PRINCIPLES OF MICROECONOMICS · LECTURE 13

Entry, Exit, and Where Profit Goes

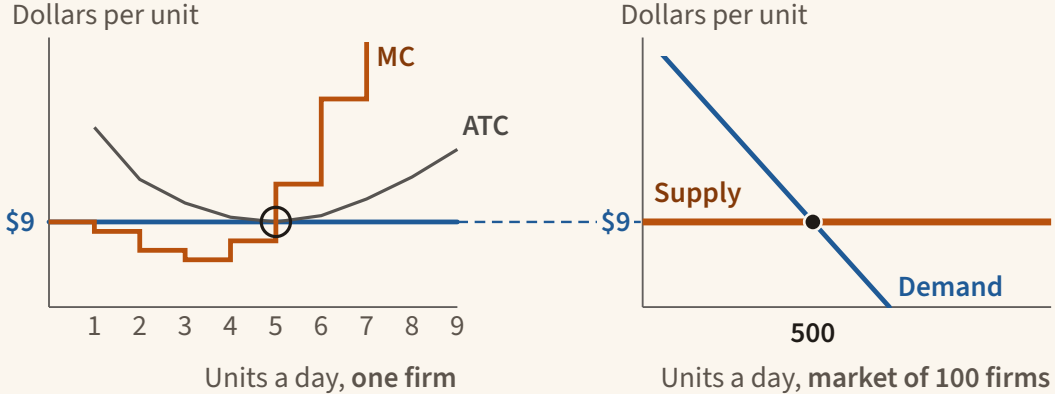
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HOW TO READ THE CHARTS

- **Blue**: price and demand
- **Orange**: marginal cost and supply
- **Teal**: profit
- **Hatched**: money lost

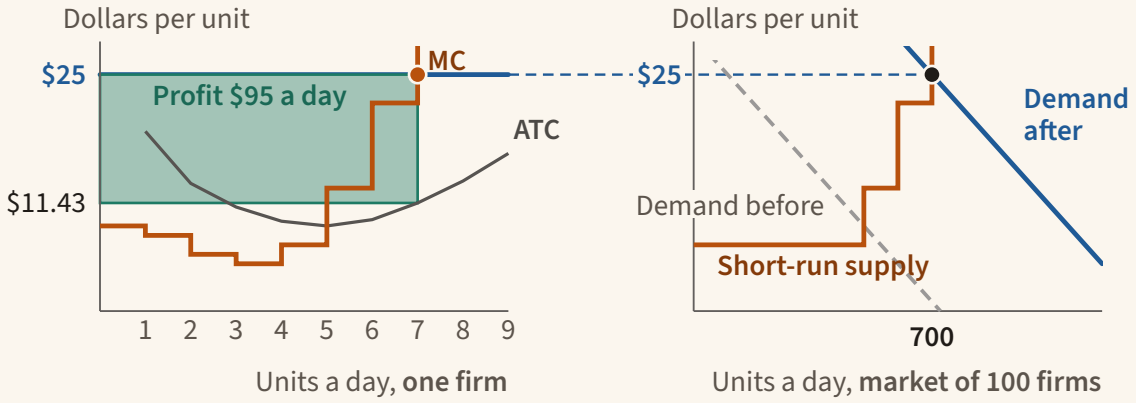
Suppose 100 Firms Just Break Even at $9

Suppose 100 firms like Lecture 12's. At $9 each makes 5 units, and sales of $45 equal total cost. That cost includes a normal return to the owner, so zero profit means the owner does as well here as anywhere else. Anyone can set up one more firm like these at $9, so supply is flat.



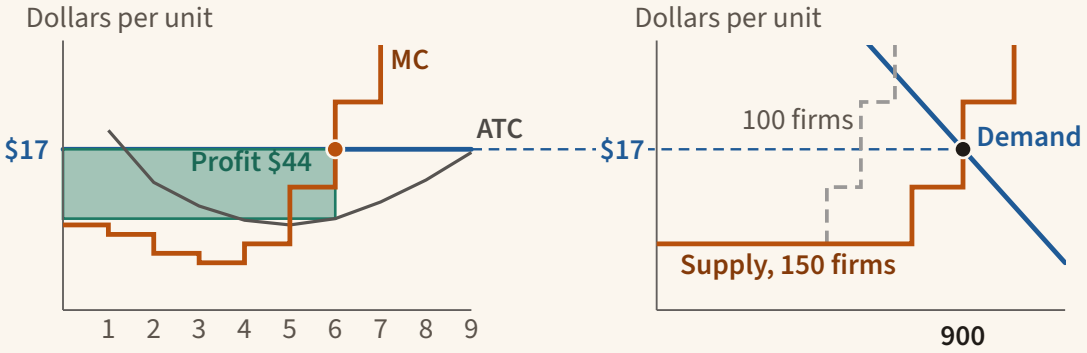
Demand Rises, and the Price Jumps to $25

Demand rises. New firms take time to set up, so for now supply is the 100 firms' marginal costs added up. The price rises to $25 and each makes 7 units. Profit = sales $175 — running cost $70 — equipment $10 = **$95 a day**.



