

Econ 1101

Spring 2013

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Announcements

In recitation this week: important worksheet on intellectual property!

Platform debate #2 coming up next week!

Aplia homework due this Friday!

Agenda

- Monopoly
 - Marginal revenue of a monopoly
 - Profit-maximizing monopoly
 - Inefficiency of a monopoly
 - Price discrimination schemes
 - Application: Global Intellectual Property
- Monopolistic Competition

Monopolist vs. Competitive Firm

- How are they similar?
 - Both try to maximize profit (=revenue-cost)
 - Hence, both set their quantity at the level where **marginal cost = marginal revenue**
- How are they different?
 - When competitive firm sells one more unit, price stays the same
 - Marginal revenue = price
 - This is what it means „price takers”
 - When monopoly firm sells one more unit, price of the good falls
 - Marginal revenue < Price

Barriers to entry

- The fundamental factor that distinguishes a monopoly from the perfectly competitive market structure is the lack of free-entry condition
- The barriers to entry in the monopolized market can have various forms:
 - Specific production process (unavailable to other firms)
 - Specific monopoly resources (that other firms do not have)
 - Special government regulation (that excludes the participation of other firms in that market).
- This allows the monopolist to be a price setter.

Example: Lemonade Stand

- Suppose you can sell
 - 1 lemonade at $P = \$1.00$ each
 - 2 lemonades at $P = \$0.50$ each
- Sell the second one, cash register rings up \$0.50.
Is this your MR?

Recall the Law of Demand!

Example: Lemonade Stand

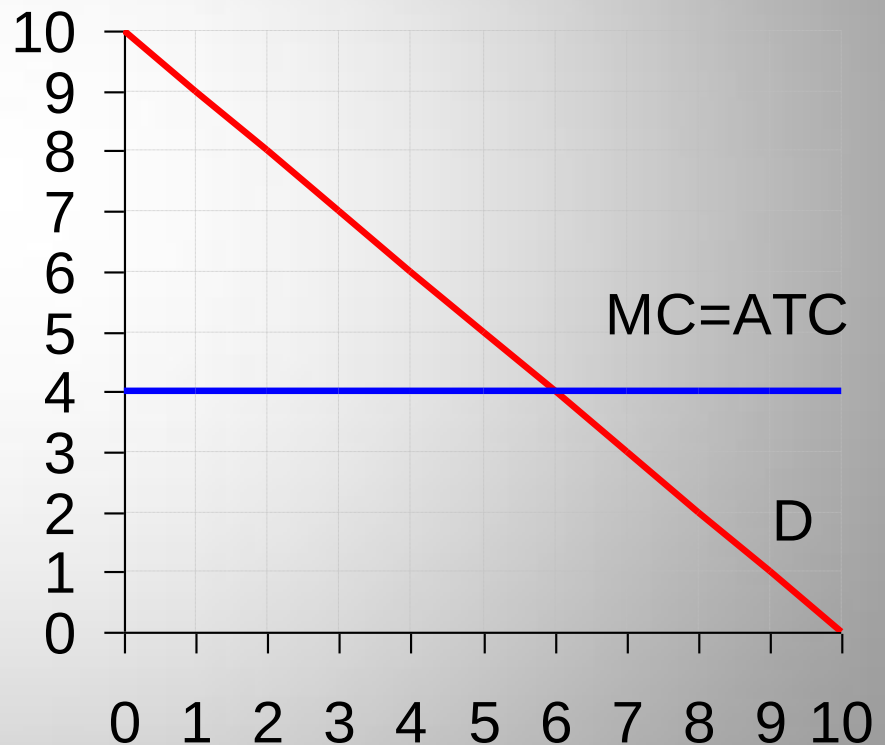
- Suppose you can sell
 - 1 lemonade at $P = \$1.00$ each
 - 2 lemonades at $P = \$0.50$ each
- Recall the Law of Demand!
- Sell the second one, cash register rings up \$0.50. Is this your MR? **NO !!!**
 - sell one: revenue = \$1.00
 - sell two: revenue = \$0.50+\$0.50 = \$1.00
 - Hence, marginal revenue = 0!
 - Note: this is a **uniform-price monopoly**. Things are different if we allow for price discrimination.

- Suppose we have a firm that can produce any quantity at $ATC = 4$ (so $MC = 4$ too).
- We also face some demand for that good

- In perfect competition:

- $P = 4$
- $P = MR = MC$
- $Q = 6$

- But with monopoly, things look a bit different
 - we need to figure out the marginal revenue



Marginal Revenue table

Q	P	Revenue	Diff.	MR
0	10	0		--
1	9	9	9	8
2	8	16	7	6
3	7	21	5	4
4	6	24	3	2
5	5	25	1	0
6	4	24	-1	-2
7	3	21	-3	-4
8	2	16	-5	-6
9	1	9	-7	

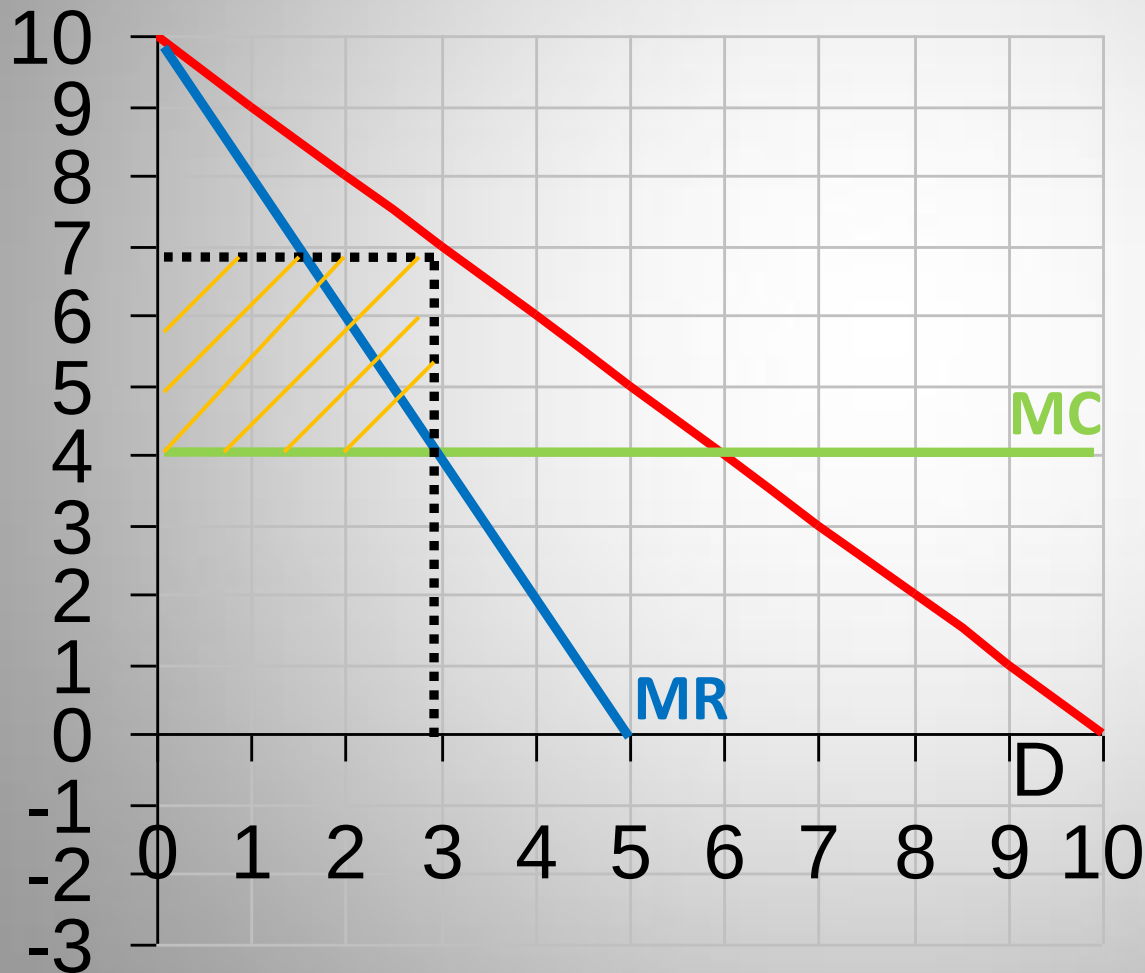
How do we get this?

- MR between Q=0 and Q=1 is ____
- MR between Q=1 and Q=2 is ____
- MR at Q=1 is ____ (take midpoint)
- Complete the whole table using the same algorithm

Marginal Revenue table

Q	P	Revenue	Diff.	MR
0	10	0		-
1	9	9	9	8
2	8	16	7	6
3	7	21	5	4
4	6	24	3	2
5	5	25	1	0
6	4	24	-1	-2
7	3	21	-3	-4
8	2	16	-5	-6
9	1	9	-7	-8

Graphical representation

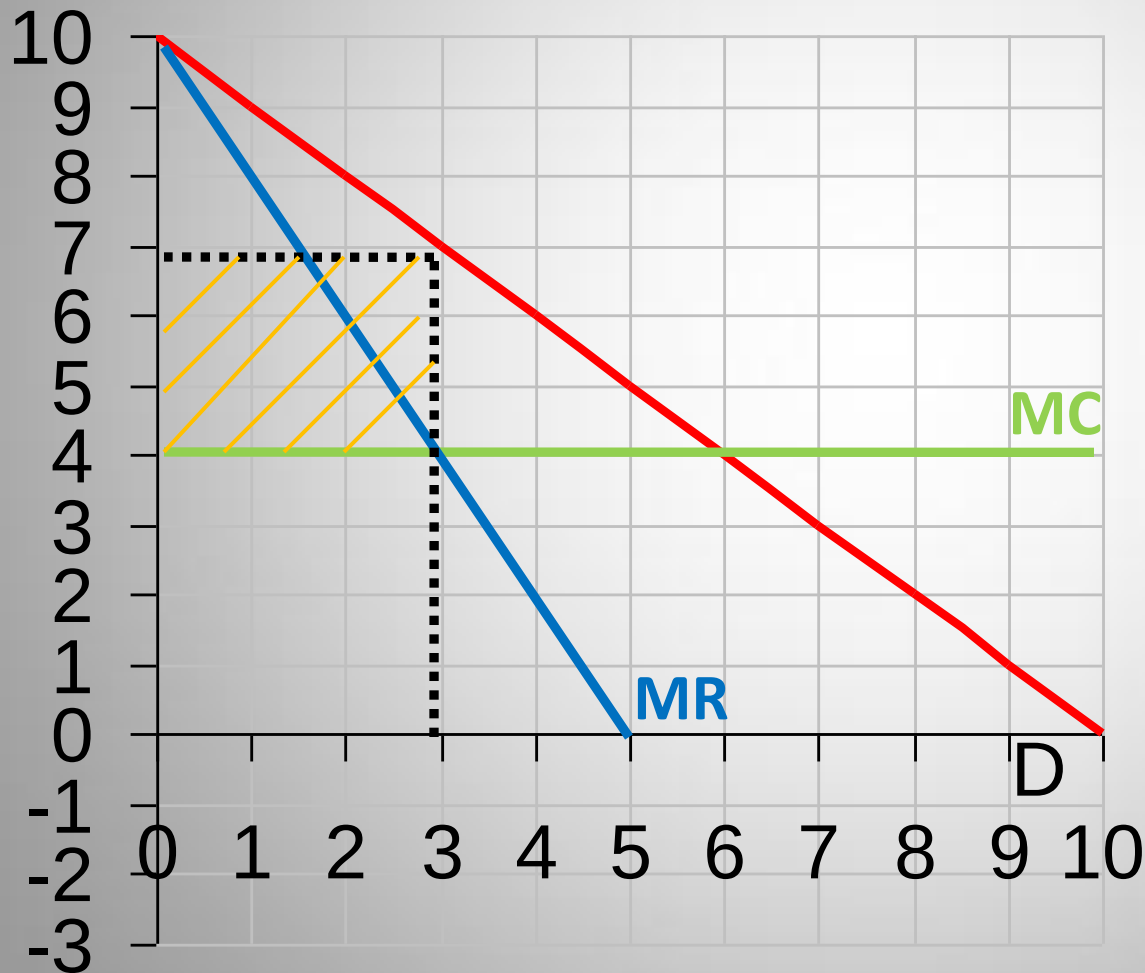


Easy to remember rules for the MR of a linear demand:

- vertical intercept same as demand
- horizontal intercept is halfway
- slope is two times the demand's slope

- A good understanding of the picture is all you need for now.
- If you like an equation though...
 - $TR = P \times Q = (10 - Q) \times Q = 10Q - Q^2$
 - $MR = 10 - 2Q$

