Chapter 8

This is Microeconomics

People, Firms, and Monopolies in Markets

1. this chapter is about the interaction of consumers/buyers and firms/ businesses in competitive markets, the expansion and contraction of markets/industries in the long-run (4-5 years out), and the existence of all-powerful monopolies

The 4 Market Structures

Perfect/Pure Competition

1. profit max. and Q: P=MC and MR=MC
2. P is constant
3. no DWL or excess costs/capacity
4. one product/many close substitutes
5. many producers
6. no barriers to entry/exit
7. no market power/price taker
8. perfectly elastic D curve
9. no LR profit
10. example: stock market

Monopolistic Competition (imperfect)

1. profit max. and Q: MC=MR
2. P decreases, P>MC, & MR<P
3. DWL & excess costs/capacity
4. differentiated products
5. many producers
6. no barriers to entry/exit
7. market power/price maker
8. sloping D curve
9. no LR profit
10. example: cereal market

Oligopoly (imperfect competition)

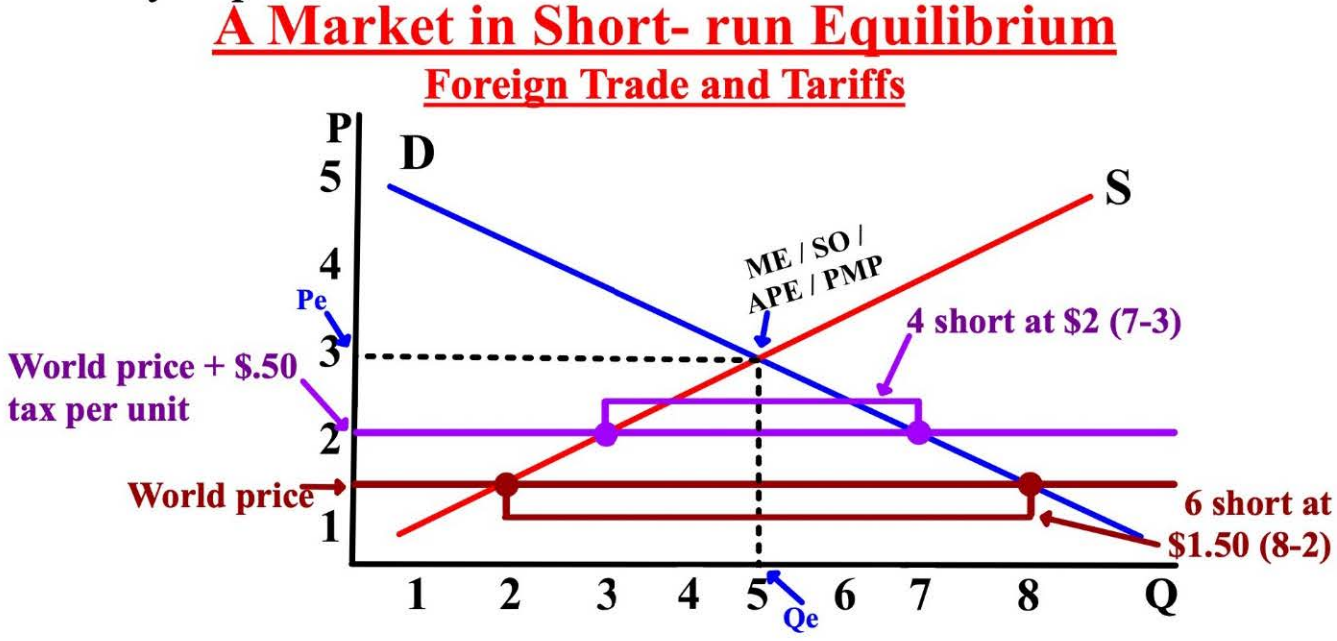
1. profit max. determined by strategic beh.
2. P decreases, P>MC, & MR<P
3. DWL and excess costs/capacity
4. standardized/differentiated products
5. a few big producers
6. barriers to entry/exit
7. market power/price maker
8. sloping D curve
9. LR profit
10. example: sneaker market

Monopoly (imperfect competition)

1. profit max. and Q: MC=MR
2. P decreases, P>MC, & MR<P
3. DWL and excess costs/capacity
4. one product/no close substitutes
5. one big producer
6. barriers to entry/exit
7. market power/price maker
8. sloping D curve
9. LR profit with economies of scales
10. example: US Steel/FPL (nat. mono.)

Foreign Trade and Tariffs

1. to see how much a country will import of something at a certain price (P) to decrease a shortage, like when the quantity (Q) produced is at a set price or the world price instead of market equilibrium (Me), find the shortage before any imports are included

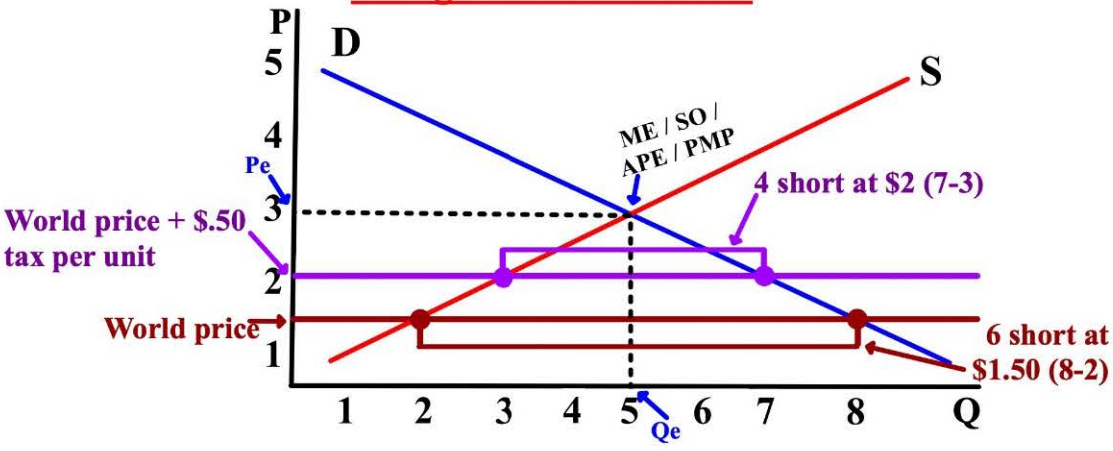


Foreign Trade and Tariffs (cont.)

1. at the world price of $1.50, 8 are demanded but only 2 are supplied; 6 will be imported; if the **tariff** (a tax on imports) is $10 per unit, then the tax collected by the country from the tariff would be $60 (6 x $10)
2. at $2 (the world price plus a tariff of $.50), domestic production is now only 4 short (7-3); 4 will be imported and the tax collected by the country from the tariff would be $40 (4 x $10)

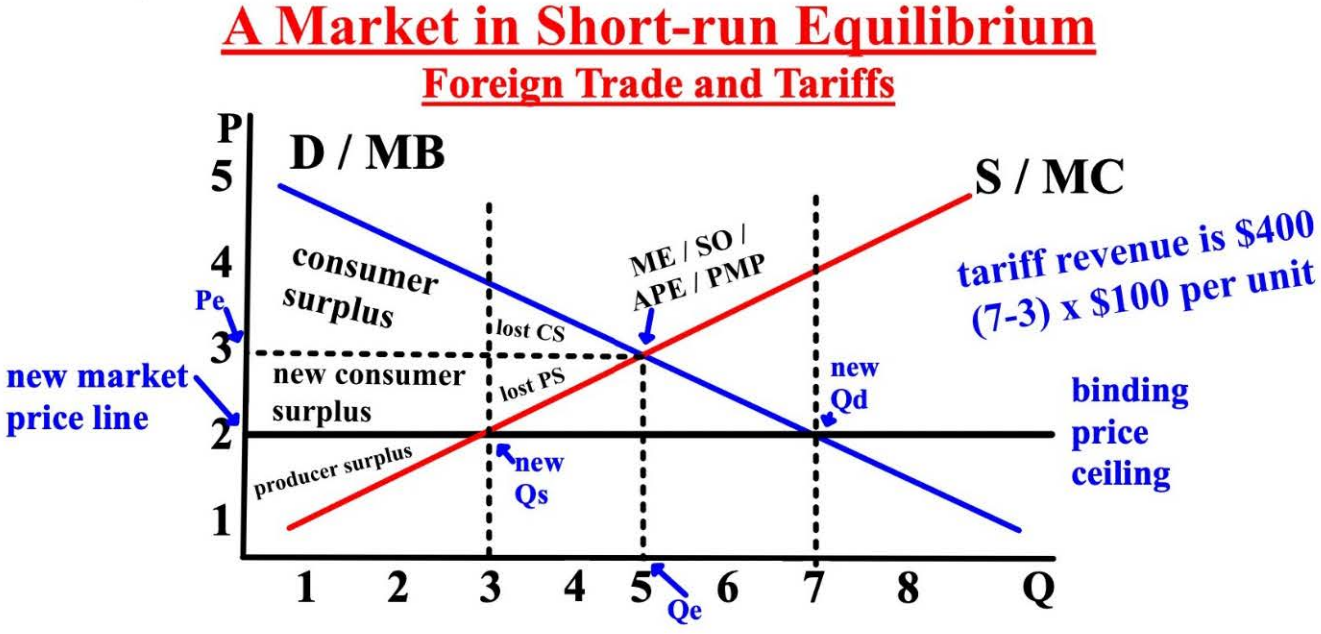
A Market in Short- run Equilibrium

Foreign Trade and Tariffs



Foreign Trade and Tariffs (cont.)

1. with a $2 binding price ceiling, quantity demanded (Qd) exceeds quantity supplied (Qs) by 4 (7-3) and 4 will be imported
2. with a tariff of $100 per unit, the government will receive $400 in tariff revenue (4 x $100)



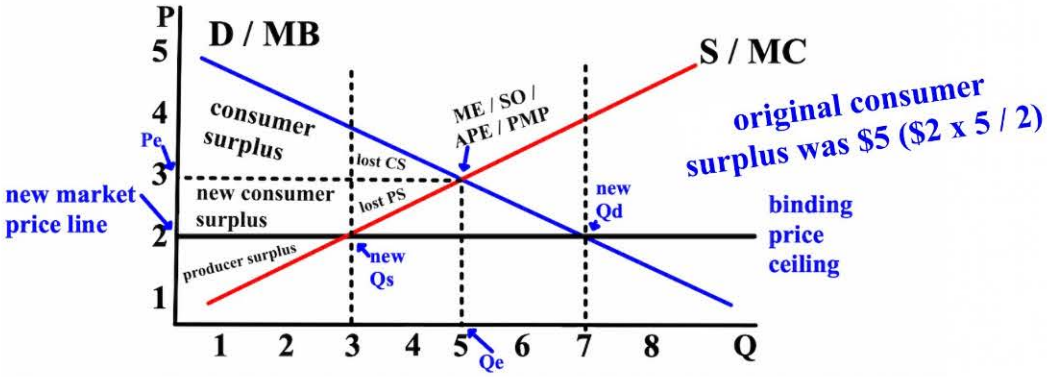
Foreign Trade and Tariffs (cont.)

1. with an original market price of $3, the original consumer surplus (CS) was $5 (price (P) = $2 ($5-$3 = $2) and quantity demanded (Qd) was 5, so $2 x 5 divided by 2 = $5
2. because of the binding/effective price ceiling, consumer surplus and producer surplus (PS) both lose some of the original total surplus, but consumers gain back some because the price decreased

A. the total surplus is the consumer surplus plus the producer surplus

A Market in Short-run Equilibrium

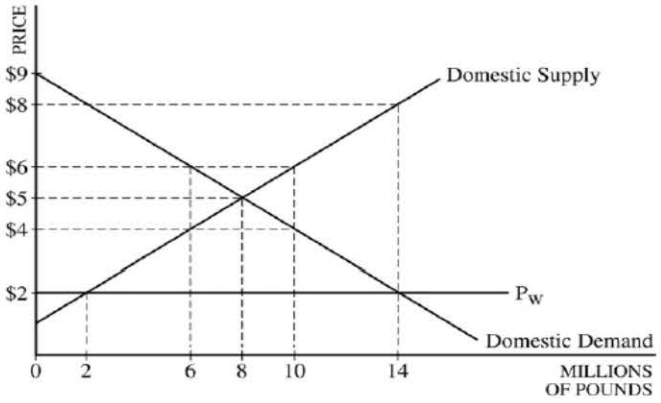
Foreign Trade and Tariffs



Microeconomics Do-Now

Please do this:

1. Sugar is freely traded in the world market. Assume that a country, Loriland, is a price taker in the world market for sugar. Some of the sugar consumed in Loriland is produced domestically while the rest is imported. The world price of sugar is $2 per pound. The graph below shows Loriland's sugar market, and P_W represents the world price.



(a) At the world price of $2 per pound, how much sugar is Loriland importing?

(b) Suppose that Loriland imposes a per-unit tariff on sugar imports and the new domestic price including the tariff is $4.

(i) Identify the new level of domestic production.

~~(ii) Calculate the domestic consumer surplus for Loriland. You must show your work.~~

~~(iii) Calculate the total tariff revenue collected by the government. You must show your work.~~

(c) Given the world price of $2, what per-unit tariff maximizes the sum of Loriland's domestic consumer surplus and producer surplus?

Microeconomics Do-Now

1.

4 points (1 + 2 + 1)

(a) 1 point:

- One point is earned for stating that Loriland is importing 12 million pounds.

(b) 2 points:

- One point is earned for identifying the new level of domestic production as 6 million pounds.
- ~~One point is earned for calculating the domestic consumer surplus as $25 million and showing the work: ½ [($9 − $4) × 10] = $25.~~
- ~~One point is earned for calculating the revenue from the tariff as $8 million and showing the work: ($4 − $2) (10 − 6) = $8.~~

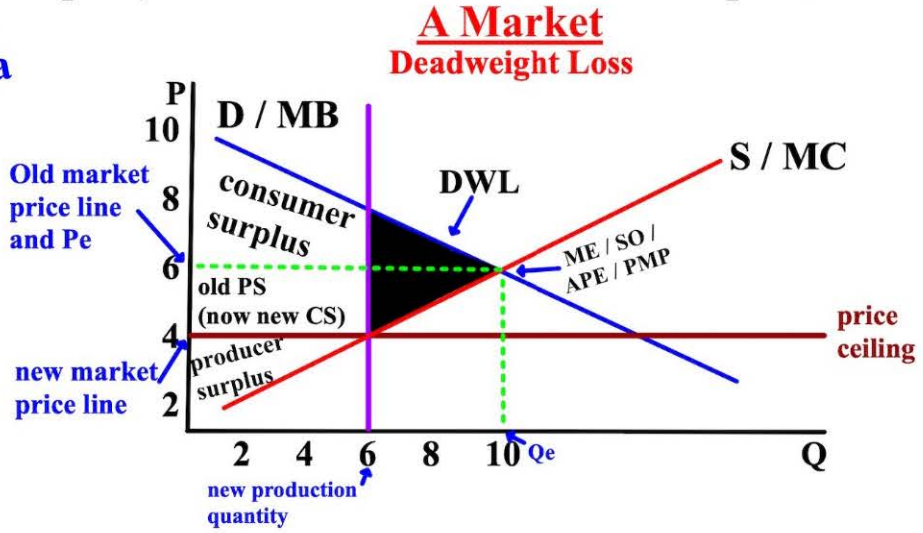
(c) 1 point:

- One point is earned for identifying the per-unit tariff that maximizes the sum of consumer and producer surplus as $0.

Deadweight Loss

1. **deadweight loss** (DWL) is what happens to consumer surplus (CS) and producer surplus (PS) when the efficient level of production does not occur: when too little or too much is produced
   A. deadweight loss is always a triangle in shape (base x height / 2)
2. because of the price ceiling, the sum of consumer and producer surplus (total surplus) is now less and both loose surplus; no one gets it

micro. formula #13



total surplus was $40 (8 x $10 / 2)

but...

DWL = $8 (4 x $4 / 2)

so now... total surplus = $32 ($40-$8)

The Deadweight Loss from Taxation

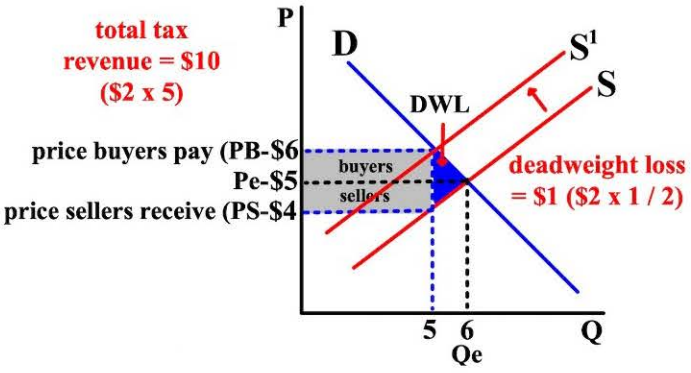
1. a **tax** on sales is a payment that must be made to the government by the seller of a product, of which some part of it is always passed along to consumers
   A. the tax may be a percentage of the dollar value spent on the products sold, in which case it is called an **ad valorem tax** or a **lump sum tax**, like a 6% state tax on purchases
   B. the tax may be proportional to the number of items sold, a **per-unit tax**, in which case the tax is called a **specific tax** or an **excise tax**, like a tax on gasoline of $.08 per gallon
2. when taxes are created, the tax benefit created for the government is the area from the current price (P) to the new price
3. if consumers (D) and firms (S) are equally elastic, the cost of a tax is split equally, and if one is more elastic than the other, the inelastic will pay more
4. the immediate impact of the tax is to add to the marginal cost (MC) of producing a product, and the supply (S) curve shifts to the left

The Deadweight Loss from Taxation (cont.)

