

Barriers to Entry and Competition



How entry barriers change
the nature of competition

Price Setting



- Demand/Supply analysis assumes that there are many buyers and sellers
 - no single agent has control over market outcomes
 - each agent is a price-taker: their own decisions has no influence on market price
 - In contrast, a monopolist has some power over price -- given by the elasticity of the demand curve they
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Prices as Signals



- In perfectly competitive markets, prices act as signals for decision-making
 - When prices are relatively high, this sends producers a signal that they can earn more by expanding output or entering a market
 - When prices are relatively low, producers must contract output or some must exit the market.
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Conditions for Perfect Competition



- Large number of buyers and sellers
 - Goods offered are functionally identical
 - Demand curves facing individual firms are perfectly elastic
 - Freedom of entry and exit
 - Profits act as a signal regarding whether to enter or exit an industry
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Efficiency Properties



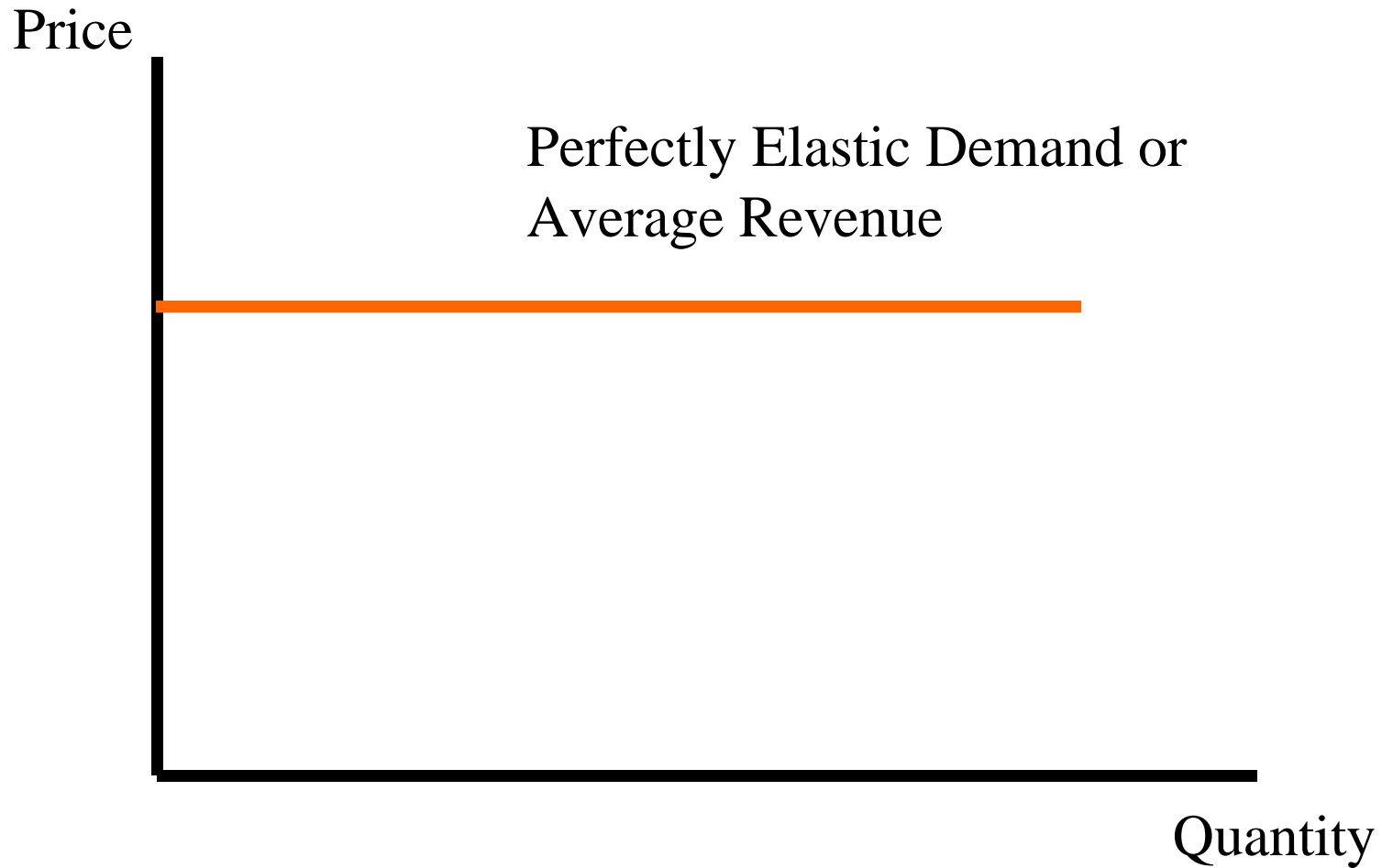
- Perfect competition ensures that prices in the long-run equal marginal cost
 - maximise value created
 - allocative efficiency
 - Perfect competition ensures that production is carried out at the minimum cost
 - Productive efficiency
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Perfectly Elastic Firm Demand



- The market demand curve for pens is downward sloping (that is, not perfectly elastic).
 - Why? Because individual consumers have different willingnesses-to-pay for different quantities of pens
 - Individual firm demand is flat.
 - Why? Because the pens sold by the newsagent and supermarket are close substitutes
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Demand and Revenue



What is Marginal Revenue?



Flat Marginal Revenue



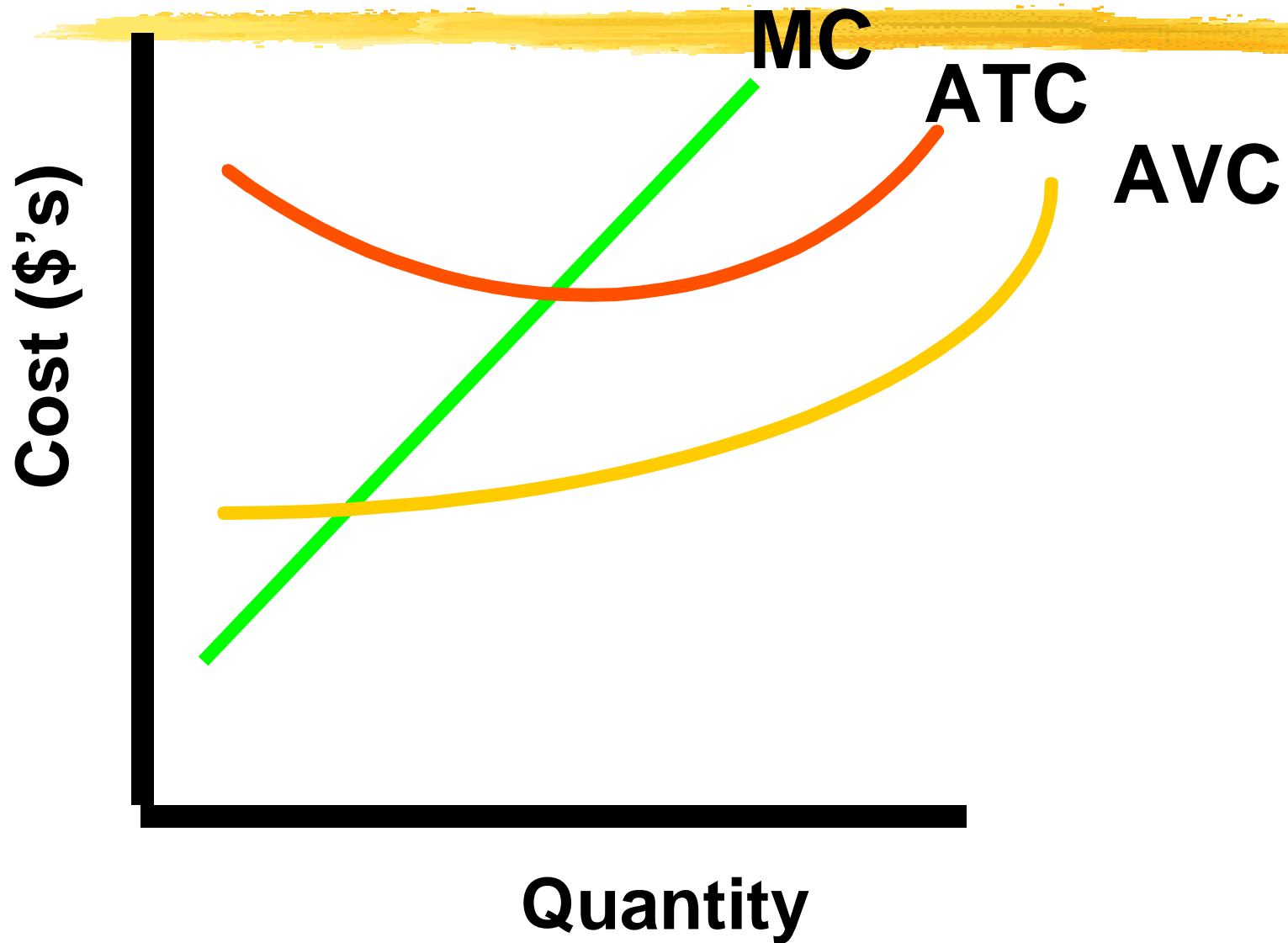
- As a firm produces more, the price per unit of output sold does not fall
 - Why? The firm is a price taker.
 - In a perfectly competitive market, a firm cannot influence price. Therefore, the firm is unconstrained and can sell as much as it wants at the prevailing price
 - Unless they get really big and start to hit market demand. But their costs prevent this.
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Optimal Output: A Review