So the solution to monopolist's problem is



Put in MC to find optimal (profit-maximizing) output:

$$Q^* = 3$$

$$p^M = 7$$

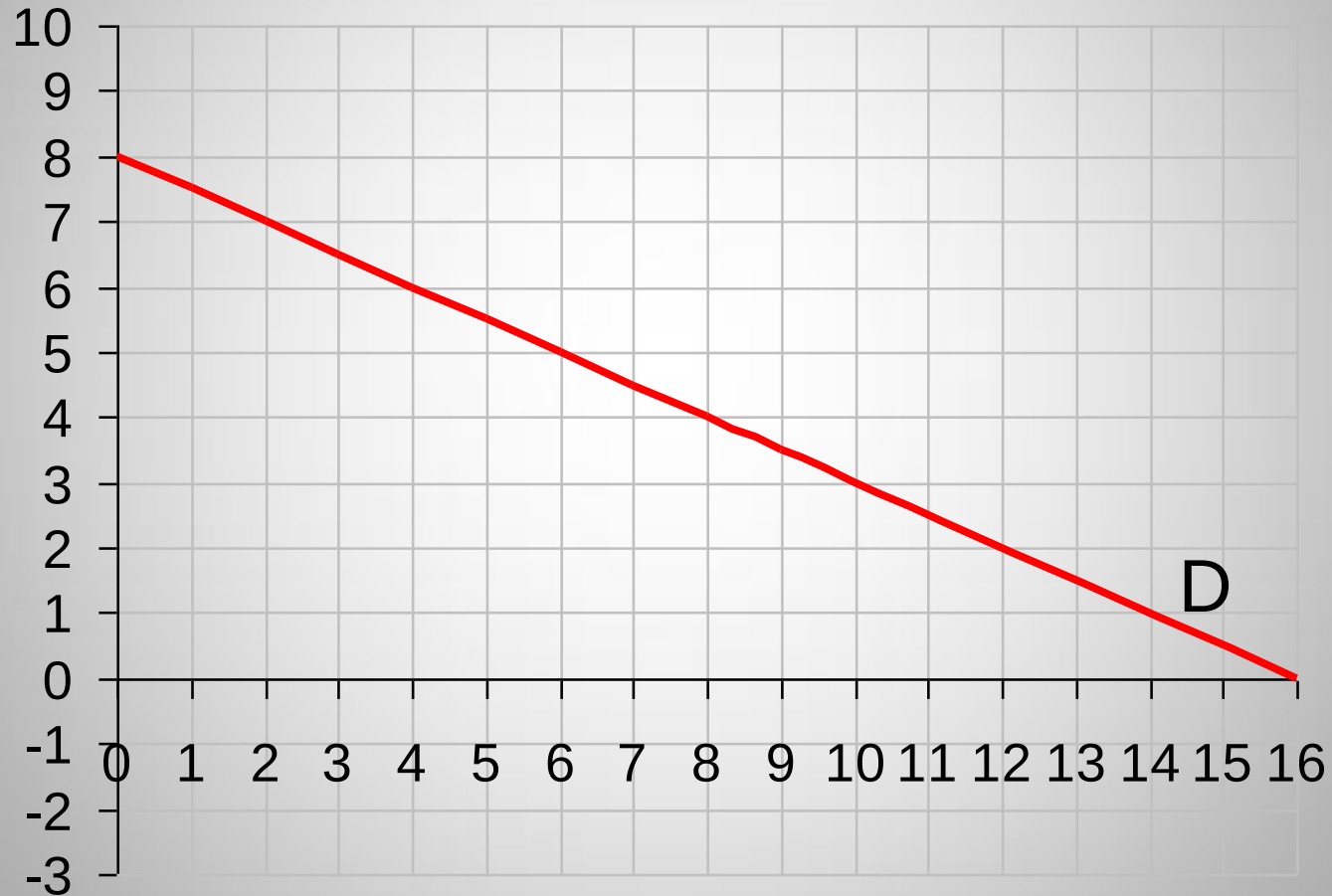
$$\begin{aligned}\text{Profit} &= [p^M - \text{ATC}] \times Q^* \\ &= [7 - 4] \times 3 = 9\end{aligned}$$

You can see it clearly on the graph

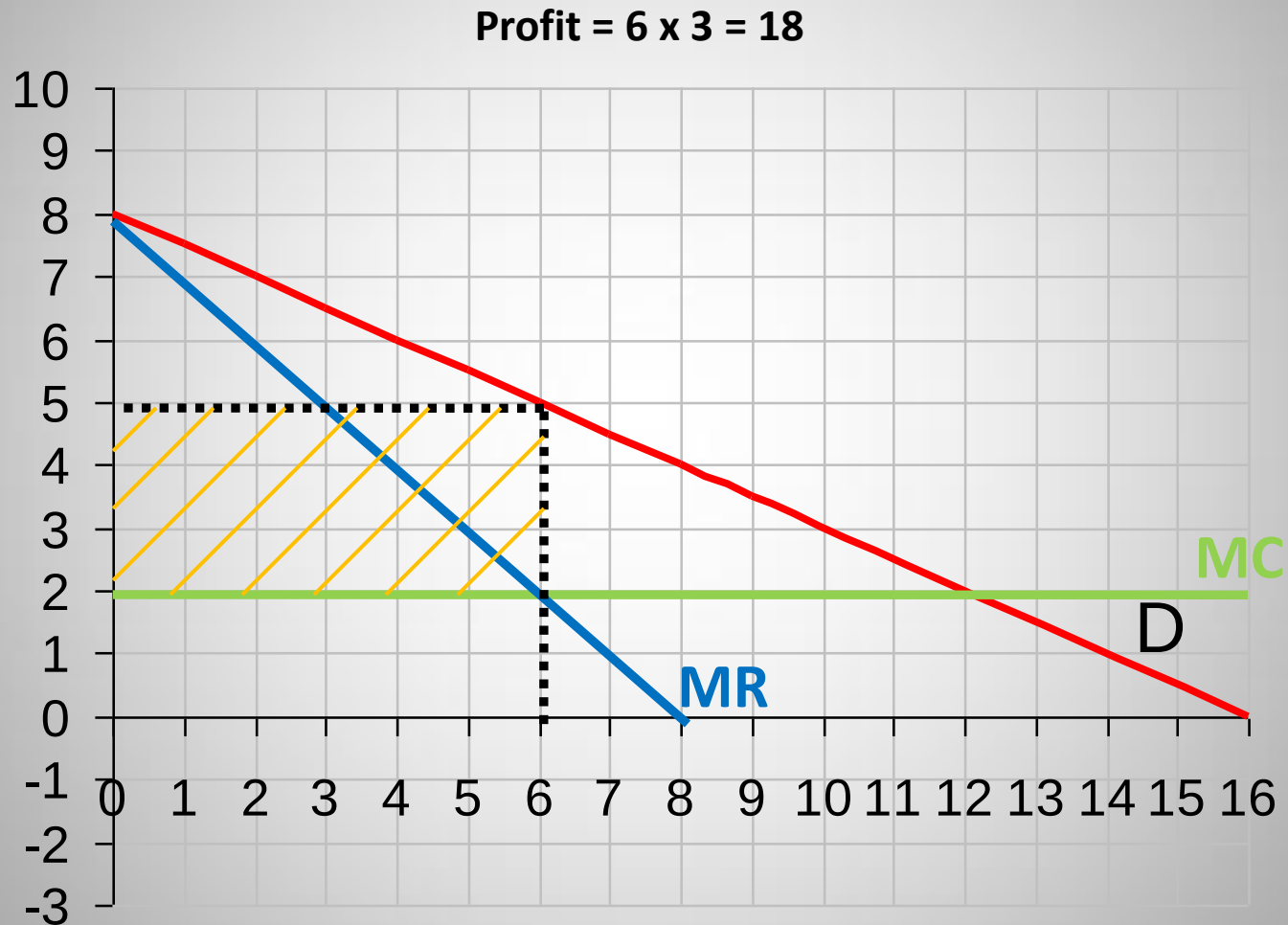
Check that this is really profit-maximizing

Q	P	Revenue	Cost	Profit
1	9	9	4	5
2	8	16	8	8
3	7	21	12	9
4	6	24	16	8
5	5	25	20	5

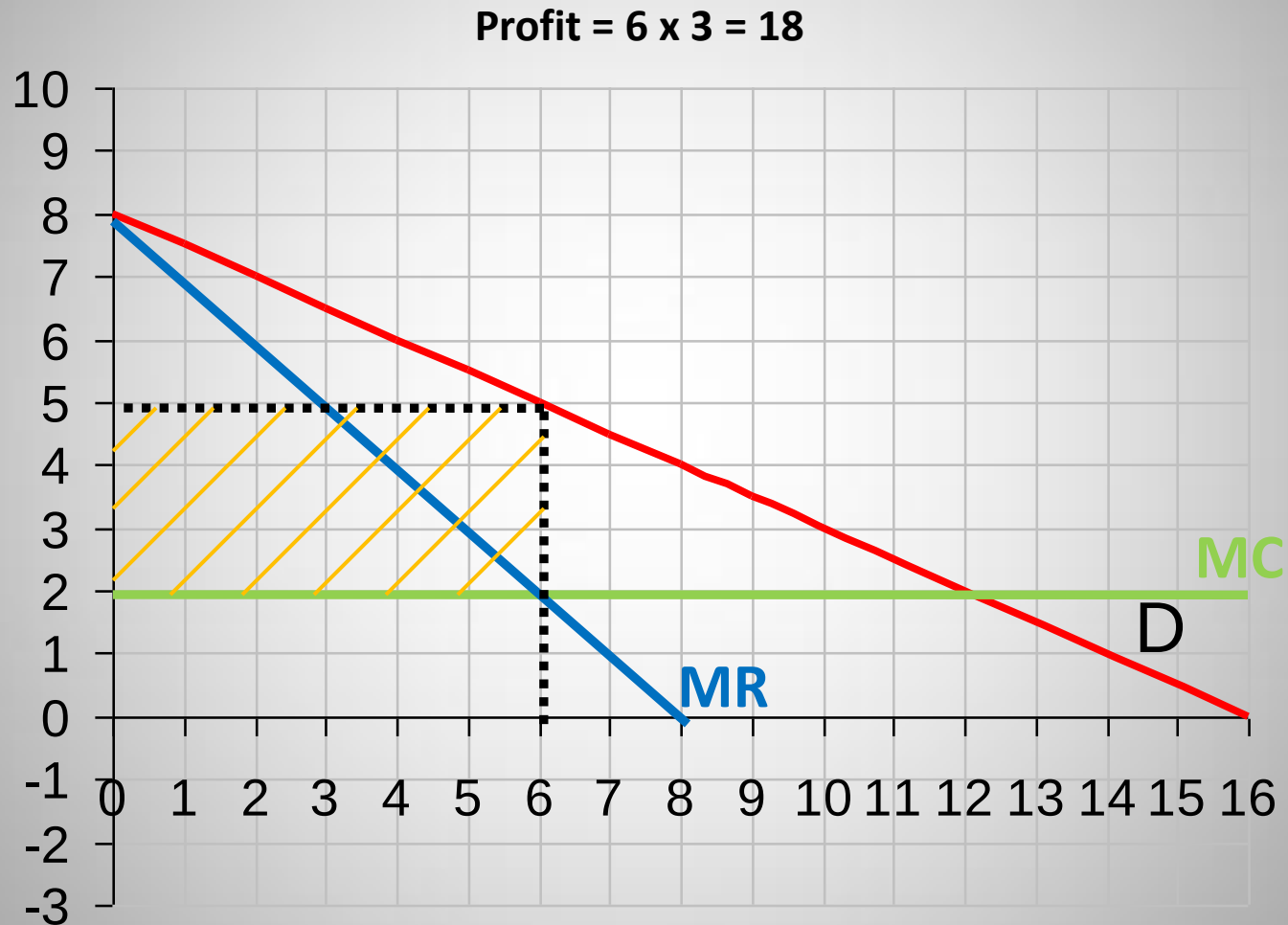
What if demand looks like this and $MC=2$?



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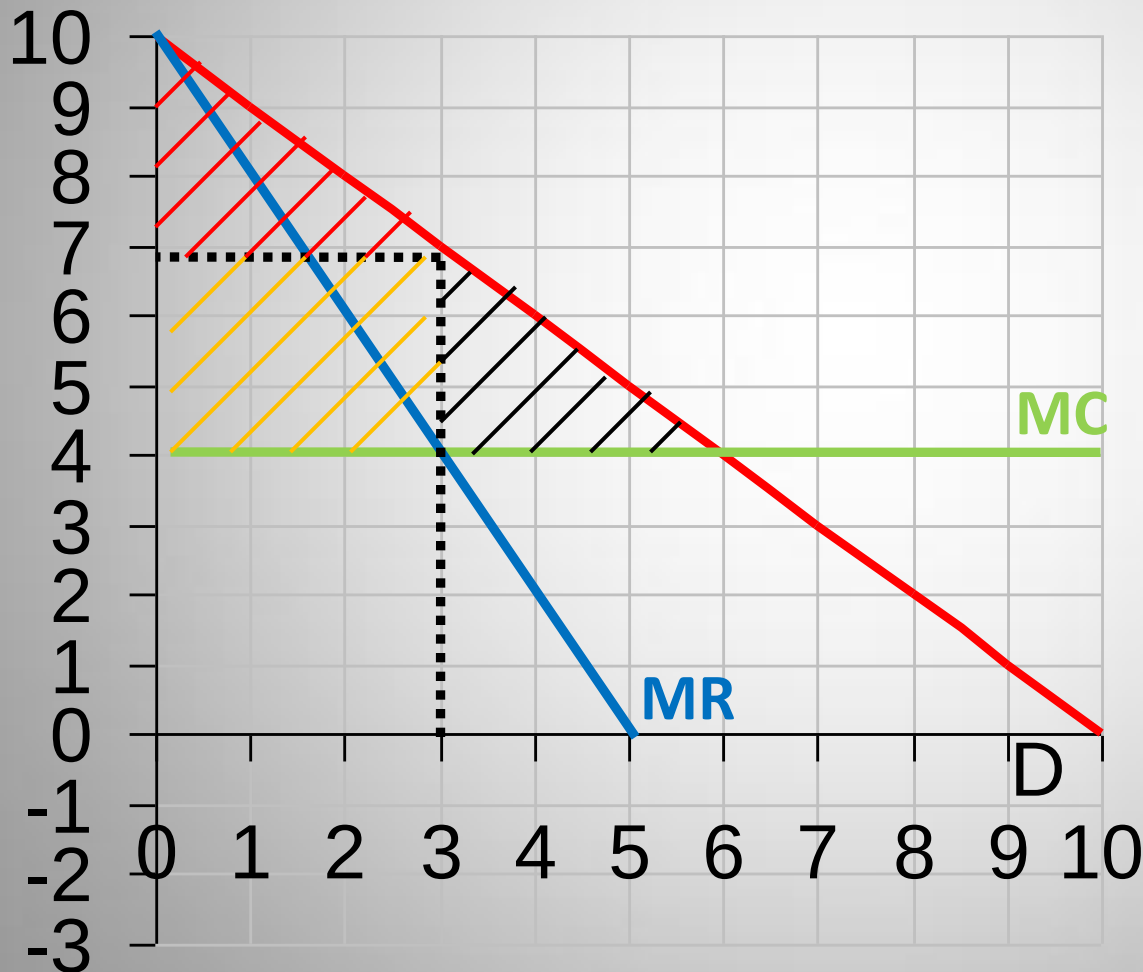


Now, what is the monopolist's supply curve?

