

The Shutdown Decision

AP Microeconomics | Unit 3 | the shutdown rule and the short-run supply curve

Running example. The bakery's fixed cost is \$100 a day. Minimum AVC is \$40 and minimum ATC is \$70. The price of bread falls to \$60.

1. A loss is not a reason to close

At \$60 the best output is 4 batches ($MR = MC$).

	Stay open	Shut down
Revenue	$4 \times \$60 = \$240$	\$0
Variable cost	\$180	\$0
Fixed cost	\$100	\$100
Loss	\$40	\$100

In the short run the fixed cost is paid either way (it is sunk), so it cannot decide anything. The only question is whether producing brings in more than it adds in variable cost.

2. The shutdown rule

Short-run shutdown rule

Operate if $TR \geq VC$, that is, if $P \geq AVC$.

Shut down if $P < AVC$. A firm that shuts down still loses its fixed cost.

Check: at 4 batches $AVC = \$45$ and $P = \$60$. Each batch covers its variable cost and contributes \$15 toward the fixed cost.

3. Three price zones

P above minimum ATC	economic profit: produce
P between minimum AVC and minimum ATC	a loss smaller than the fixed cost: keep producing
P below minimum AVC	shut down: lose only the fixed cost

The minimum of AVC is the **shutdown point**. The minimum of ATC is the *break-even point*.

4. The short-run supply curve

At each price the firm produces where $P = MC$, unless it shuts down.

Firm's short-run supply curve

The **MC curve above the minimum of AVC**. Below that price the quantity supplied is zero.

Shut down	short-run decision: produce zero, still pay fixed costs	$P < AVC$
Exit	long-run decision: leave the industry, no costs	$P < ATC$

Where students lose points

1. Shutting down because $P < ATC$: in the short run compare with AVC .
2. Saying a firm that shuts down loses nothing: it loses its fixed cost.
3. Drawing the supply curve as the whole MC curve.
4. Mixing up shut down (short run) and exit (long run).
5. Comparing price with AVC at the wrong quantity.

Now practise it

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