

# ECO104- Introduction to Economics

## *Lecture-10 Monopoly*





- ◆ A *monopoly* is a market with **a single firm** that produces a good or service for which **no close substitute** exists and in which there is **one supplier** that is protected from competition by a barrier preventing the entry of new firms.

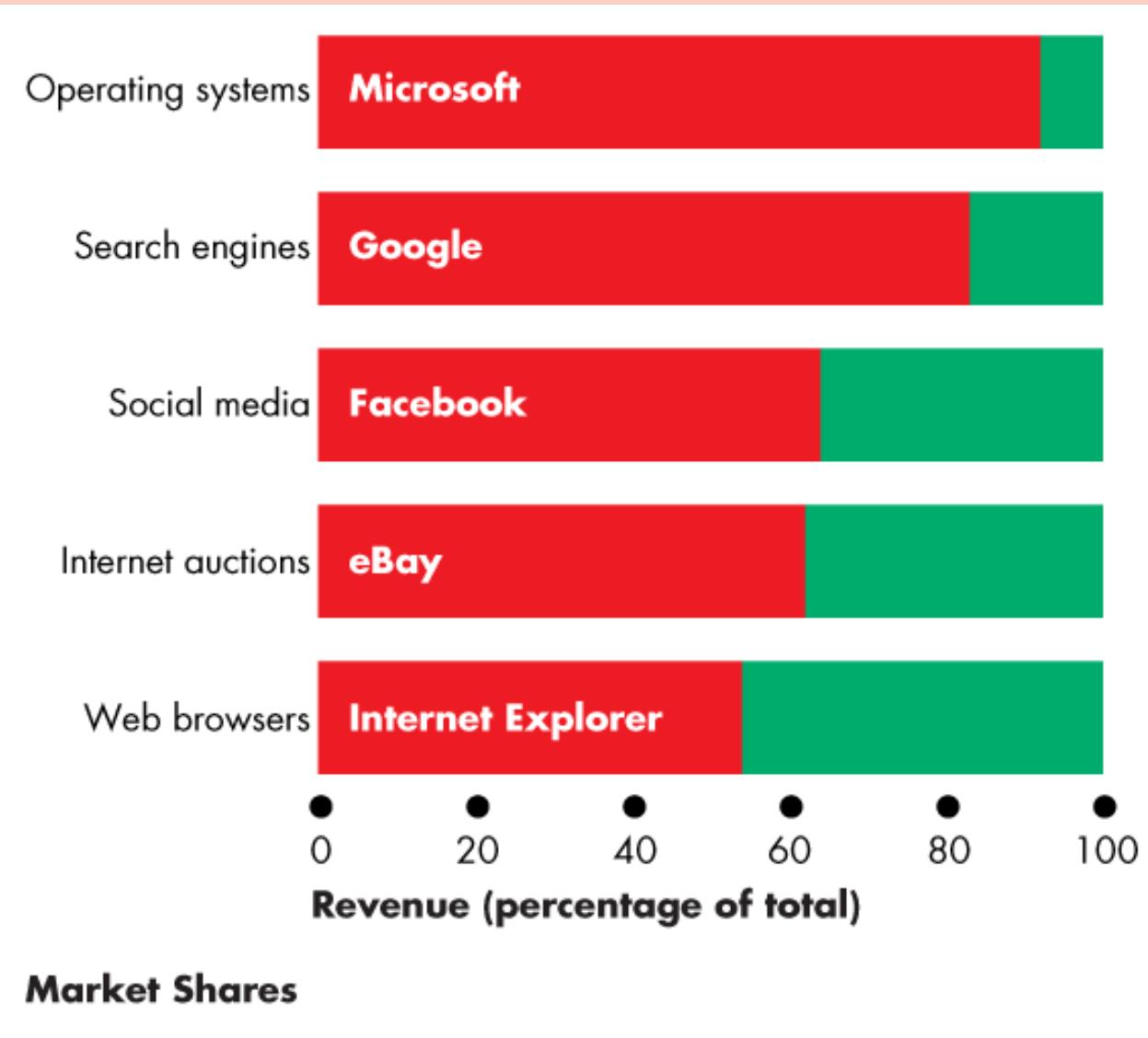
# Two main features of Monopoly

- ◆ No close substitutes
- ◆ High barriers of entry- 3 types of barriers:
  1. Natural barriers to entry- when **economies of scale** allows a firm ( a natural monopoly) to supply the market at the lowest possible cost
  2. Ownership barriers to entry- when a firm owns a significant portion of a resource
  3. Legal barriers to entry - when a firm is granted a monopoly franchise, a government license, a patent or a copyright which restricts entry and competition in a market

# Examples of Monopoly

- ◆ Examples of monopolies include:
  - Airbus/Boeing- aircraft manufacturer
  - Electric Supplier
  - Microsoft (?)
  - Google(?)
  - Facebook (?)
  - eBay (?)

# Examples of “Monopoly”



# Monopolies are Regulated

- ◆ Most monopolies are regulated in some way by one or more government agencies.
- ◆ In the case of unregulated monopolies, the government must either break up the monopoly or make some other change to promote competition and economic efficiency.
- ◆ First, we study the operation of unregulated monopoly and how it differs from the operation of competitive markets.
- ◆ Then we discuss pricing strategies for regulated monopolies.

