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# Perfect Competition and the Supply Curve



# Review

**Market structure**

**Perfect competition – characteristics**

**Price taking firm: what Q to produce?**

**Can calculate using  $MR = MC$  (Optimal output rule)**

**Break even price**

**Calculating profits and losses (market price versus break even price x Quantity)**

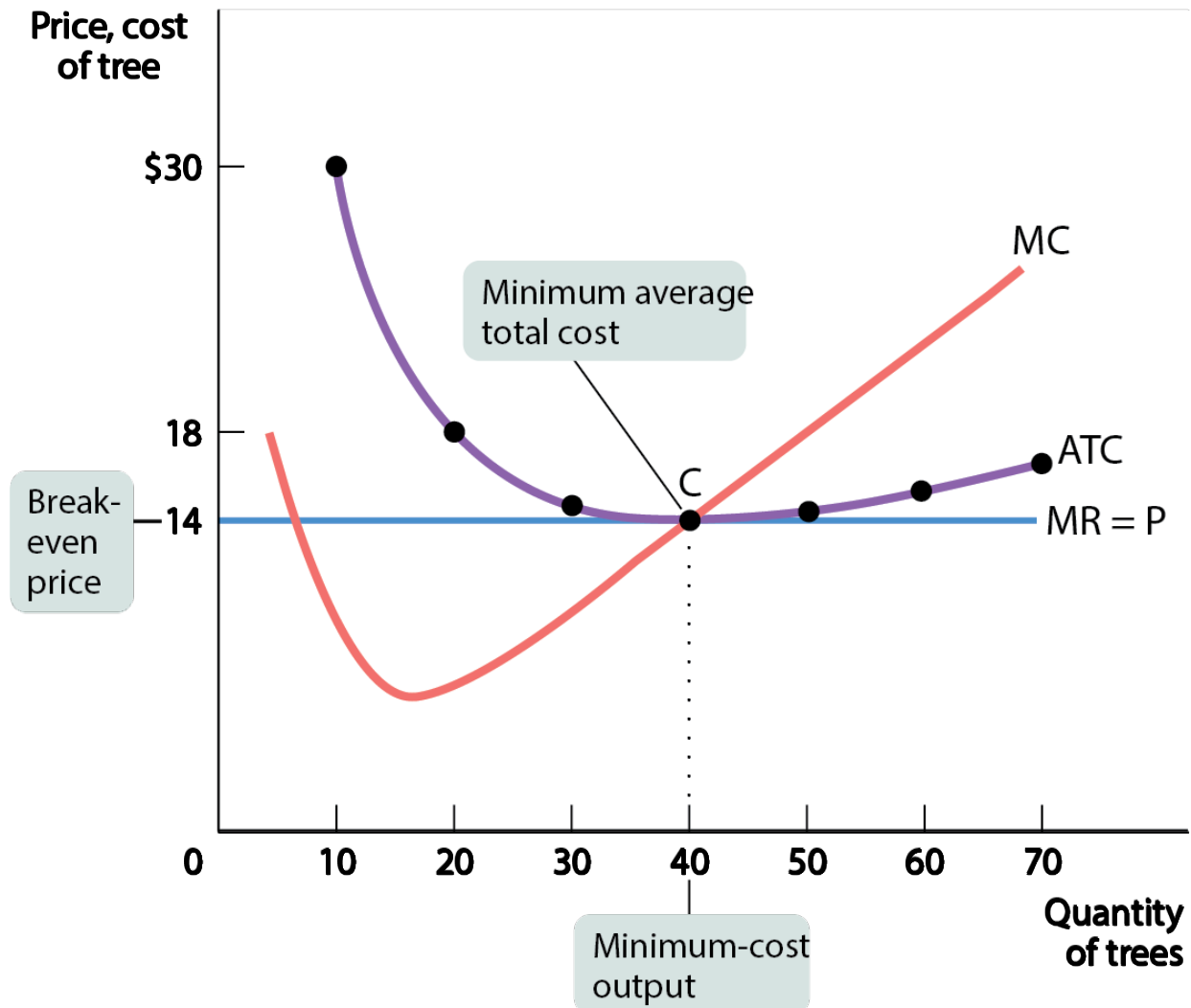
**Today's lesson:**

**Counterintuitive result – sometimes better to produce even when loss (to reduce the amount of loss)**

# PERFECT COMPETITION: KEY CHARACTERISTICS

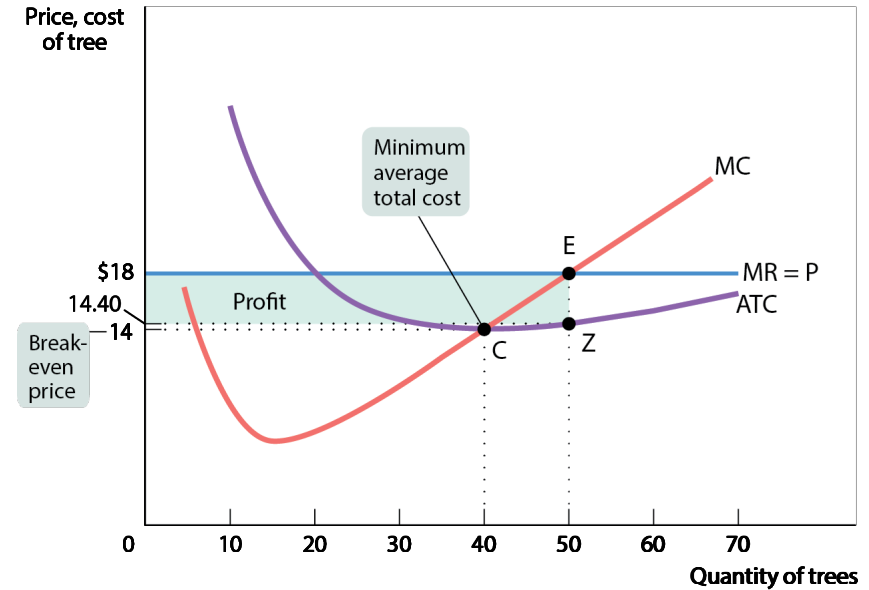