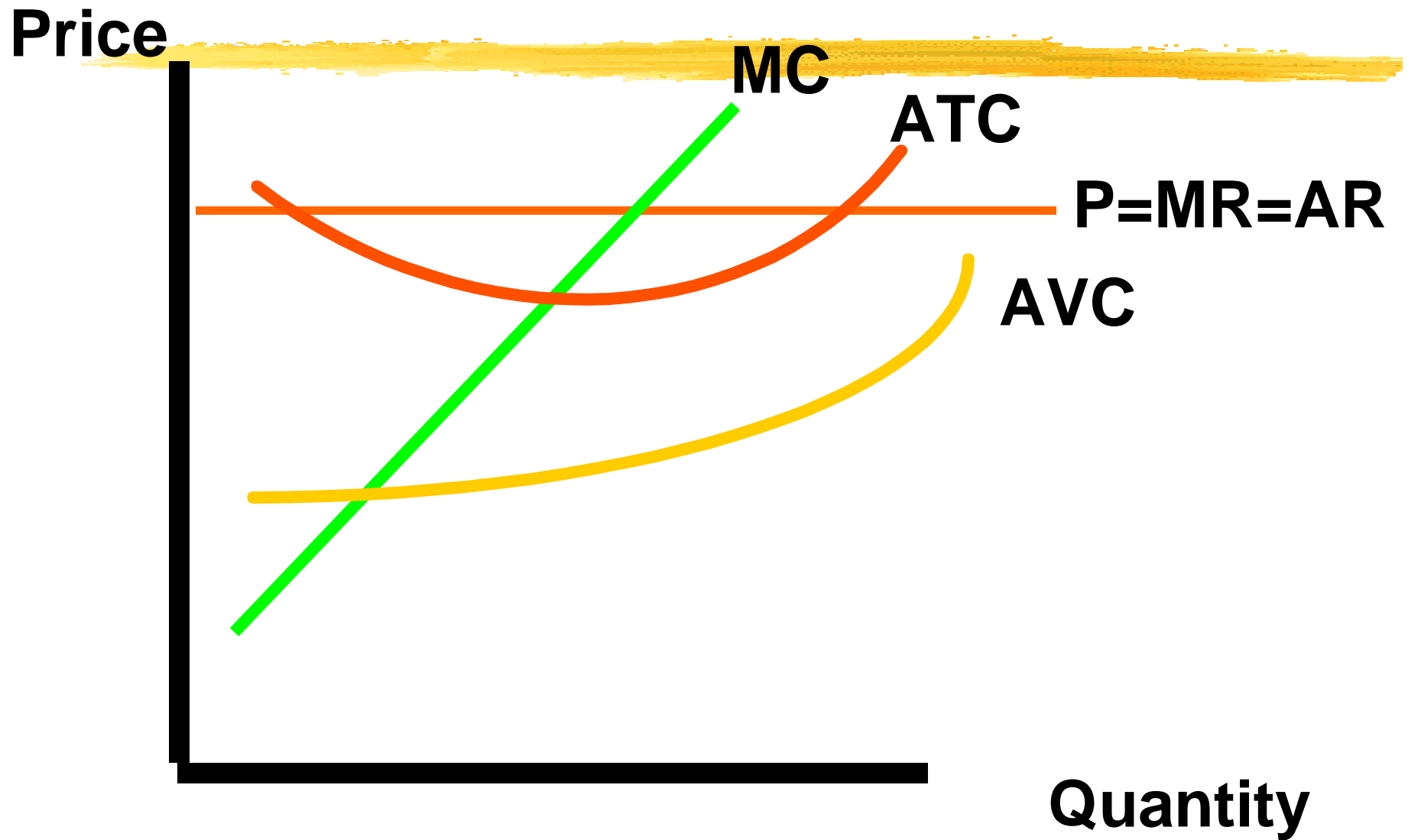


- Firms attempt to maximise profit
- The profit maximising output level occurs where marginal revenue (MR) equals marginal cost (MC)