# Monopoly Price-Setting Strategies

- ◆ Major difference between Monopoly and Perfect Competition is-  
Perfect Competition are **Price takers**  
Monopoly are **Price setters**

There are 2 pricing strategies adopted by Monopolies:

- ◆ **Price discrimination** is the practice of selling different units of a good or service for different prices. (e.g. Microsoft selling softwares to different groups)
- ◆ **Single-price monopoly** is a firm that must sell each unit of its output for the same price. (e.g. DeBeers)

# Single-Price Monopoly

- ◆ Because there is only one firm, the firm's demand curve is the market demand curve.
- ◆ Marginal revenue is not the same as the market price, because price is lowered to increase sales. And two opposing forces affect total revenue. Lower prices decreases total revenue but increased quantity sales raises total revenue

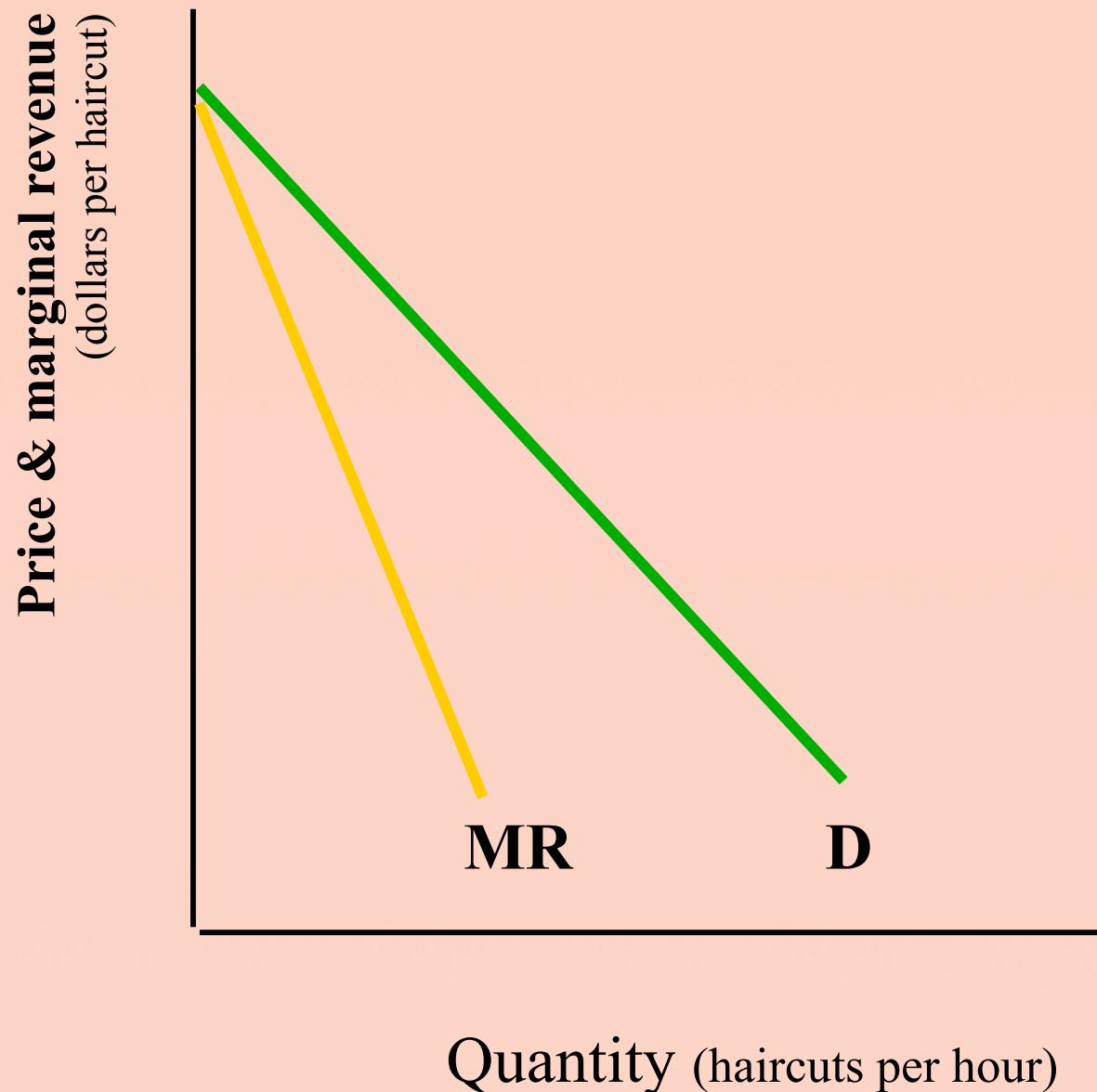
# Demand and Marginal Revenue

	Price (P) (dollars per haircut)	Quantity demanded (Q) (haircuts per hour)	Total revenue ( $TR = P \times Q$ ) (dollars)	Marginal revenue ( $MR = \Delta TR / \Delta Q$ ) (dollars per additional haircut)
a	20	0	0	-
b	18	1	18	
c	16	2	32	
d	14	3	42	
e	12	4	48	
f	10	5	50	