- 1. There are many buyers and sellers, each with a small market share.**
- 2. The product is standardised across sellers.**
  - **Standardised product (aka *commodity*):** consumers regard different sellers' products as equivalent
- 3. Free entry and exit.**
  - New producers can easily enter into an industry and existing producers can easily leave that industry.

# COSTS AND PRODUCTION IN THE SHORT RUN

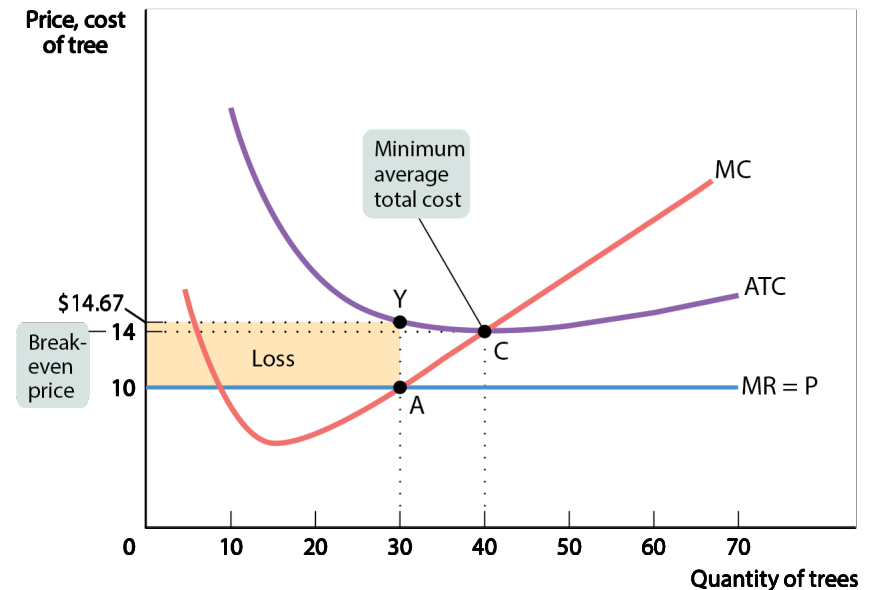


# PROFITABILITY AND THE MARKET PRICE

(a) Market Price = \$18



(b) Market Price = \$10



Should a firm stop producing if its making losses? The answer is – surprisingly – not in every case!