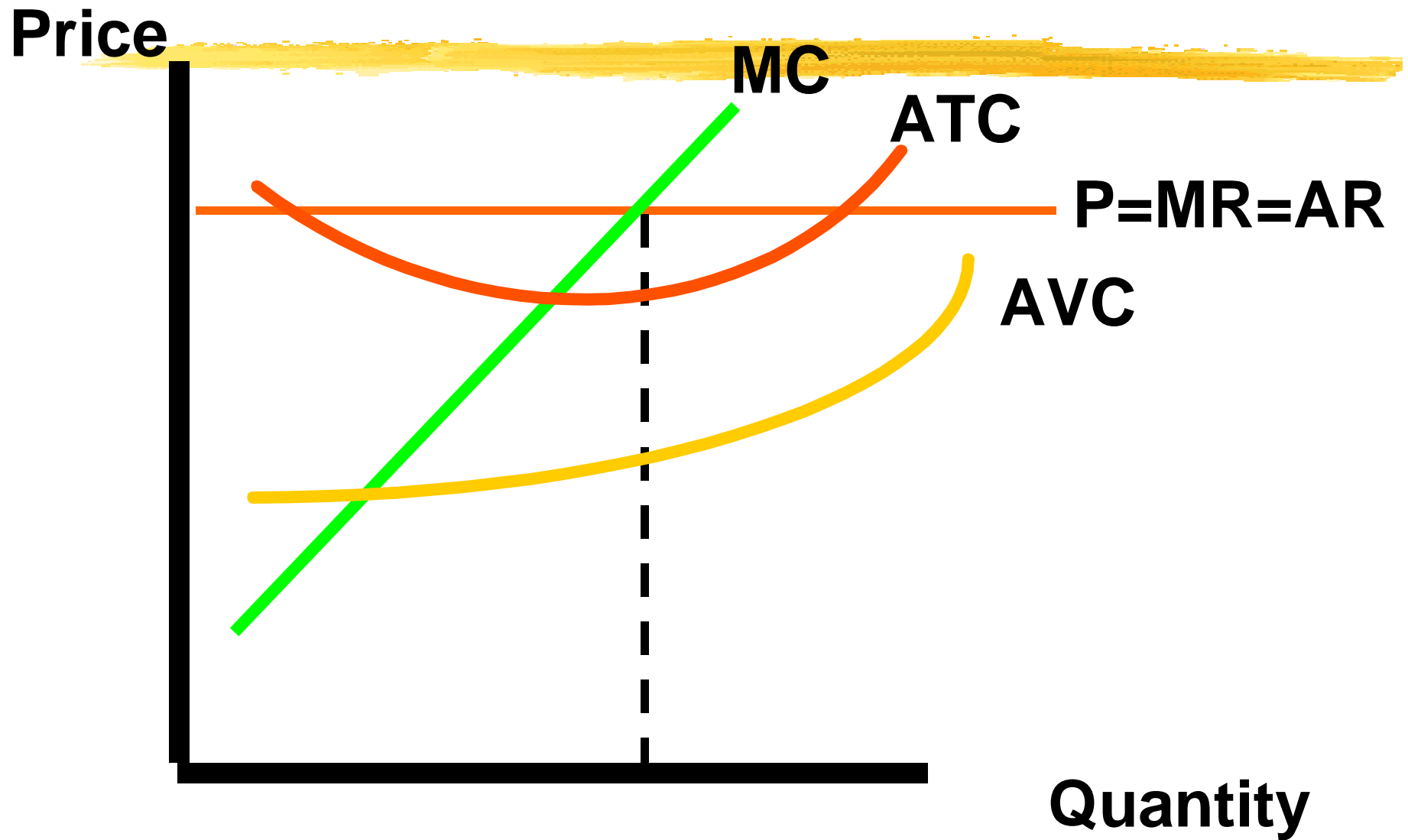
Small Efficient Scale



Profit Maximising Output

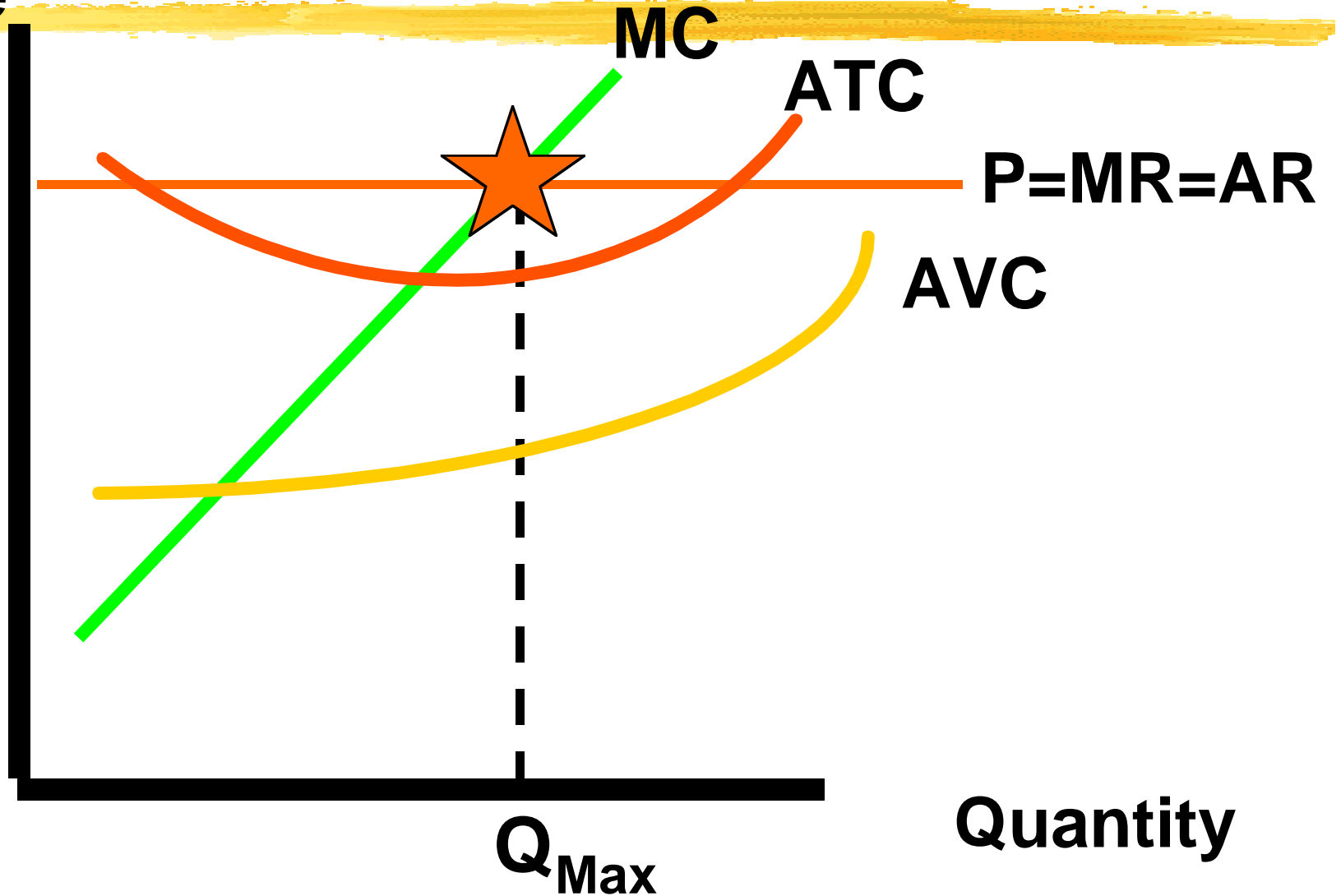


Profit Maximising Output



Profit Maximising Output

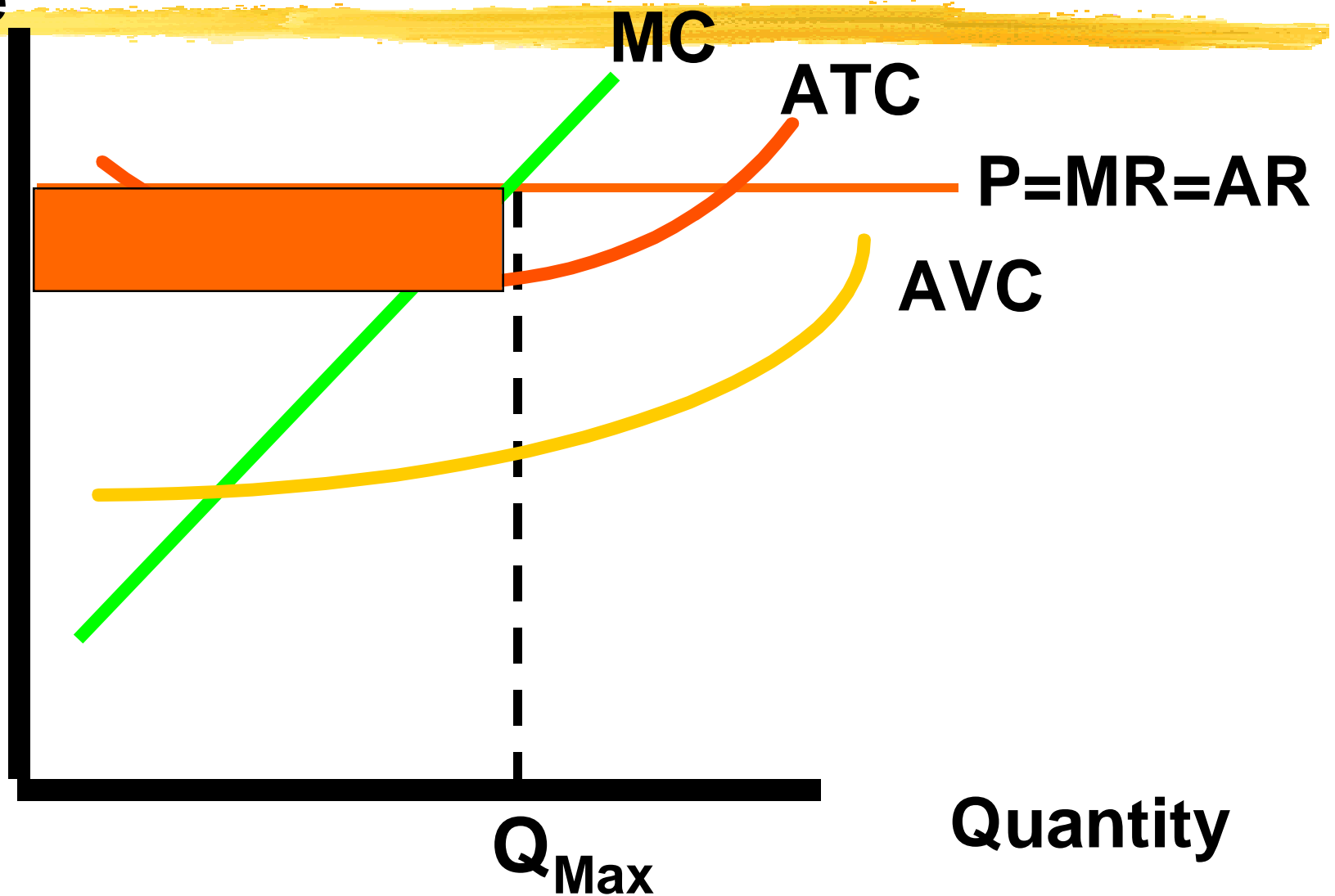
Price



Quantity

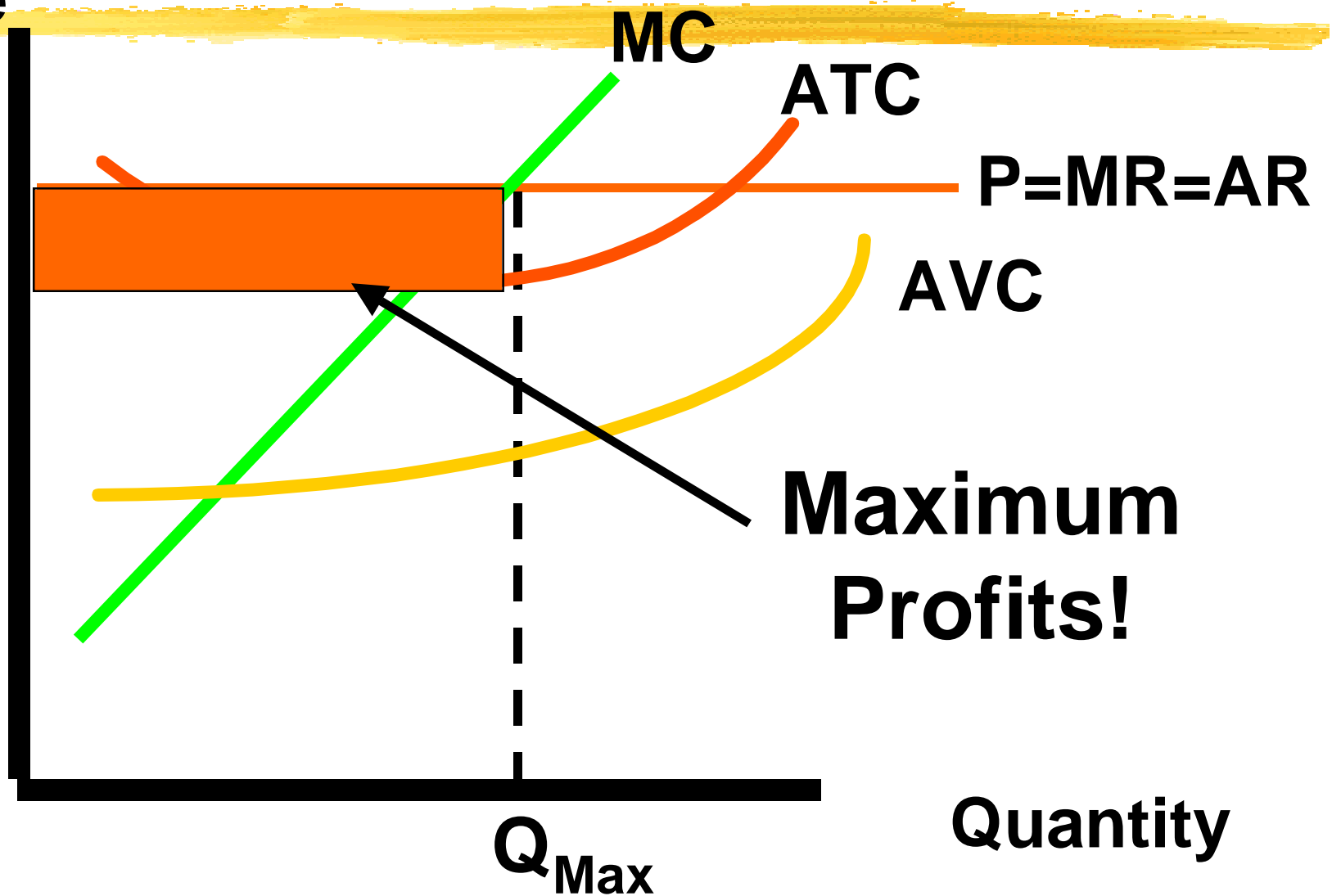
Profit Maximising Output

Price



Profit Maximising Output

Price



Q_{Max}

Quantity

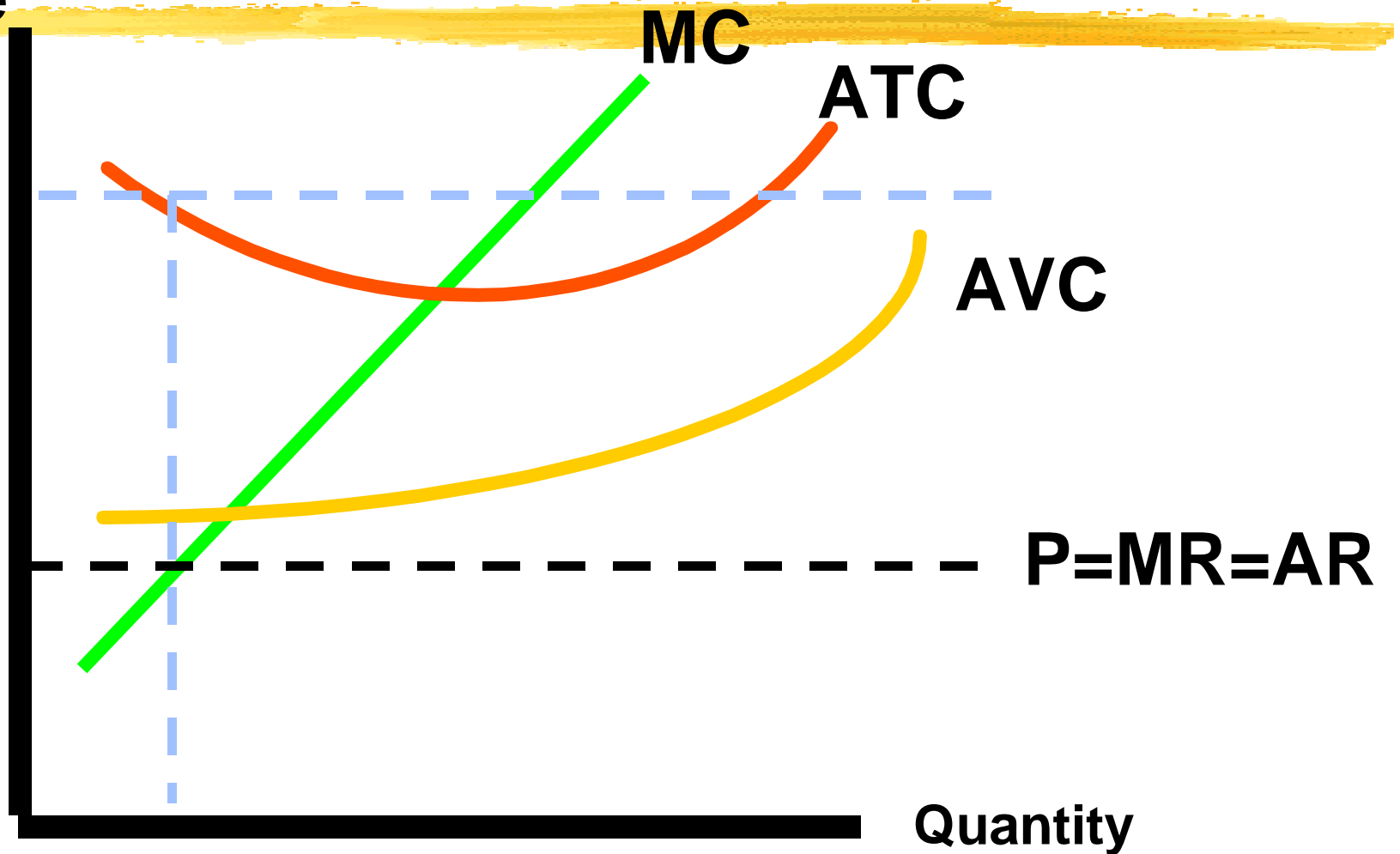
The Competitive Firm's Shut-Down Decision



- When should a firm choose to exit a perfectly competitive market?
 - Compare the economic profit from staying versus closing down.
 - Alternative levels of output produced because the firm is a price taker.
 - If the selling price is below the minimum average variable cost, the firm should *shut down!*
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Shut Down! Costs are greater than market price