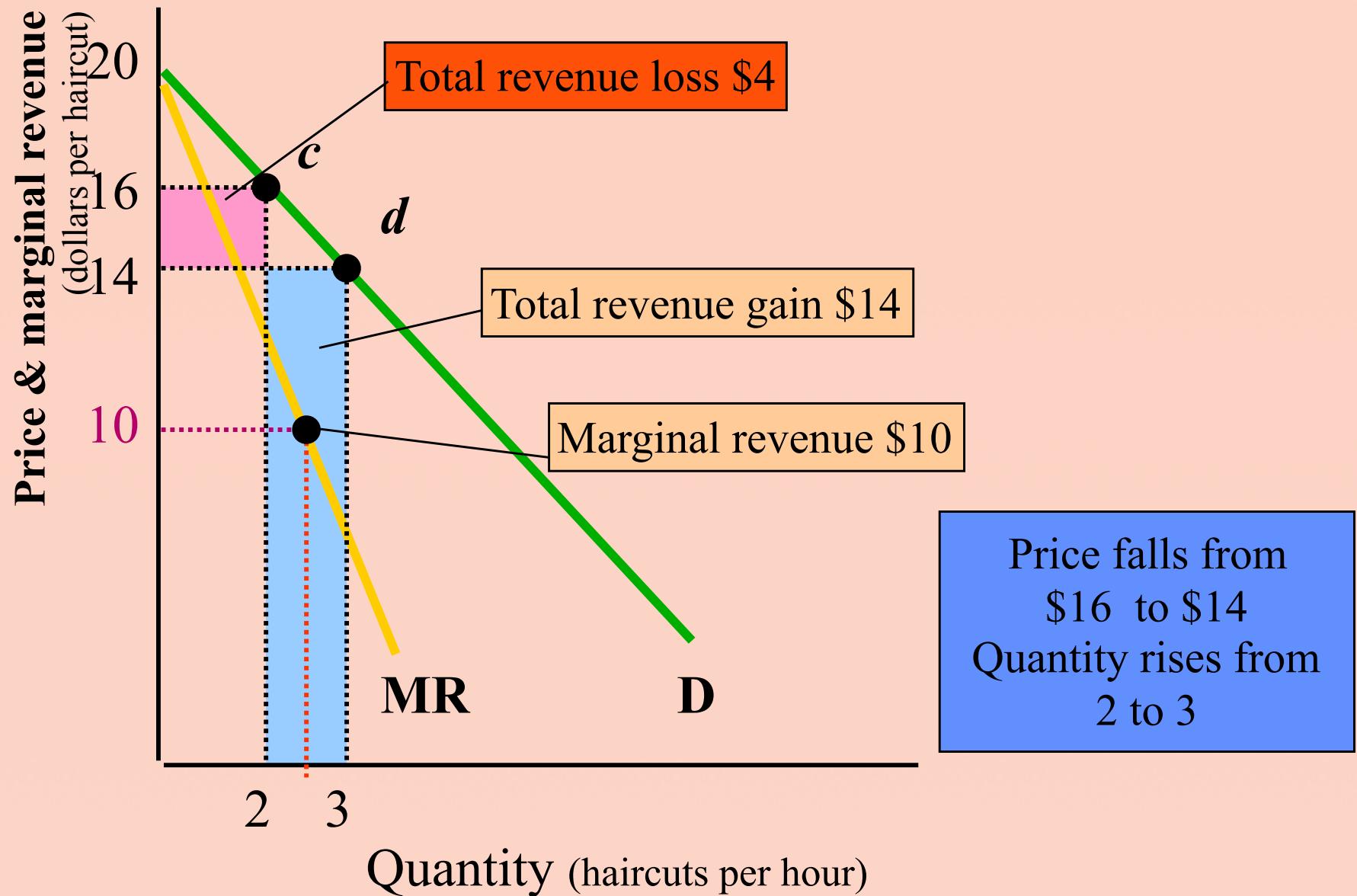
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d	14	3	42	10
e	12	4	48	6
f	10	5	50	2