1. the supply curve below has shifted to the left because of a $2 tax
2. the $4 tax can be determined: the new price buyers (PB) will pay is $6 and the new price sellers (PS) will receive is $4... $6- $4 = $2 tax
3. the new price the seller will receive is the intersection of the old supply curve and the new quantity (Q) of 5
4. the total taxes paid are taken 50% from each, $1 from consumers and $1 from sellers because the gray rectangular box below is split evenly by the old price

A Market

Deadweight loss (DWL) and Tax Revenue
(buyers and sellers pay the same amount of the tax: $1)

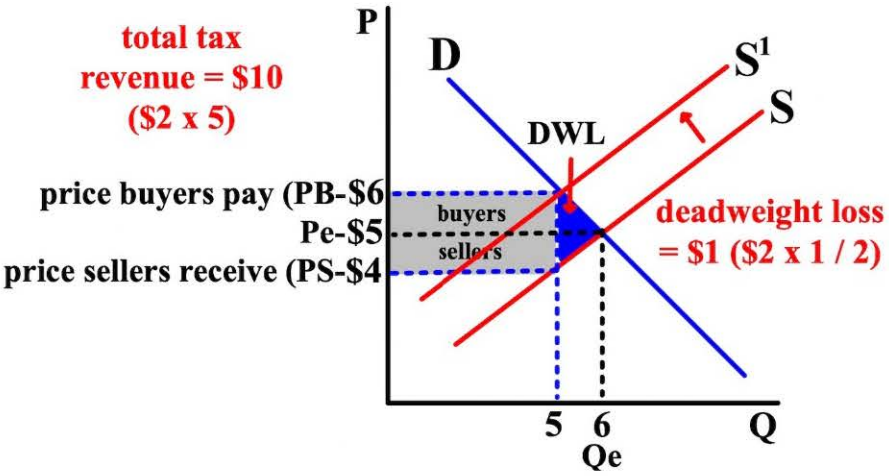


The Deadweight Loss from Taxation (cont.)

1. $10 in tax revenue goes to the government because the tax revenue is the tax times the number of items sold, shown by the gray rectangle ($2 x 5)
2. some of the producer surplus and some of the consumer surplus went to the government, but the deadweight loss (DWL), is also no longer available

A Market

Deadweight loss (DWL) and Tax Revenue
(buyers and sellers pay the same amount of the tax: $1)



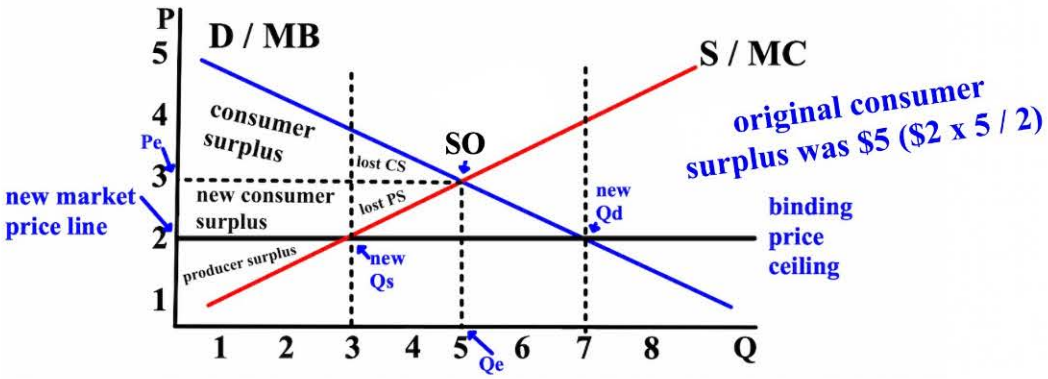
Microeconomics Do-Now

Please do this:

1. **Draw a graph showing a competitive market or pure market in perfect competition in short-run equlibrium). Label the socially optimal point SO.**
2. **Insert a binding price ceiling and label it PC, then label the new quantity supplied and quantity demanded Qs and Qd.**
3. **Using small numbers like 1, 2, 3, etc., calculate what the shortage would be in a country in a situation if an established quota remained binding.**
4. **Label where CS and PS were originally before the price ceiling and still remains. Label any lost CS or PS any new CS and PS because of the price ceiling.**

A Market in Short-run Equilibrium

Foreign Trade and Tariffs



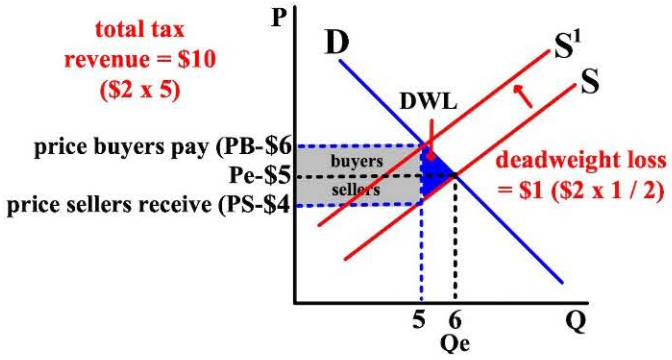
Microeconomics Do-Now

Please do this:

1. **Draw a graph of a market in short-run equilibrium.**
2. **Indicate a shift in the supply curve that shows a decrease in quantity supplied (Qs) due to a $2 tax.**
3. **Shade in the deadweight loss (DWL) and label the new price the buyers will pay PB and sellers will receive/ charge PS because of the tax. Both the buyer and seller are equally elastic.**

A Market

Deadweight loss (DWL) and Tax Revenue
(buyers and sellers pay the same amount of the tax: $1)



Microeconomics Do-Now

Please do this:

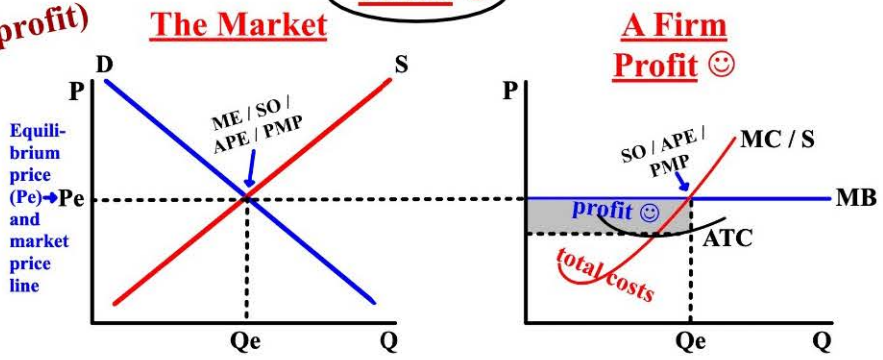
1. **Draw side-by-side graphs of a firm/business in a perfectly competitive or pure market/industry showing a negative profit (a loss) (2 graphs total). Shade in the negative profit (the loss). In the market, label the socially optimal point SO. In the firm, label the average revenue AR.**

A

A Firm in a Perfectly Competitive/Pure Market

Profit ☺

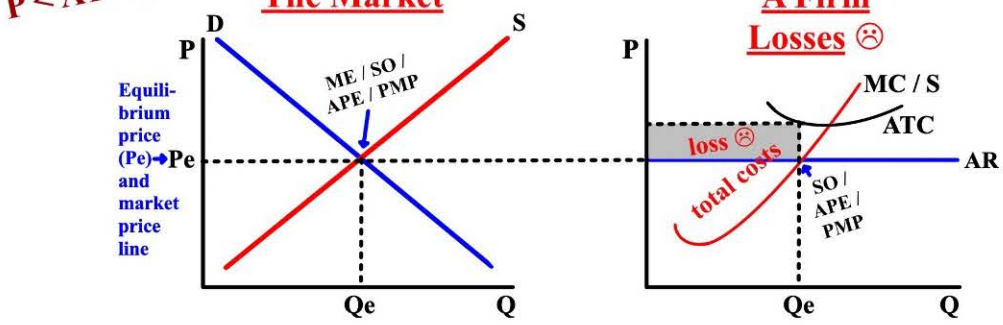
P > ATC (profit)



A Firm in a Perfectly Competitive/Pure Market

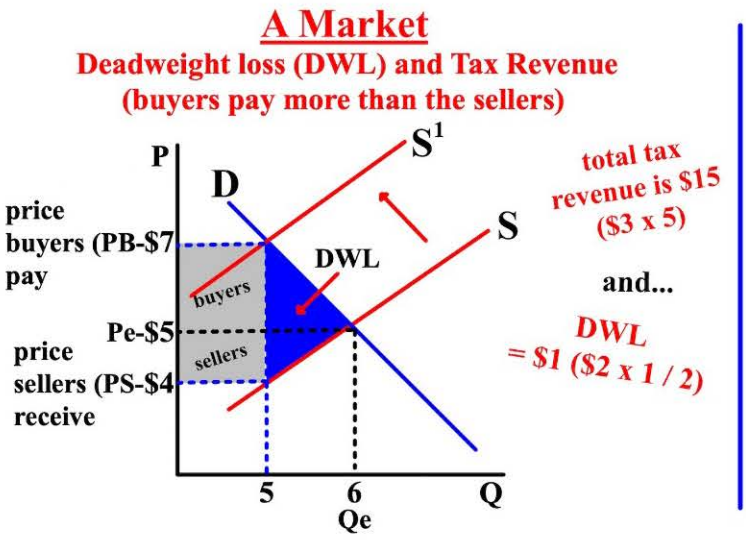
Negative Profit (Losses) ☹

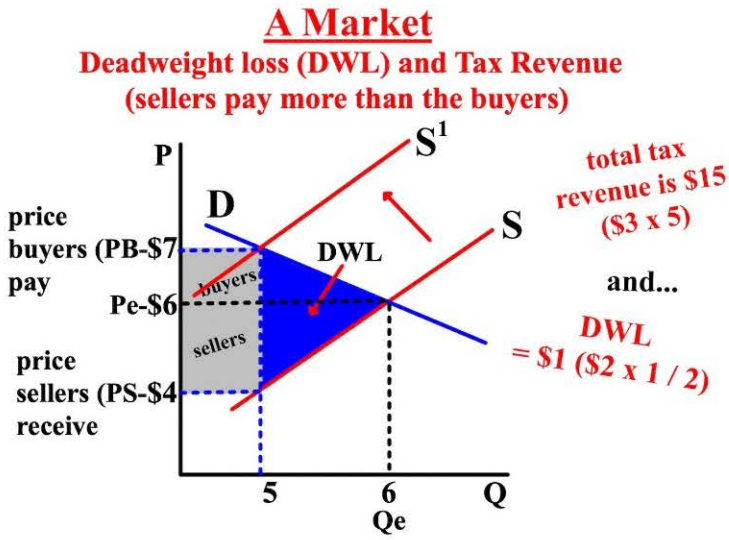
P < ATC (loss)



The Deadweight Loss from Taxation (cont.)

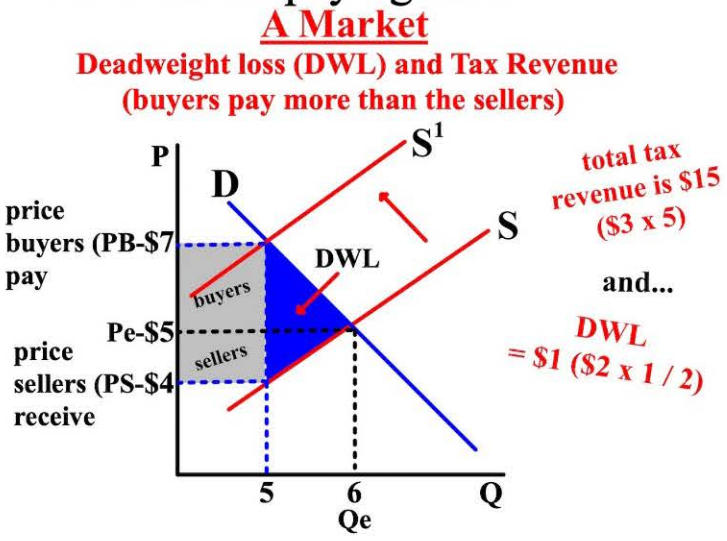
1. if either side was more elastic than the other, the sensitive party would pay a smaller portion of the taxes and the less sensitive a larger portion
2. the left graph shows buyers being more inelastic than sellers and buyers have/pay more of the gray area (the total tax); sellers are elastic and will pay less of the tax

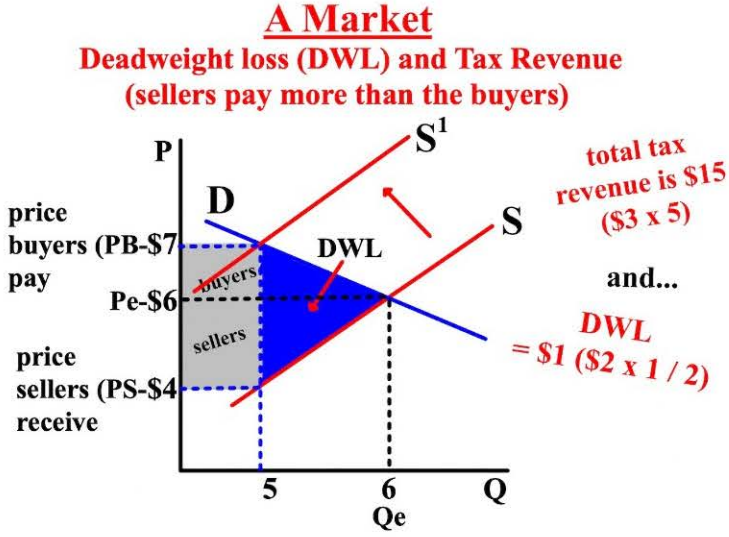




The Deadweight Loss from Taxation (cont.)

1. the right graph shows sellers being more inelastic than consumers and sellers have/pay more of the gray area; buyers are elastic and will pay less of the tax
2. to draw a graph to show who will pay more of the tax, angle the demand curve more vertically to show buyers paying more or more horizontally to show sellers paying more





Microeconomics Do-Now

Please do this:

1.

Assume that gasoline is sold in a competitive market in which demand is relatively inelastic and supply is relatively elastic.

(a) Draw a correctly labeled graph of the gasoline market. On your graph show the equilibrium price and quantity of gasoline, labeled P_E and Q_E.

(b) Suppose the government imposes a $2 per unit tax on the producers of gasoline. On your graph from part (a), show each of the following after the tax is imposed.

(i) The price paid by buyers, labeled P_B

(ii) The after-tax price received by sellers, labeled P_S

(iii) The quantity, labeled Q_T

please take out your multiple choice practice; go to #51

(c) Using the labeling on your graph, explain how to calculate the total tax revenue collected by the government.

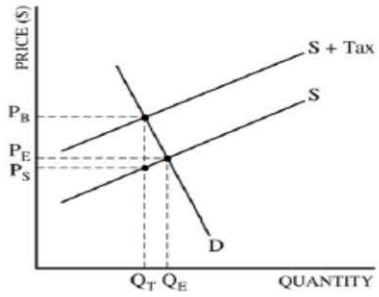
(d) Will the tax burden fall entirely on buyers, entirely on sellers, more on buyers and less on sellers, more on sellers and less on buyers, or equally on buyers and sellers? Explain.

Lab

Microeconomics Do-Now

6 points (1 + 3 + 1 + 1)

1.



(a) 1 point:

- One point is earned for drawing a correctly labeled graph of the gasoline market showing the equilibrium price, P_E, and quantity, Q_E.

(b) 3 points:

- One point is earned for showing P_B above P_E, derived from the D curve at Q_T.
- One point is earned for showing P_S below P_E, derived from the S curve at Q_T.
- One point is earned for showing Q_T less than Q_E.

~~**Note**: It is not necessary to draw the S + Tax curve; a "tax wedge" approach is acceptable.~~

(c) 1 point:

- One point is earned for correctly calculating the total tax revenue based on the labeling of the graph.

  All of the following are acceptable when P_B and P_S are correct:

  - ~~$(P_B \times Q_T) - (P_S \times Q_T)$~~
  - ~~$(P_B - P_S) \times Q_T$~~
  - $2 \times Q_T$
  - Tax $\times$ Q_T

(d) 1 point:

- One point is earned for explaining that the tax burden will fall more on buyers and less on sellers because the demand curve is more inelastic than the supply curve.

Marginal Cost

1. observe that marginal cost (MC) declines at low levels of production and then begins to increase again

A. this is due to the increase of variable costs (labor) as more is made

Quantity (pianos moved per day) (*Q*)	Total Costs (*TC*)	Fixed Costs (*FC*)	Variable Costs (*VC*)	Average Total Cost (*ATC*)	Average Fixed Cost (*AFC*)	Average Variable Cost (*AVC*)	Marginal Cost (*MC*)
0	300	300	0	—	—	—	—
1	450	300	150	450	300	150	150
2	570	300	270	285	150	135	120
3	670	300	370	223	100	123	100
4	780	300	480	195	75	120	110
5	900	300	600	180	60	120	120
6	1,040	300	740	173	50	123	140
7	1,200	300	900	171	43	128	160
8	1,390	300	1,090	174	38	136	190
9	1,640	300	1,340	182	33	149	250
10	1,960	300	1,660	196	30	166	320
11	2,460	300	2,160	223	27	196	500

Average Total Cost, Average Fixed Cost, and Average Variable Cost

1. the **average total cost** (ATC) or **cost per unit** is the total cost (TC) of production divided by the quantity (Q) produced
   A. if the total cost of producing 5 items is $900, then the average total cost or cost per unit is $180 ($900/5)
   B. ATC first decreases then increases as variable costs increase
2. the **average fixed cost** (AFC) is fixed costs divided by the quantity produced
3. the **average variable cost** (AVC) is variable costs divided by the quantity produced

micro. formulas #14, #15, and #16

Quantity (pianos moved per day) (*Q*)	Total Costs (*TC*)	Fixed Costs (*FC*)	Variable Costs (*VC*)	Average Total Cost (*ATC*)	Average Fixed Cost (*AFC*)	Average Variable Cost (*AVC*)	Marginal Cost (*MC*)
0	300	300	0	—	—	—	—
1	450	300	150	450	300	150	150
2	570	300	270	285	150	135	120
3	670	300	370	223	100	123	100
4	780	300	480	195	75	120	110
5	900	300	600	180	60	120	120
6	1,040	300	740	173	50	123	140
7	1,200	300	900	171	43	128	160
8	1,390	300	1,090	174	38	136	190

Average Total Cost, Average Fixed Cost, and Average Variable Cost- ?s

51. A firm is producing 100 units of output at a total cost of $400. The firm's average variable cost is $3 per unit. What is the firm's total fixed cost?

(A) $1
(B) $50
(C) $100
(D) $300
(E) $400

Average Total Cost, Average Fixed Cost, and Average Variable Cost- ?s

51. A firm is producing 100 units of output at a total cost of $400. The firm's average variable cost is $3 per unit. What is the firm's total fixed cost?

(A) $1
(B) $50
(●) $100
(D) $300
(E) $400

TC = $400 and the variable cost (VC) is $300 (100 x $3). TC = VC - FC ($400- $300).