What is the monopoly's supply curve?

- It doesn't have one!!!
- Notice that a supply curve shows us how much output a firm will produce under any given market price.
- But this concept doesn't make sense in relation to a monopolist who sets a price, rather than taking it from the market as given.
- Hence, the monopoly's supply decision is inherently related to the demand for the product

Inefficiency of Monopoly



Red Δ – Consumer Surplus

Yellow Δ – monopolist's profit

Black Δ – Deadweight Loss

So it works just like a \$3 tax.

But in this case monopolist gets the tax revenue!

Monopoly vs. Competition

	Perf. Competition	Monopoly	Change
Q	6	3	-3
P	4	7	+3
CS	18	4.5	-13.5
PS	0	9	+9
TS	18	13.5	-4.5

1. Monopoly results in a loss of CS of 13.5 from the higher price.
2. A part of it is a transfer from consumers to the firm. This is called a monopoly rent.
3. Part of consumer loss is the deadweight loss of -4.5 (too little output)
First Welfare Theorem does not hold when we have a monopoly.

4. We can also have additional social costs:

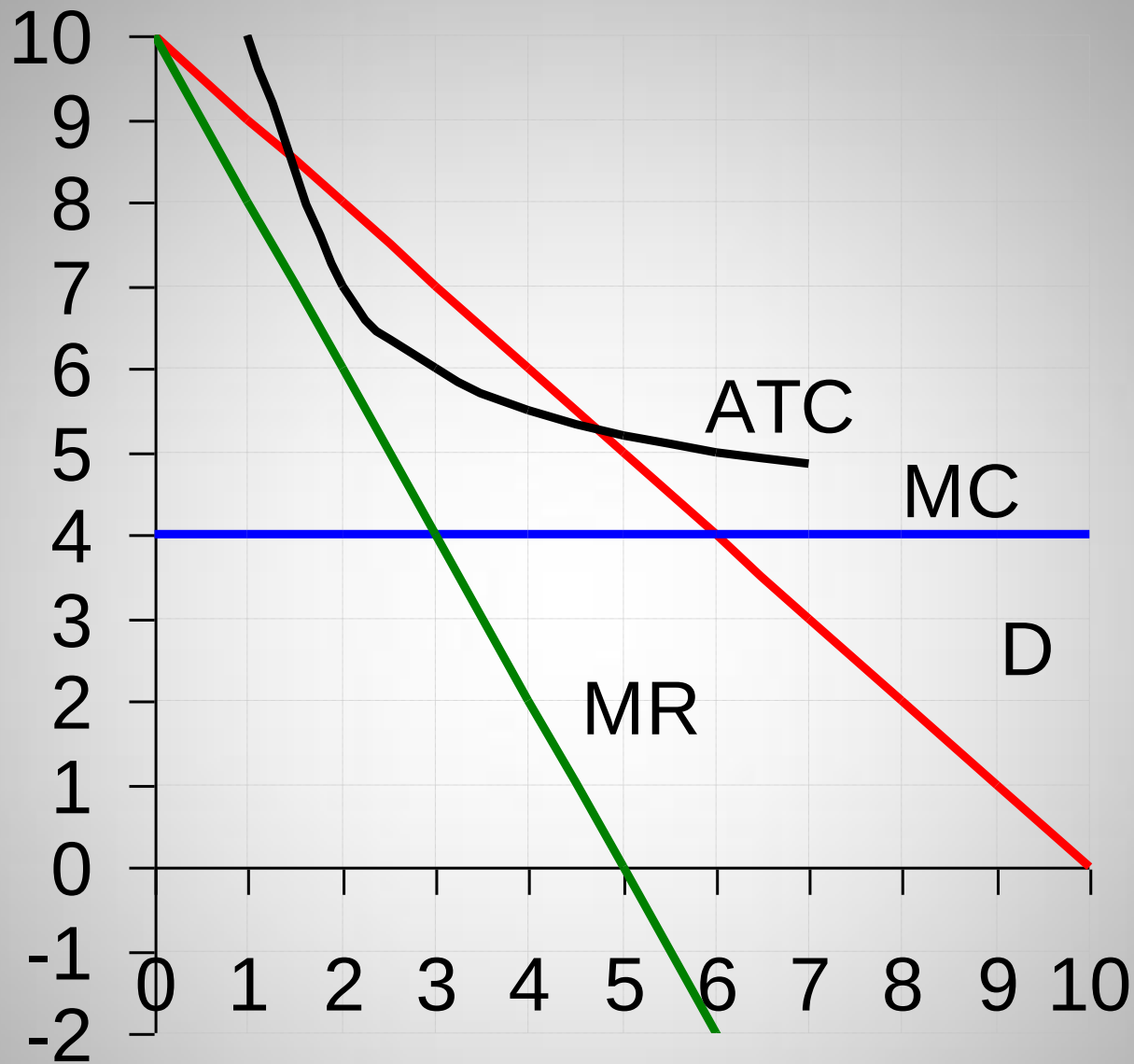
- Monopoly Rent-Seeking Behavior
- Efforts to secure a monopoly

Example in Econland:

Suppose we give monopoly to first person in line. Time costs \$1. In equilibrium, one person gets in line for 9 hours. All the monopoly rent is dissipated.

Natural Monopoly

- If economies of scale are important, there may only be room for one firm.
- Go back to our original example and assume there is a fixed cost of \$6.
- Even if there is free entry and lots of potential entrepreneurs, only one of them will enter.
- Remember that without the fixed cost, the monopoly profit is \$9.
- With fixed cost however, monopolist earns $\$3 = \$9 - \$6$
- If two firms enter, even if they act like monopoly, the \$9 can't cover paying the fixed cost twice!



Note: We add a fixed cost and the price stays the same. Why?

We can also use the table to see this...

Q	P	Revenue	FC = 0		FC = 6	
			Cost	Profit	Cost	Profit
1	9	9	4	5	10	-1
2	8	16	8	8	14	2
3	7	21	12	9	18	3
4	6	24	16	8	22	2
5	5	25	20	5	26	-1

So what could cause the price that monopolist charges to change?

We can also use the table to see this...

Q	P	Revenue	FC = 0		FC = 6	
			Cost	Profit	Cost	Profit
1	9	9	4	5	10	-1
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3	7	21	12	9	18	3
4	6	24	16	8	22	2
5	5	25	20	5	26	-1

So what could cause the price that monopolist charges to change?

- Change in the demand curve
- Change in the marginal cost

Examples of Natural Monopoly

- Distribution of residential electric power
- Water and sewer system
- Gas station in very small town
- Railways
- more ideas?

Natural Monopoly – pricing strategies

1. Do nothing – let it act like a regular monopoly

- Price is such that $MR = MC$
- Low quantity, high price, high monopoly profit

2. Regulate price at: $P(ATC=D)$

- Higher quantity and lower price than previously (although still suboptimal to perfect competition)
- Zero profit attained

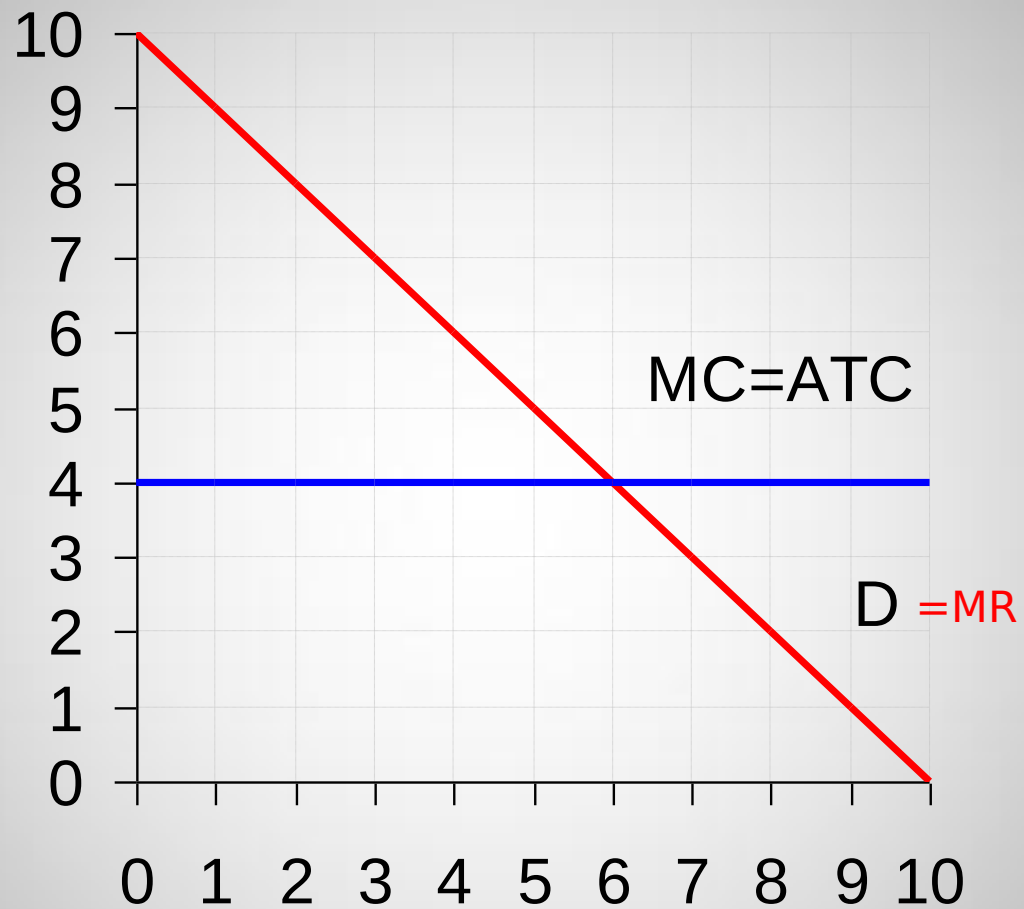
3. Regulate price at: $P = MC$

- Maximum quantity, minimum price, CS like under perfect competition
- Need to cover a loss (although small if q is very high)

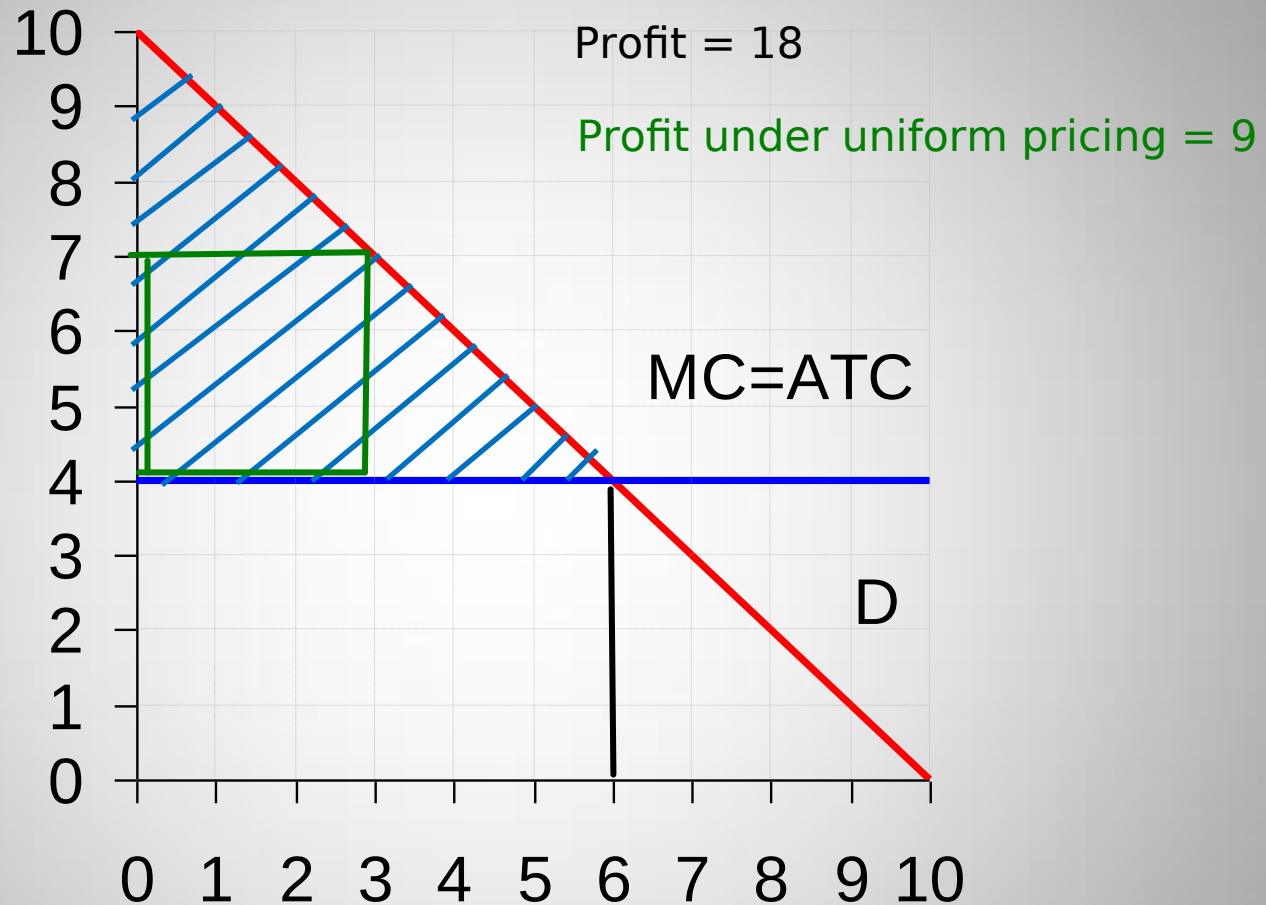
Perfect Price Discrimination

- Uniform pricing: all customers pay the same price per unit
 - That's why the MR curve is twice as steep as demand
- Perfect Price Discrimination: monopolist charges everyone their reservation price
 - decreasing prices along the demand curve...
- Notice that now, marginal revenue of a monopoly is the price paid (since we can sell more units and still keep the price high for initial customers)

Graphically...