# Demand and Marginal Revenue

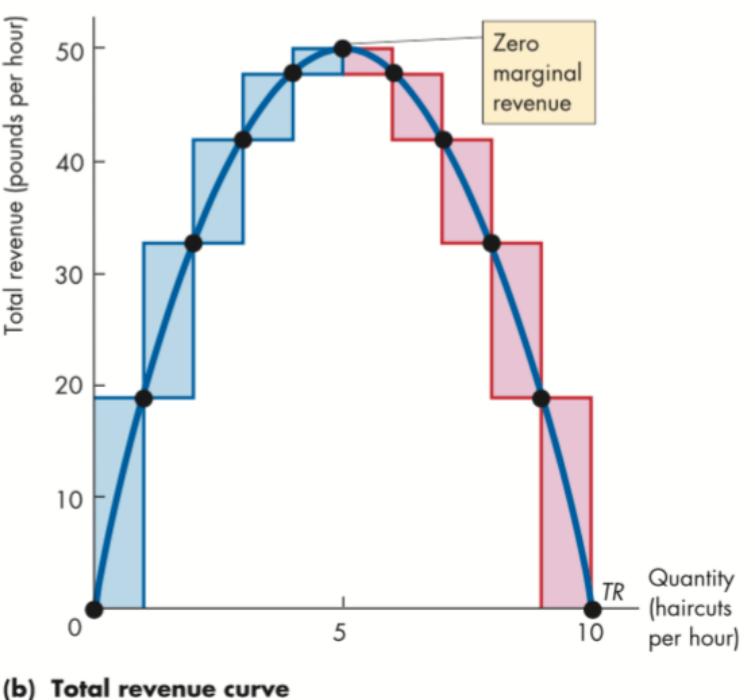
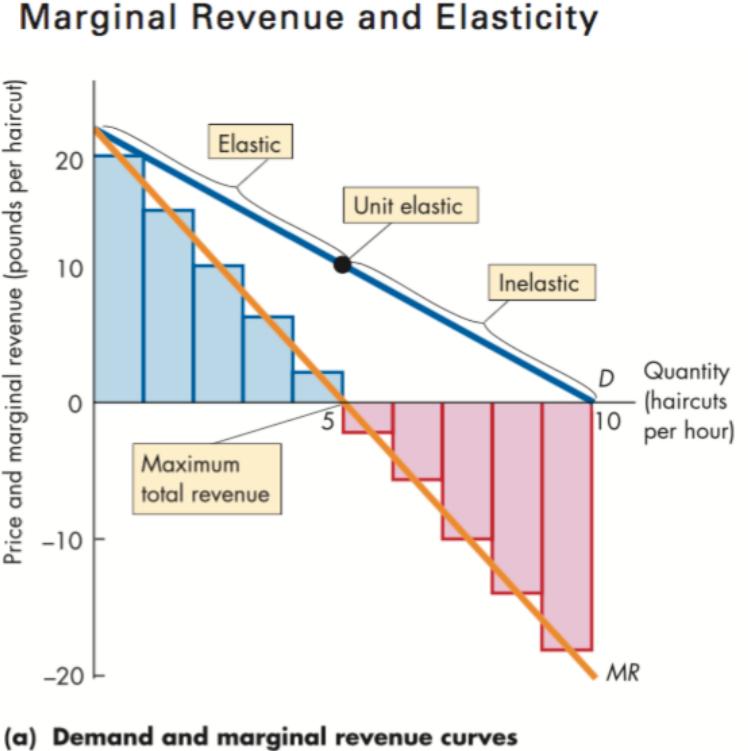


# Demand and Marginal Revenue



# MR and Elasticity

- ◆ Remember!  
If demand is **ELASTIC** then 1% fall in Price brings a A MORE than 1% rise in Demand
- ◆ A Monopoly will NEVER produce an output in the Inelastic range of its demand curve. Because a Monopoly will always target to produce a smaller Q and charge a higher Price and raise its Economic Profit
- ◆ Therefore, Demand is always Elastic in a Monopoly



# A Monopoly's Output and Price Decision

Price (P) (dollars per haircut)	Quantity (Q) (haircuts/hour)	Total revenue (TR = P × Q) (dollars)	Marginal revenue ( $MR = \Delta TR / \Delta Q$ ) (dollars per add. haircut)	Marginal cost (MC = $\Delta TC / \Delta Q$ ) (dollars per add. haircut)	Profit (TR – TC) (dollars)
20	0	0	-		
18	1	18	18		
16	2	32	14		
14	3	42	10		
12	4	48	6		
10	5	50	2		

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14	3	42	10	30	
12	4	48	6	40	
10	5	50	2	55	