Average Total Cost, Average Fixed Cost, and Average Variable Cost- ?s

Quantity of Output (units)	Total Variable Cost
0	$0
1	$40
2	$50
3	$65
4	$90

53. Assume that the fixed cost is $50. Based on the cost and output data in the table above, what is the marginal cost when the firm increases its output from three to four units and the average total cost of producing 4 units?

	Marginal Cost	Average Total Cost
(A)	$35	$40
(B)	$35	$35
(C)	$25	$35
(D)	$25	$25
(E)	$10	$25

Average Total Cost, Average Fixed Cost, and Average Variable Cost- ?s

Quantity of Output (units)	Fixed Costs	Total Variable Cost	Total Costs	Marginal Cost
0		$0	$ 0	
1	$50	$40	$ 90	$90
2	$50	$50	$100	$10
3	$50	$65	$115	$15
4	$50	$90	+ $140	$25

$140 / 4= $35

53. Assume that the fixed cost is $50. Based on the cost and output data in the table above, what is the marginal cost when the firm increases its output from three to four units and the average total cost of producing 4 units?

	Marginal Cost	Average Total Cost
(A)	$35	$40
(B)	$35	$35
(C)	$25	$35
(D)	$25	$25
(E)	$10	$25

Average Product of Labor

1. the **average product of labor** is the quantity produced, or total product, divided by the total amount of labor input
2. be careful to distinguish between the average product of labor and the marginal product of labor... the marginal product of labor is the difference in production due to one more unit of labor

The Generic Cost Curves- Graphing the Status of Firms

1. the three graphed curves on the right use exactly the same information as the table on the left, but are more useful and easier to understand
2. the curves are called the **marginal cost curve** (MC/S), the **average total cost curve** (ATC), and the **average variable cost curve** (AVC)
3. the three cost curves visually show the status of a firm, but the average variable cost curve is only needed when graphing shutdown for a firm

Quantity (pianos moved per day) (Q)	Total Costs (TC)	Fixed Costs (FC)	Variable Costs (VC)	Average Total Cost (ATC)	Average Fixed Cost (AFC)	Average Variable Cost (AVC)	Marginal Cost (MC)
0	300	300	0	—	—	—	—
1	450	300	150	450	300	150	150
2	570	300	270	285	150	135	120
3	670	300	370	223	100	123	100
4	780	300	480	195	75	120	110
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7	1,200	300	900	171	43	128	160
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9	1,640	300	1,340	182	33	149	250
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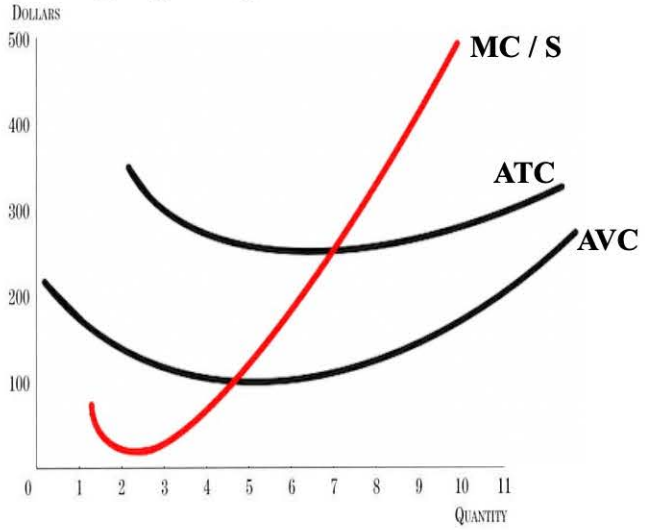

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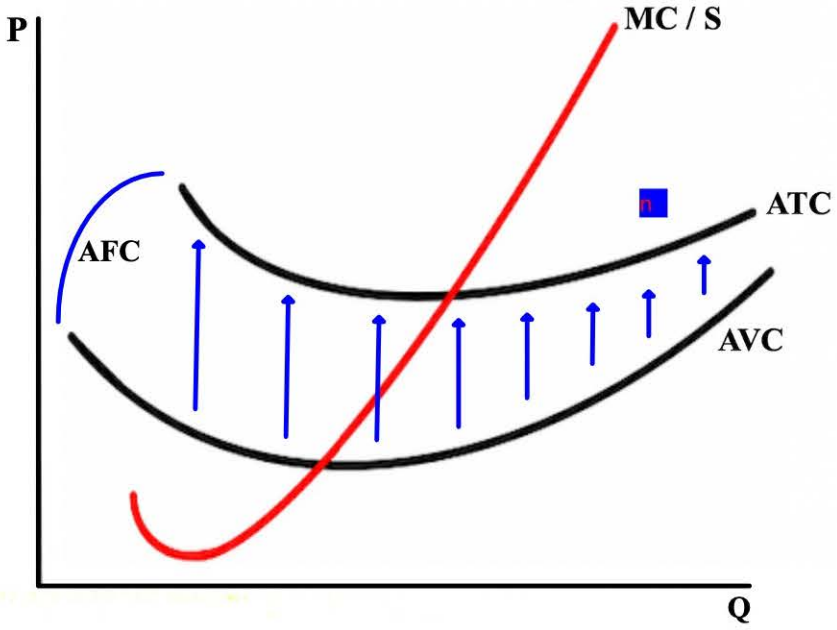
The Generic Cost Curves- Graphing the Status of Firms (cont.)

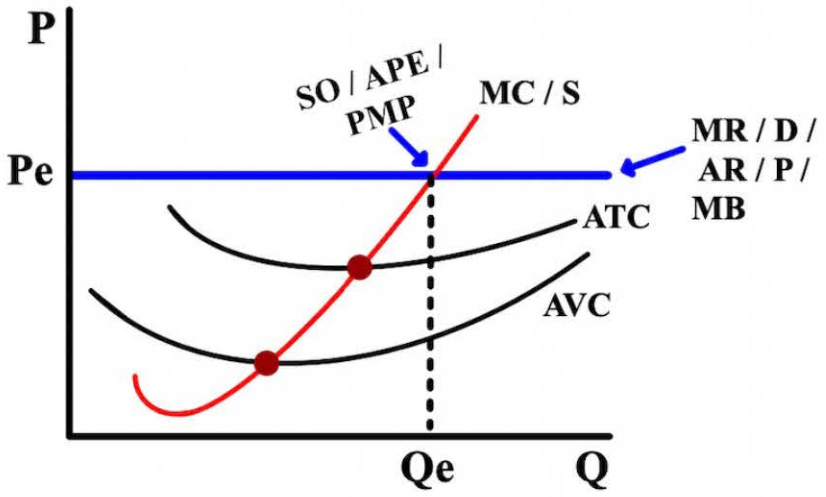
1. the distance between the average total cost (ATC) curve and the average variable cost (AVC) curve gets smaller as production increases because fixed costs (FC) are a smaller proportion of the total cost (TC) as production increases and more labor is needed, either workers or hours



The Generic Cost Curves- Graphing the Status of Firms (cont.)

1. the marginal cost curve (MC/S) intersects both the average variable cost (AVC) curve and the average total cost curve (ATC) at their minimum points because this shows that firms in perfectly competitive markets are productively efficient
2. the perfectly horizontal market price line is also the firm's demand (D) curve because competitive firms are price-takers... they charge the market's price

A Firm

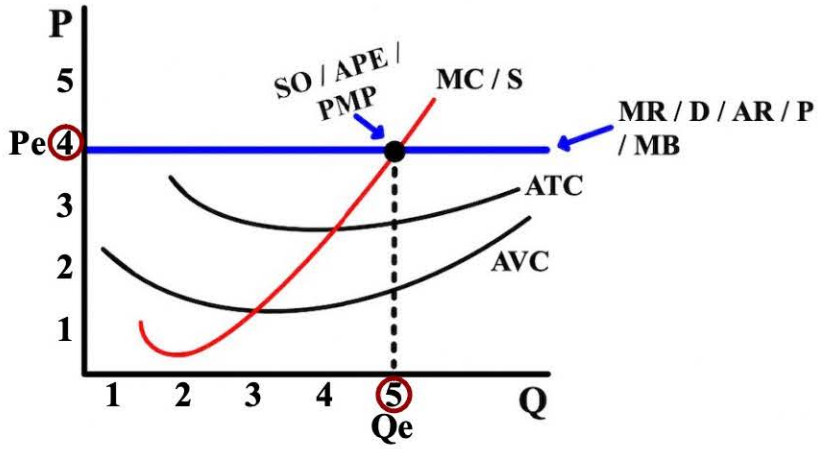


The Generic Cost Curves- Graphing the Status of Firms (cont.)

1. where the demand curve intersects with the marginal cost curve (MC/S) establishes the equilibrium price (Pe) ($4) and equilibrium quantity (Qe) (5)
2. at the intersection of the demand and the marginal cost curve is the socially optimal (SO), allocatively and productively efficient (APE), and profit maximizing point (PMP)

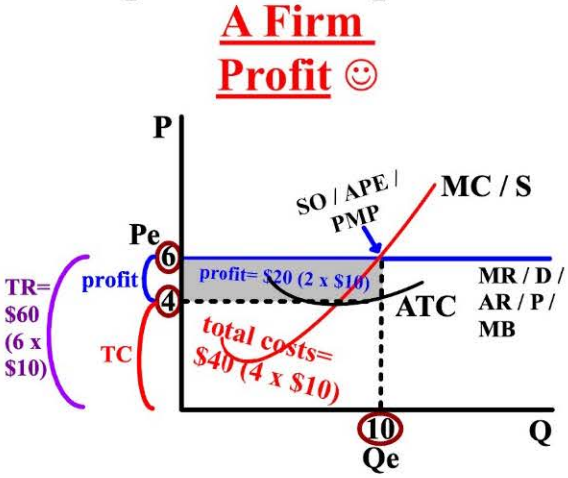
A. SO, APE, and PMP will all have the same price ($4) and quantity (5)

A Firm



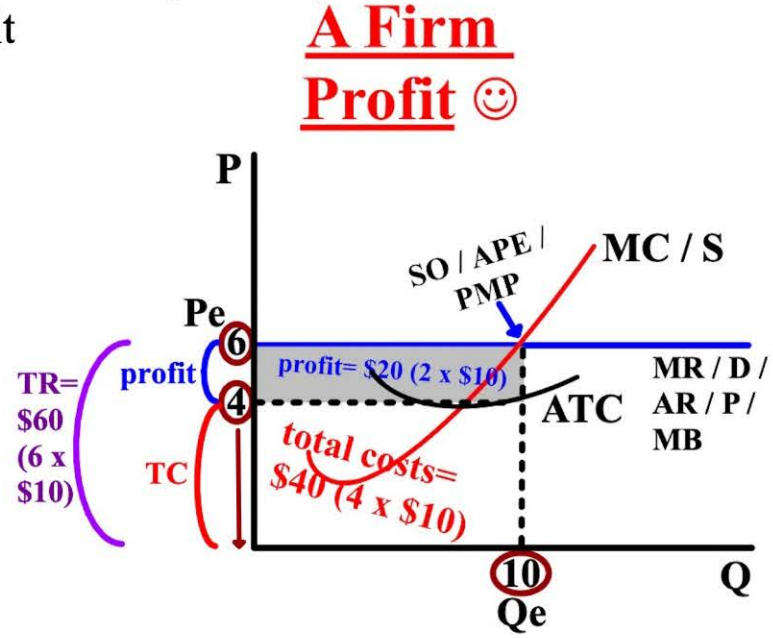
Firms: Profit

1. **profit** occurs when total revenue (TR) is greater than total cost (TC), and the areas of total revenue and total cost will always each be a rectangle
   A. the area of a rectangle is height (P) width (Q)
2. the revenue rectangle's height (quantity)(10) and width (price)($6) are determined by the intersection of the marginal cost curve/supply curve (MC/S) and the demand curve (D), which also determines the equilibrium quantity and the equilibrium price/market price



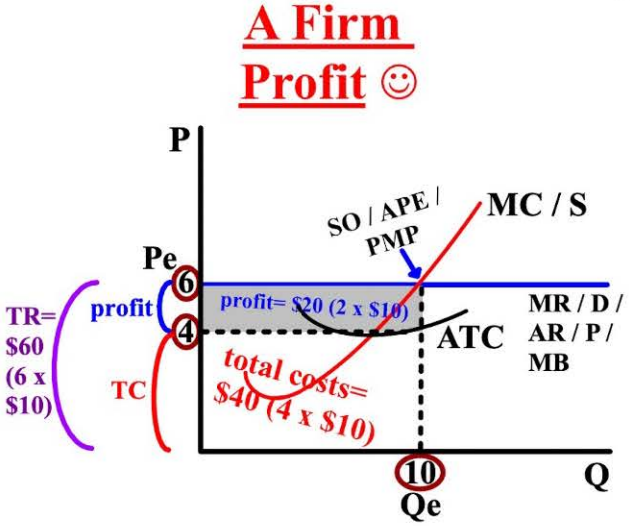
Firms: Profit (cont.)

1. the total cost rectangle always encompasses at least part of the revenue rectangle (the area from the ATC price of $4 down and with a quantity of 10)
2. $60 is the total revenue (10 x $6) and the total cost is $40 (4 x $10), which means the profit



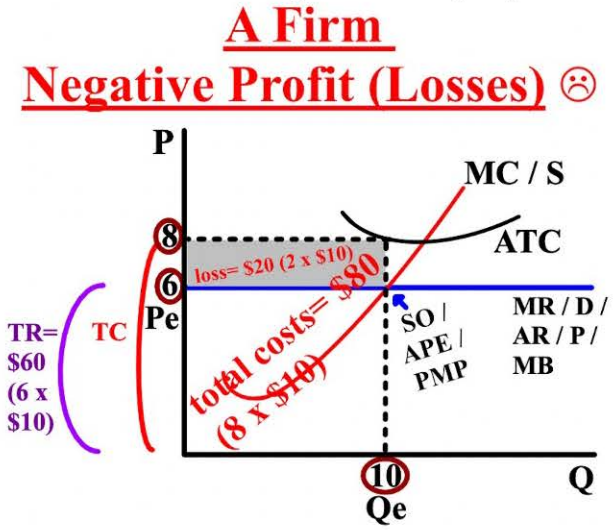
Firms: Profit (cont.)

1. where the average total cost curve (ATC) intersects the quantity produced (10), the average total cost or cost per unit ($4) is determined
2. at the quantity of production of 10, average total cost of $4 is below the equilibrium price/market price of $6
   A. there will be a positive profit because the price (P) charged by the firm ($6) is greater than the average total cost or cost per unit ($4): P > ATC



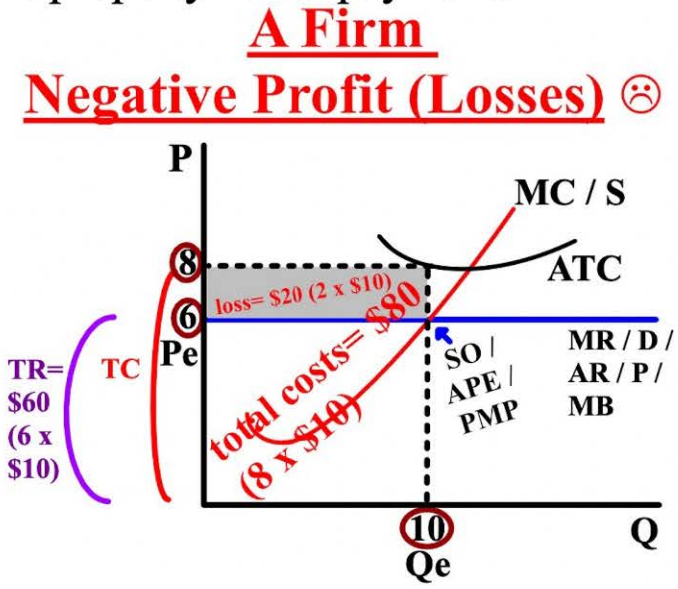
Firms: Negative Profit (Losses)

1. **negative profit (a loss)** occurs when total revenue (TR) is less than total cost (TC)
2. $60 is the total revenue (10 x $6), but the average total cost curve (ATC) intersects the quantity produced (10) at $8
3. there will be a loss because the price (P) charged by the firm ($6) is less than the average total cost or cost per unit ($8) to make each item: P < ATC



Firms: Negative Profit (Losses) (cont.)

1. $60 is the total revenue (10 x $6) but the total cost is $80 (8 x $10), which means the negative profit is $20 (TR of $60- TC of $80= $20 loss)
2. firms continue to operate in the short-run even with losses because of the concept of a **sunk cost** (a cost that you have committed to pay and that you cannot recover), like property rental payments



Microeconomics Do-Now

Please do this:

1.

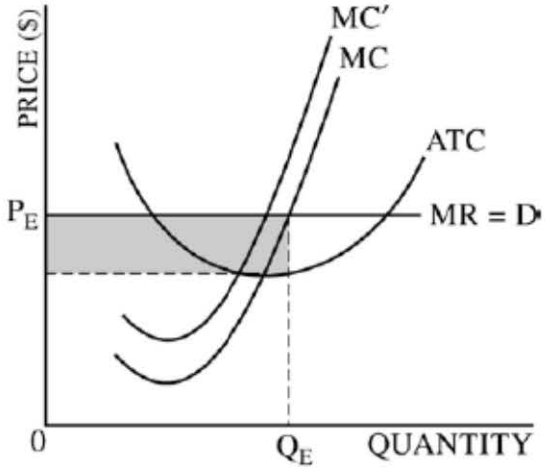
Assume that the market for avocados is perfectly competitive. The typical firm is earning positive economic profit in the short-run equilibrium.

(a) Draw a correctly labeled graph for the typical firm, illustrating the short-run equilibrium and labeling the equilibrium market price and output P_E and Q_E, respectively.

(b) Assume there is an increase in the market wage rate for labor, a variable input. Show on your graph in part (a) the effect of the wage increase on the marginal cost curve in the short run.

Microeconomics Do-Now

1.



(a) 3 points:

- One point is earned for a correctly labeled graph with a horizontal demand curve at the equilibrium price, P_E.
- One point is earned for showing the equilibrium quantity, Q_E, at MR = MC.

Microeconomics Do-Now

Please do this:

2.

Corn is used as food and as an input in the production of ethanol, an alternative fuel. Assume corn is produced in a perfectly competitive market.