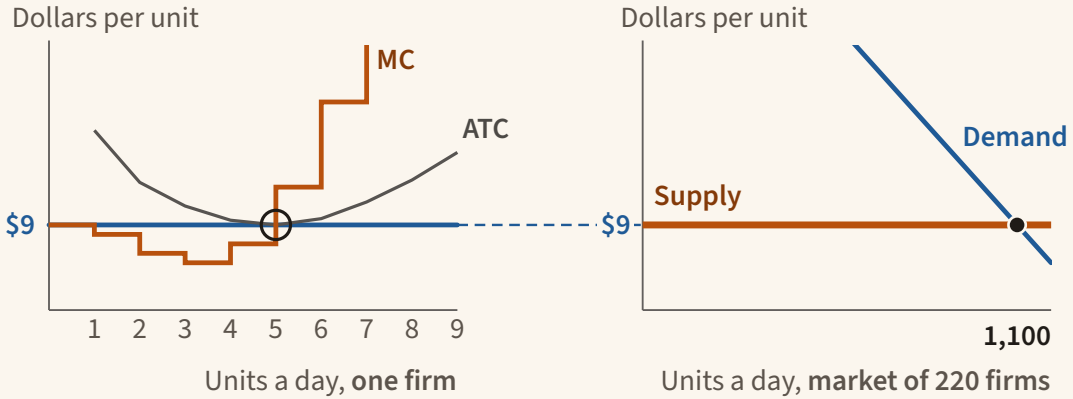
A $95 Profit Draws New Firms In

Others see $95 a day and set up the same equipment. Suppose 50 have entered: supply shifts right, the price falls to $17, and each firm makes 6 units and **$44 a day**. Still a profit, so entry goes on.



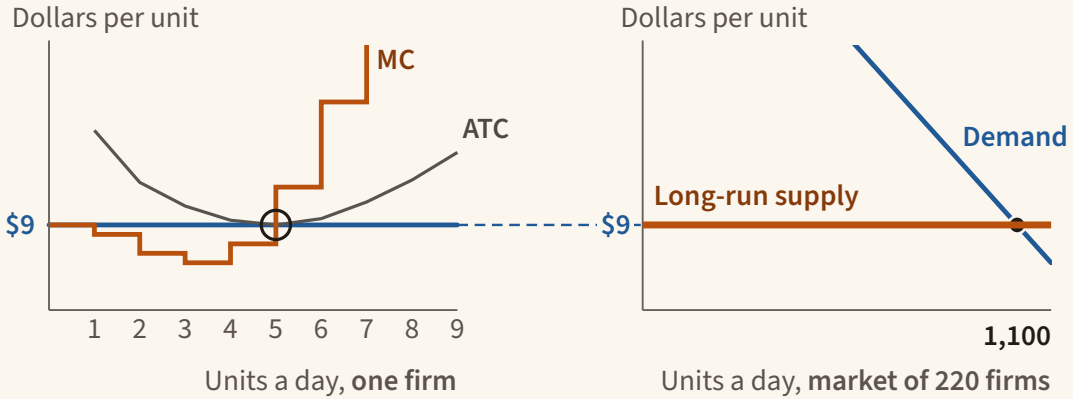
Entry Stops When the Profit Is Gone

Entry stops at 220 firms. The price is back to $9, each firm makes 5 units, and profit is zero again. The market makes 1,100 units, up from 500, at the old price.



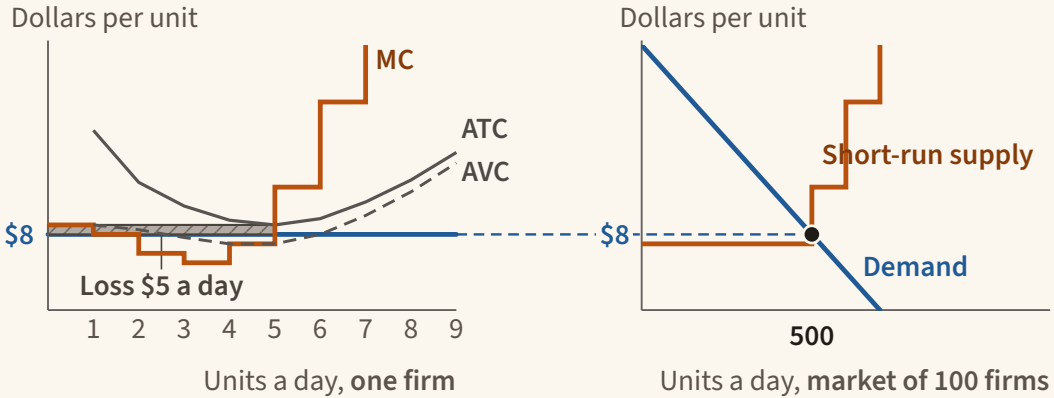
In the Long Run, Supply Is Flat at $9

Suppose every new firm has these same costs, and entry does not raise what firms pay for inputs. Then long-run supply is flat at $9, the lowest average total cost. A price above $9 lasts only until new firms arrive.