Graphically...



Monopolist extracts all surplus !!!

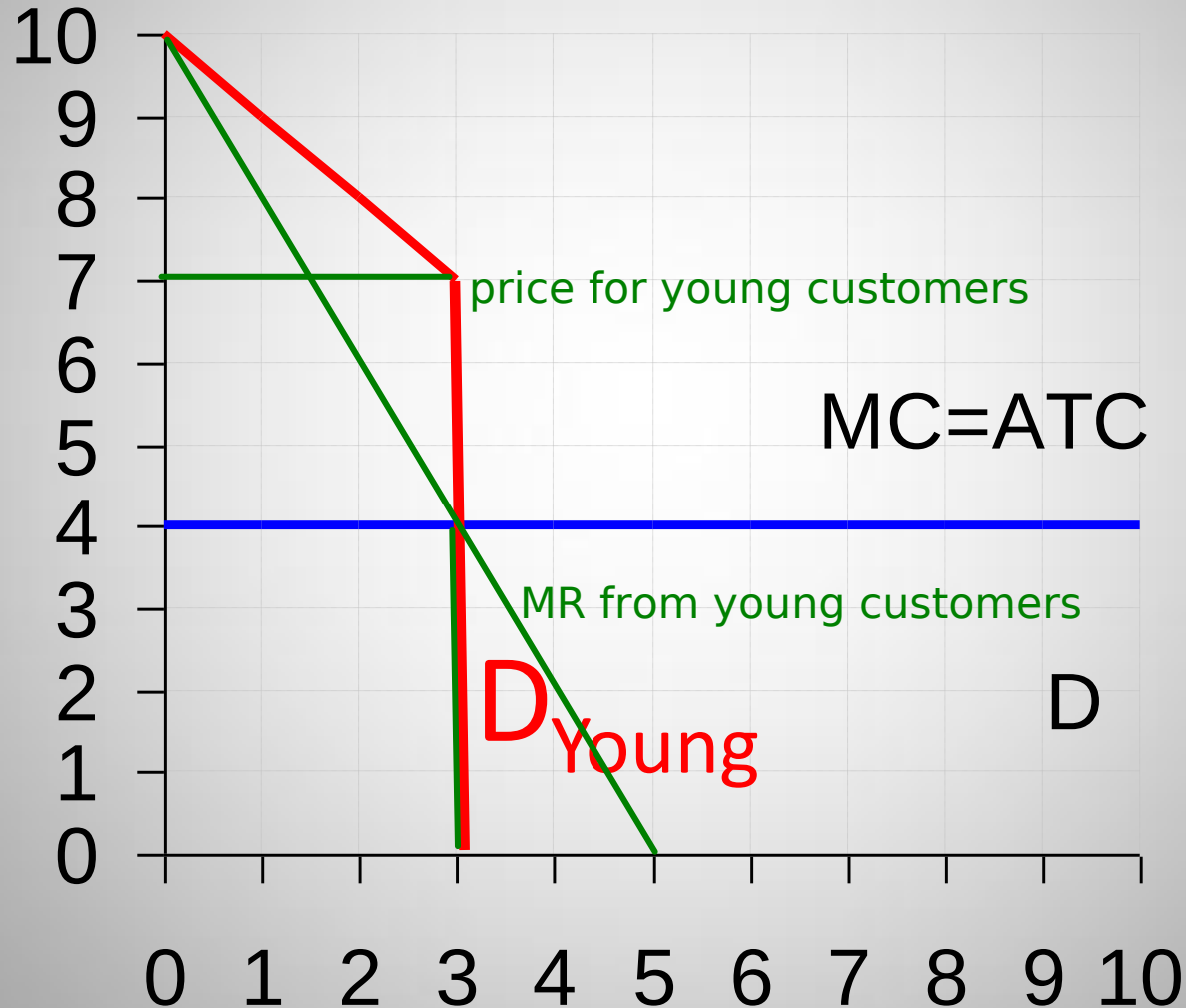
Efficiency under perfect price discrimination

- Since monopolist gets all the surplus, it maximizes the surplus
 - No deadweight loss
 - No consumer surplus either
- So what is the difference when there is a perfect price discrimination monopoly, against perfect competition?
 - Is perfect price discrimination “bad”?
 - Does anything like this exist in the real world?

Imperfect Price Discrimination

- More likely case in the real world
- Consider again our usual example:
 - With uniform pricing: $P = 7$; $Q = 3$ -> sold to D1, D2, D3 only
 - Now, one day the monopolist notices the following:
 - D1, D2, D3 all happen to be under 30 years old
 - D4, D5, D6 all happen to be senior citizens
 - Brilliant idea! -> senior citizen discount!
 - How does it work?
 - First, set $P = \$7$ as regular price
 - Sell $Q = 3$ at regular price

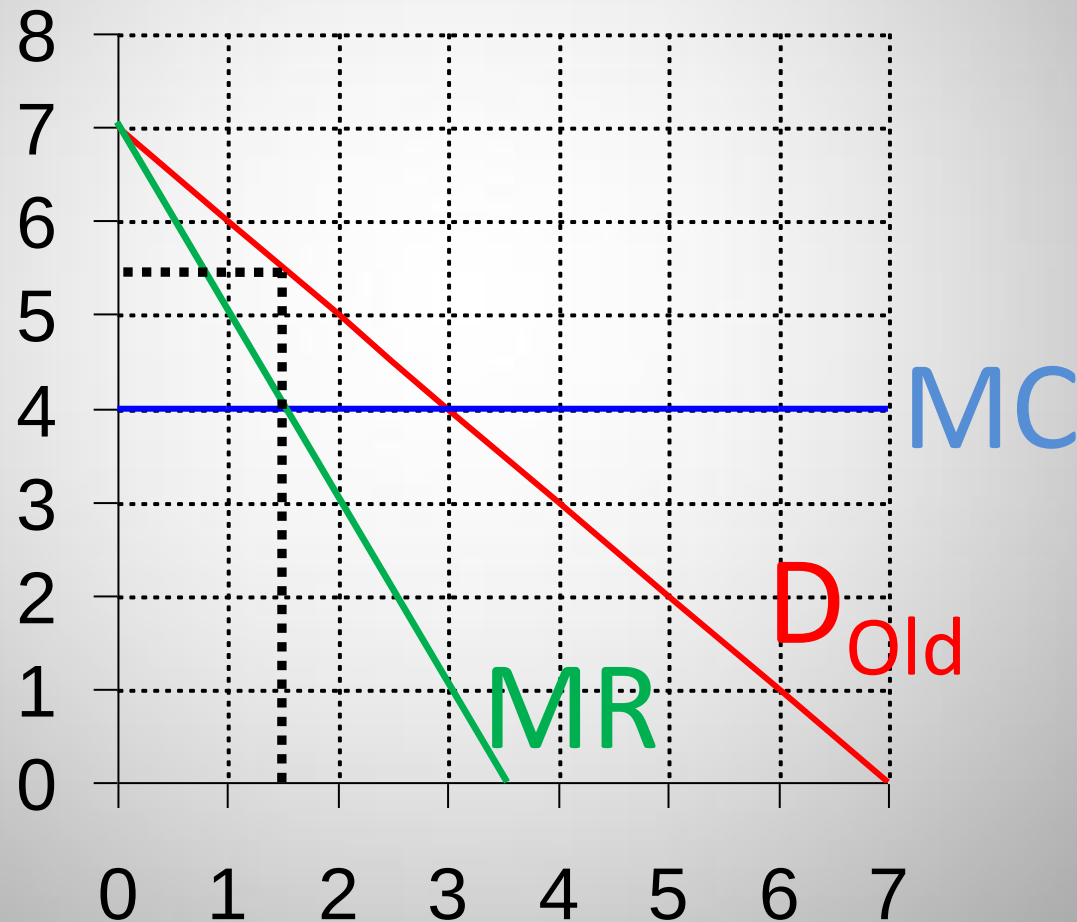
Graph of the regular market



To get demand in the senior market, chop off the first three units of the demand curve (these are the 30 year olds)



And proceed again with a monopolist's profit-maximization problem specifically in the senior citizen's market



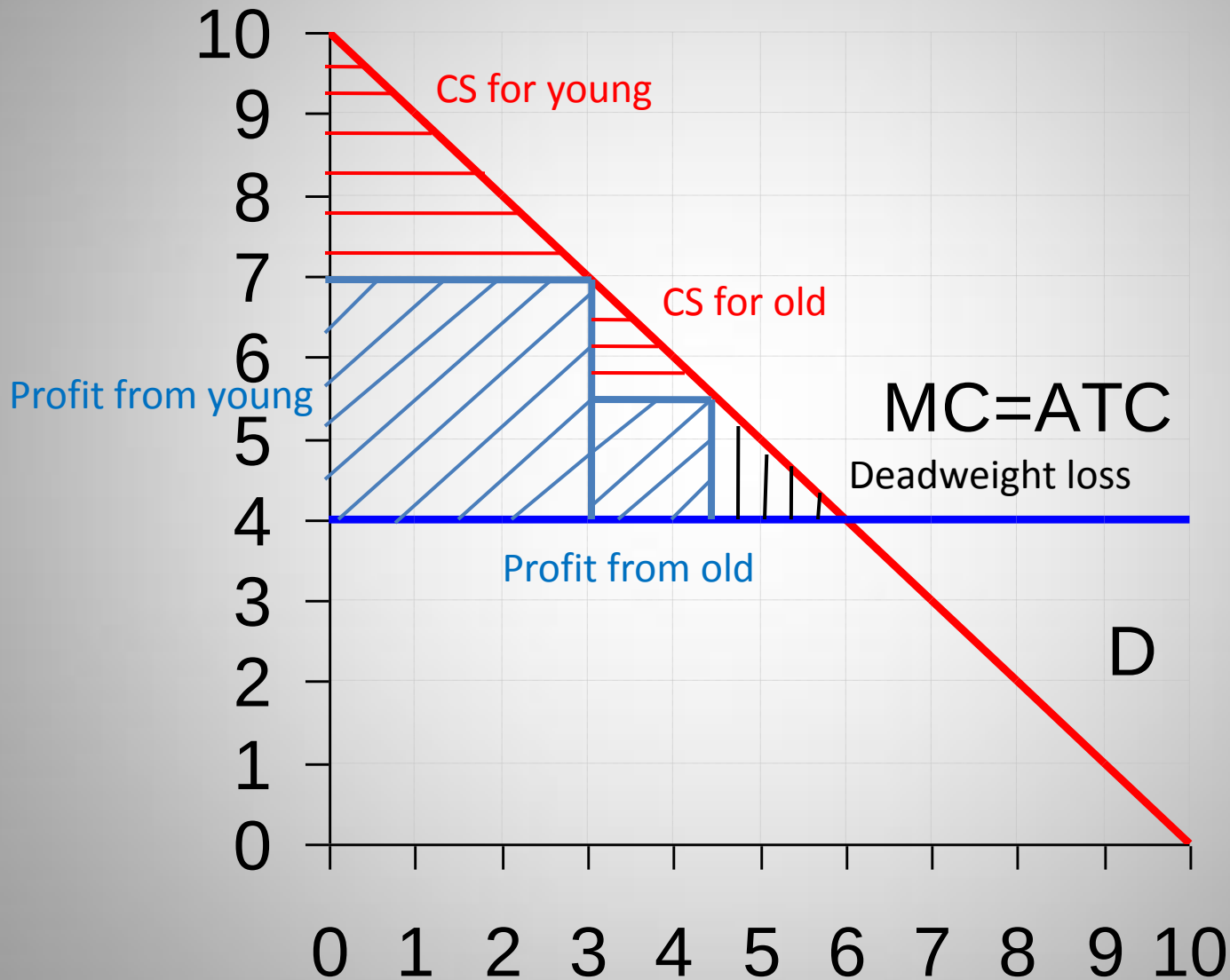
Hence:

$$P_{old} = \$5.5$$

$$Q_{old} = 1.5$$

- So the market for seniors implies:
 $P_{\text{old}} = 5.5; Q_{\text{old}} = 1.5$
- Profit on seniors = $(P_{\text{old}} - ATC) \times Q_{\text{old}}$
 $= (5.5 - 4) \times 1.5 = 2.25$
- Profit in the regular market = 9 (just like before)
- Total profit = $9 + 2.25 = 11.25$
- So this is better than uniform pricing, but still not Pareto efficient (as in perfect price discrimination)

Graphically...



Winners and losers

Who wins, who loses from price discrimination?

1. Firm wins
2. Seniors win
3. Here, the 30-year-olds don't care. They pay \$7 either way.
 - But we can change some numbers so that they will actually pay more (i.e. what if only D1 and D2 were young?)
 - Hence, they are potentially worse off.
 - Is it possible that they are better off?

- The people who pay high price can still benefit from price discrimination if the product were not to exist otherwise.
- Suppose we have a fixed cost of \$10
- Uniform pricing:
 - Profit is \$9 with no fixed cost
 - Subtract the fixed cost of \$10
 - Profit after fixed cost = -\$1
 - The firm has no way to make up for this loss so it will exit the market (and not produce anything)
- Price discrimination:
 - Profit is \$11.25 with no fixed cost
 - Subtract the fixed cost of \$10
 - Profit after fixed cost = \$1.25
 - The firm will stay in the market and produce
- Rich customers are better off with price discrimination

- A major issue that the firms practicing price discrimination need to deal with is how to keep the markets separate.
- People paying the high price will try to figure out how to pay the low price.
- Example: Americans buying drugs in Canada
- How do airlines do this?
 - Airlines want to differentiate between business and leisure travelers
 - Sometimes airlines require a Saturday stay-over to get a cheap fare. Of course a traveler staying over a Saturday does nothing to reduce the airline's cost of serving him. What this restriction can do is help separating the business travel market from the personal travel market.