# SHOULD I STAY OR SHOULD I GO?

- Losses don't mean immediate shutdown.
- Remember, fixed costs must be paid regardless of whether the firm produces in the short run.
- (Remember : “sunk costs” Fixed cost in short run is similar)
- Firms will choose to produce (even at a loss) **if they can cover their variable AND SOME of their fixed costs.**
- It may be cheaper for the firm in some cases to lower the total fixed cost by producing some output with variable inputs, total revenue > fixed cost + variable costs  
**Christmas tree farm example: farmland, wages**
- In this case, firm is maximizing output by minimizing costs

# SHOULD I STAY OR SHOULD I GO? PART 2

- **the fixed cost doesn't determine if firms stay or leave, the average variable cost does**
- **Shortcut: Is the price at or below the “shut-down price”?**
  - **Shut-down price:** minimum average variable cost
  - **Minimum of the average variable cost curve (again U-shaped)**

# THE SHORT-RUN INDIVIDUAL SUPPLY CURVE

Average variable cost  
Curve always below  
Average total cost curve.

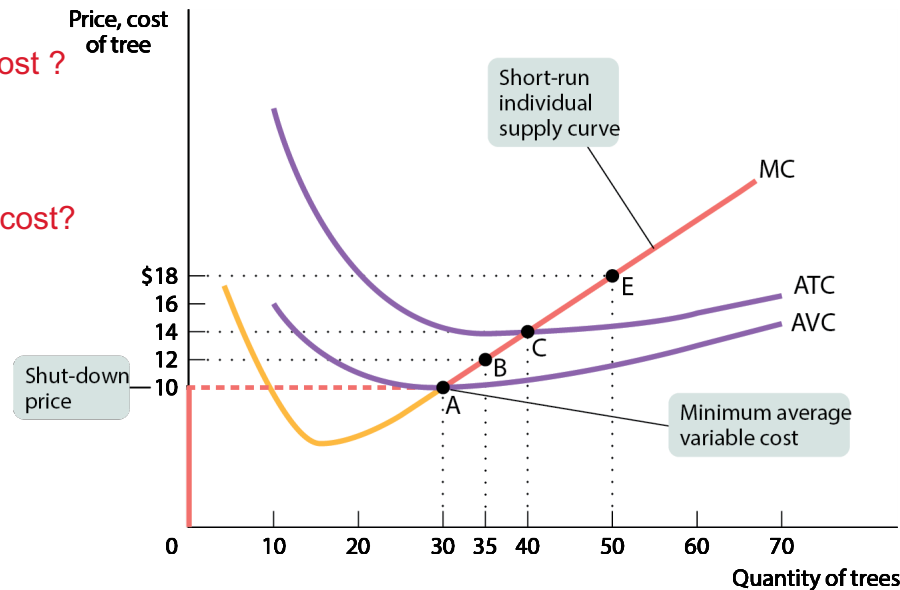
Difference between the curves  
is fixed cost/Quantity

Market price < min Average variable cost ?  
No Quantity gives lower loss than FC  
Eg. Below \$10

Market price  $\geq$  min Average variable cost?  
Firm will produce at marginal cost

C: \$14 Break even  
E: Profits

B: Eg. \$12 losses but still produce!



**A firm will produce at every price above minimum *ATC* where price intersects the *MC* curve...  
...but will stop producing in the short run if the market price falls below the shut-down price...  
...so the *MC* curve (above shut-down price) is the firm's supply curve.**

**We can find the firm's individual supply curve (marked in red)**



# CHANGING FIXED COST

- Buying or selling equipment allows a firm to change its fixed cost.
- (in reality .. firm specific capital)
- A firm will choose the level of fixed cost that minimizes the average total cost for its desired output quantity—and that may mean closing down altogether. (Other firms can buy the fixed input at competitive prices. In reality-.. entrants have newer vintages of technologies)