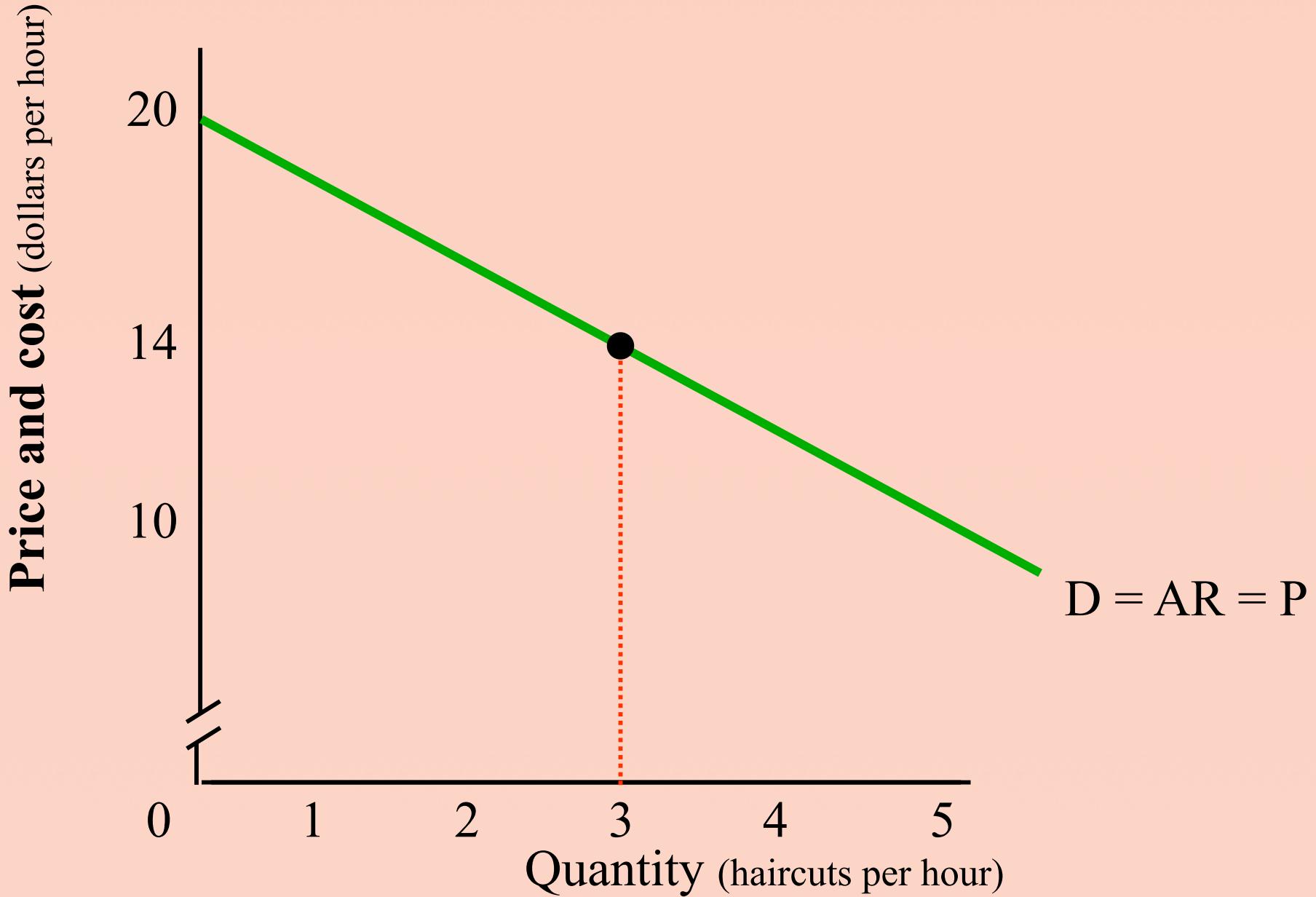
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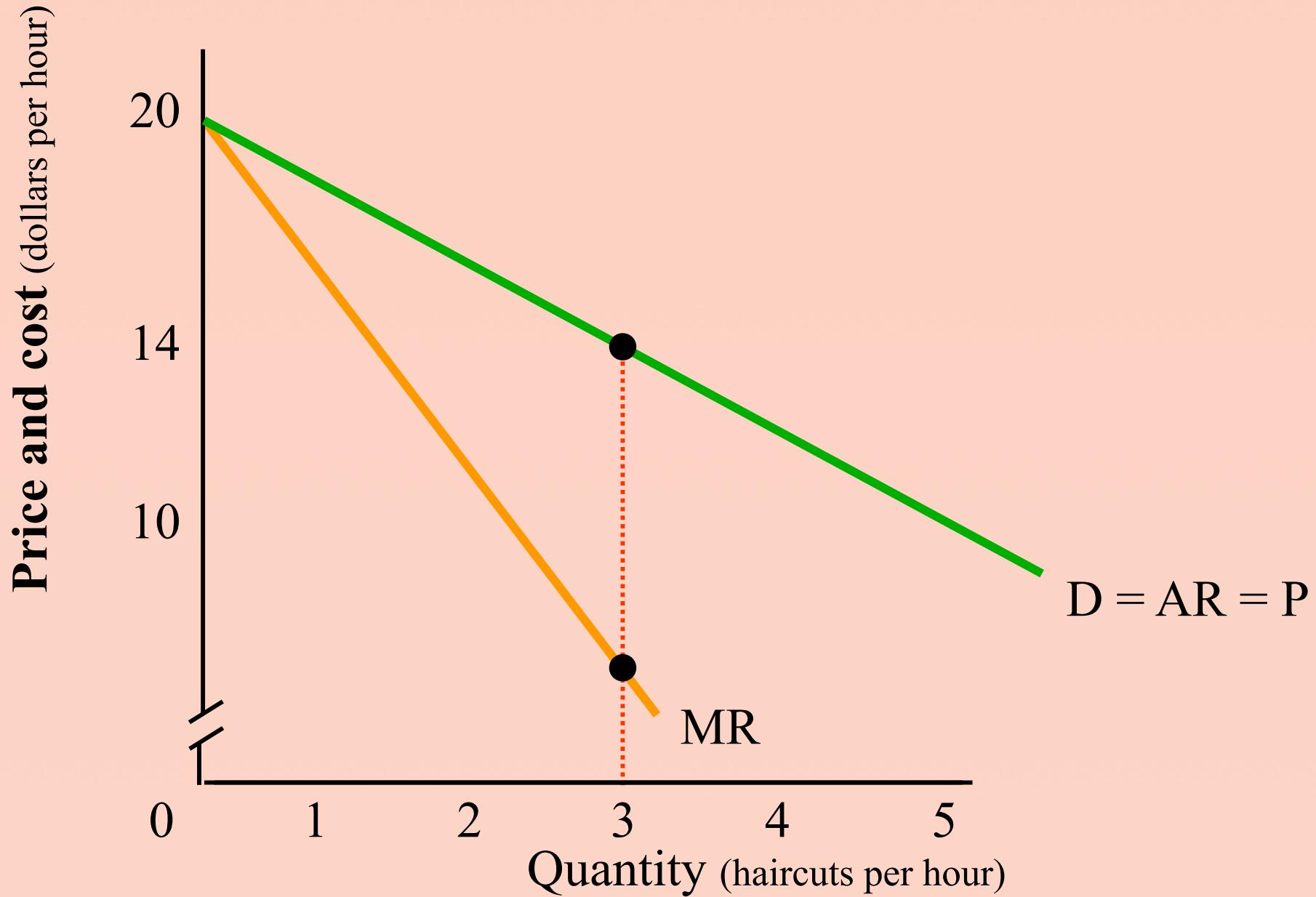
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18	1	18	18	21	1	-3
16	2	32	14	24	3	+8
14	3	42	10	30	6	+12
12	4	48	6	40	10	+8
10	5	50	2	55	15	-5