Conclusions

- Ability to price-discriminate can make the allocation more efficient.
- Allows for expansion of output in the markets where marginal benefit $>$ marginal cost and that would not be accessible otherwise.
- Even people who pay highest prices can possibly benefit from price discrimination if the firm was forced to shut down otherwise.
- However, this might also lead to inefficiencies as firms may add superfluous restrictions to keep the markets separate.

Application: Intellectual Property

- Let's take a look at the Drug Industry
 - It's expensive to invent new drugs (the industry claims to invest about \$40 billion a year, estimates are around \$800 million for a new drug)
 - Patent: an incentive to make the investments – get a monopoly for 20 years
 - Just look what happens when the patent runs out



Patent Expiration

Example of Zocor (patent expired in June 2006)

- Fact: U.S. is a disproportionate source of drug company revenues.
 - Zocor as an example... in 2005
 - \$4.4 billion worldwide
 - \$3.1 billion in the U.S.
 - Other estimates have U.S. at around half of the global market
 - But only 5% of people and 25% of income
 - Compare this with Canada – where there are price regulations

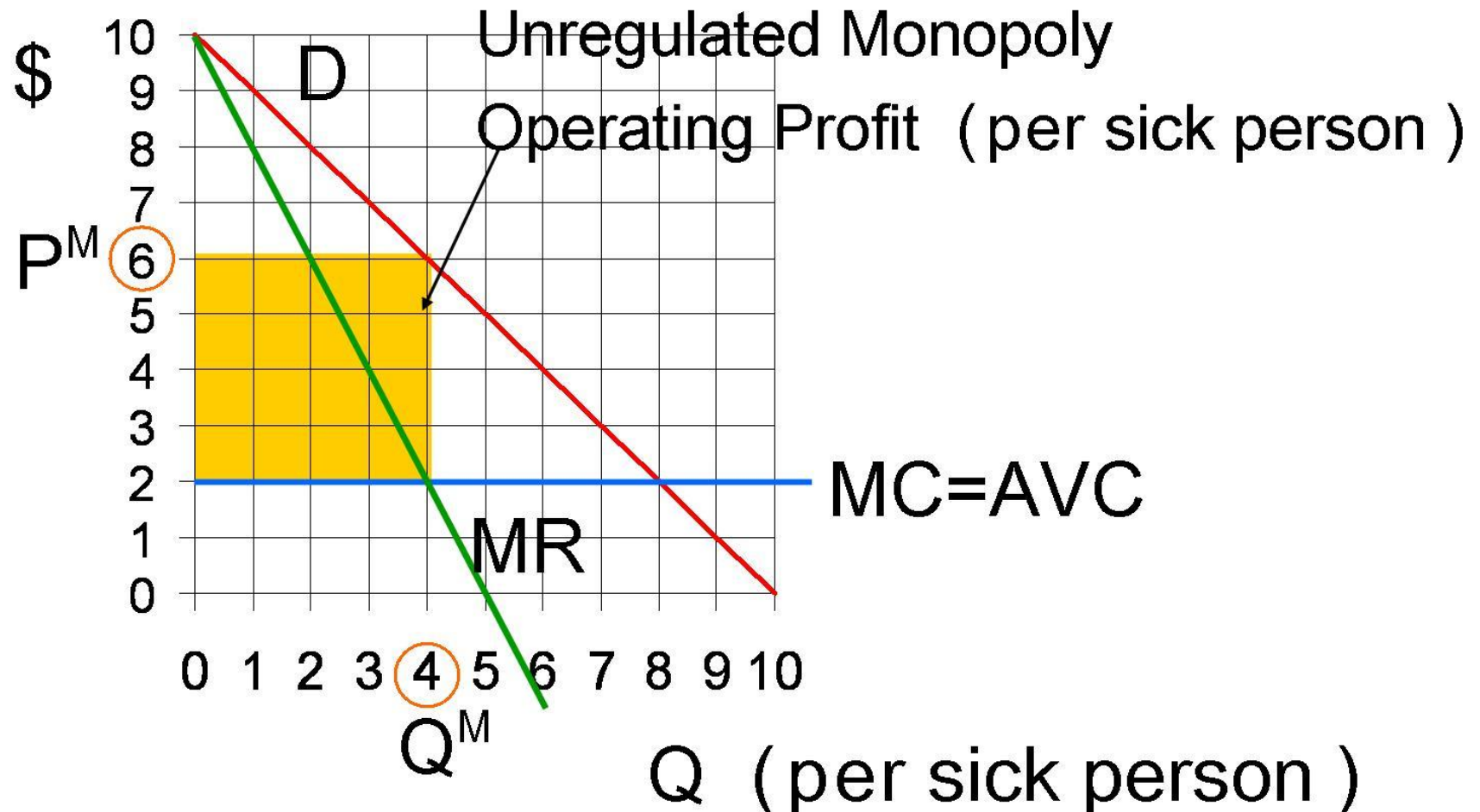
Example of a Global Drug Market

- Wigitor -> cures Economyosis



- Econland Big Pharma Inc. is deciding whether to invest in developing Wigitor.
- First step: what is the operating profit given an investment in developing the drug?
 - Profit that does not take into account the fixed cost
- Let's look at the demand curve of a person sick with Economyosis

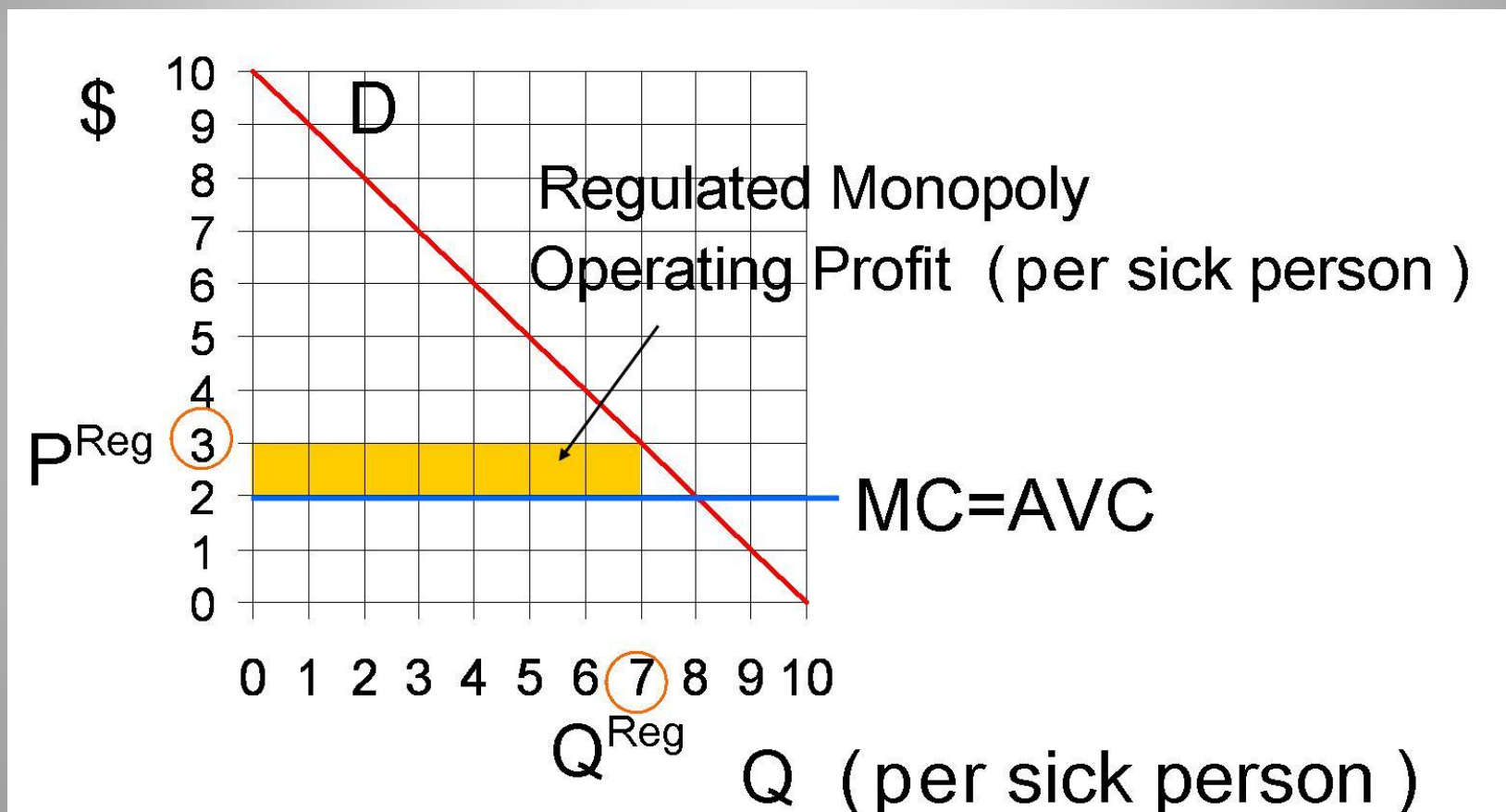
Demand for Wigitor



This is case A: Patent protection and unregulated monopoly

- **Case B: No patent protection**
 - Like in the US after the patent expires
 - Equivalently, this is what happens if there is a patent but it is not enforced (like it often happens in developing countries such as India)
 - Assume that entry costs are zero
 - Free entry drives the price down to $MC = 2$
 - Think about perfect competition, firms enter until zero profit
 - Operating profit = 0

- **Case C: Patents, but also Pricing Regulation**
(suppose firms can't charge over \$3)



- Next step: is it profit-maximizing to invest?
- We need more information...

	A. United States	B. Other Developed	C. Rest of world
System	Patent, unreg. monopoly	Patent, regulated monopoly	No Patents
Operating Profit per sick person (annual)	16	7	0
Population	300 mil	600 mil	6 bil
Share of the sick	10%	10%	10%
Number of sick	30 m	60 m	600 000 m
Annual Operating Profit	480 m	420 m	0

Global Annual Operating Profit = ??? 900 m

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	A. United States	B. Other Developed	C. Rest of world
System	Patent, unreg. monopoly	Patent, regulated monopoly	No Patents
Operating Profit per sick person (annual)	\$16	\$7	\$0
Population	300 mil	600 mil	Doesn't matter
Share of the sick	10%	10%	Doesn't matter
Number of sick	30 mil	60 mil	Doesn't matter
Annual Operating Profit	\$480 mil	\$420 mil	\$0

Global Annual Operating Profit = \$900 mil

- Take into account a 20-year patent life of drug (and disregard the interest rates)
- Lifetime operating profit:
 - $20 \times \$900$ million a year = \$18 billion
 - Note: throwing in an interest rate would cut quite a bit out of that sum
- Now look at the incentive for innovation
- Take into account:
 - Cost of Research and Development (fixed cost)
 - Likelihood of success (suppose 50/50 chance)

- Expected Lifetime Operating Profit (ELOP)
= $0.5 \times \$18 \text{ billion} + 0.5 \times \$0 = \$9 \text{ billion}$
- Net expected value of investment
= ELOP – Fixed Cost of R&D
= \$9 billion – Fixed Cost of R&D

- Expected Lifetime Operating Profit (ELOP)
 $= 0.5 \times \$18 \text{ billion} + 0.5 \times \$0 = \$9 \text{ billion}$
- Net expected value of investment
 $= \text{ELOP} - \text{Fixed Cost of R\&D}$
 $= \$9 \text{ billion} - \text{Fixed Cost of R\&D}$
- Now, analyze the Fixed Cost (FC):
 - $\text{FC} > \$9 \text{ billion} \Rightarrow$ definitely don't do it
 - You lose money in expected value
 - You suffer unnecessary risk
 - $\text{FC} < \$9 \text{ billion}$, you might want to do it
 - Your decision depends upon
 - How much risk the company can tolerate?
 - How low (or high) is the fixed cost?
 - Suppose $\text{FC} = \$800 \text{ million}$ (a typical R&D cost for big time drugs). Pharmaceutical firms will most likely go for it

Any changes in policy?

- Suppose drug regulations in the US change to the ones that Canada has. Operating annual profit is \$7 instead of \$16 per sick person. The total per year is then:
 $= 30\text{mil} \times \$7 = \210 mil (instead of \$480)
- Global annual operating profit is: $\$210 + \$420 = \underline{\$630}$
 - About 2/3 of what it was before
- So there is less incentive to create the drug
- If the fixed cost is not too high, you might still want to do it. However, if FC is very high, the drug companies might withdraw (but do it otherwise)
- When people argue that the US should not regulate drug prices, this is often the argument that they make.

- One counter to this argument might be:
Why does the US have to pay a disproportionate share of all of this? (even relative to other rich countries)
- One possible answer: If the US cuts back, it will make a big difference in the incentives for R&D
- If Canada moved to our system, would that increase the incentive for drug companies to do innovation?
 - No, because Canada is a small percent of the global market (unless there are diseases specific to Canada...)
- Issues are similar if we keep unregulated monopoly, but change the patent system
- For example, suppose a 5-year patent instead of 20-year. Then, ELOP equals \$2.25 billion.

Tradeoffs (for total surplus)

- Plus side:
 - Might still do it anyway. In which case we still have a monopoly, but only for 5 years instead of 20.
 - There is less deadweight loss of monopoly (and less transfer of surplus to drug companies)
- Minus side:
 - Drugs might not be developed at all
 - Then we lose health benefits of Wigitor
 - Although it might not be such a big loss if this is a „me too” drug that has close substitutes.

One more aspect to it...