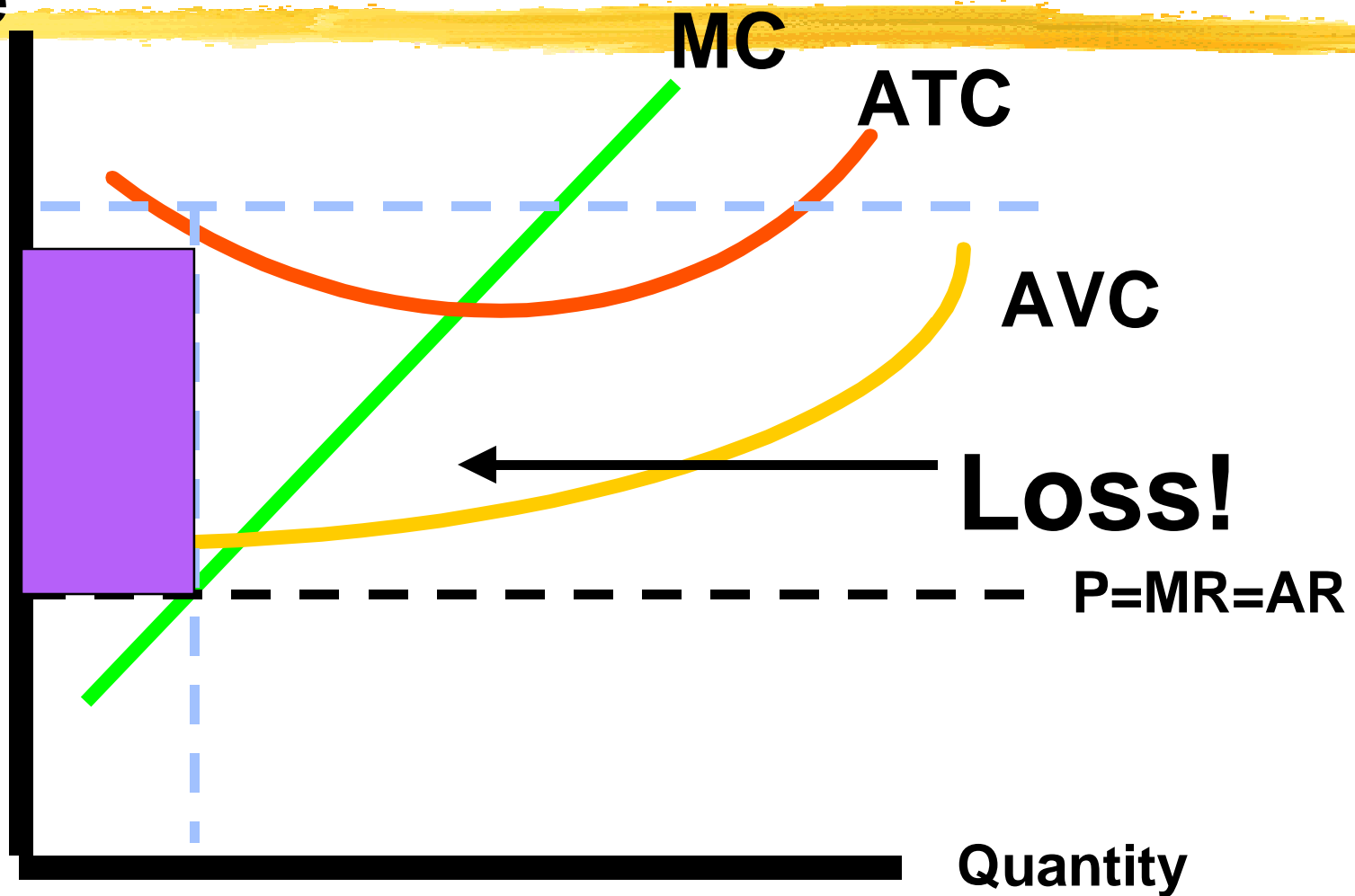
Price



Q Don't Produce!

Shut Down! Costs are greater than market price

Price



Q Don't Produce!

The Competitive Firm's Shut Down Decision

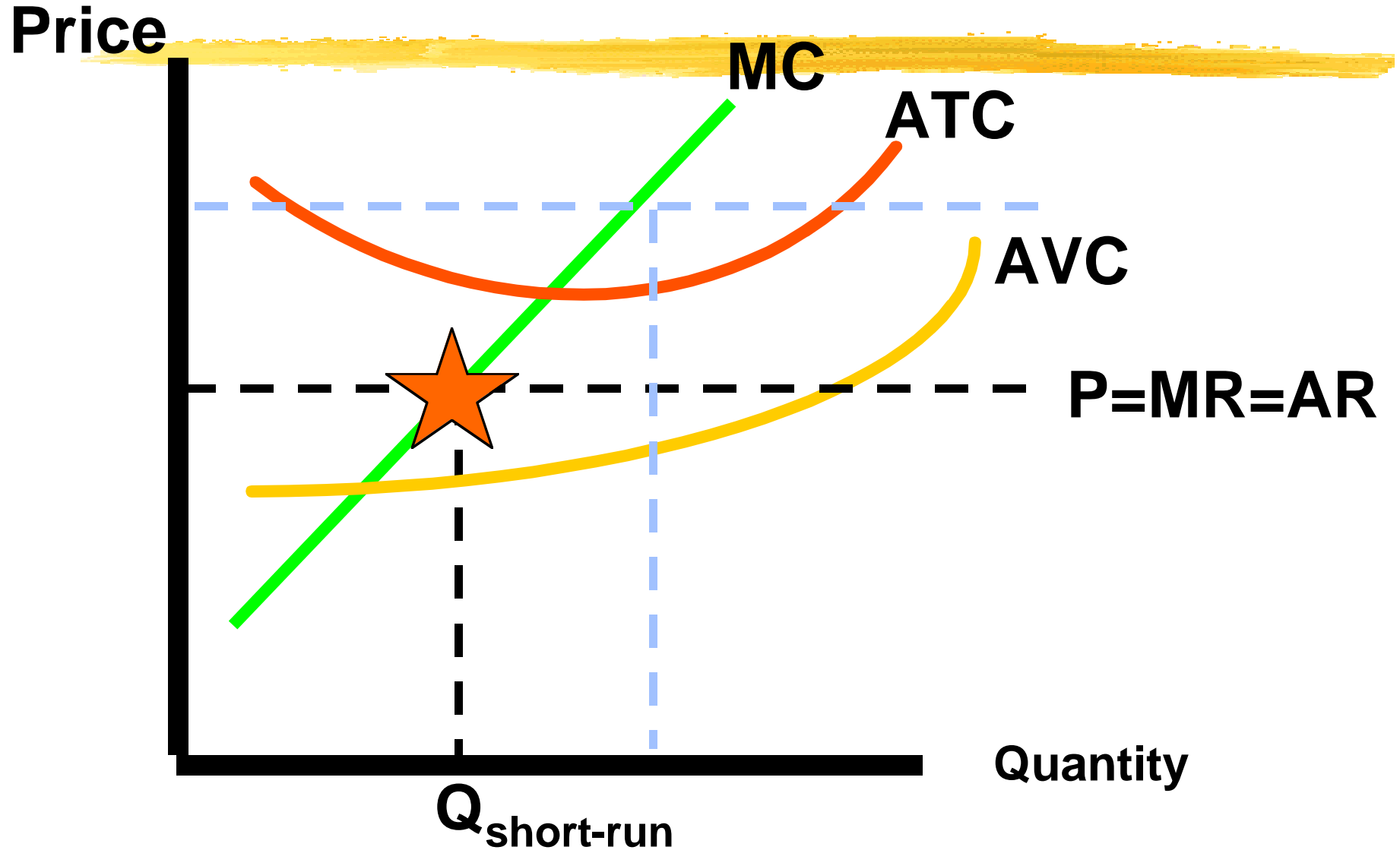


- Alternative levels of output produced because the firm is a price taker.
- If the selling price is above the minimum average variable cost *but below average total cost*, the firm should *produce in the short-run* a quantity that corresponds with $MR = MC$.

Incur economic losses, but minimized.