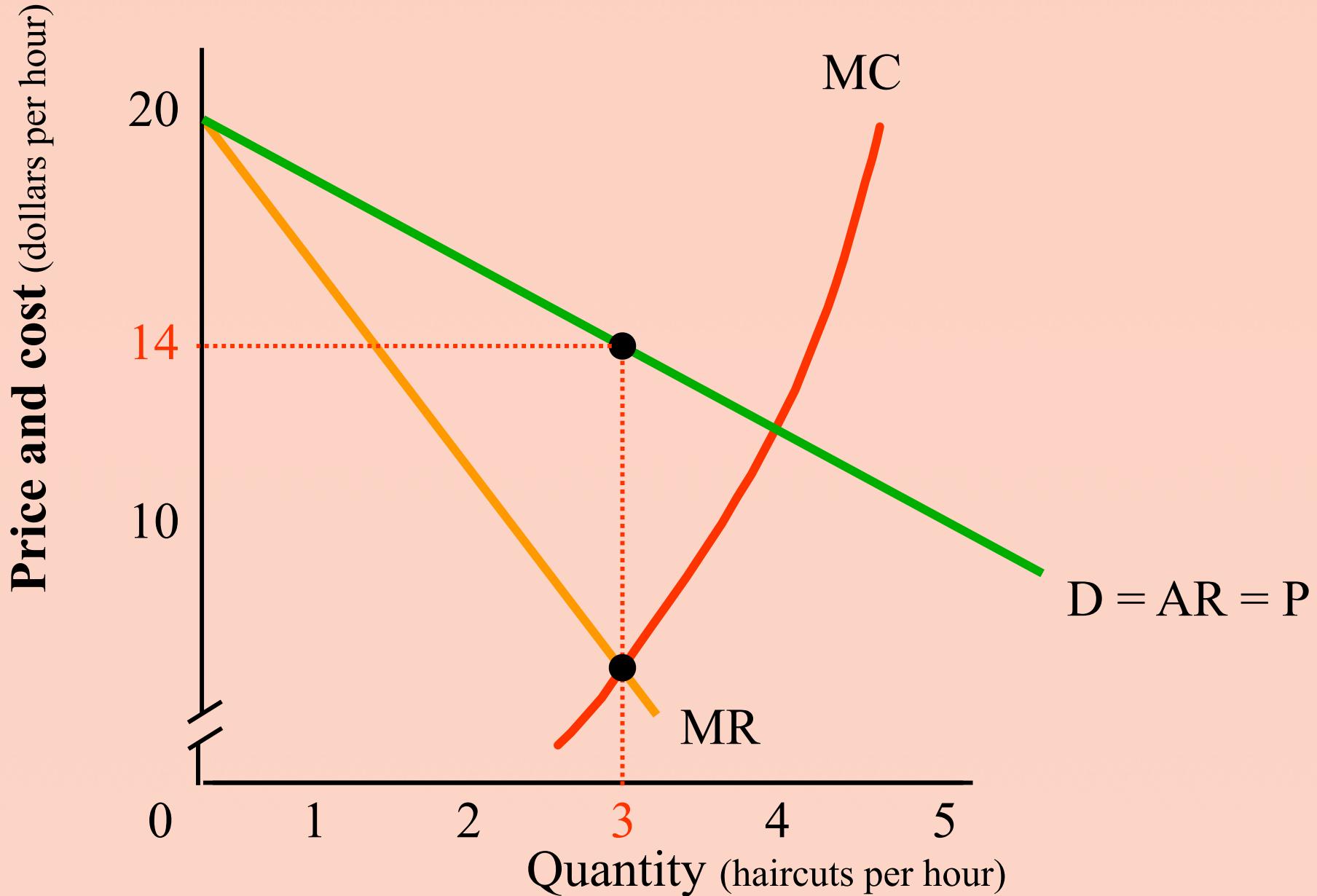
# A Monopoly's Output and Price



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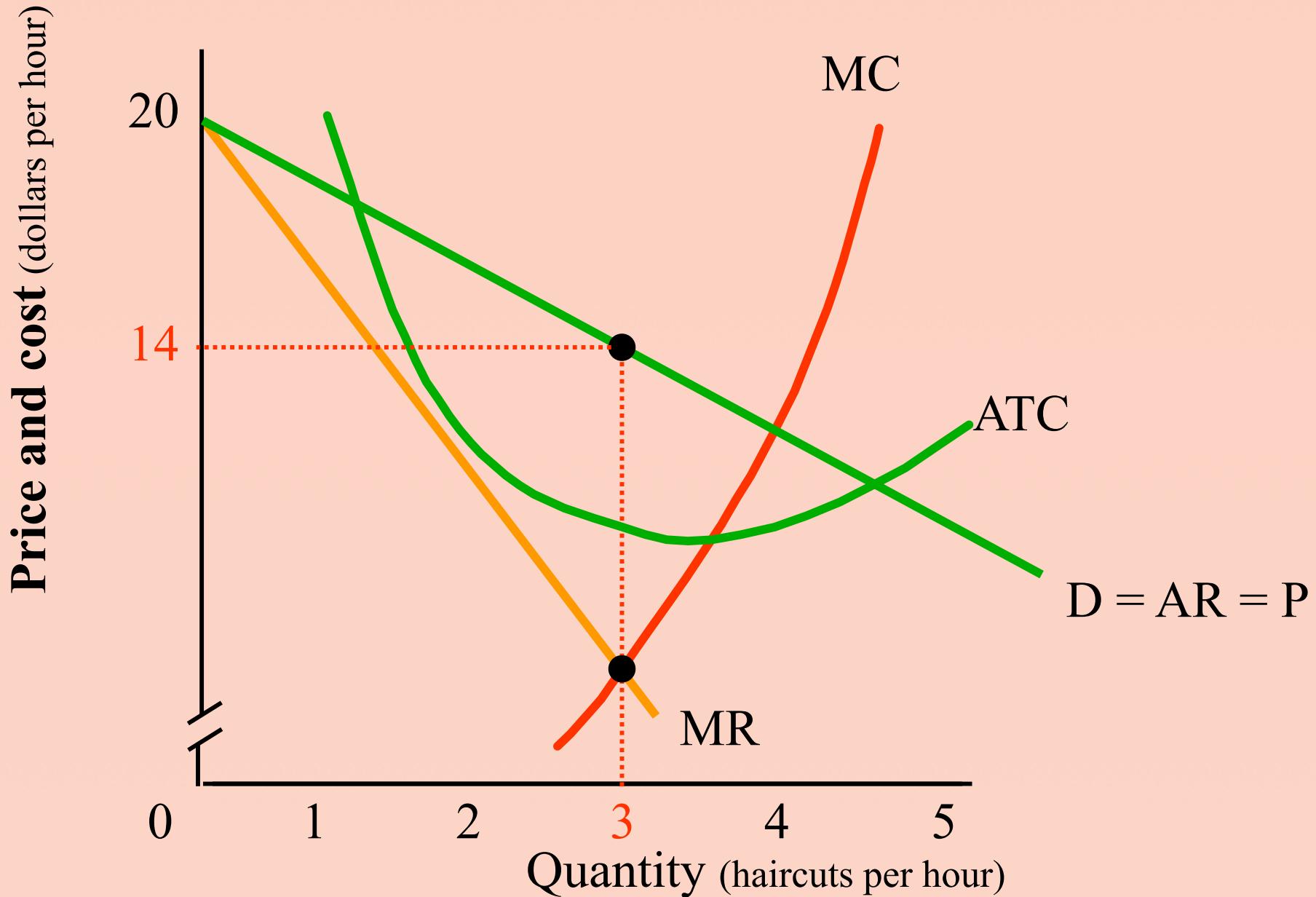


# Monopoly's Profit-Maximising output is again $MC=MR$



## Monopoly's