- Suppose a drug treats tuberculosis (TB) instead. Consider the figures for this case:

	A. United States	B. Other Developed	C. Rest of world
System	Patent, unreg. monopoly	Patent, regulated monopoly	No Patents
Operating Profit per sick person (annual)	\$16	\$7	\$0
Population	300 mil	600 mil	6 bil
Share of the sick	0%	0%	0.2%
Number of sick	0 mil	0 mil	12 mil
Annual Operating Profit	\$0 mil	\$0 mil	\$0

- It is clear that the drug company will not go for it. No money can be made here because the people sick with TB have no money.
- So since the free market will not provide powerful incentives for TB innovation, how can it be financed?

- It is clear that the drug company will not go for it. No money can be made here because the people sick with TB have no money.
- So since the free market will not provide powerful incentives for TB innovation, how can it be financed?
 - Government subsidies (e.g. through the United Nations)
 - Private Charity
 - E.g. the Bill and Melinda Gates Foundation has paid \$750 million for TB research

Possible Policies?

- The US adopts price regulation like Canada.
- The patent length is changed from 20 years to 5 years.
- Negotiate with the developing world (e.g. India and China) to adopt developed world (e.g. US, Europe, Japan) intellectual property standards.
- Finance pharmaceutical research through government research grants and put the results in the public domain to be freely used.

Policy 1: The US adopts price regulation like Canada

- We analyzed that already earlier in the lecture. We saw that the operating profit will now be \$210 million per year instead of \$480 million per year (the latter was the operating profit if the US had no price regulation).
- **Point 1: With this proposal, there is less incentive to invest to create the drug.**
- **Point 2: If the fixed cost is not too high, the company might still invest. In this case, we still get the drug and pay only \$3 per dose instead of the monopoly price of \$6.**
- People tend to argue against regulation, saying that point 1 is more important than point 2.
- Another consideration: In US, profits get burned up in drug advertising. In Canada, advertising is prohibited.

Policy 2: Patent length is changed from 20 to 5 years

- Previously we noticed that the patent length is 20 years. Technically, it is 20 years from the date of patent application, or 17 years from the grant date, whichever is longer.
- The payout in operating profit is substantially reduced. Once again we have:
- **Point 1: The drug might not be developed (downside)**
- **Point 2: If the fixed cost is not too high, the drug company might do it anyway. In this case, we have monopoly for 5 years instead of 17. So, there is less deadweight loss of monopoly (and less transfer of surplus to drug companies) -> desired**

Policy 3: Negotiate with the developing world (e.g. India and China) to adopt high IP protection standards

- International Agreements
 - Trade-Related Aspects of Intellectual Property Rights (TRIPS), signed 1995, came into effect 2005
 - India and other developing countries agreed to respect drug patents in return for trade concessions made by rich countries on other issues (like rich countries opening up markets to textile imports from poor countries).
 - Before this, India did not recognize drug patents
 - It is not clear at this point, how all of this will work out
 - India and other poor countries are too poor to pay the kinds of prices the drug companies charge in rich countries.
 - If drug companies price-discriminate and charge poor countries very low prices, then some of that might end up back in rich markets

Policy 3 cont'd

- If they instead charge high prices, the poor countries probably will just ignore the trade agreements.

For example, May 2007 News Story: (Associated Press)

RIO DE JANEIRO, Brazil –

“President Luiz Inacio Lula da Silva took steps on Friday to make an inexpensive generic version of an AIDS drug made by Merck & Co. available in Brazil despite the U.S. drug company’s patent. Silva issued a “compulsory license” that would bypass Merck’s patent on the AIDS drug *efavirenz*, a day after the Brazilian government rejected Merck’s offer to sell the drug at a 30 percent discount. Merck had offered to sell the drug for \$1.10 per pill, down from \$1.57, while Brazil was seeking to purchase the drug at 65 cents a pill, the same price Thailand pays.

“As the world’s 12th largest economy, Brazil has a greater capacity to pay for HIV medicines than countries that are poorer or harder hit by the disease,” Merck said in a statement.”

Policy 4: Finance pharmaceutical research through government research grants and put the results in the public domain to be freely used

- We do this to some extent, maybe we should do more?
 - Public radio
 - Health R&D through National Institute of Health
 - Music (grants, for instance Mozart was sponsored by various princes)
- Raises issues of international cooperation. How do we split the bill with other countries?

- Back to the point about patent protection and innovation. In the example of Wigitor, a cure for Economyosis, with no patent production there is no operating profit, and given the fixed cost, we get no drug.
- Three important points are as follows:

Point 1: Even with zero or very small operating profit, creative activity may still take place

- Examples: open source software, Wikipedia

Point 2: Even with no intellectual property protection (like patents or copyrights), returns can often be earned on creative activity

- Example: Musicians used to be able to sell CDs. They went on concert tours to promote the sales of their CDs. The change in technology (the Internet) has made it more difficult to protect a musician's intellectual property as people (especially young ones) make copies of music without paying for it. Now, musicians make relatively more money on concert tours. They release CDs to promote concert tours.
- Advertising on YouTube.

Point 3: Patents and copyrights can be used to block subsequent innovation.

- Example: 1-click shopping patent by Amazon (awarded 1999)
 - Abstract of Patent US 5960411
“A method and system for placing an order to purchase an item via the Internet. The order is placed by a purchaser at a client system and received by a server system...”
 - First thing, Amazon sued Barnes and Noble during Christmans season...
 - Giving property rights away for obvious things can harm innovation. Patents can be used as a beating stick to shake down rivals.
- Example of patenting human genes. Current policy in the US for decades:
“A company called Myriad, along with the University of Utah, have a patent on a gene related to a test for breast cancer. Anything that tests for this gene needs to go through them, since they own it. They are selling a test for \$3,000. If someone tries to invent a better test that might incorporate this gene and other genes, they know that Myriad will be stopping by for money.”

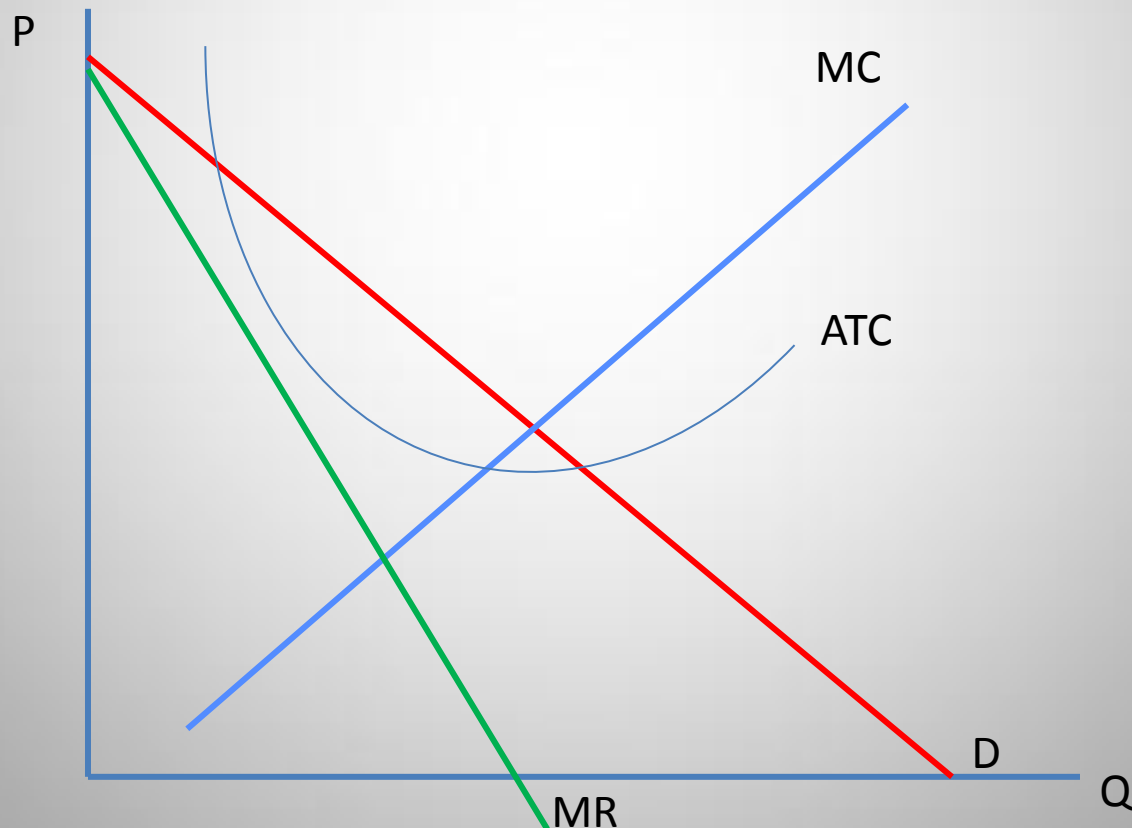
Monopolistic Competition

- So far we have discussed the perfect competition, as well as monopolies. In reality however, most firms are somewhere in between.
- Monopolistic Competition model:
 - There are many sellers,
 - Products, however, are differentiated in some way (different characteristics),
 - Firms are free to enter and free to exit.
- What are some examples that you can think of?
 - Hint: consider the products that can come in many different shapes, colors, forms, content, etc.

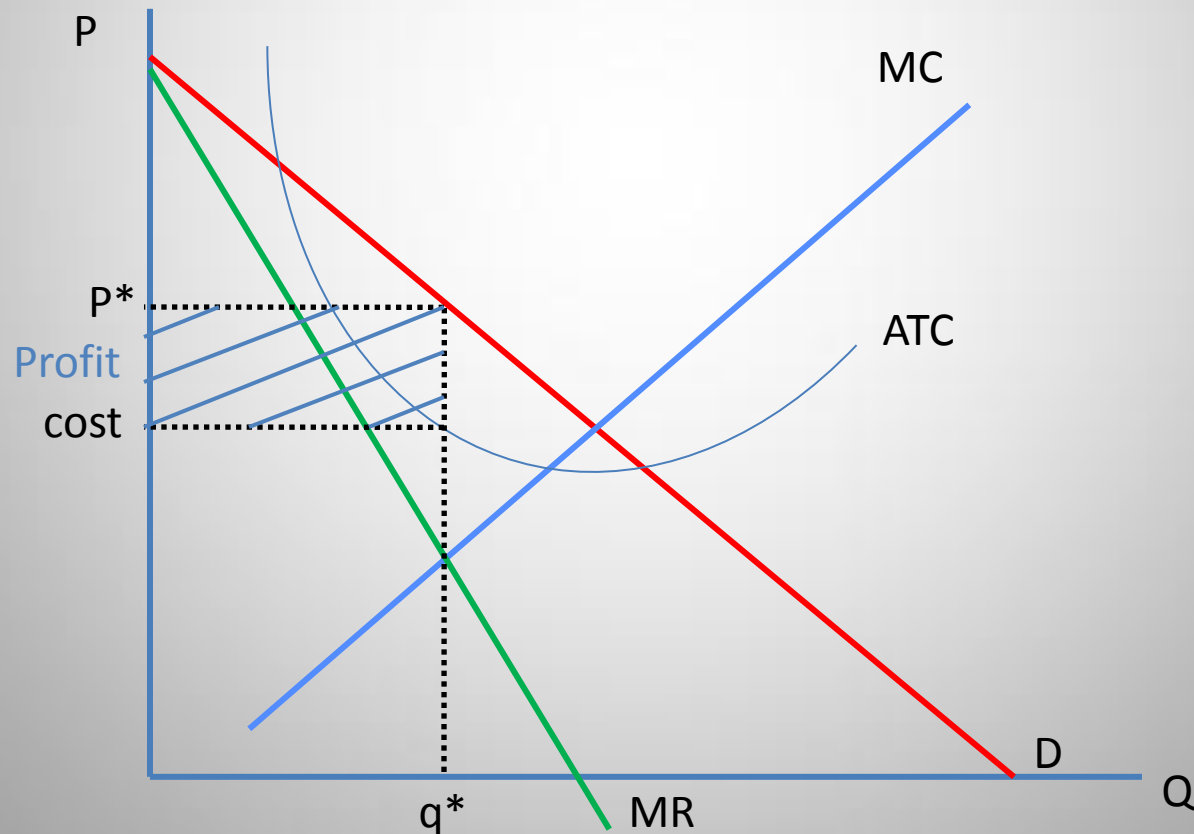
Examples

- Restaurants
- Beverages
- Furniture
- Toys
- Books
- Practically most of the stuff you can get in a supermarket
- Many common services

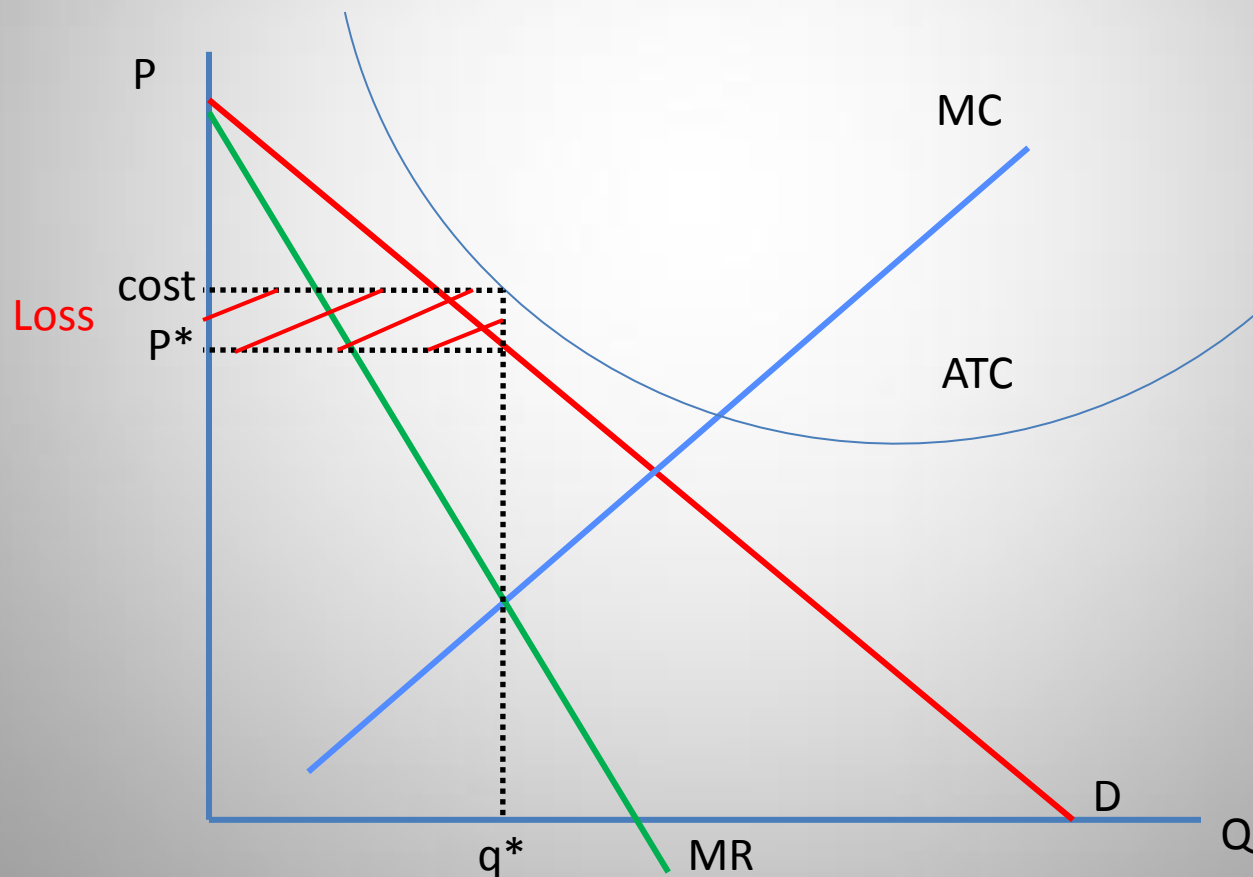
- Since each firm has a slightly different product, they are price setters and have their own demand curve (for their product), just like monopolies do. How much do they produce?