Short-Run Production

Minimize Losses when $MR = MC$



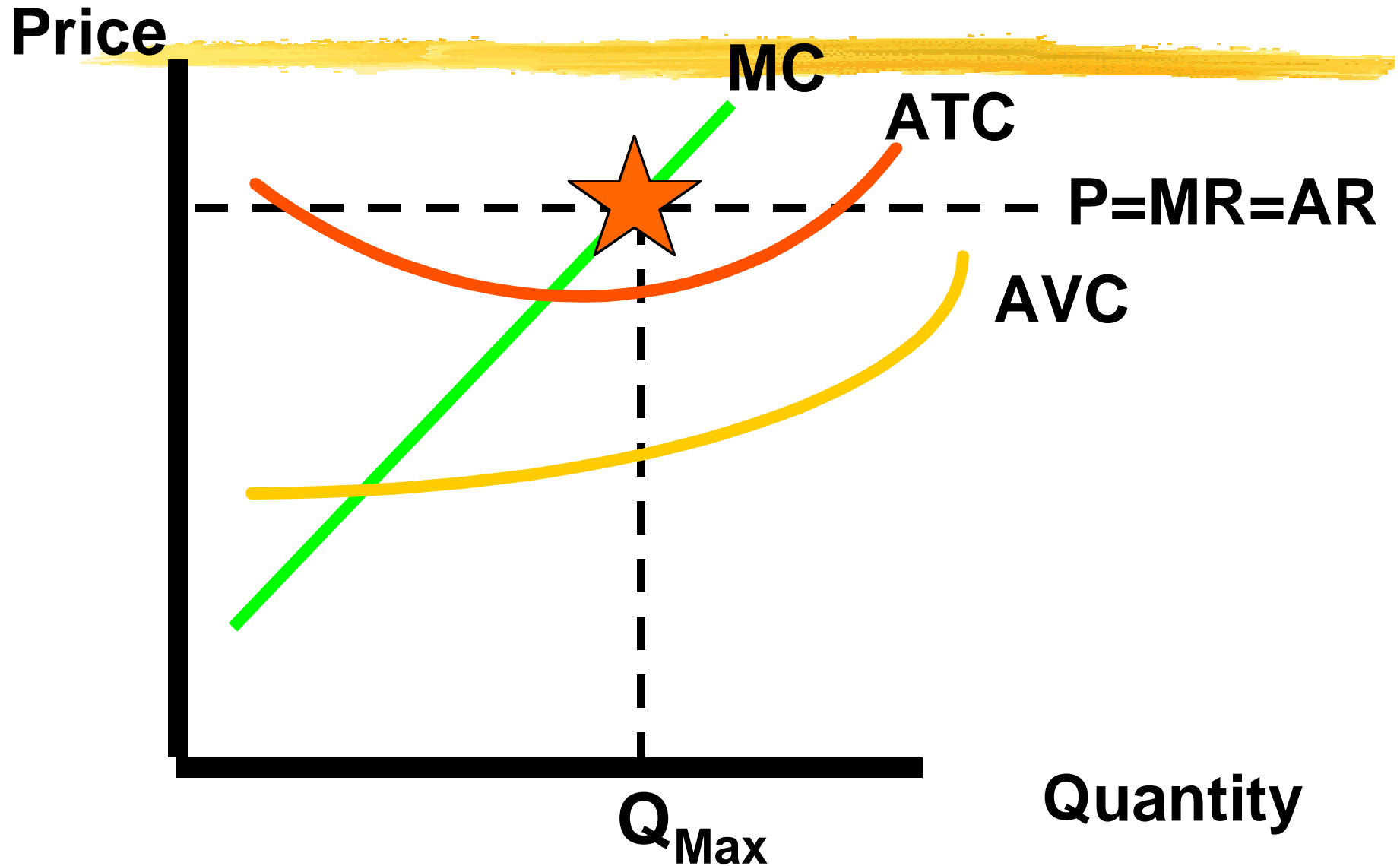
The Competitive Firm's Output Decision



- Alternative levels of output produced because the firm is a price taker.
- If the selling price is above the minimum average total cost the firm should *produce* a quantity that corresponds with $MR = MC$.

Incurs economic profits

The Competitive Firm's Output Decision



When Should a Firm Enter?



- A firm should enter into an industry if it believes price will exceed average total costs in the long-run
 - Enter if $P > AC$.
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Output, Price, and Profit in the Long Run

- In short-run equilibrium, a firm might make an economic profit, incur an economic loss, or break even (make a normal profit). Only one of these situations is a long-run equilibrium.
 - In the long run:
 - The number of firms in an industry changes.
 - Firms change the scale of their plants.
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Economic Profit and Economic Loss as Signals

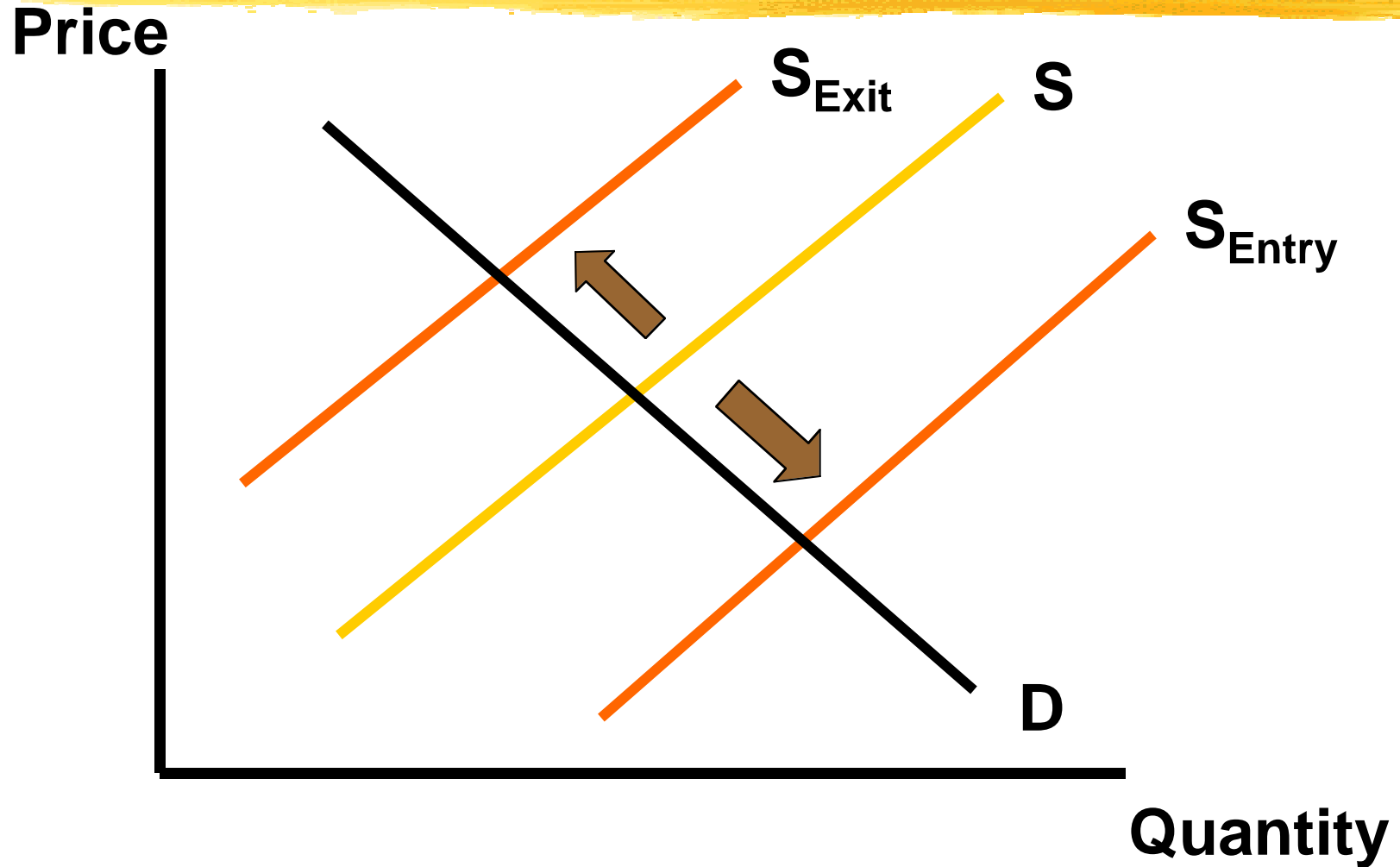
- If an industry is earning above normal profits (positive economic profits), firms will enter the industry and begin producing output.
 - This will shift the industry supply curve out, lowering price and profit.
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Economic Loss as a Signal



- If an industry is earning below normal profits (negative economic profits), some of the weaker firms will leave the industry.
 - This shifts the industry supply curve in, raising price and profit.
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Entry, Exit and Supply Shifts



Long-Run Equilibrium



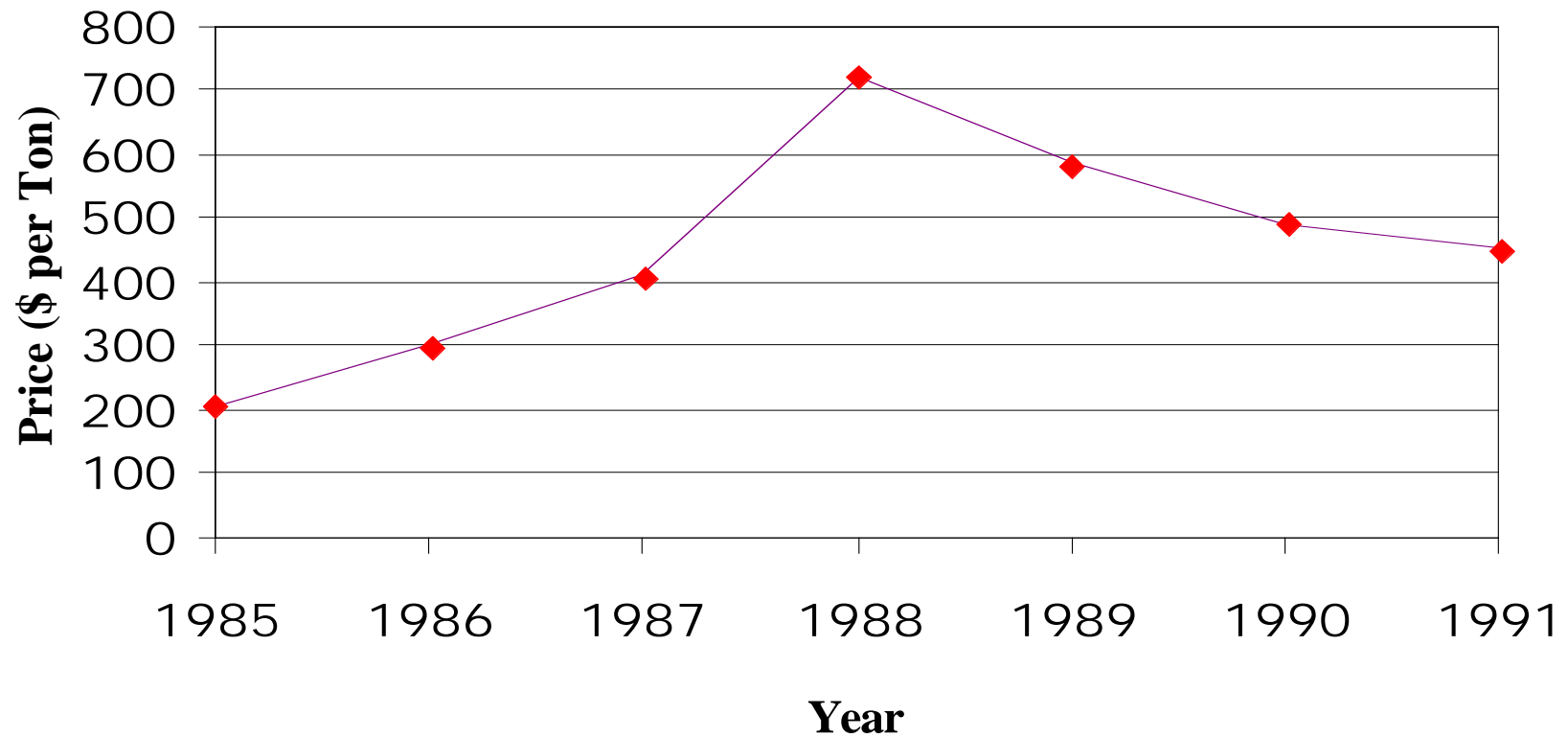
- In long-run equilibrium, firms will be earning only a normal profit. Economic profits will be zero.
 - Firms will neither enter nor exit the industry.
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Case: Entry in Response to a Demand Shift