(a) Draw correctly labeled side-by-side graphs for the corn market and a representative corn farmer. On your graphs show each of the following.

  (i) The equilibrium price and quantity in the corn market, labeled P_M and Q_M, respectively

  (ii) The profit-maximizing quantity of corn produced by the representative farmer earning zero economic profit, labeled Q_F

(b) Assume the demand for ethanol increases. On your graphs in part (a) show what will happen to each of the following in the short run.

  (i) The market price and quantity of corn, labeled P^* and Q^*

  (ii) The area of the profit or loss earned by the representative corn farmer, shaded completely

(c) Relative to your answer in part (b), state what will happen to the market equilibrium price and quantity of corn in the long run. Explain.

(d) Soybeans are produced in a perfectly competitive market. Assume farmers can grow either corn or soybeans on the same land. What happens to the price of soybeans in the next planting season if the price of corn increases? Explain.

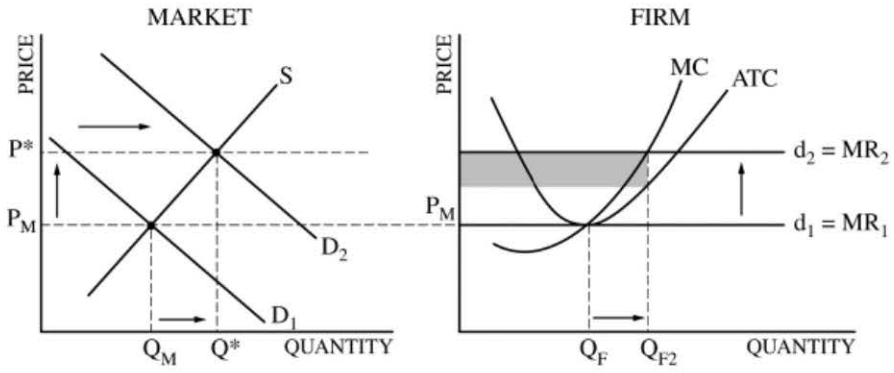
(e) Assume instead that the government sets a binding price ceiling in the corn market. Draw a new correctly labeled graph for the corn market and show each of the following.

  (i) The binding price ceiling, labeled P_c

  (ii) The quantity purchased by consumers in the corn market, labeled Q_p

Microeconomics Do-Now

2. **9 points** (3 + 2 + 1 + 1 + 2)



(a) 3 points:

- One point is earned for drawing a correctly labeled graph of the corn market with P_M and Q_M. The market demand curve must be downward sloping and the market supply curve must be upward sloping.
- One point is earned for showing a horizontal demand curve on the firm's graph extended from the market equilibrium price, P_M.
- One point is earned for identifying the firm's profit-maximizing quantity, Q_F, at marginal cost equal to marginal revenue ($MC=MR_1$).
- ~~One point is earned for showing the firm's average total cost (ATC) curve and marginal cost (MC) passing through the minimum point of ATC, and P = ATC = MC at Q_F.~~

Microeconomics Do-Now

2.

(b) 2 points:

- One point is earned for showing a rightward shift of the market demand curve and a higher price and quantity, P^* and Q^*.
- One point is earned for completely shading the area representing the profit for a representative corn farmer.

(c) 1 point:

- One point is earned for stating that the market quantity will increase and the market's price will decrease in the long run, and for explaining that new corn farmers will enter the market, which will increase the market supply curve.

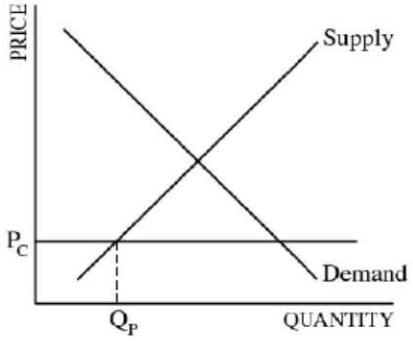
please take out your multiple choice practice; go to #9

Microeconomics Do-Now

2.

(d) 1 point:

- One point is earned for stating that the price of soybeans in the next planting season will increase, and for explaining that the supply of soybeans will decrease because the higher price of corn encourages farmers to substitute corn for soybeans in production.

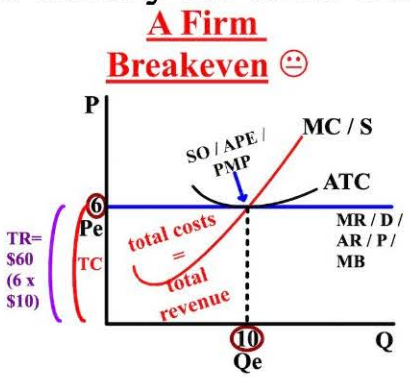


(e) 2 points:

- One point is earned for showing a correctly labeled graph of the corn market, with the price ceiling, P_C, below the equilibrium price of corn.
- One point is earned for showing the quantity purchased by consumers in the corn market labeled as Q_P where P_C intersects the supply curve.

Firms: Breaking Even

1. if the minimum point on the average total cost curve (ATC) intersects the marginal cost curve/supply curve (MC/S) and the demand curve (D) at the same point, the firm is at the **breakeven point**
2. the revenue rectangle's width (quantity) is 10 and the height (market price) is $6, but the average total cost curve (ATC) also intersects the MC/S and demand curves at $6
3. at the breakeven point, a firm's average total cost per unit ($6) equals the price ($6) they are selling it at: the total revenue (TR) rectangle and the total cost (TC) rectangle are exactly the same and economic profits are zero: P =ATC

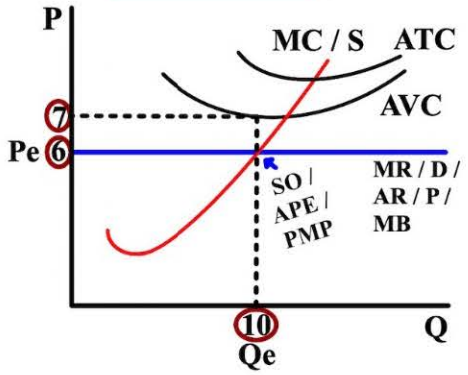


Firms: Shutting Down

1. if the price (P) charged by the firm falls below where the average variable cost curve (AVC) intersects the quantity produced, this is referred to as the **shutdown point**: P < AVC
2. the AVC intersects the quantity produced (10) at $7, but the price (P) charged by the firm ($6) is less than the average variable cost ($7) of paying the workers
3. this is the only situation you need to use the average variable cost curve for

please take out your multiple choice practice; go to #52

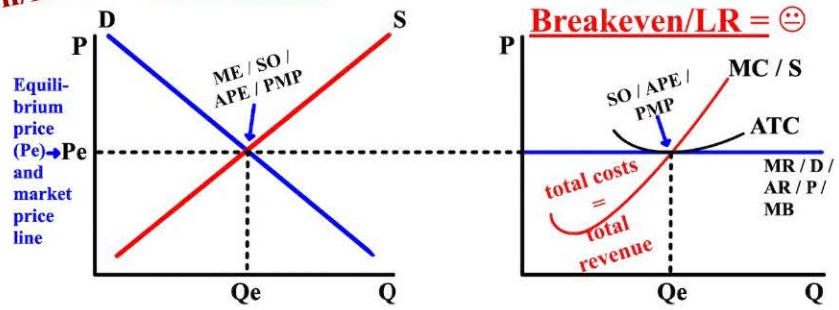
A Firm Shutdown ☠



A Firm in a Perfectly Competitive/Pure Market

Breakeven/Long-Run Equilibrium 😐

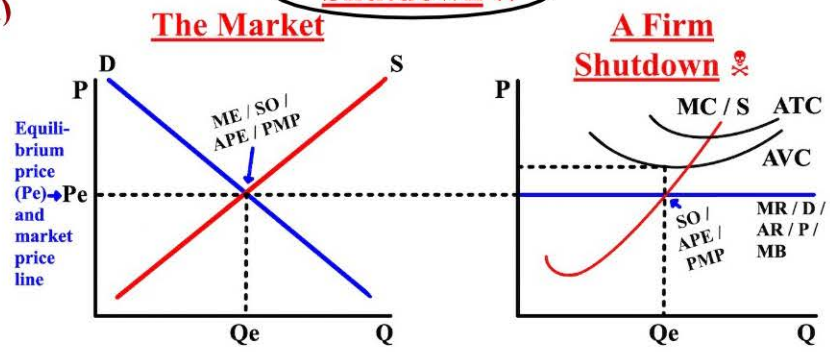
P = ATC (breakeven/LR=)



A Firm in a Perfectly Competitive/Pure Market

Shutdown ☠

P < AVC (shutdown)



Firms: Shutting Down- Questions

52. A profit-maximizing firm will shut down in the short run any time the firm's total revenue is less than its

(A) total cost
(B) fixed cost
(C) total variable cost
(D) explicit cost

Firms: Shutting Down- Questions

52. A profit-maximizing firm will shut down in the short run any time the firm's total revenue is less than its

(A) total cost
(B) fixed cost
(C) total variable cost
(D) explicit cost

Firms: Shutting Down- Questions

52. In the short run, if a firm produces the level of output at which marginal revenue is equal to marginal cost but price is less than average total cost, the firm will

(A) always shut down production
(B) expand output to lower its average fixed cost
(C) continue to operate if price is greater than its average variable cost
(D) decrease output until price equals its average total cost
(E) increase output to increase revenue

Firms: Shutting Down- Questions

52. In the short run, if a firm produces the level of output at which marginal revenue is equal to marginal cost but price is less than average total cost, the firm will

(A) always shut down production ← nope, only when P < AVC
(B) expand output to lower its average fixed cost
(●) continue to operate if price is greater than its average variable cost
(D) decrease output until price equals its average total cost
(E) increase output to increase revenue

nope, MR already = MC

Microeconomics Do-Now

Please do this:

1.

A typical profit-maximizing firm in a perfectly competitive constant-cost industry is earning a positive economic profit.

(a) Is the market price greater than, less than, or equal to the firm's price? Explain.

(b) Draw correctly labeled side-by-side graphs for both the market and a typical firm and show each of the following.

(i) Market price and quantity, labeled P_m and Q_m

(ii) The firm's quantity, labeled Q_f

(iii) The firm's average revenue curve, labeled AR

(iv) The firm's average total cost curve, labeled ATC

(v) The area representing total cost, shaded completely

(c) If one firm in the market were to raise its price, what will happen to its total revenue? Explain.

(d) Now suppose the market is in long-run equilibrium. The government gives a lump-sum subsidy to each firm producing in the industry. Indicate whether each of the following will increase, decrease, or remain the same.

(i) The firm's quantity in the short run. Explain.

(ii) The market price and quantity in the long run. Explain.

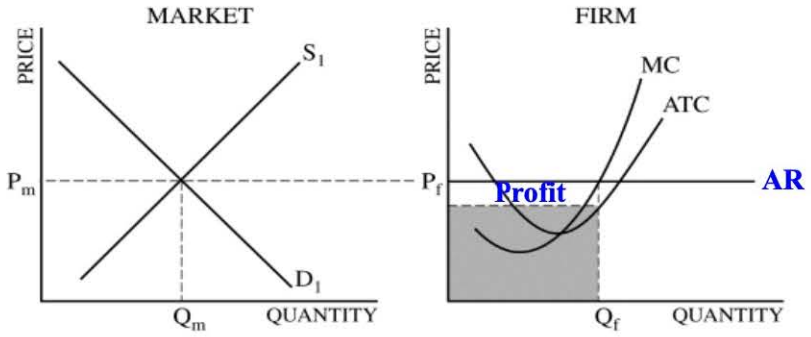
Microeconomics Do-Now

1.

10 points (1+5+1+3)

(a) 1 point:

- One point is earned for stating that the firm's price is equal to the market price because the firm is a price taker.



(b) 5 points:

- One point is earned for drawing a correctly labeled graph of the market with P_m, Q_m, a downward-sloping demand curve, and an upward-sloping supply curve.
- One point is earned for identifying the firm's profit-maximizing quantity, Q_f at marginal cost (MC) equal to price or demand, or marginal revenue, or average revenue.
- One point is earned for showing the firm's average revenue curve, labeled AR, which is horizontal at the price determined by the market.
- One point is earned for showing the firm's average total cost (ATC) curve, such that the MC curve is passing through the minimum of the ATC curve, and P > ATC.
- One point is earned for showing the area representing total cost shaded completely.

Microeconomics Do-Now

1.

(c) 1 point:

- One point is earned for stating that the firm's total revenue will fall to zero, because quantity decreases to zero, or because the firm is a price taker, or because the firm is facing a perfectly elastic demand, or the firm loses all of its customers, or the firm has no market power.

(d) 3 points:

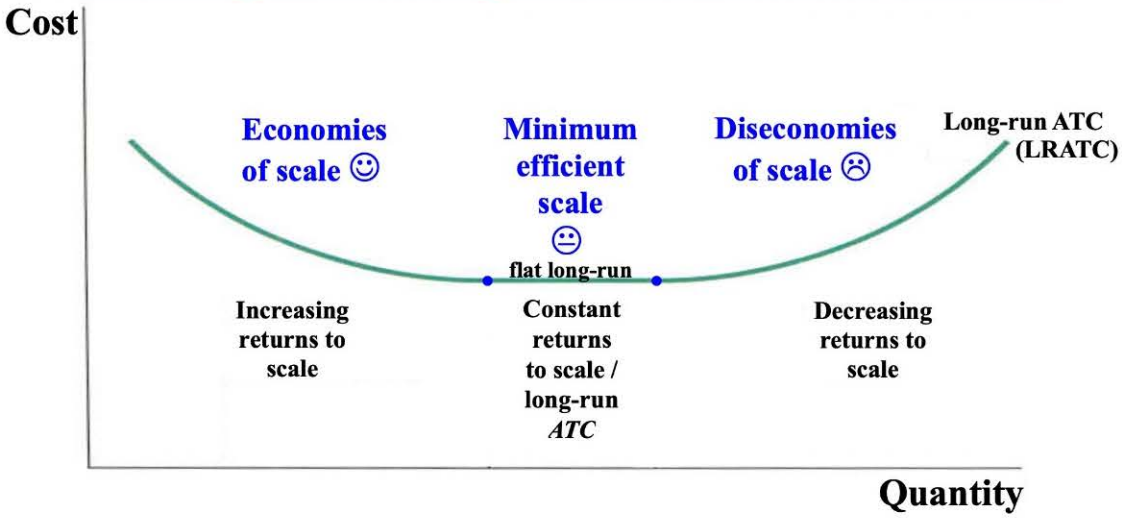
- One point is earned for stating that the firm's quantity will remain the same in the short run and for explaining that MR or MC will not change in the short run. (Or, because the lump sum subsidy has no effect on marginal revenue and/or marginal cost, or that only fixed costs will be affected.)
- One point is earned for stating that the market price will decrease and the quantity will increase.
- One point is earned for the explanation that positive profits lead to entry of new firms that will increase the industry supply.

Microeconomics Do-Now

Please do this:

1. **Graph the long-run average total cost curve (LRATC) and label economies of scale, constant returns to scale, minimum efficient scale, and diseconomies of scale.**

The Long-Run Average Total Cost Curve (LRATC)

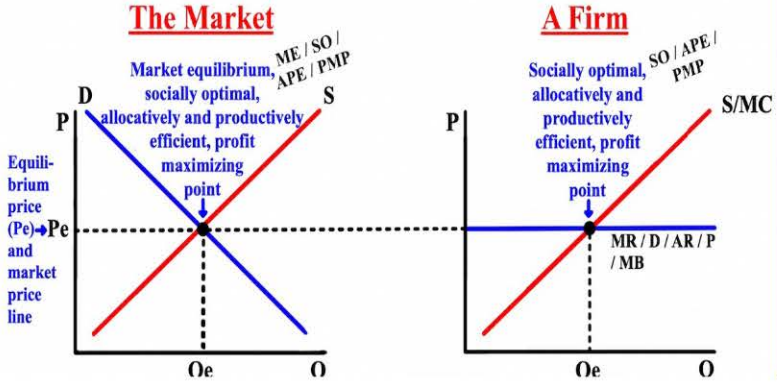


Microeconomics Do-Now

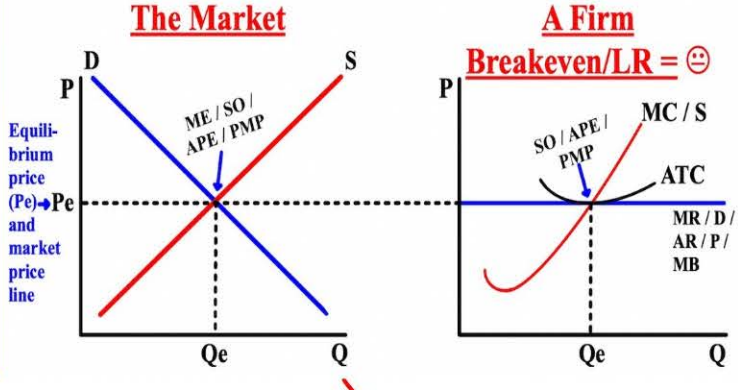
Please do this:

1. **Draw side-by-side graphs of a firm in a perfectly competitive market in the short-run. On both graphs, label the profit maximizing point.**
2. **Draw side-by-side graphs of a firm in a perfectly competitive market breaking even/in long-run equilibrium. On both graphs, label the socially optimal point.** AP Classroom: class code- 34XYM7 due

A Firm in a Perfectly Competitive/Pure Market (Short-run Equilibrium)

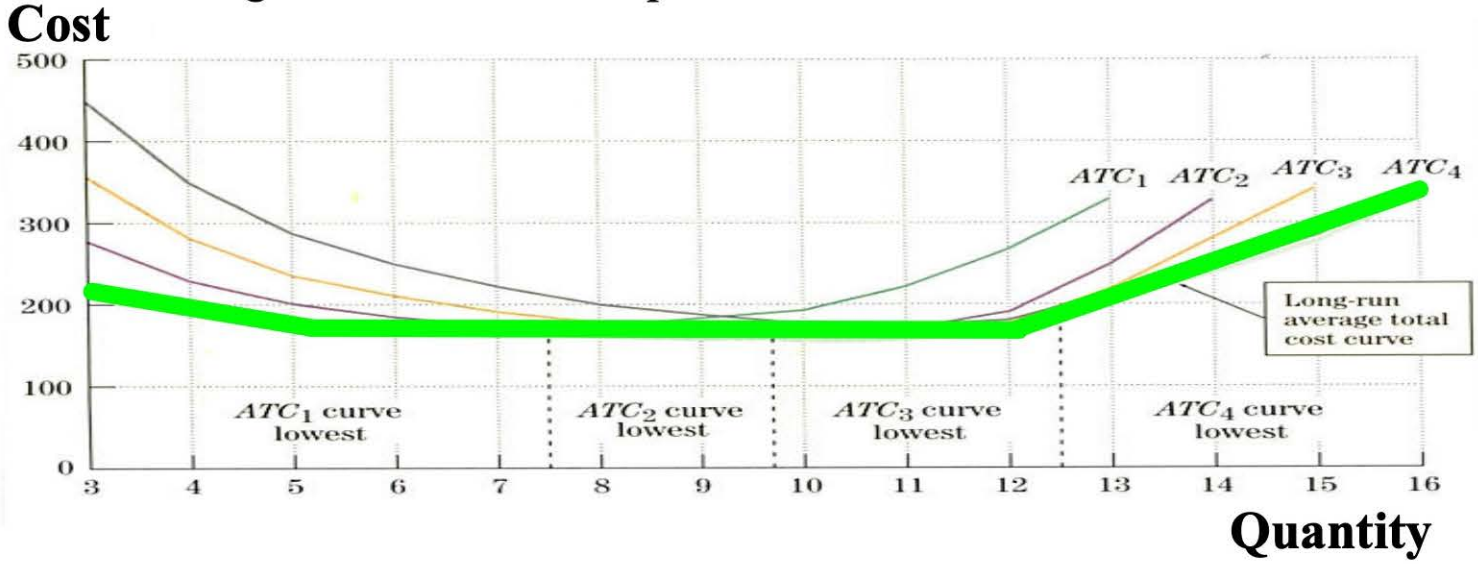


A Firm in a Perfectly Competitive/Pure Market Breakeven/Long-run Equilibrium 😐



The Long-Run ATC Curve

1. the thick light green curve is tracing the **long-run average total cost curve** (LRATC)... the curve that traces out the lowest points on the average total cost curves over time
2. the line tells firms what the average total cost is in the long-run when considering different business options



The Long-Run ATC Curve (cont.)

