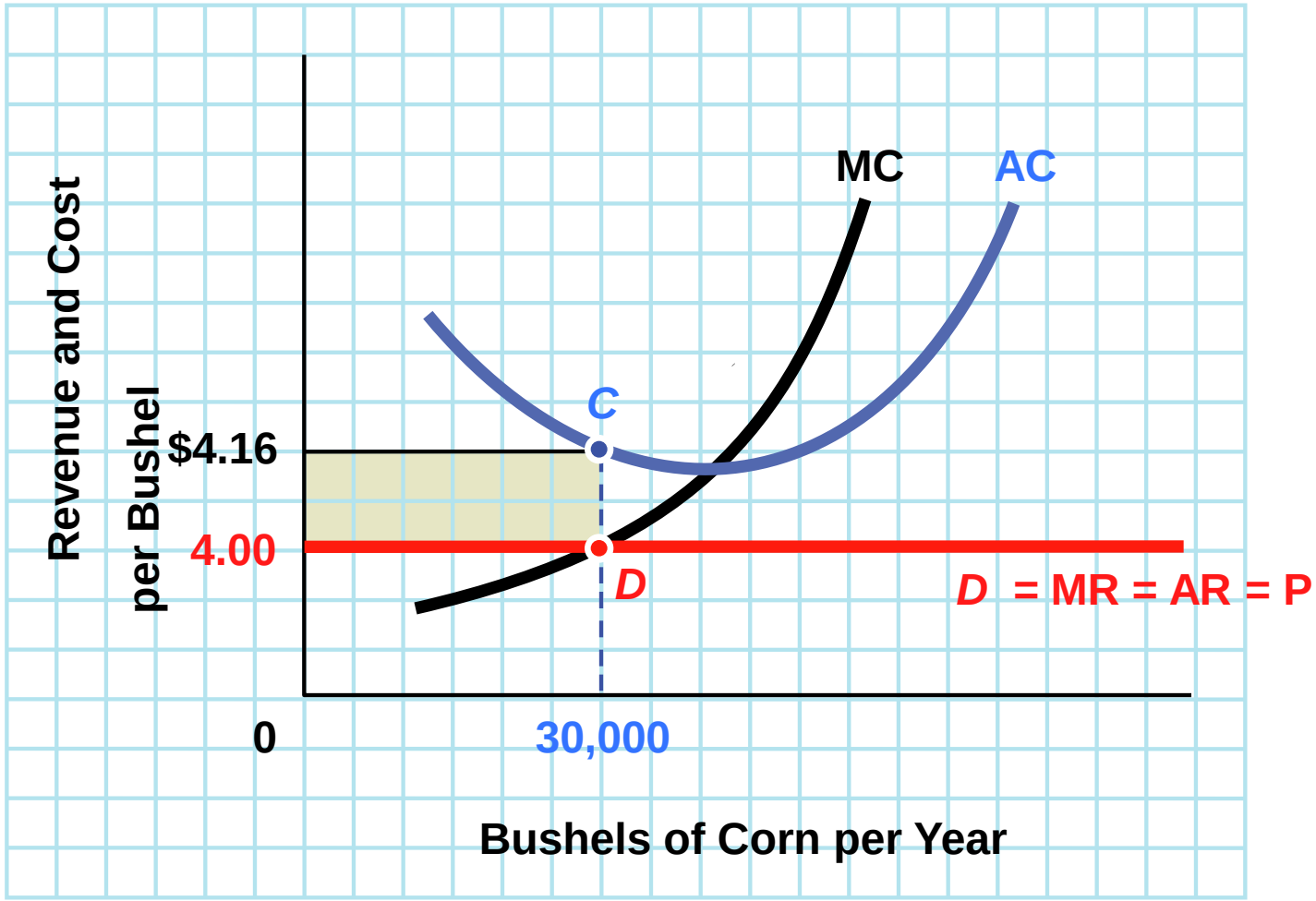
Typical firm earns profits at point e which encourages the entry of 600 new firms. This shifts industry S curve out and lowers P.