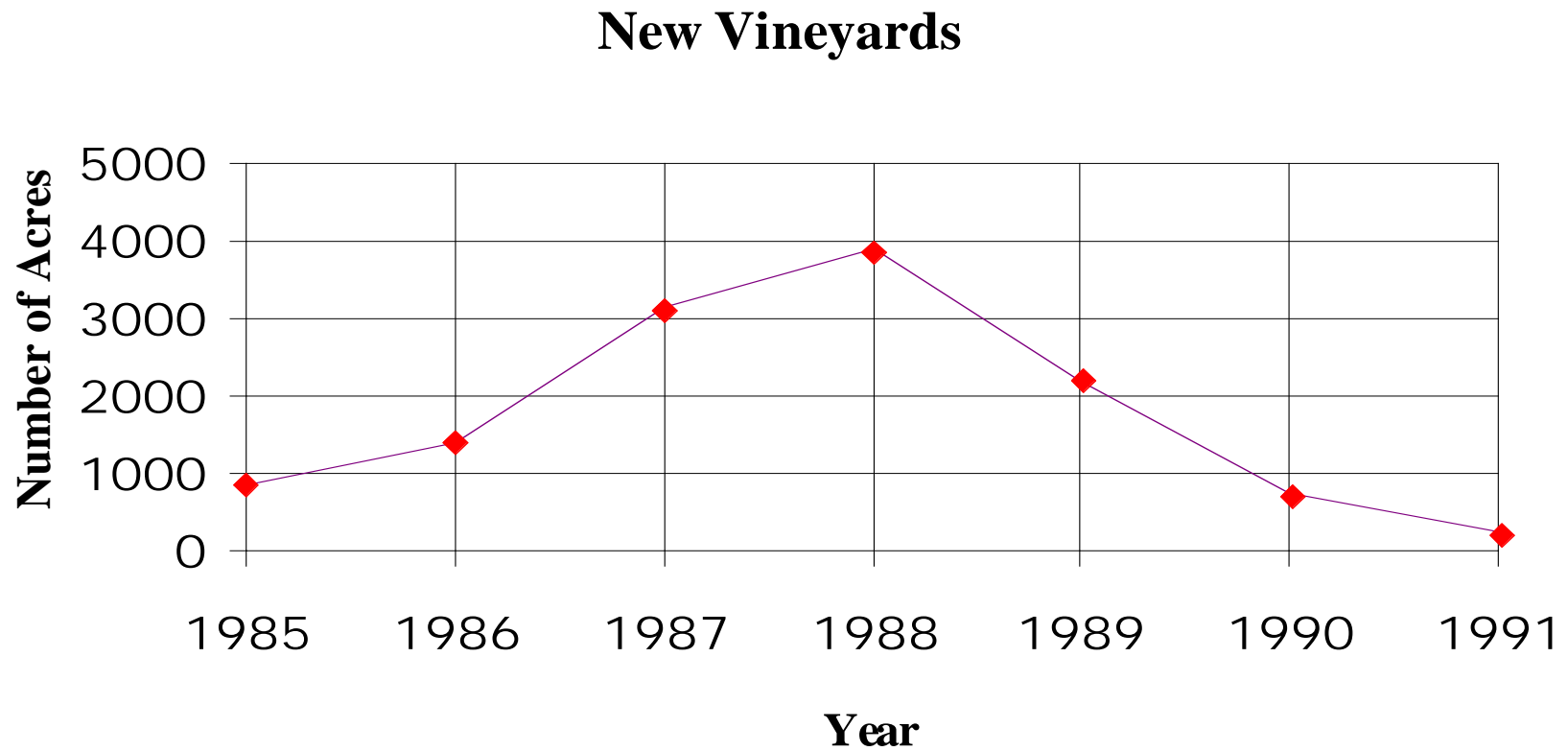


- Zinfandel grape: used in the U.S. to produce Zinfandel wine.
 - From 1985 to 1991, the price of these grapes rose and then fell.
 - What accounted for the price rise?
 - New product in mid-1980s: “white Zinfandel” which was more popular than the previous red wine
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Grape Price Movements



New Entry by Vineyards



Managerial Implications



- Prices as signals
 - High prices signal entry
 - Low prices drive exit
 - Low entry barriers
 - In LR, price = min AC (technical efficiency)
 - In LR, efficient sorting of producers
 - Shut down decision
 - SR: compare P and AVC
 - LR: compare P and ATC
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Monopolistic Competition




- Does product differentiation imply higher profits in the long-run?
 - Entry barriers for direct competition on a given product
 - Free entry to offer a close substitute
 - Car Case: better quality cars have higher mark-ups over marginal cost. But does this translate into more profits?
 - In long-run
 - Price exceeds marginal cost
 - Price equals average cost (zero profits)
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Entry Barriers



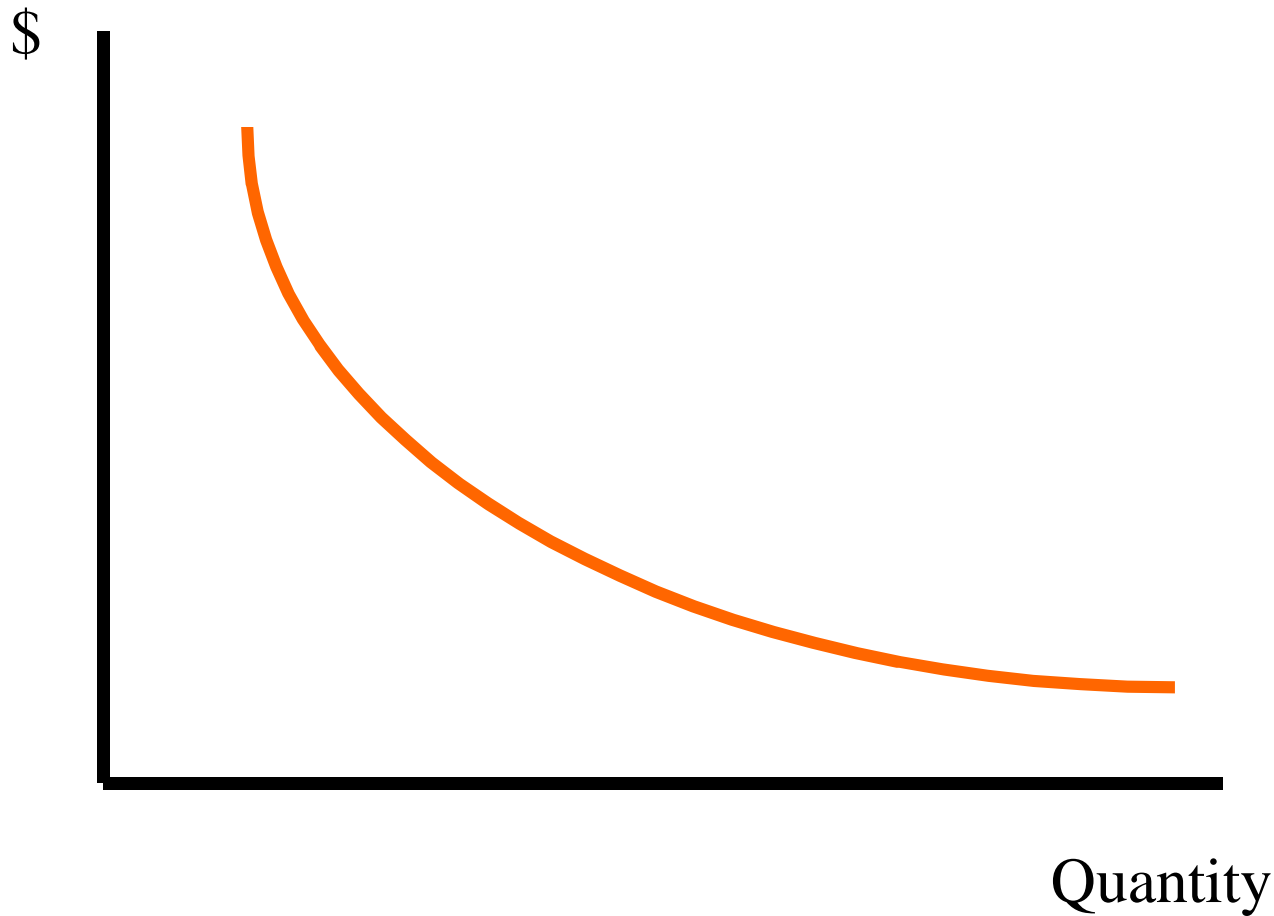
- Monopoly and Duopoly
 - We assumed that entry was barred to all but one producer
 - Where did these come from?
 - Entry barriers
 - Government regulation (e.g., Australia Post)
 - Control of key resources (e.g., De Beers, Ocean Spray, Compass II)
 - Natural monopolies (e.g., Telstra)
 - Marketing advantages of incumbency (e.g.,
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When is a monopoly natural?