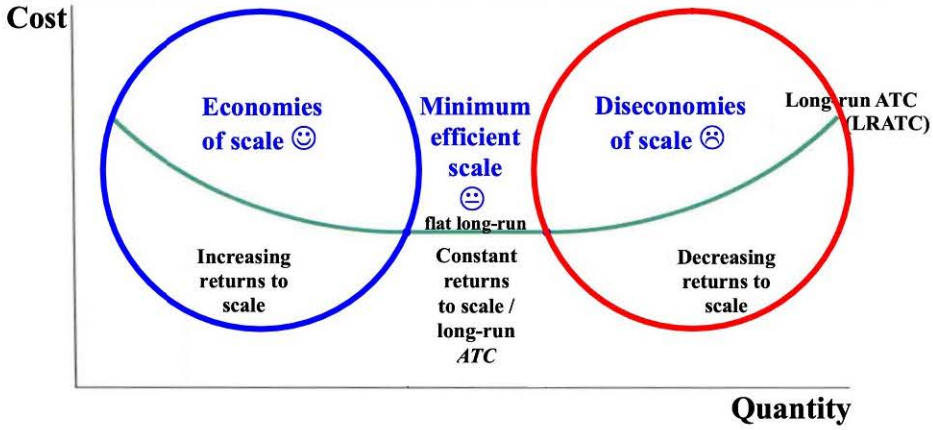
1. the long-run average total cost curve describes what happens to a firm's average total cost when its scale (size) increases
2. when all of a firm's inputs increase, like physical and human capital, we say that the scale of the firm increases
   A. for example: if the number of workers at the firm doubles, the number of trucks doubles, the number of buildings doubles, then we say that the scale of the firm doubles

please take out your multiple choice practice; go to #7

Economies and Diseconomies of Scale

1. there are **economies of scale**, or increasing returns to scale/size, if the long-run average total cost (LRATC) decreases as the scale increases
2. there are **diseconomies of scale**, or decreasing returns to scale/size, if the long-run average total cost increases as the scale increases
3. the **minimum efficient scale** or **constant returns to scale** is the situation in the middle (dot to dot) where the long-run average total cost is flat and at the minimum and is when a firm's output increases at the same rate the firm is utilizing its inputs

The Long-Run Average Total Cost Curve (LRATC)



Economies and Diseconomies of Scale- Questions

7. Which of the following must be true if a firm is experiencing economies of scale?

   (A) All costs are explicit.
   (B) Long-run average total cost decreases as the firm's output increases.
   (C) Economic profits decrease as the firm's output increases.
   (D) Long-run average total cost remains constant as the firm's output decreases.
   (E) Proportionate increases in inputs result in less-than-proportionate increases in output.

Economies and Diseconomies of Scale- Questions

7. Which of the following must be true if a firm is experiencing economies of scale?

(A) All costs are explicit. ← costs being clearly known has no relevance

(B) Long-run average total cost decreases as the firm's output increases.

(C) Economic profits decrease as the firm's output increases.

(D) Long-run average total cost remains constant as the firm's output decreases.

(E) Proportionate increases in inputs result in less-than-proportionate increases in output.

these are negative and economies of scale is a positive reaction

Economies and Diseconomies of Scale- Questions

6. If the output of a firm doubles when the firm doubles all of its inputs, the firm must be experiencing

(A) economies of scale
(B) increasing returns to scale
(C) constant returns to scale
(D) decreasing returns to scale
(E) diseconomies of scale

Economies and Diseconomies of Scale- Questions

6. If the output of a firm doubles when the firm doubles all of its inputs, the firm must be experiencing

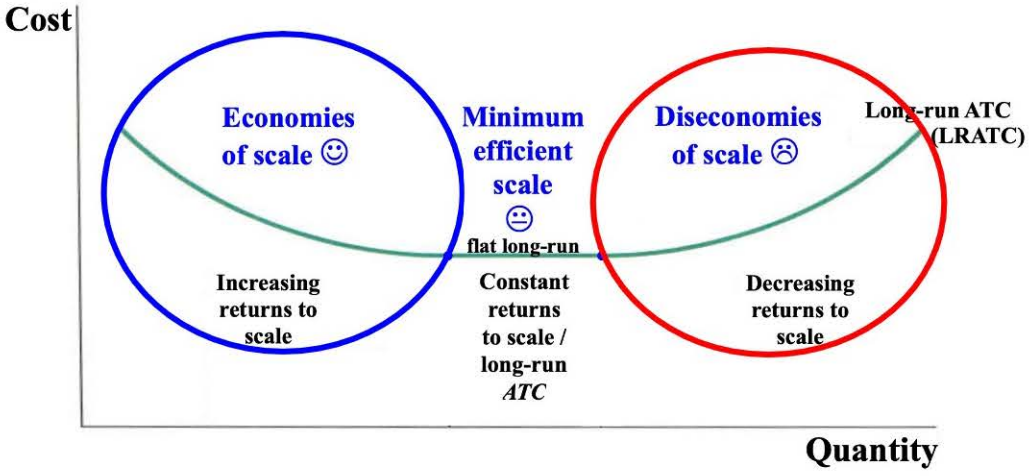
(A) economies of scale ← this is about ATC decreasing when a firm's scale or sales increase
(B) increasing returns to scale
(●) constant returns to scale
(D) decreasing returns to scale
(E) diseconomies of scale ← this is about ATC increasing when a firm's scale or sales increase

these terms are made up

Internal and External Economies and Diseconomies of Scale

1. **internal economies of scale** occur when the long-run average total cost (LRATC) decreases because of a reason internal to a firm, such as a grape firm hiring a specialist
2. **external diseconomies of scale** occur when the long-run average total cost (LRATC) increases because of a reason external to a firm, such as an increase in water prices for farmers

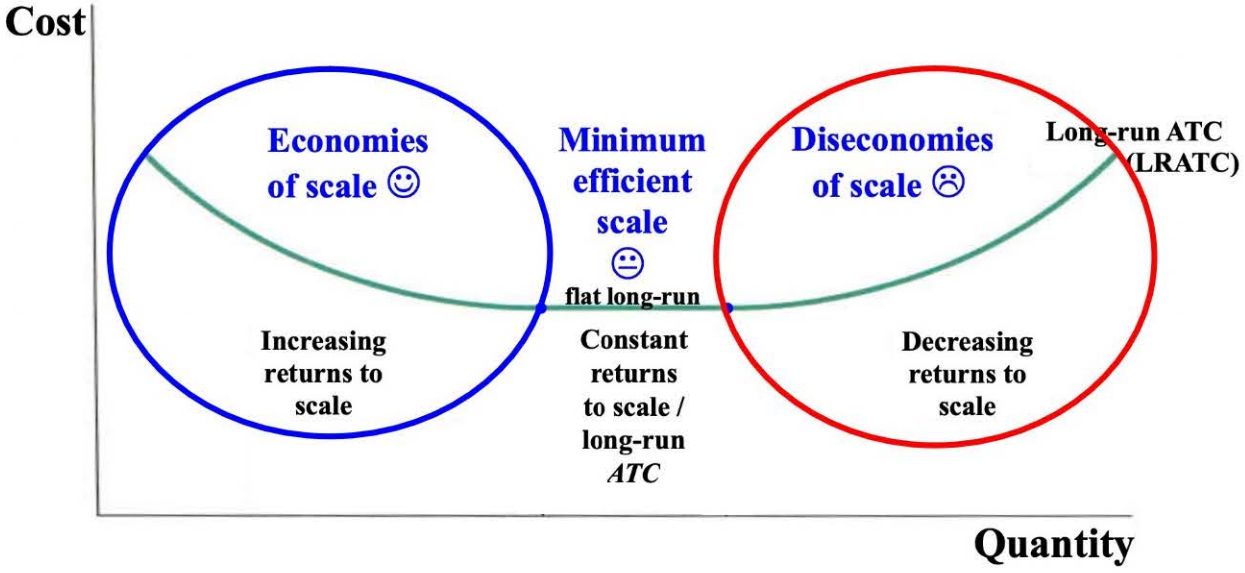
The Long-Run Average Total Cost Curve (LRATC)



Internal and External Economies and Diseconomies of Scale (cont.)

1. both external and internal economies of scale can occur at the same time
   A. Federal Express achieved internal economies of scale by improving its computer tracking system and the industry achieved external economies of scale by using the scanners Federal Express pioneered

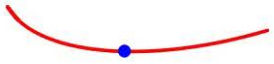
The Long-Run Average Total Cost Curve (LRATC)



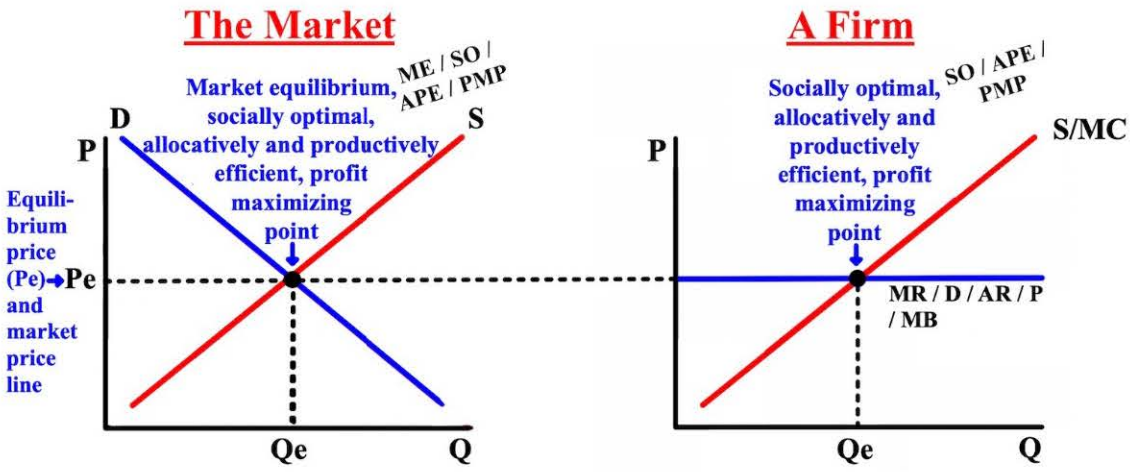
Short-Run Equilibrium

1. below is a graph showing a typical market with its market supply (S) and demand (D) curve and a firm in that market with a flat demand curve
2. where price (P) = marginal costs (MC), the profit maximizing price and quantity are determined for a firm
3. there are no generic cost curves below because this is short-run equilibrium (1 year or less)

please take out your multiple choice practice; go to #39



A Firm in a Perfectly Competitive/Pure Market
(Short-run Equilibrium)



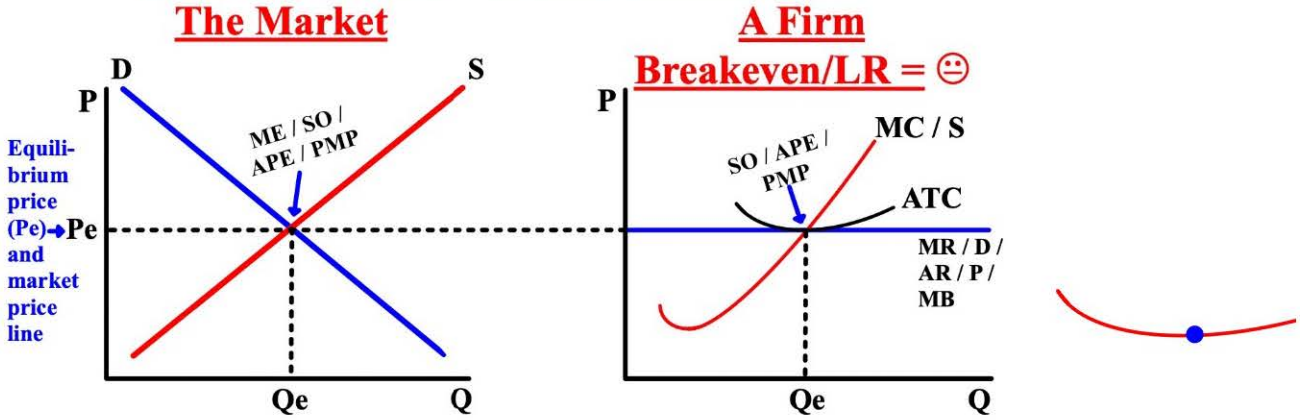
Long-Run Equilibrium

1. now we'll talk about the expansion and contraction of markets/industries over time (the long-run, 4-5 years out), like the cell phone or car market
2. **long-run equilibrium** is a situation in a market when the average total cost curve (ATC) intersects the price line, profits are zero, and there is no incentive for any firm to enter or exit the market/industry

A. during long-run equilibrium, firms are at the breakeven point

A Firm in a Perfectly Competitive/Pure Market

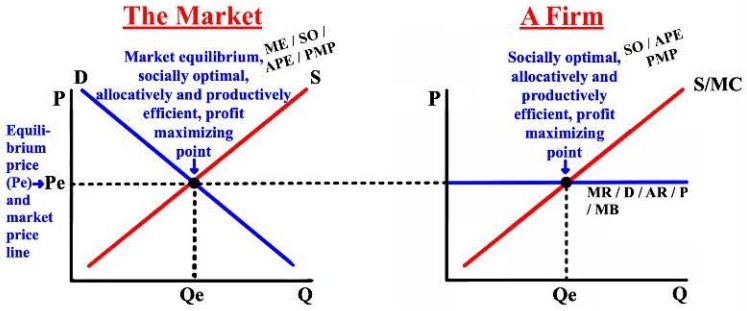
Breakeven/Long-run Equilibrium 😐



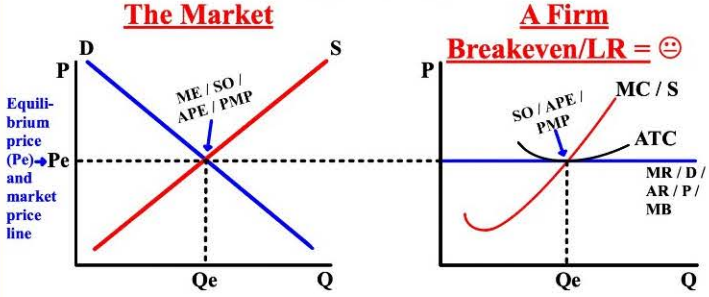
Short and Long-Run Equilibrium

1. the addition of generic cost curves is the only difference between short-run equilibrium and long-run equilibrium

A Firm in a Perfectly Competitive/Pure Market
(Short-run Equilibrium)



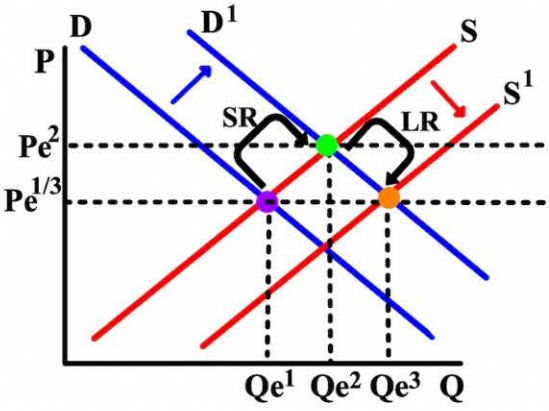
A Firm in a Perfectly Competitive/Pure Market
Breakeven/Long-run Equilibrium 😐



From LR Equilibrium to Expansion then back the LR Equilibrium

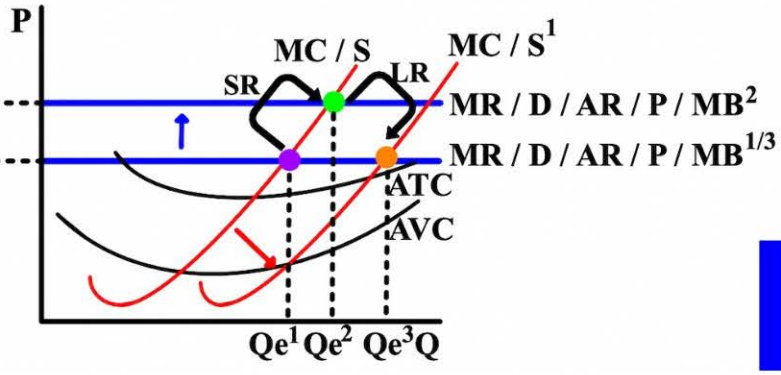
1. the long-run equilibrium model can be used to explain the expansion of a market and the firms in that market
2. demand (D) increases in the market from D to D1 (purple to green)
3. as firms make profit, the supply (S) curve for the whole market shifts to the right from S to S1 (from green to orange) because now there are firms entering the industry to make a profit, increasing supply