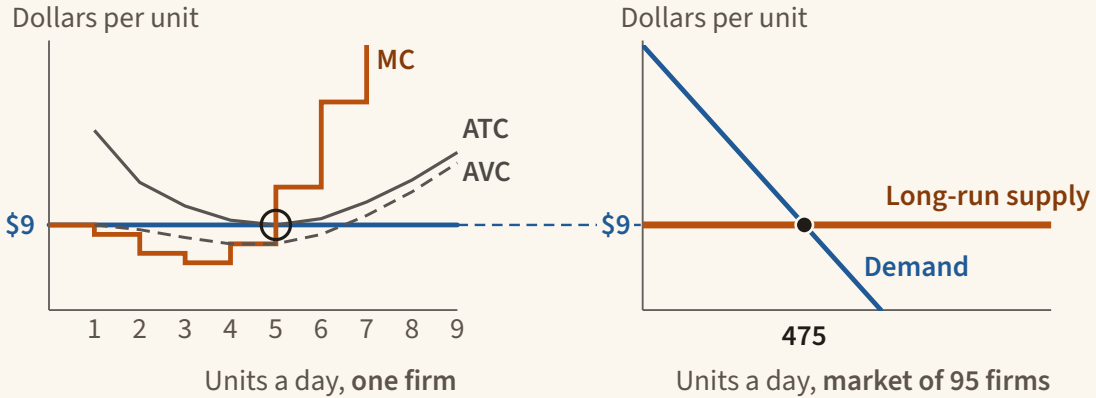
Suppose Instead the Price Falls to $8

Start again from 100 firms at $9. Suppose demand falls for good, and the price drops to $8. Each firm still makes 5 units, because $8 beats the $7 running cost per unit (Lecture 12). It loses **$5 a day**, against $10 if it shut down.



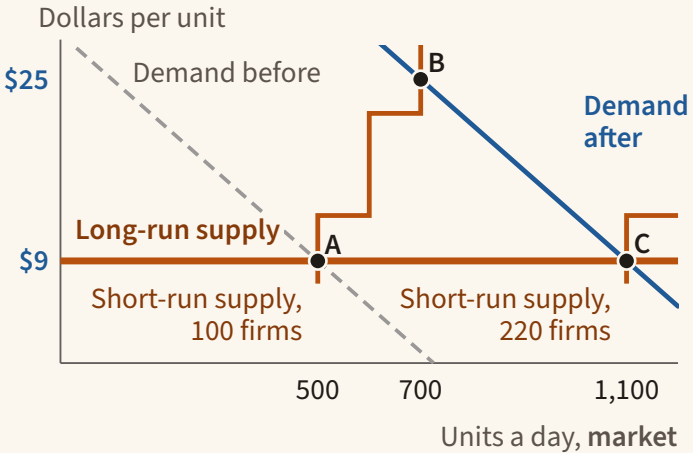
Exit Stops When the Price Is Back to $9

At $8, replacing worn-out equipment does not pay: $8 is below the $9 lowest average total cost. So firms leave as their equipment wears out, and supply shrinks until the price is back to $9. Buyers then want 475 units, from 95 firms.



Short-Run and Long-Run Supply Together

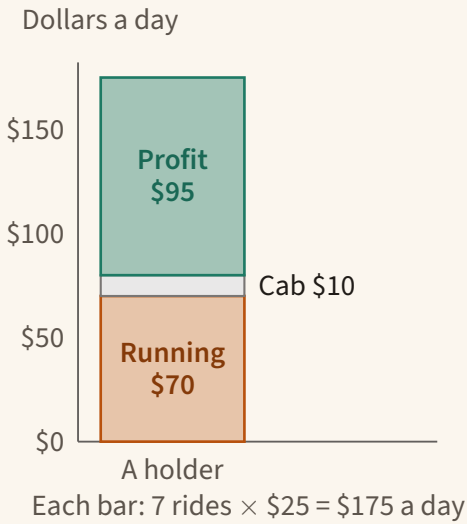
1. Short run: demand rises, and the price jumps along short-run supply, A to B.
2. Long run: profit draws firms in, moving short-run supply right until the price is back at $9, C.
3. Long-run supply joins A and C.