- Suppose that long-run average costs are falling (over entire range of market demand)
 - Perhaps fixed costs are high relative to marginal costs
 - Network industries
 - local telephony
 - electricity and gas distribution
 - In equilibrium, only one firm
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Falling Long-Run Average Costs

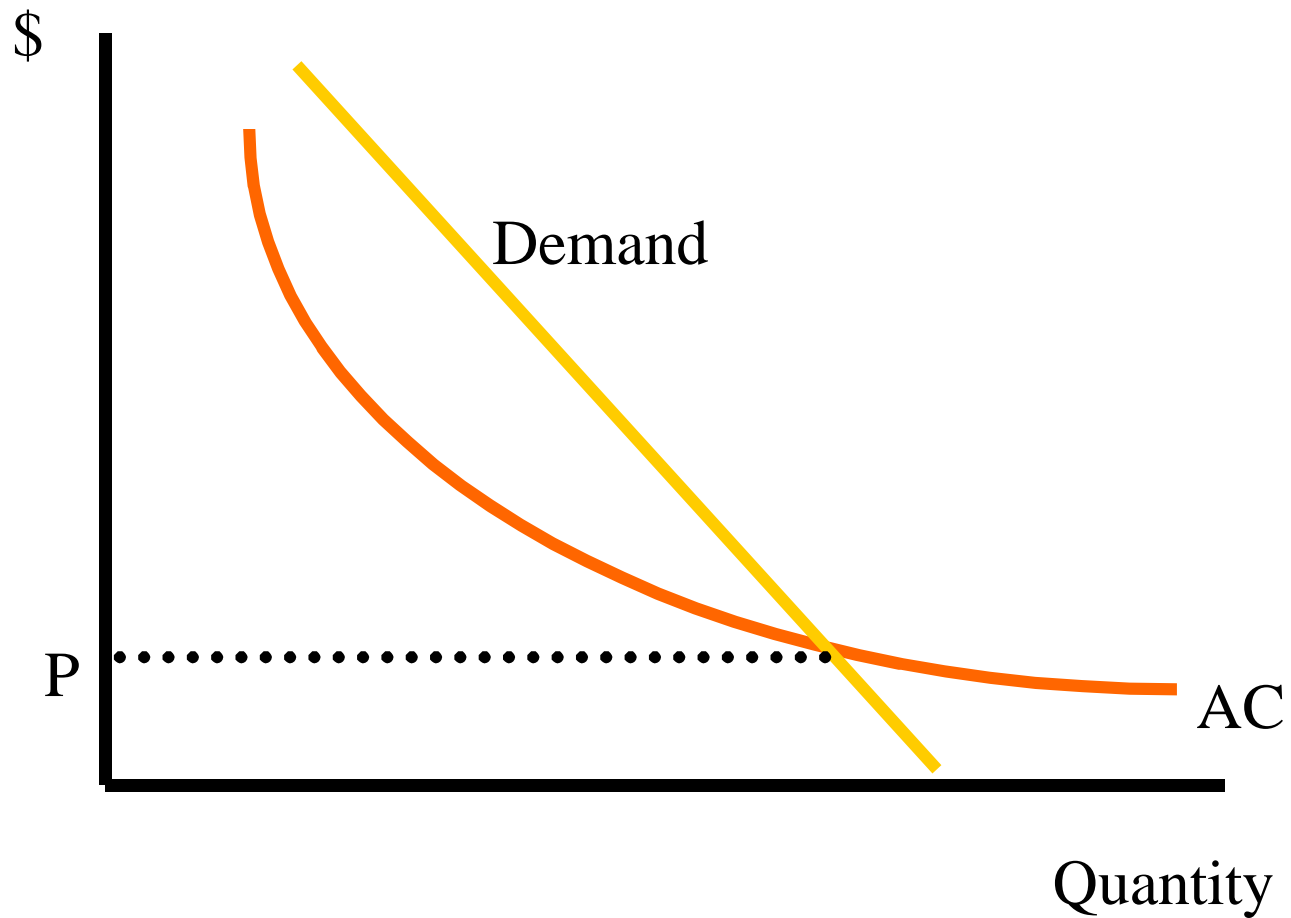


Is natural monopoly a problem?




- Suppose:
 - that natural monopoly is caused by fixed costs
 - there are no barriers to entry or exit
 - If incumbent firm charges a price above average cost, entry will occur.
 - must *limit price* to prevent entry
 - entry may be 'hit and run'
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Contestable Monopoly



When is a market contestable?



- No barriers to entry or exit
- Sunk costs imply non-contestability

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- Entry is costly in that entrants incur irreversible costs
 - Therefore, monopolist can price at preferred monopoly price
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Entry Detering Strategies



- Limit pricing
- Predatory pricing
- Capacity expansion
- Bundling

Limit Pricing



- Without entry threat, set monopoly price
 - With entry threat, what price do you set?
 - Post-entry, an entrant can earn positive profits
 - Entrant has sunk entry costs, however
 - If the incumbent sets a low pre-entry price, might it make the entrant fear a low post-entry price? If entry is deterred then can return to monopoly
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Sensible?



- Why will entry threat go away?
 - Otherwise have to limit price all the time
 - Must have a cost advantage in order to reap profits
 - Why will entry believe pre-entry price will reflect post-entry prices?
 - Is it a credible signal?
 - Perhaps if incumbent knows more about their cost advantage and wants to signal it to entrant.
 - But price must be so low a high cost incumbent would not set it.
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Predatory Pricing



- What about pricing low post-entry to achieve exit?
 - Must not be substantial barriers to exit
 - Multi-market predation
 - Price low in one market to signal to others
 - Chain-store paradox
 - NZ Telecom and Saturn
 - Perhaps use low pricing as a signal of lower costs: develop reputation for toughness
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Excess Capacity



- Entrants see excess capacity that could potentially be used in a price war, post-entry.
 - Contrast with a judo strategy
 - Virgin Express
 - Cf: Netscape
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Discussion Point



Will the Internet lead to
increased competition?

Bundling



- Offer a package
 - Microsoft Office
 - 90% market share
 - Work together
 - Discount one of the products
 - Option value: zero incremental price
 - Microsoft's per-processor license
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Reduce Dispersion



- Example: price separate or together
 - Bill: \$120 for WP, \$100 for spreadsheet
 - Ben: \$100 for WP, \$120 for spreadsheet
 - Profits
 - Without bundling: \$400
 - With bundling: \$440
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Reduce Dispersion: Price separate or together?

	Word Processor	Spreadsheet
Bill	\$120	\$100
Ben	\$100	\$120

Profits: With Bundling: \$440 Without: \$400

Information Bundles



- Magazines and newspapers
 - Law of large numbers
 - Customised bundles
 - Nonlinear pricing
 - In previous example sell first item for \$120
 - Sell second item for \$100
 - Example: MusicMaker
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