Profit-Maximising output is again $MC=MR$

A Monopoly produces a profit-maximising quantity ( $MC=MR$ ) but sells that quantity for the highest price it can get.



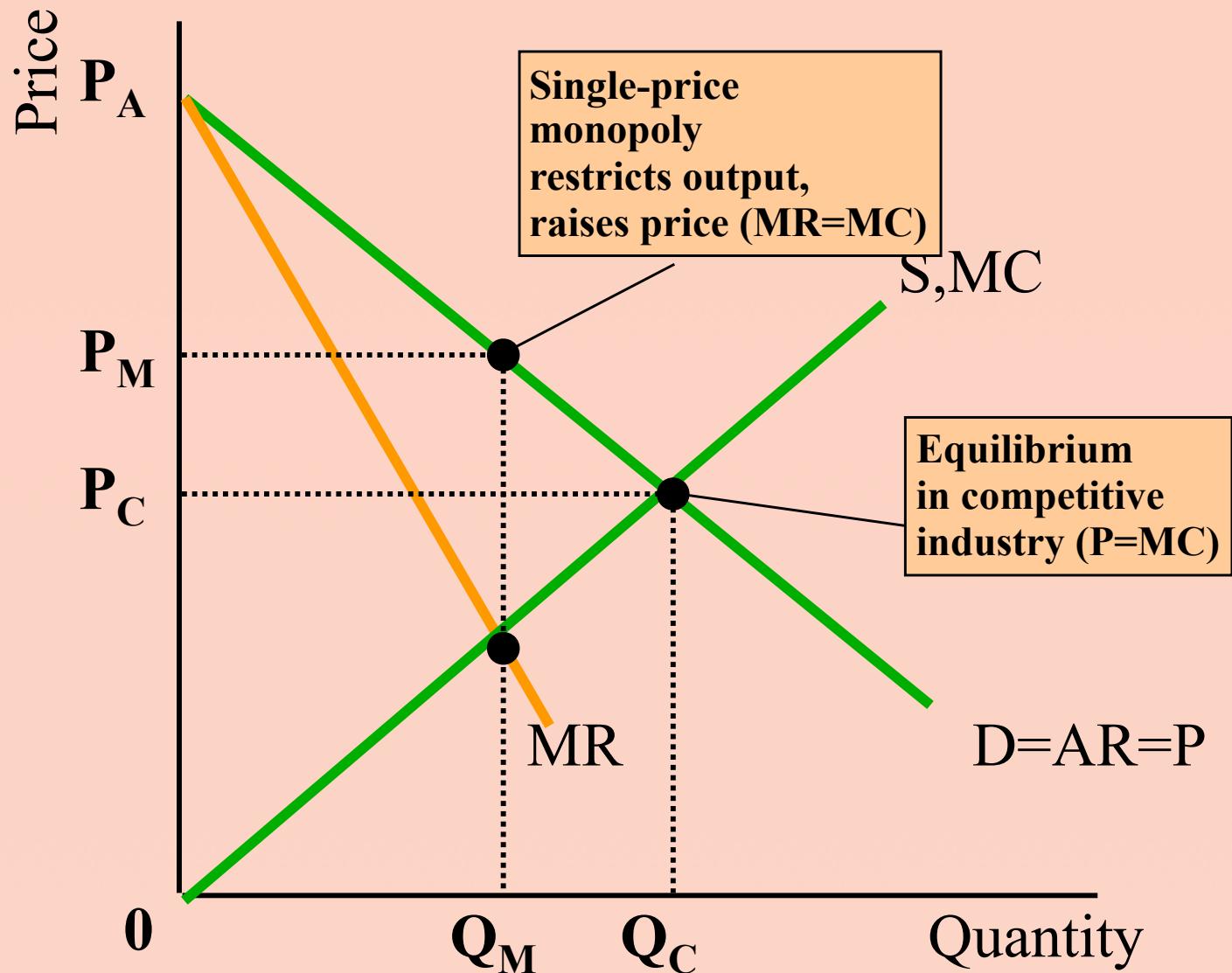
# **Comparing Monopoly and Competition**