A Market Expansion ☺



1. in LR equilibrium
2. Qd ↑
3. P ↑
4. Qs ↑
5. P ↓
6. back to LR equilibrium

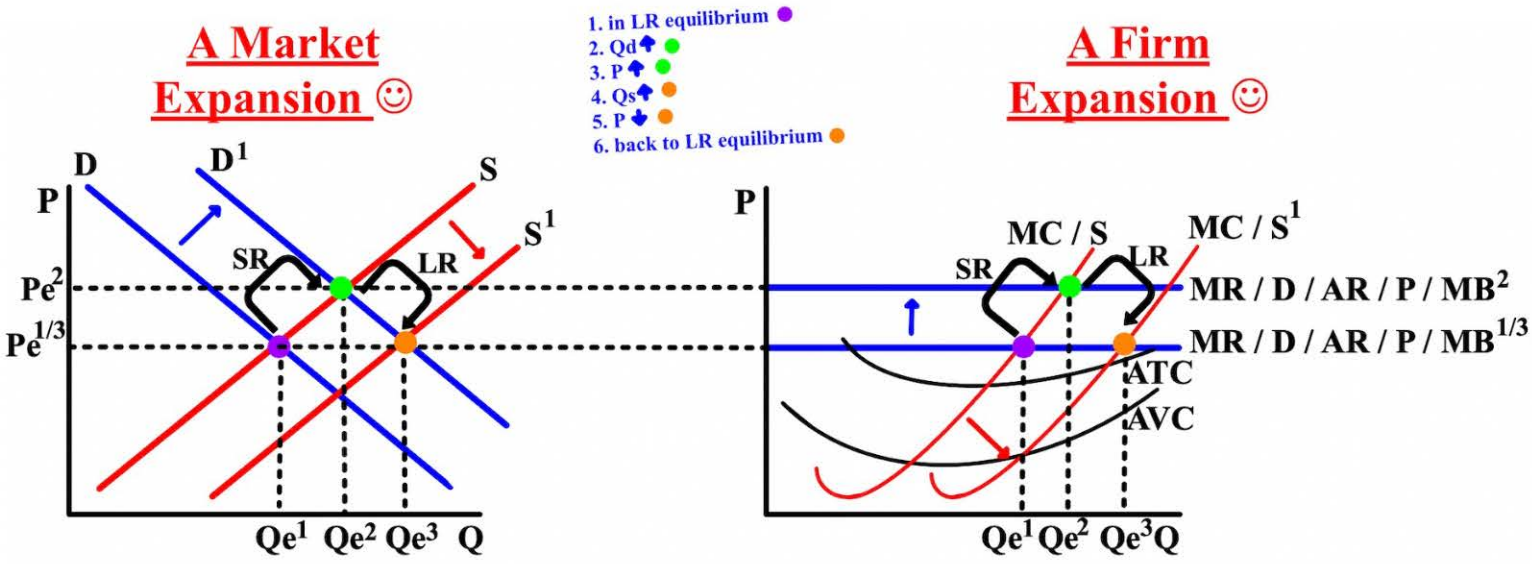
A Firm Expansion ☺



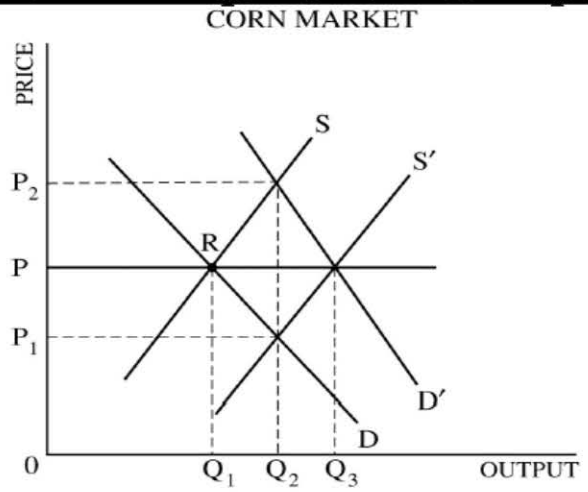
Plea
1. D lo
2. G de
3. O re

From LR Equilibrium to Expansion then back the LR Equilibrium (cont.)

1. as supply increases from green to orange, it intersects the market demand curve at a lower price (P), causing the market to return to long-run equilibrium and zero profit
   A. markets might expand, but they always return to long-run equilibrium



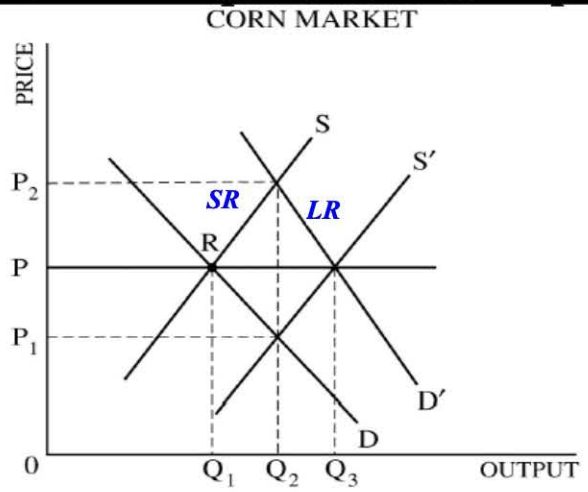
From LR Equilibrium to Expansion then back the LR Equilibrium- Qs



39. Assume that the corn market is initially in long-run equilibrium at point R. What are the short-run and long-run prices of corn if more corn is used as a source of alternative energy?

	Short Run	Long Run
(A)	P	P_1
(B)	P	P_2
(C)	P_1	P_2
(D)	P_2	P_1
(E)	P_3	P

From LR Equilibrium to Expansion then back the LR Equilibrium- Qs

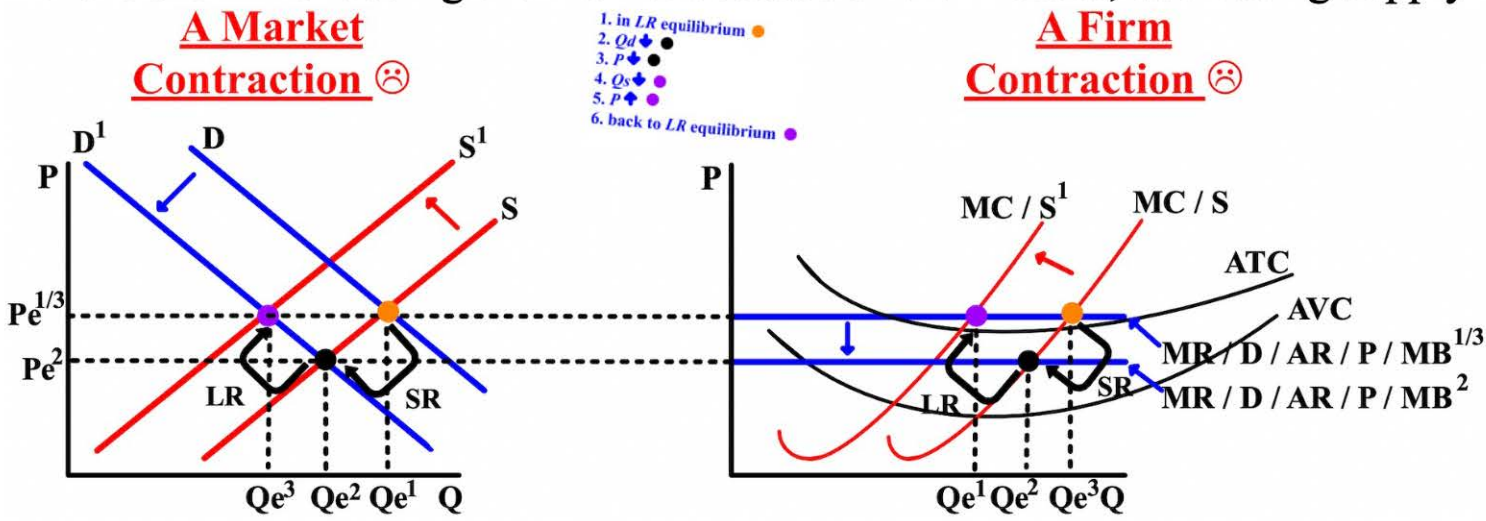


39. Assume that the corn market is initially in long-run equilibrium at point R. What are the short-run and long-run prices of corn if more corn is used as a source of alternative energy?

	Short Run	Long Run	
(A)	P	P_1	← in the short-run *P* doesn't stay the same or decrease
(B)	P	P_2	
(C)	P_1	P_2	← in the short-run *P* doesn't decrease
(D)	P_2	P_1	← in the long-run *P* returns to equilibrium, not decrease further
●	P_2	P	

From LR Equilibrium to Contraction then back the LR Equilibrium

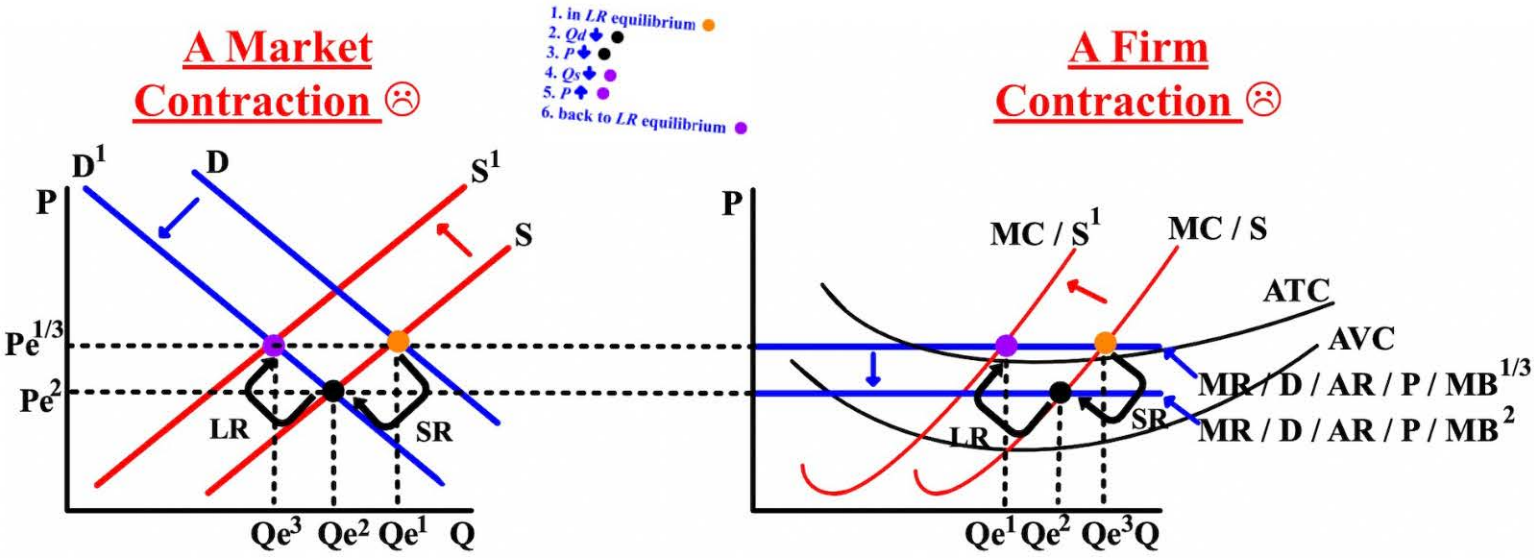
1. the long-run equilibrium model can also be used to explain the contraction of a market and the firms in that market
2. demand (D) decreases in the market from D to D1 (orange to black)
3. as firms make negative profit (losses), the supply (S) curve for the whole market shifts to the left from S to S1 (from black to purple) because now there are firms leaving the market because of their losses, decreasing supply



From LR Equilibrium to Contraction then back the LR Equilibrium

1. as supply decreases from black to purple, it intersects the market demand curve at a higher price (P), causing the market to return to long-run equilibrium and zero profit

A. markets might contract, but they always return to long-run equilibrium



Accounting Profit versus Economic Profit

1. **accounting profit** (also called bookkeeping profit) for a firm consists of total revenue minus **explicit costs**, a firm's expenses)

micro. formula #17 **accounting profit = total revenue (TR) - explicit costs**

2. for an accountant, the total costs do not include the **implicit costs** (the opportunity cost of the owner's time, money, or the firm's resources)
3. an accountant only cares about the difference between total revenue and explicit costs

Accounting Profit versus Economic Profit (cont)

1. **economic profit** is a more accurate and more used measure of the incentive for a firm to stay in business or enter a market because it takes into account all of the important financial factors

micro. formula #18

economic profit =
total revenue (TR) - total costs (implicit and explicit)

2. assume the profits for a bakery are $40,000 a year after deducting explicit costs like electricity and dough
3. now assume the owner of the bakery could earn $35,000 a year working at another job and invest money and earn $3,000 per year (implicit costs = $38,000)
4. economists would say the owner would have an economic profit of $2,000 keeping his bakery ($40,000 - $38,000), which is enough of an incentive for the firm to stay in business versus doing something else.
5. accountants don't care about implicit costs and would say that the accounting profit is $40,000

Accounting Profit versus Economic Profit (cont)

1. the term **normal profit** is an economic condition that occurs when economic profits equal zero; the minimum level of profit needed for a company to remain in business (long-run equilibrium or the breakeven point when total revenue (TR) = total costs (TC)
   A. if a firm's economic total revenue (TR) is $40,000 and their total costs (TC) (explicit and implicit) equal $40,000, their economic profit and thus their normal profit would be $0.

micro.
formula
#19

please take out your
multiple choice practice;
go to #35

Accounting Profit versus Economic Profit- Questions

35. Economic profit can be calculated as accounting profit minus which of the following?

(A) Fixed costs
(B) Implicit costs
(C) Marginal costs
(D) Explicit costs
(E) Total costs

Accounting Profit versus Economic Profit- Questions

35. Economic profit can be calculated as accounting profit minus which of the following?

(A) Fixed costs
(B) Implicit costs **straight definition**
(C) Marginal costs
(D) Explicit costs
(E) Total costs

accounting profit = total revenue (*TR*) - explicit costs
and
economic profit = total revenue (*TR*) - total costs (implicit and explicit)

Accounting Profit versus Economic Profit- Questions

22. Shelby is an entrepreneur who has decided to open a small advertising firm. She rents office space at a cost of $25,000 per year, she has employed an assistant at a salary of $30,000 per year, and she incurs annual utility and office supply expenses of $20,000. Her best alternative is to work elsewhere and to earn a salary of $50,000 per year. How much annual revenue must her firm receive so that Shelby earns zero economic profit?

(A) $50,000
(B) $75,000
(C) $100,000
(D) $125,000
(E) $150,000

Accounting Profit versus Economic Profit- Questions

22. Shelby is an entrepreneur who has decided to open a small advertising firm. She rents office space at a cost of $25,000 per year, she has employed an assistant at a salary of $30,000 per year, and she incurs annual utility and office supply expenses of $20,000. Her best alternative is to work elsewhere and to earn a salary of $50,000 per year. How much annual revenue must her firm receive so that Shelby earns zero economic profit?

(A) $50,000
(B) $75,000
(C) $100,000
(●) $125,000
(E) $150,000

implicit costs
$50,000

explicit costs
$25,000
$30,000
+$20,000
$75,000

$? (TR) - $125,000 (TC) = $0

$75,000 explicit costs
+$50,000 implicit costs
$125,000
↑
total costs

Accounting Profit versus Economic Profit- Questions

23. A firm produces 400 books and sells each book for $15. If the explicit cost of producing the books is $4,500 and the implicit cost is $1,000, the firm's economic profit is

(A) $0
(B) $500
(C) $1,000
(D) $1,500
(E) $5,000

Accounting Profit versus Economic Profit- Questions

23. A firm produces 400 books and sells each book for $15. If the explicit cost of producing the books is $4,500 and the implicit cost is $1,000, the firm's economic profit is

(A) $0
(B) $500 ← 400 x $15= $6,000 *and* $6,000 - $4,500 - $1,000= $500
(C) $1,000
(D) $1,500
(E) $5,000

Accounting Profit versus Economic Profit- Questions

24. For a perfectly competitive firm producing the profit-maximizing quantity, the average total cost is $10 and the average variable cost is $8. If the market price for its product is $10, which of the following is true for the firm?

(A) It is sustaining a loss and should shut down.
(B) It is earning zero economic profit and will remain in business.
(C) Its accounting profits exceed implicit costs.
(D) It will temporarily shut down until price rises.
(E) It is making an economic profit that will attract other firms to the industry.

Accounting Profits versus Economic Profit- Questions

24. For a perfectly competitive firm producing the profit-maximizing quantity, the average total cost is $10 and the average variable cost is $8. If the market price for its product is $10, which of the following is true for the firm?

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(B) It is earning zero economic profit and will remain in business.
(C) Its accounting profits exceed implicit costs.
(D) It will temporarily shut down until price rises.
(E) It is making an economic profit that will attract other firms to the industry.

nope, P = $10 and ATC= $10 (breakeven point)

cannot be determined with this info.

nope, P = $10 and ATC= $10 (breakeven point), not P < AVC (shutdown point)

Monopolies

1. finally, we'll talk about monopolies and how they decide what price (P) to charge their customers and what quantity (Q) to produce/sell, because profit is their one and only goal
   A. even though monopolies are illegal, sometimes they exist for the benefit of society, like having only one water company or one electric company in an area

The 4 Market Structures

Perfect/Pure Competition

1. profit max. and Q: P=MC and MR=MC
2. P is constant
3. no DWL or excess costs/capacity
4. one product/many close substitutes
5. many producers
6. no barriers to entry/exit
7. no market power/price taker
8. perfectly elastic D curve
9. no LR profit
10. example: stock market

Monopolistic Competition (imperfect)

1. profit max. and Q: MC=MR
2. P decreases, P>MC, & MR<P
3. DWL & excess costs/capacity
4. differentiated products
5. many producers
6. no barriers to entry/exit
7. market power/price maker
8. sloping D curve
9. no LR profit
10. example: cereal market

Oligopoly (imperfect competition)

1. profit max. determined by strategic beh.
2. P decreases, P>MC, & MR<P
3. DWL and excess costs/capacity
4. standardized/differentiated products
5. a few big producers
6. barriers to entry/exit
7. market power/price maker
8. sloping D curve
9. LR profit
10. example: sneaker market

Monopoly (imperfect competition)

1. profit max. and Q: MC=MR
2. P decreases, P>MC, & MR<P
3. DWL and excess costs/capacity
4. one product/no close substitutes
5. one big producer
6. barriers to entry/exit
7. market power/price maker
8. sloping D curve
9. LR profit with economies of scales
10. example: US Steel/FPL (nat. mono.)