Suppose the City Issues Only 100 Medallions

Go back to the rise in demand: 100 firms, a price of $25. Suppose the firms are taxis: a unit is a ride, and the $10 equipment is the cab. Each cab needs a medallion, a city license, and the city has issued only 100. So the fare stays at $25, and each holder earns **$95 a day**.

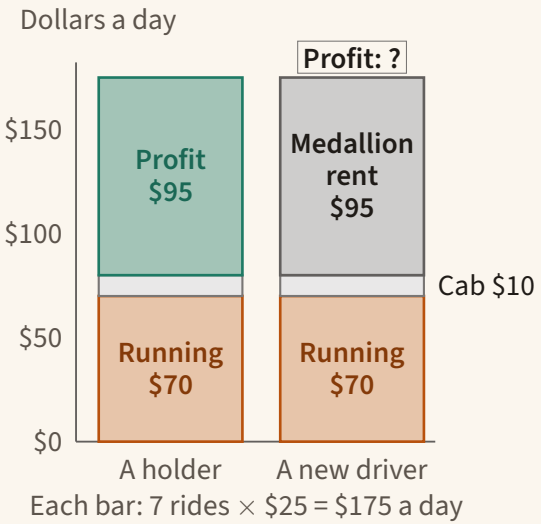
Without the cap, new cabs would enter until the fare fell back to $9, as before. The cap stops that, so the $95 stays. Who gets it?



Would-Be Drivers Bid for the Medallions

A medallion adds $95 a day to whoever drives with it. Many would-be drivers want one, so they bid against each other until the rent is $95 a day.

Suppose a new driver rents a medallion for $95 a day. What is his profit?

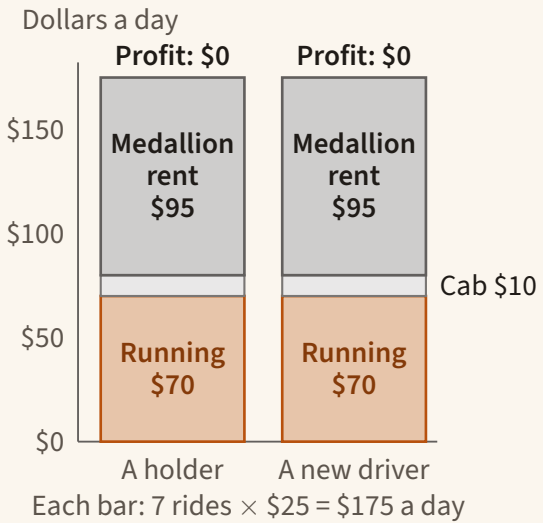


The Profit Became the Medallion's Rent

The new driver earns $0: the $95 a day is now a cost. So does the holder: driving his own cab means giving up $95 a day of rent.

The holder's gain was a one-time jump in the medallion's value: a buyer pays today for the future rent. The profit is capitalized into its price.

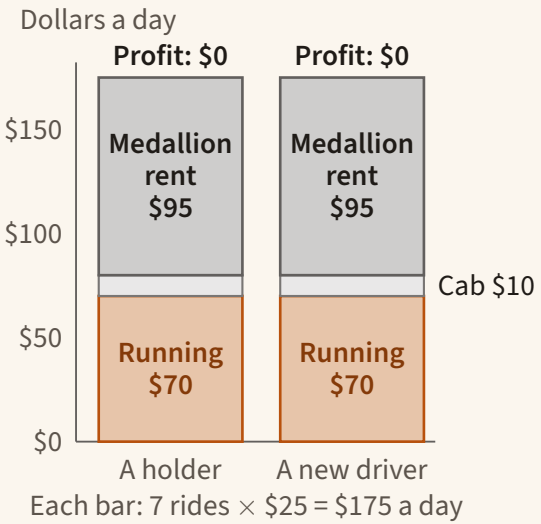
Competition still takes profit to zero. Free entry pushes the fare down; with a cap, bidding pushes the medallion's rent up.



Who Fights More Medallions?

The cap, not the rent, keeps the fare at $25. A ride still costs as little as $9 to provide. Lift the cap and new cabs enter until the fare is $9 and a medallion is worth nothing.

Riders gain. Current holders lose their medallions' value, so they fight more medallions. A new driver earns an ordinary return either way.



No One Has to Calculate Any of This

1. Each firm makes units out to where its rising marginal cost passes the price, so the last unit made is worth at least as much to its buyer as it cost to make.
2. With free entry, and entrants like these, the price settles at the lowest average total cost, $9: the product is made at the lowest cost per unit.
3. No manager needs to know marginal cost to the penny. Firms that keep losing money tend to change or leave; profitable methods tend to grow and get copied. Luck and finance matter too.

This holds only when prices include every cost and no one outside the trade bears one (Lecture 8). A taxi medallion cap breaks line 2: it keeps out rides that riders value above their $9 cost.