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- What if the cost curve was placed a bit higher?
 - The firm faces a loss in this case and will exit the market in the long run.



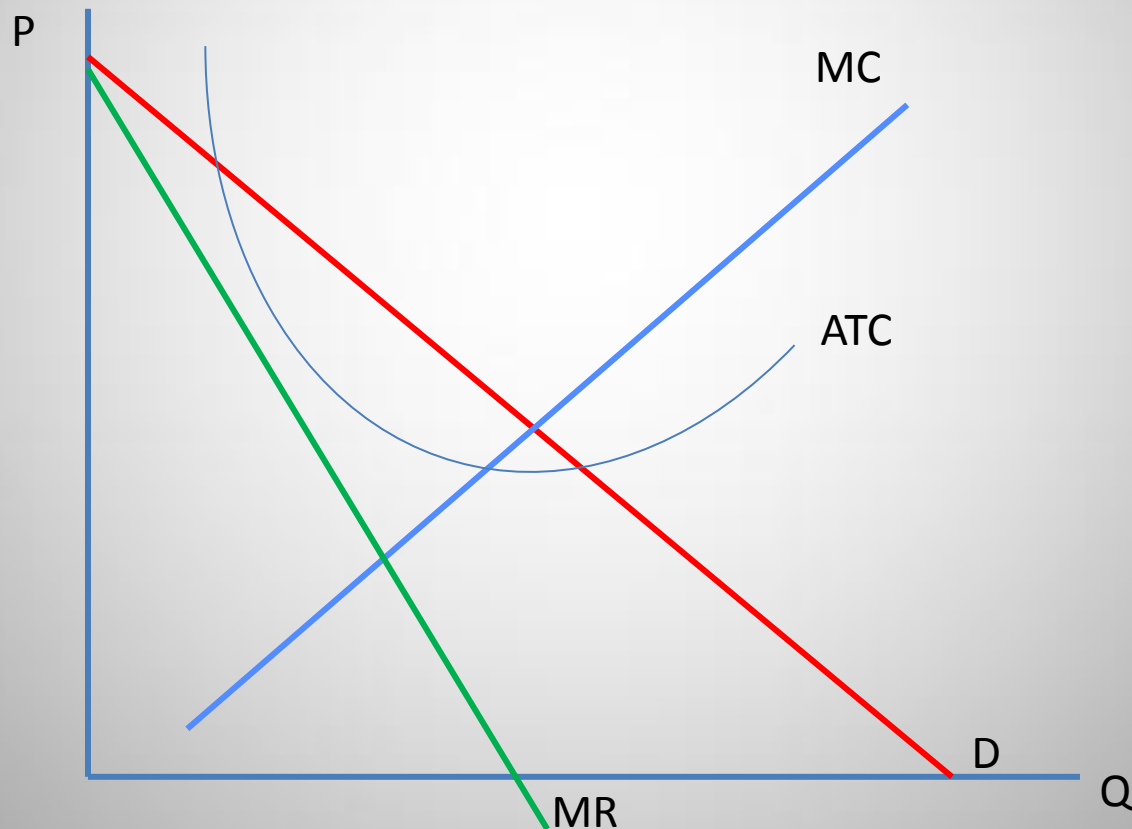
- So this looks so far exactly like the case for monopolies.
- What do you think will be the difference between monopolies and monopolistic competition?

- So this looks so far exactly like the case for monopolies.
- What do you think will be the difference between monopolies and monopolistic competition?
 - In the long run, the ‘competition’ part of monopolistic competition will drive economic profits to zero.
 - This is due to the free entry and exit condition.

- In the long run, a monopoly is still a monopoly. It makes profits, but the barriers to entry are very high, so that other firms can't enter.
- However, for firms in a monopolistically competitive market, the barriers to entry are low and thus, if there are profits to be made, new firms will enter (much like in the case of perfect competition).
- On the other hand, if firms are making a loss, some of them will leave the market (also like the case for perfect competition).
- Remember, however, that the newly entering firms are still selling differentiated products. This means that every firm will still have their own demand curve.
 - Think of people not copying exactly the current product, but rather improving the design of it or making it a little different.

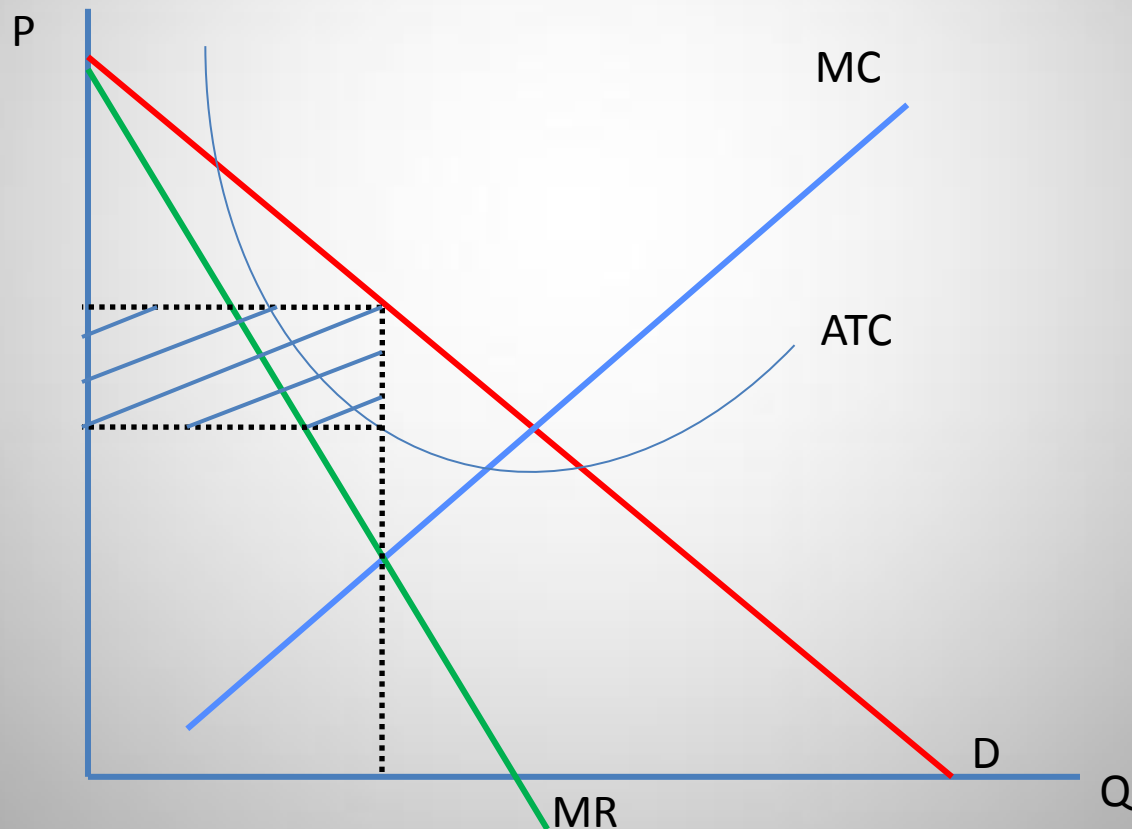
How does this affect our picture?

What changes in the long run?



The demand will shift!

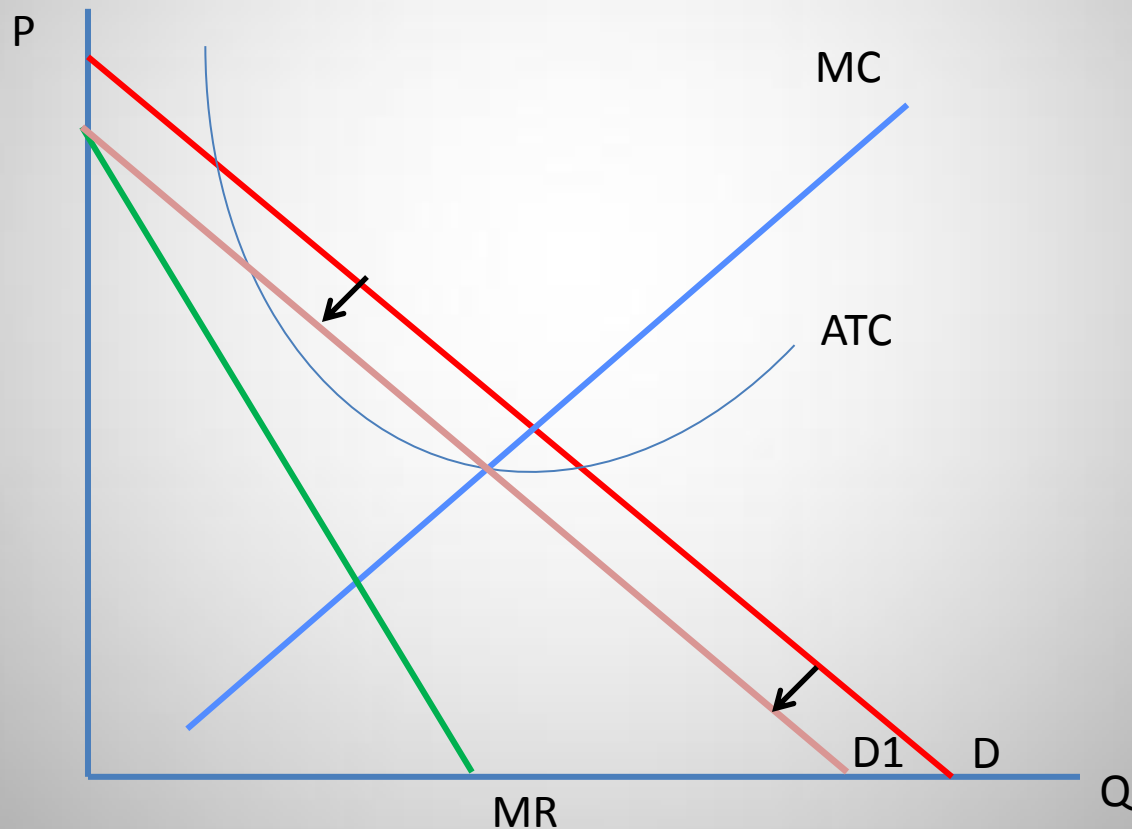
In this case, there is positive profit in the industry so more firms will join. This, however, increases the number of substitute goods. Hence, the demand should...



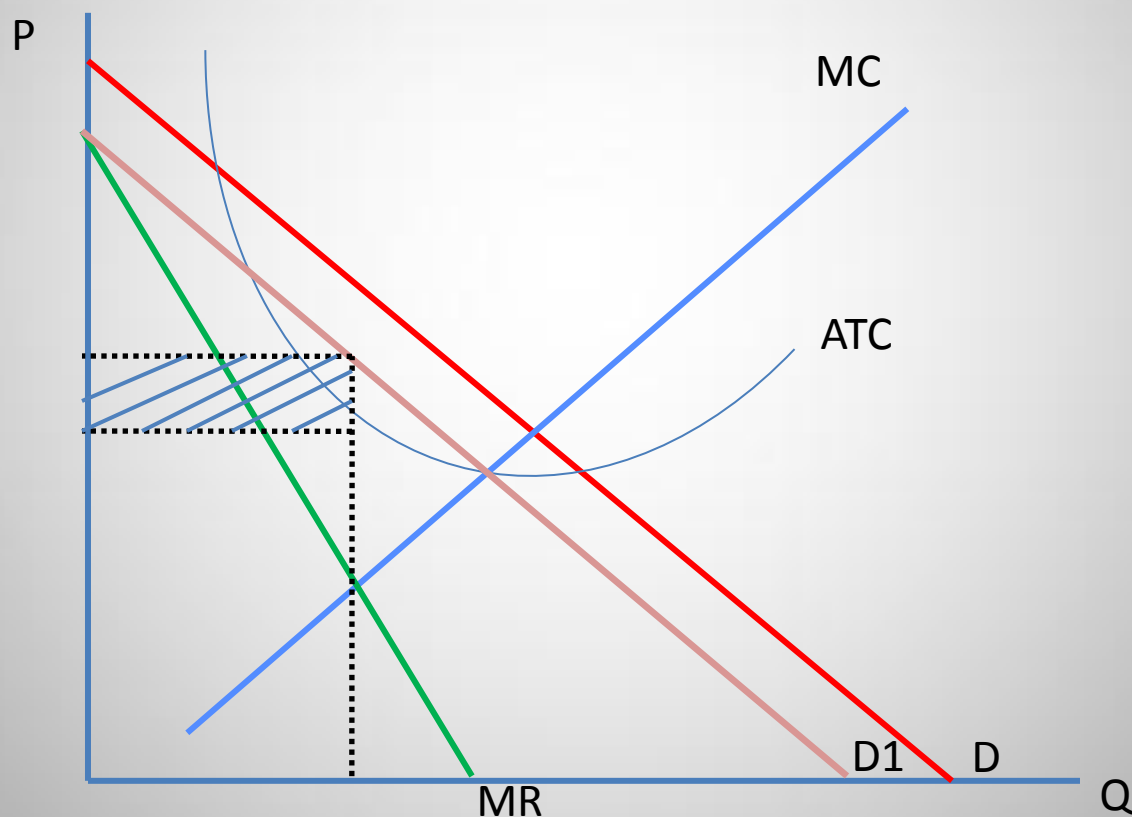
... shift to the left! (why?)