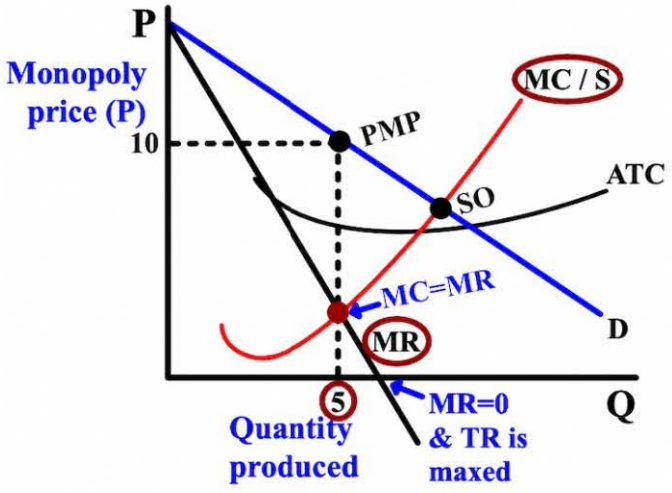
Monopolies (cont.)

1. a **monopoly** occurs when there is only one firm in a market selling a product for which there are no close substitutes
2. monopolies create **barriers to entry** (when monopolies take active action to prevent other firms from entering the market they are in)
3. monopolies have **market power**
   A. monopolies are price-makers and not price-takers and there is no company that can undercut a monopoly's price, and what a monopoly does with its production levels can greatly impact its prices

Marginal Cost and Marginal Revenue

1. to maximize profit, the monopoly should produce the quantity where **marginal cost equals marginal revenue: MC = MR**, which is 5
2. the marginal revenue curve becoming negative shows that as total revenue continues to fall, at some point marginal revenue will become negative
3. where marginal revenue= 0, total revenue (TR) is at its maximum

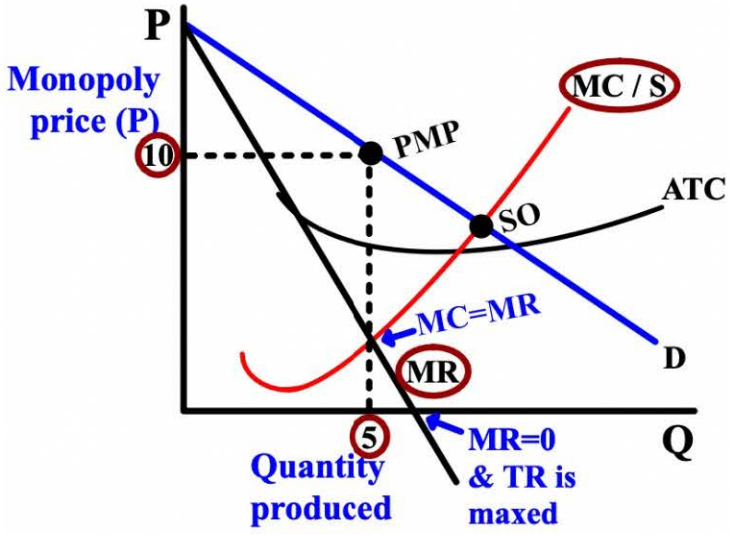
A Monopoly: MC & MR



Marginal Cost and Marginal Revenue (cont.)

1. where marginal revenue (MR) equals/intersects marginal cost (MC), a monopoly's profit maximizing quantity produced is determined... 5
2. where the monopoly's quantity produced intersects with demand (D), the profit maximizing and monopoly's price is determined... 10

A Monopoly: MC & MR



Marginal Cost and Marginal Revenue (cont.)

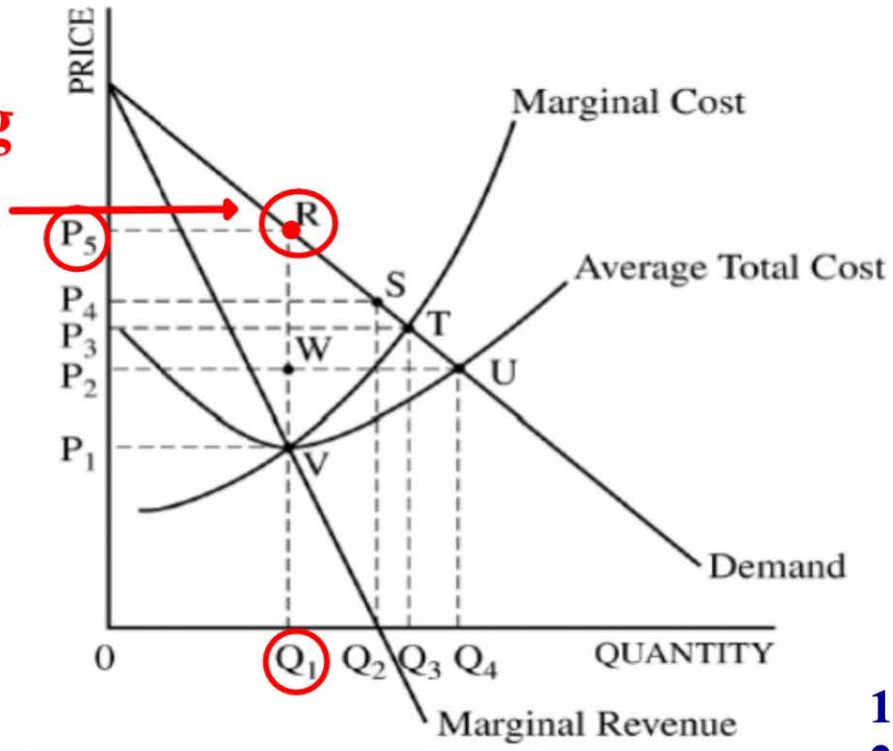
1. for a monopoly, its marginal revenue (MR) is always less than the price (P) it charges for their products because a monopoly has to decrease the price of their products to sell more
2. when marginal cost (MC) becomes greater than marginal revenue (MR) at 4 produced/sold, the profit maximizing quantity of 3 has been surpassed

Quantity Produced		Price		Total Revenue	Marginal Revenue	Total Costs	Marginal Costs	Total Revenue		Total Costs		Profit
0	at	$ 0	=	$ 0	$ 0	$ 70	$ 0	$ 0	-	$ 70	=	-$ 70
1	at	$150	=	$150	$150	$ 80	$10	$150	-	$ 80	=	$ 70
2	at	$125	=	$250	$100	$ 85	$ 5	$250	-	$ 85	=	$165
3	at	$100	=	$300	$ 50	$100	$15	$300	-	$100	=	$200
4	at	$ 75	=	$300	$ 0	$120	$20	$300	-	$120	=	$180
5	at	$ 50	=	$250	-$ 50	$150	$30	$250	-	$150	=	$100

when selling

Marginal Cost and Marginal Revenue (cont.)

A non-regulated profit maximixing monopoly: MC=MR (U.S. Steel)

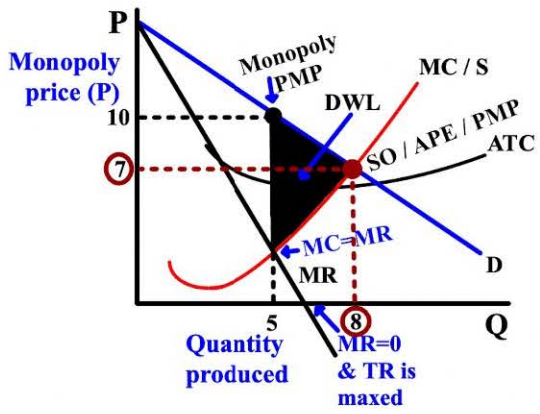


1. Gra
2. Lab
3. Lab

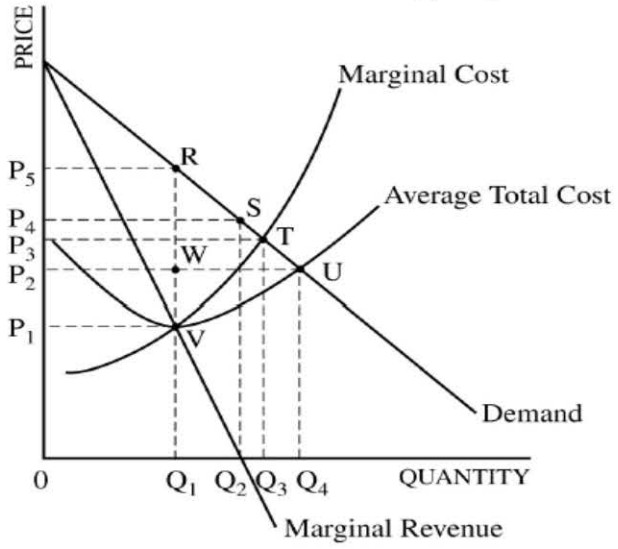
MC = MR for a Monopoly vs. P = MC for a Competitive Firm

1. unlike a firm in a perfectly competitive market, monopolies charge a higher price and produce a smaller quantity and therefore have excess capacity, are inefficient, create deadweight loss (DWL), and are not socially optimal in their business structure
2. on a graph of a monopoly, you can determine the socially optimal (SO), allocatively and productively efficient (APE), profit maximizing point (PMP) and the equilibrium quantity (8) equilibrium price ($7) for a firm

A Monopoly: DWL ☹



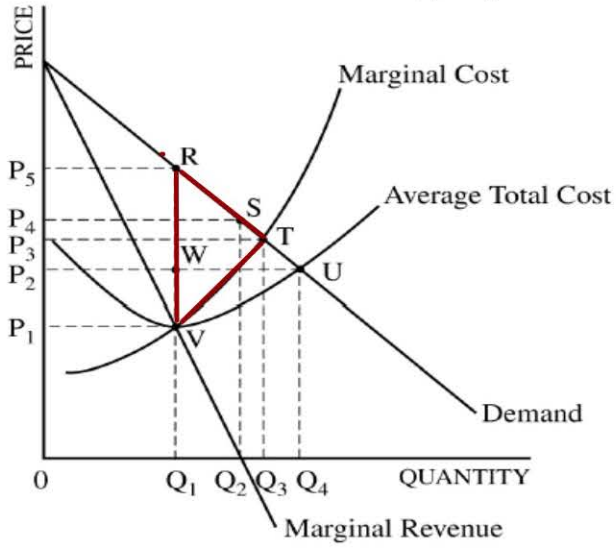
MC = MR for a Monopoly vs. P = MC for a Competitive Firm- Questions



57. If the monopolist is unregulated, its profit-maximizing price and output level would lead to a deadweight loss equal to area

(A) RUV
(B) RTV
(C) RTW
(D) TUV
(E) UVW

MC = MR for a Monopoly vs. P = MC for a Competitive Firm- Questions



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(A) RUV
(B) RTV
(C) RTW
(D) TUV
(E) UVW

MC = MR for a Monopoly vs. P = MC for a Competitive Firm- Questions

8. Which of the following is most likely to occur if a single-price monopolist is replaced by a perfectly competitive market?

(A) Prices will increase.
(B) The deadweight loss will decrease.
(C) Profits will increase.
(D) Output will decrease.
(E) The firm's cost curves will shift upward.

MC = MR for a Monopoly vs. P = MC for a Competitive Firm- Questions

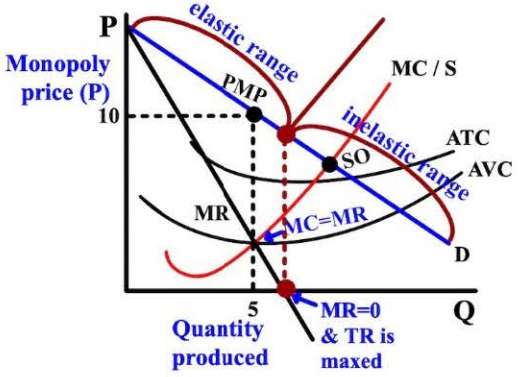
8. Which of the following is most likely to occur if a single-price monopolist is replaced by a perfectly competitive market?

(A) Prices will ~~increase.~~ ← decrease because monopolies set a higher P
(●) The deadweight loss will decrease.
(C) Profits will ~~increase.~~ ← decrease because monopolies set a higher P
(D) Output will ~~decrease.~~ ← increase because monopolies produce less
(E) The firm's cost curves will shift upward. ← downward; more efficient

The Elastic and Inelastic Ranges (areas)

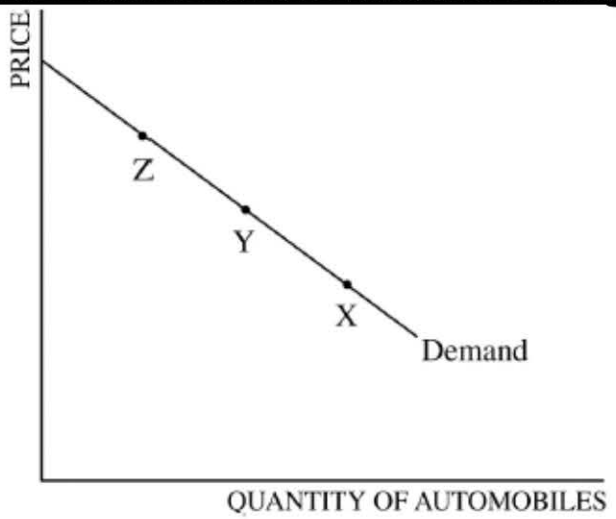
1. where marginal revenue (MR) = 0, the demand (D) curve is divided between the elastic range (sensitive area) and the inelastic range (insensitive area)
2. in the elastic range (PED or PES >1), consumers are sensitive to increases in prices and will pay less of any increase in price; producers will pay more
3. in the inelastic range (PED or PES >1), consumers are insensitive to increases in prices and will pay more of any increase in price; producers will pay less

A Monopoly: The Elastic and Inelastic Ranges



please take out your multiple choice practice; go to #32

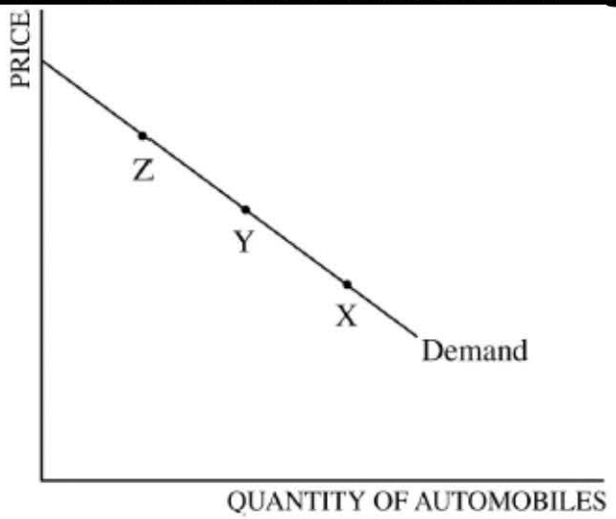
The Elastic and Inelastic Ranges (areas)- Questions



32. In the figure above, at which of the given points is demand most elastic?

(A) X
(B) Y
(C) Z
(D) The elasticity is the same for all points.
(E) The relative elasticity cannot be determined with the given information.

The Elastic and Inelastic Ranges (areas)- Questions



32. In the figure above, at which of the given points is demand most elastic?

(A) X
(B) Y
(●) Z ←——— **D is most sensitive for anyone at the highest possible P**
(D) The elasticity is the same for all points.
(E) The relative elasticity cannot be determined with the given information.

The Elastic and Inelastic Ranges (areas)- Questions

9. A single-price monopolist is currently producing in the inelastic portion of its market demand curve. In order to maximize profits, the monopolist should change the price and output in which of the following ways?

	Price	Output
(A)	Increase	Increase
(B)	Increase	Decrease
(C)	Increase	Not change
(D)	Decrease	Increase
(E)	Not change	Increase

The Elastic and Inelastic Ranges (areas)- Questions

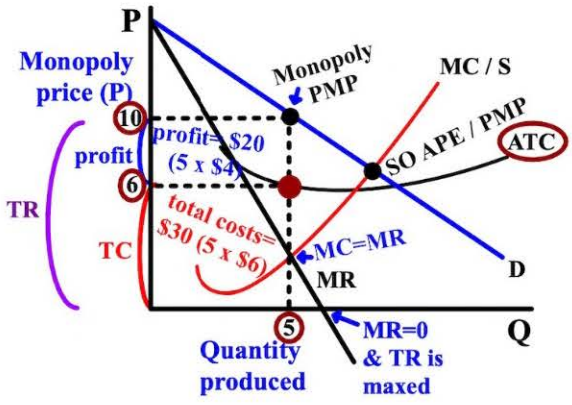
9. A single-price monopolist is currently producing in the inelastic portion of its market demand curve. In order to maximize profits, the monopolist should change the price and output in which of the following ways?

	Price	Output	
(A)	Increase	Increase	increase P, but increasing output counters the P increase by increasing S
(B)	Increase	Decrease	
(C)	Increase	Not change	increase P, but not changing output leads to less than total profit maximization
(D)	Decrease	Increase	decreasing P and increasing output both lower profit
(E)	Not change	Increase	this will only further decrease P

Monopolies: Profit

1. at a production quantity of 5, the monopoly's price (P) would be $10 and total revenue (TR), which is always a rectangle, would be $50 (5 x $10)
2. the average total cost curve (ATC) intersects the monopoly's quantity produced (5) at $6, so the total costs (TC), also always a rectangle, would be $30 (5 x $6)
3. economic profit would be $20 because TR ($50) - TC ($30)= $20, which is the difference between the area of the two rectangles

A Monopoly: Profit ☺



Monopolies: Profit- Questions

41. Which of the following is necessarily true at a monopolist's profit-maximizing level of output?

(A) Marginal revenue is equal to marginal cost, but greater than price.
(B) Marginal revenue is equal to marginal cost, but less than price.
(C) Marginal revenue is equal to both marginal cost and price.
(D) Average total cost is minimized.
(E) Average variable cost is minimized.