Short Run Equilibrium

Losses

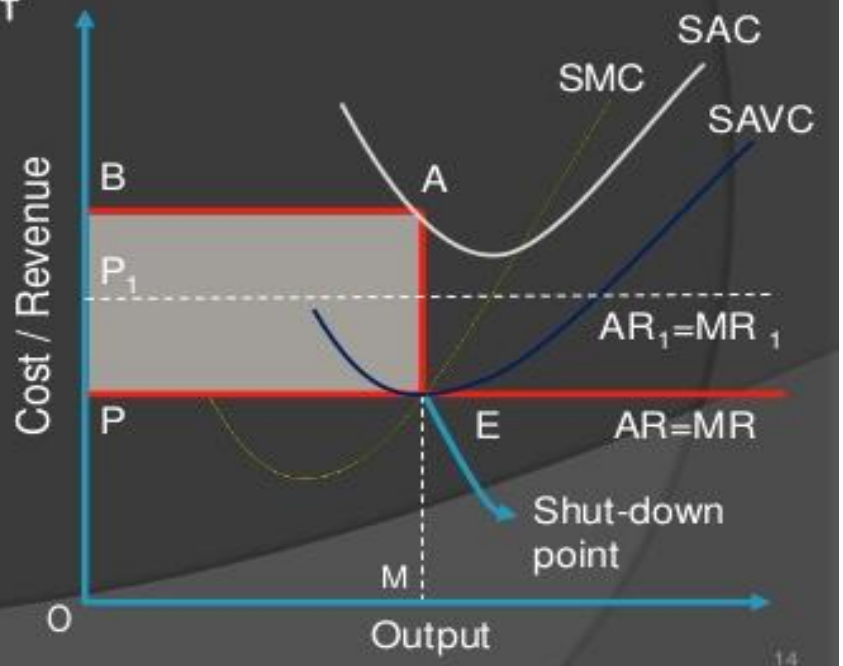
- Marginal Revenue is equal to Marginal Cost
- Marginal Cost cuts Marginal Revenue from below
- Average Revenue is less than Average Cost

FIGURE 3. Short-Run Equilibrium of Competitive Firm with Losses



Shut down Point : AR<SAC : AR=SAVC

- The firm will shut down if it cannot cover average variable costs i.e when AR=SAVC
- A firm should continue to produce as long as price is greater than average variable cost
- Once price falls below that point it makes sense to shut down temporarily and save the variable costs
- If prices rises to OP_1 than Firm can cover some of its Fixed costs also
- So the minimum point of SAVC is called Firm's Shut down point
- The shutdown point is the point at which the firm will gain more by shutting down than it will by staying in business



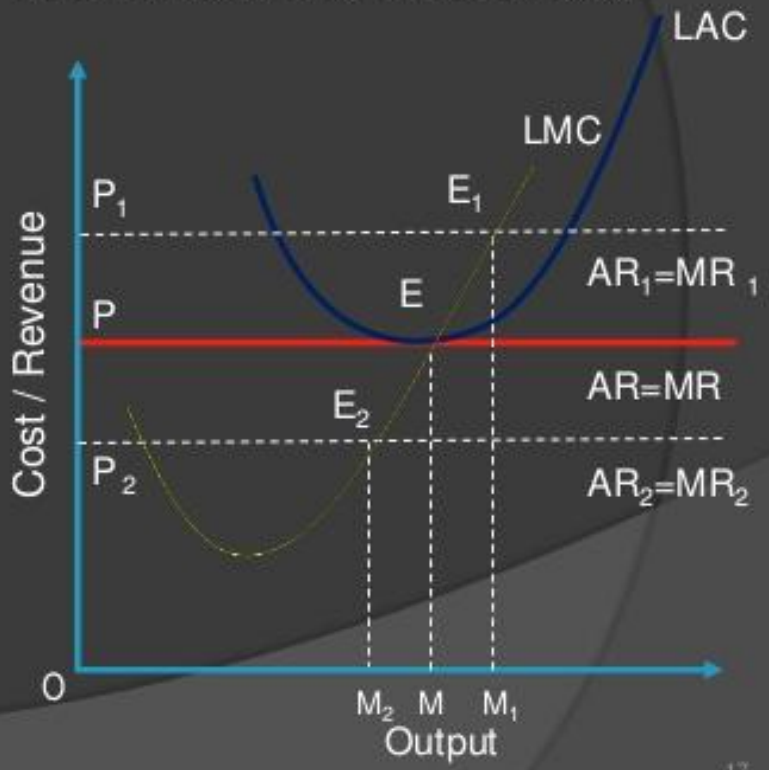
Long Run Equilibrium

Supernormal Profits

- Marginal Revenue is equal to Marginal Cost
- Long Run Average Revenue is equal to Long Run Average Cost
- Equilibrium is at optimal point

Contd..

- Firm equilibrium is at the minimum point of its LAC and at this point the Firm will get the normal profits
- If AR (price) rises to OP_1, then Firm's LMC cuts its MR1 at E_1 and the firm gets super-normal profit but again come to OP yielding normal profits as stated before
- And at price OP_2 Firm incurs losses but again rise to level OP to maintain the equilibrium at normal profit
- Firms equilibrium: MC=MR=AR=min LAC



Thank You