Also, note that the MR curve moves as well (why?)

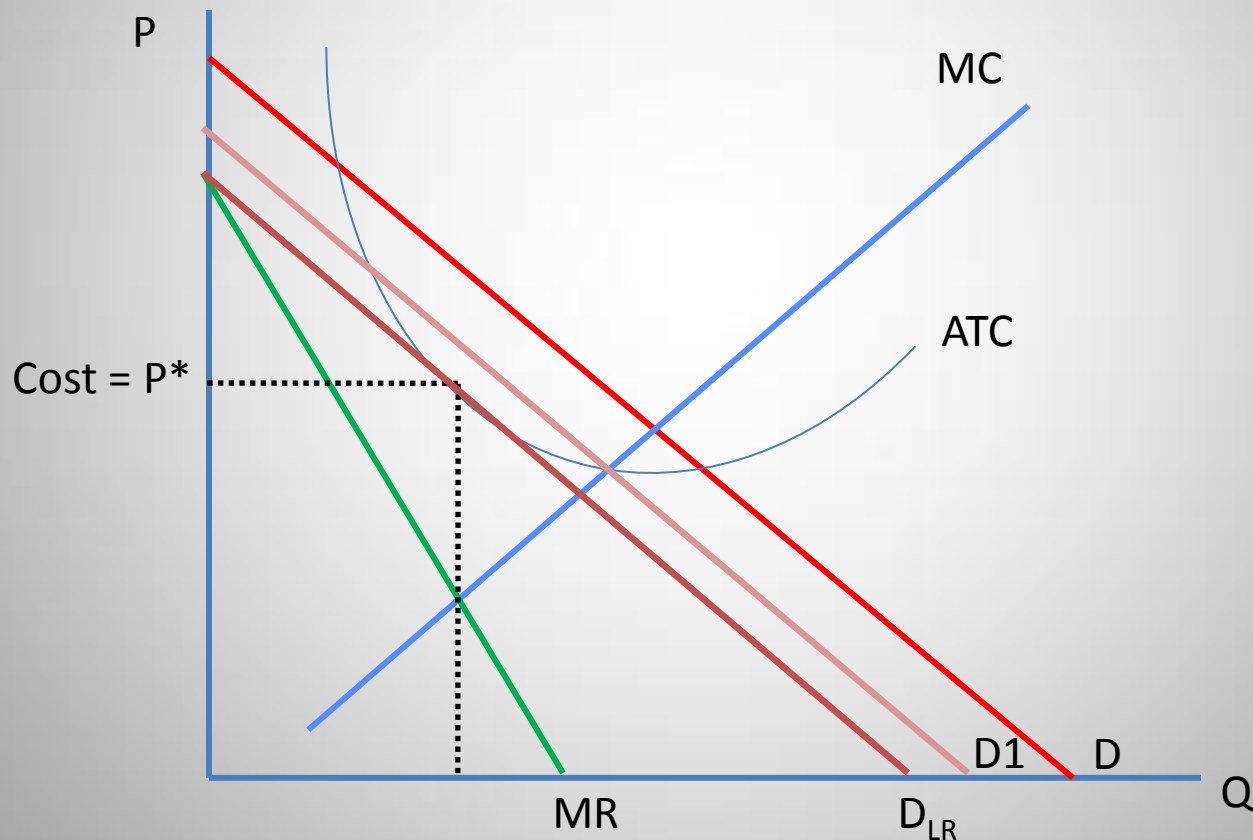
By how much does the demand fall?



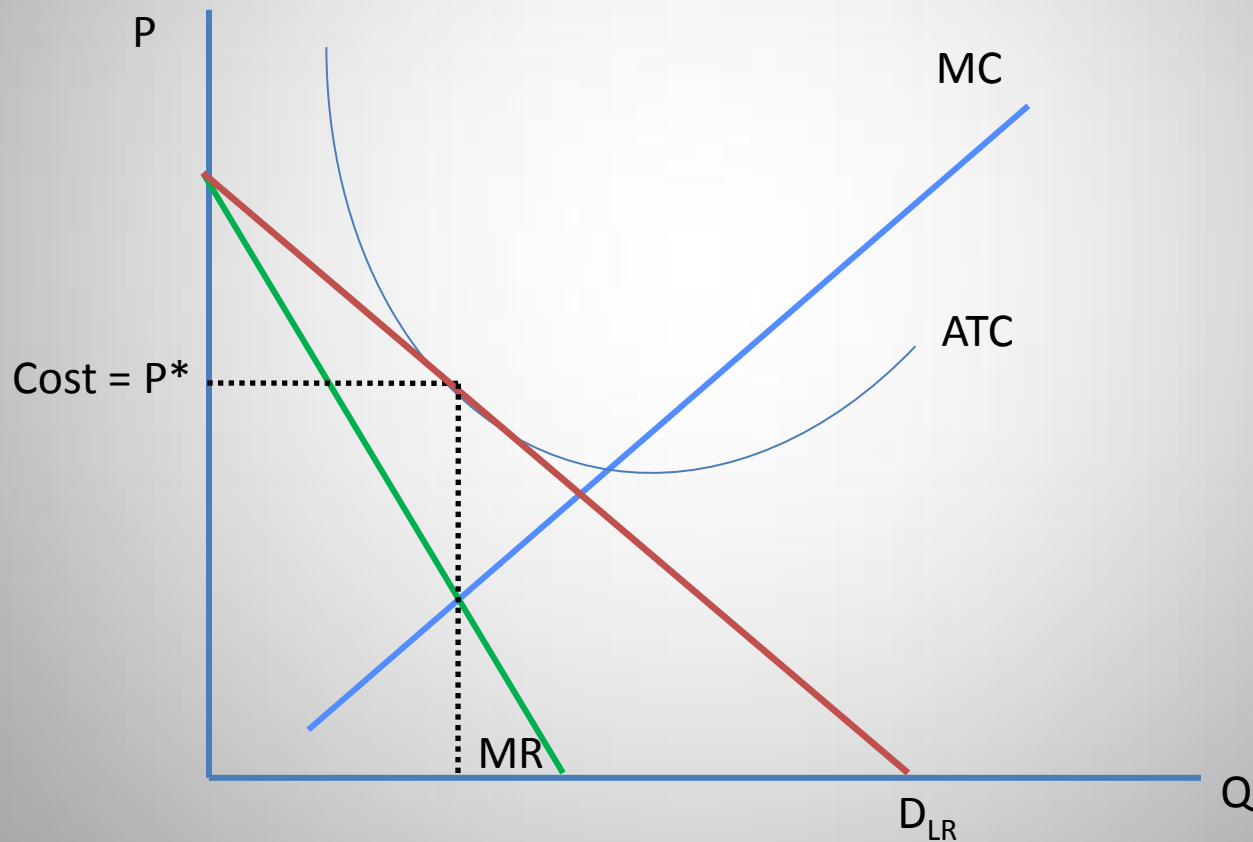
Here, there is still positive profit, although much smaller. So the firms still have incentive to join the industry and the demand curve will shift even further left.



Eventually, in the long run, the demand curve will be such that the firms in this industry will make zero profit, as shown on the picture below. Notice that demand is tangent to the ATC curve here.

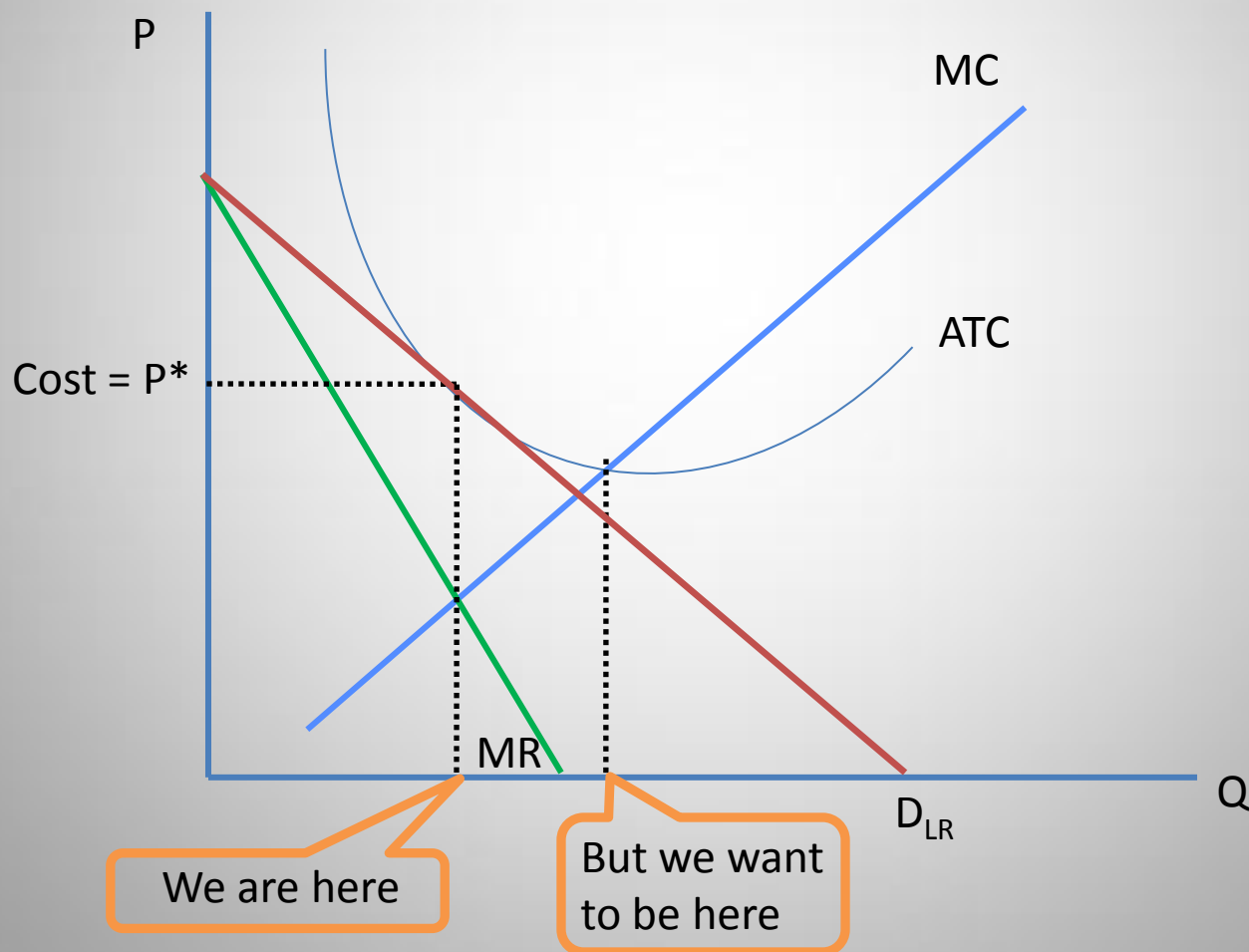


Is monopolistic competition efficient?



Is monopolistic competition efficient?

NO !!!



Two essential differences between Perfect and Monopolistic Competition

- Excess Capacity
 - At the tangency point of demand and the ATC curve the amount of output is smaller than the one which minimizes ATC.
 - Hence, a monopolistically competitive firm produces within the increasing marginal returns area, even in the long run.
- Markup over Marginal Cost
 - Although the price equals ATC in the long run, it is still above the marginal cost.
 - Hence, every extra customer is a pure gain for the monopolistically competitive firm, whereas for a perfectly competitive one it doesn't really matter.

- One important aspect about firms in a monopolistically competitive market:
 - Since their products are almost the same, what is the way to make sure that the demand for their product is higher than others?

- One important aspect about firms in a monopolistically competitive market:
 - Since their products are almost the same, what is the way to make sure that the demand for their product is higher than others?
- **ADVERTISEMENT !!!**

Debate over advertising

- **Arguments against**

- Ads manipulate people and their tastes
- Ads are more about psychology than providing information
- Ads attenuate the effect of competition (introducing some artificial product differentiation that in reality doesn't exist)
- Ads create unnecessary costs which translate into higher prices we all have to pay

- **Arguments for**

- Informational role of advertising
- Ads promote creativity, help the innovative producers present their ideas in front of the general public
- Advertising facilitates the free-entry in the market and decreases each of the existing firms' monopoly power
- Advertising in fact promotes competition – makes the firms feel less secure about their market position

Example: price of eyeglasses

- Does advertising result in less or more competition?
- In 1960s, many US states prohibited advertisement of eyeglasses and optometry services.
- Benham (1972) investigated the differences between seemingly similar states that were on the two sides of the barricade.
- Intriguing results:
 - Average price of eyeglasses in the states with a ban on advertising was \$33.
 - In the states where ads were legal, the average price was about \$26
 - That's over a 20-percent reduction!
- Hence, in many markets it turns out that advertising actually promotes competition.