Monopolies: Profit- Questions

41. Which of the following is necessarily true at a monopolist's profit-maximizing level of output?

(A) Marginal revenue is equal to marginal cost, but greater than price.

this is a loss

(●) Marginal revenue is equal to marginal cost, but less than price.

(C) Marginal revenue is equal to both marginal cost and price.

this is the breakeven point

a monopoly's ATC is not minimized

(D) Average total cost is minimized.

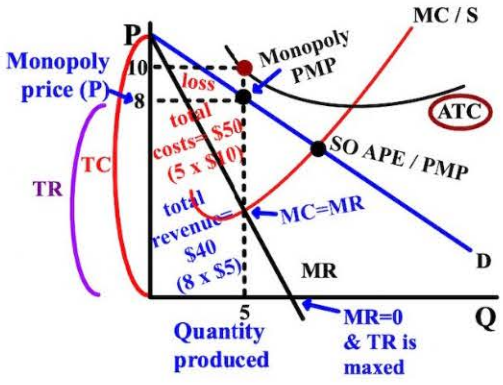
(E) Average variable cost is minimized.

this has nothing to do with the question

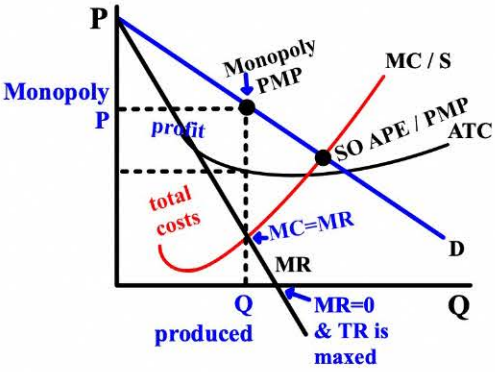
Monopolies: Negative Profit (losses)

1. at a production quantity of 5, the monopoly's price (P) would be $8 and total revenue (TR) would be $40 (5 x $8)
2. but, the average total cost curve (ATC) intersects the monopoly's quantity produced (5) at $10, so the total costs (TC) would be $50 (5 x $10)
3. in this case, the price is below average total cost: negative profit (losses)
3. like a competitive firm, a monopoly with negative profits will only shutdown if the price is less than the average variable cost (AVC)

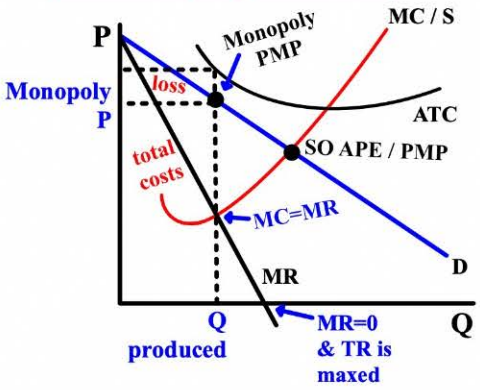
A Monopoly: Negative Profit (Losses) ☹



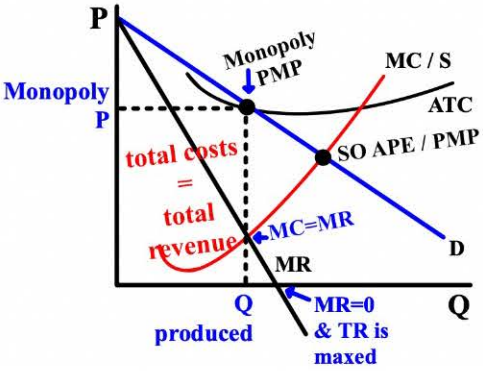
A Monopoly: Profit ☺



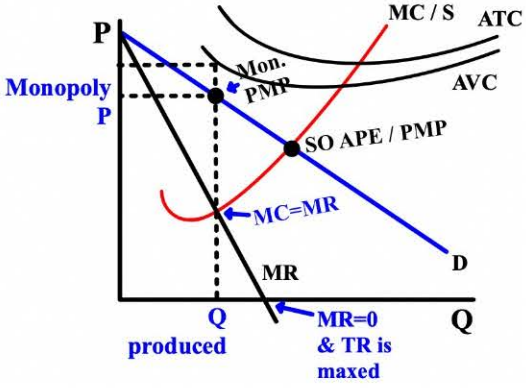
A Monopoly: Losses ☹



A Monopoly: Breakeven 😐



A Monopoly: Shutdown ☠



Microeconomics Do-Now

Please do this:

1.

In the early twentieth century, limited transportation options and the lack of effective substitutes gave Single Cinema monopoly power in a small town. Assume that Single Cinema is a profit-maximizing firm and currently operates at a negative economic profit in the short run.

(a) Draw a correctly labeled graph for Single Cinema, and show each of the following.

(i) The profit-maximizing price and quantity of tickets, labeled as P_m and Q_m, respectively

(ii) The area representing the negative economic profit, shaded completely

(b) Explain why Single Cinema continues to operate in the short run despite earning negative economic profit in the short run.

(c) Would Single Cinema's total revenue increase, decrease, or stay the same if it decides to sell one fewer ticket than Q_m? Explain.

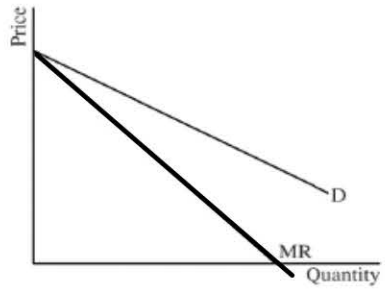
(d) Single Cinema hires workers in a perfectly competitive labor market with a downward-sloping demand curve. Suppose the number of workers available in the market decreases.

(i) What will happen to the wage rate? Explain.

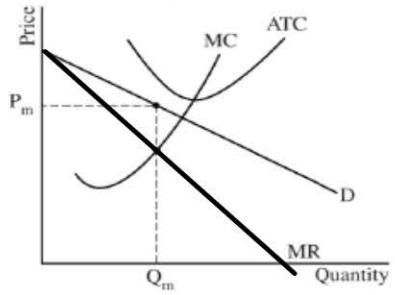
(ii) What will happen to the marginal revenue product of the last worker hired? Explain.

Microeconomics Do-Now

1. (a) 5 points:



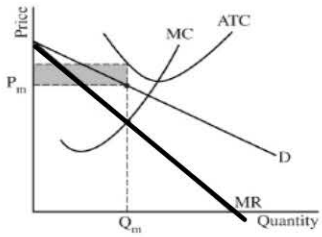
- One point is earned for drawing a correctly labeled graph for a monopoly showing a downward sloping demand (D) curve with the marginal revenue (MR) curve below the demand curve.



- One point is earned for showing the marginal cost (MC) curve rising and passing through the minimum of the average total cost (ATC) curve.
- One point is earned for showing the profit-maximizing quantity, Q_m, where MR = MC.
- One point is earned for showing the price, P_m, from the demand curve at Q_m.

Microeconomics Do-Now

1.



- One point is earned for completely shading the area representing negative economic profit and showing the ATC curve above the demand curve for all quantities.

(b) 1 point:

- One point is earned for stating that the price must be greater than average variable cost, OR total revenue must be greater than total variable cost, OR the firm's current economic loss is less than its fixed cost, which is equal to the firm's loss if it shuts down.

(c) 1 point:

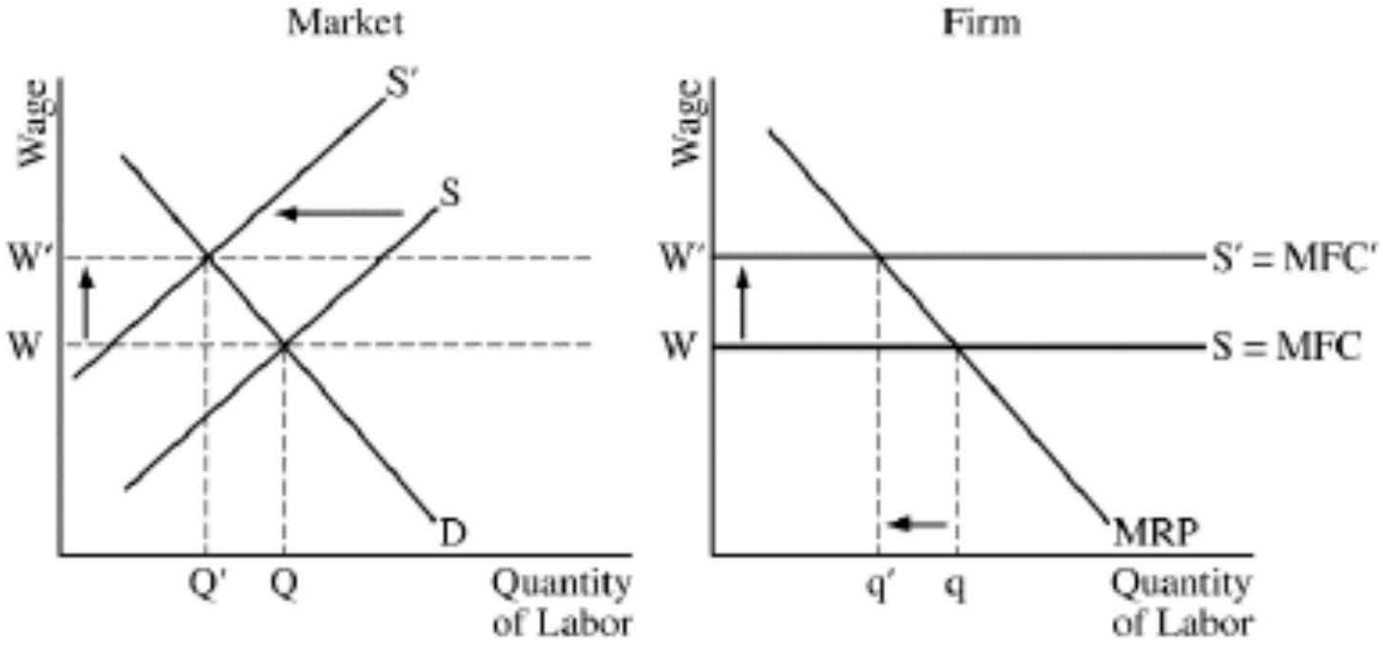
- One point is earned for stating that total revenue will decrease and explaining with one of the following reasons.
  - The monopolist is operating on the elastic portion of the demand curve.
  - The quantity effect is greater than the price effect.
  - The percentage change in quantity demanded is greater than the percentage change in price.
  - MR is positive.

(d) 2 points:

- One point is earned for stating or graphically showing that the wage rate will increase because the market supply of labor decreases (shifts left).
- One point is earned for stating the marginal revenue product (MRP) of the last worker hired will increase and explaining with one of the following reasons.
  - The firm is hiring fewer workers now and therefore the marginal product of the last worker hired increases (diminishing marginal product).
  - The market wage (marginal factor cost or MFC) increased and the profit-maximizing firm will hire where MRP = MFC.
  - There is an upward movement along the firm's MRP curve as wage or MFC increases (shifts up).

Microeconomics Do-Now

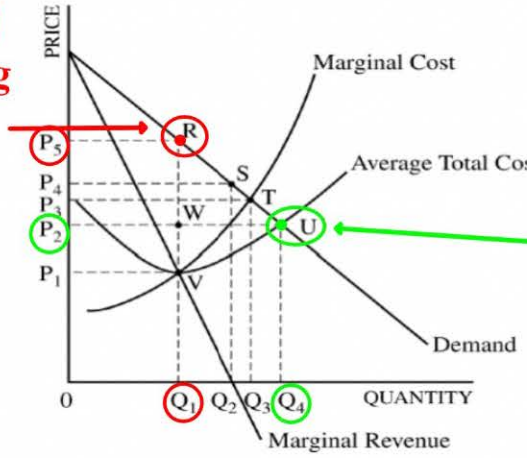
1.



Natural Monopolies

1. **natural monopolies** exist when the average total cost (ATC) in a market is declining and the possible production is more than the market needs, like a water or electric company
2. the prices charged by many natural monopolies are regulated by the government and are set equal to the firm's ATC (P=ATC)
   A. the purpose of the regulation is to keep the price below what a monopoly would charge and closer to the competitive price

A non-regulated profit maximixing monopoly: MC=MR (U.S. Steel)



A government regulated natural monopoly: P=ATC (FPL)

Natural Monopolies- Questions

15. If the goal of government regulators of a natural monopoly is to reduce deadweight loss without subsidizing the monopolist, government regulators would set a price equal to

(A) average variable cost
(B) average total cost
(C) average fixed cost
(D) short-run marginal cost
(E) long-run marginal cost

Natural Monopolies- Questions

15. If the goal of government regulators of a natural monopoly is to reduce deadweight loss without subsidizing the monopolist, government regulators would set a price equal to

(A) average variable cost ← this would put the monopoly on the shutdown point
(B) average total cost ← this decreases P and increases Q
(C) average fixed cost ← this doesn't take into account variable costs
(D) short-run marginal cost
(E) long-run marginal cost

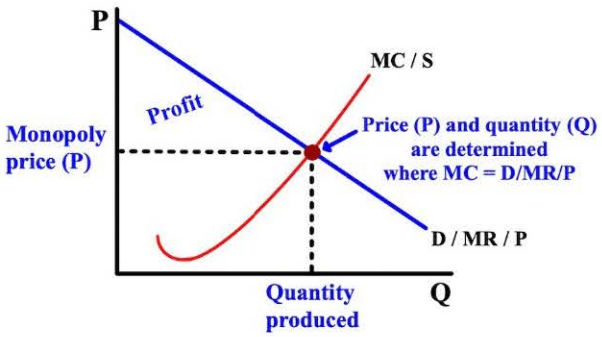
monopolies set their P above MC to earn profit

Price Discrimination

1. in some cases, monopolies charge different people different prices for the same product in order to make more profit
   A. this is called **price discrimination** or **perfect price discrimination**
      i. like senior citizen discounts at movie theaters
2. to maximize their profits when they price discriminate, monopolies set their price (P) and quantity (Q) equal to MC=D/MR/P, just like a firm in a perfectly competitive market
3. extra profit is earned because MR is now the same as D, which is an increase

A Monopoly

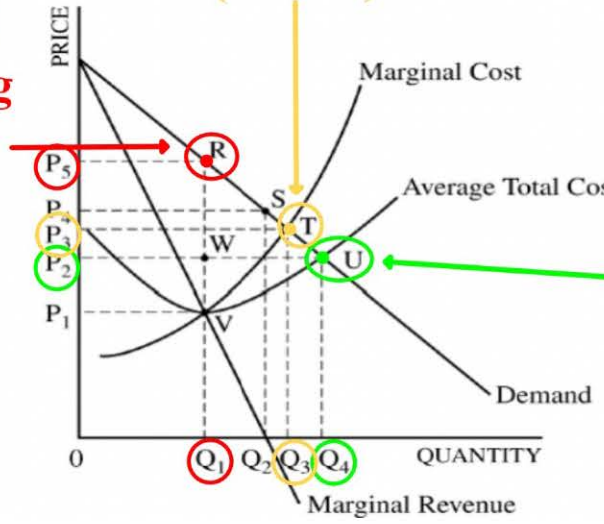
Perfect Price Discrimination



Profit-Maximizing vs. Government Regulated vs. Price Discriminating Monopolies

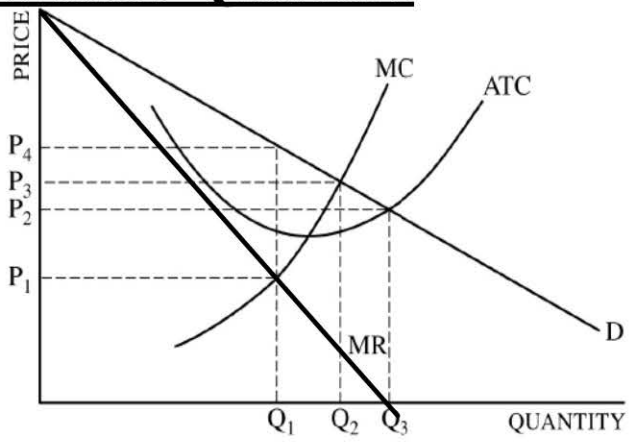
A price discriminating monopoly: MC=D/MR (movies)

A non-regulated profit maximixing monopoly: MC=MR (U.S. Steel)



A government regulated natural monopoly: P=ATC (FPL)

Price Discrimination- Questions



25. The profit-maximizing combination of output and price for a single-price monopoly is

(A) Q_1 and P_1
(B) Q_1 and P_2
(C) Q_1 and P_4
(D) Q_2 and P_3
(E) Q_3 and P_2

26. If the monopolist could engage in perfect price discrimination, the monopolist's total output and the price charged for the last unit of output sold would be

(A) Q_1 and P_1
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(C) Q_1 and P_4
(D) Q_2 and P_3
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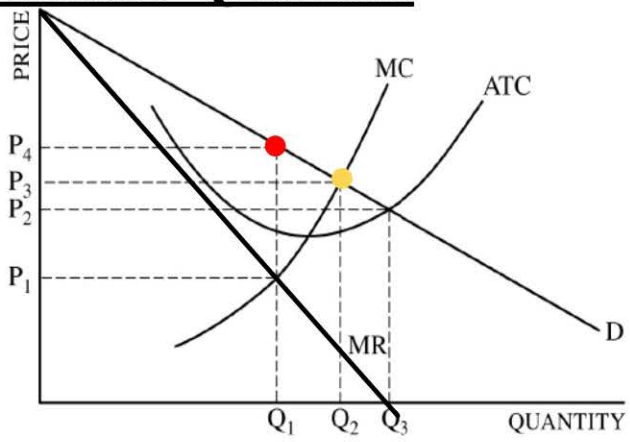
Price Discrimination- Questions



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Price Discrimination- Questions

40. A firm with market power engages in price discrimination to

(A) earn a higher profit
(B) increase consumer surplus
(C) decrease deadweight loss
(D) make its demand more elastic
(E) make its demand more inelastic

Price Discrimination- Questions

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why would a business care about increasing their consumer's purchasing power??

DWL doesn't help firms

why would a business want to make itself more sensitive to P changes??

why would a business want to make itself more insensitive to P changes and its consumers more sensitive??