- ◆ **How do the quantities produced, prices, and profits of a monopoly compare with those of a perfectly competitive industry?**
- ◆ **Consider a hypothetical example of a perfectly competitive industry which suddenly becomes a monopoly.**

# Price and Output

- ◆ A perfectly competitive industry will produce the quantity of output and charge the price at the equilibrium point where the industry **MC curve intersects the demand curve.**
- ◆ But a monopoly will produce the quantity of output dictated by the intersection of the MR and MC curves **but charging a price set by the demand curve.**

# Monopoly Vs Perfect Competition



# The comparison

So at last we can say:

Compared to a perfectly competitive market, a **Monopoly** produces a **Smaller Output**

&

**Charges Higher Price**



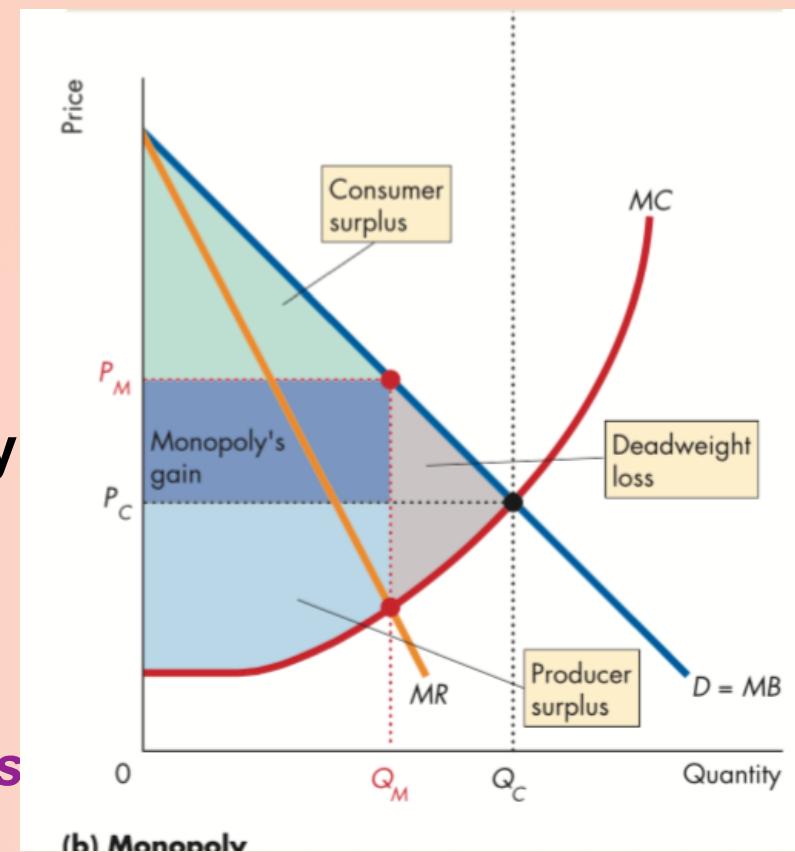
# **Essential Readings for Today!**

***Economics. Parkin, Powell, Matthews  
8th Edition.***

***Chapter 12- pages 276-283***

# Efficiency Comparison

- ◆ From the last chapter we have learned that PC is efficient. In PC MSB equals MSC and so the total surplus is maximum
- ◆ But in Monopoly there is **Inefficiency**. Because it produces smaller quantity and charges a higher Price than a PC
- ◆ This causes a constraint in the MSB and MSC and creates **dead-weight loss**



# Monopoly Regulation

- ◆ Regulation- Rules made by the government to influence prices, quantities, entry etc
- ◆ Why regulation? Because To protect social interest and reduce dead-weight loss



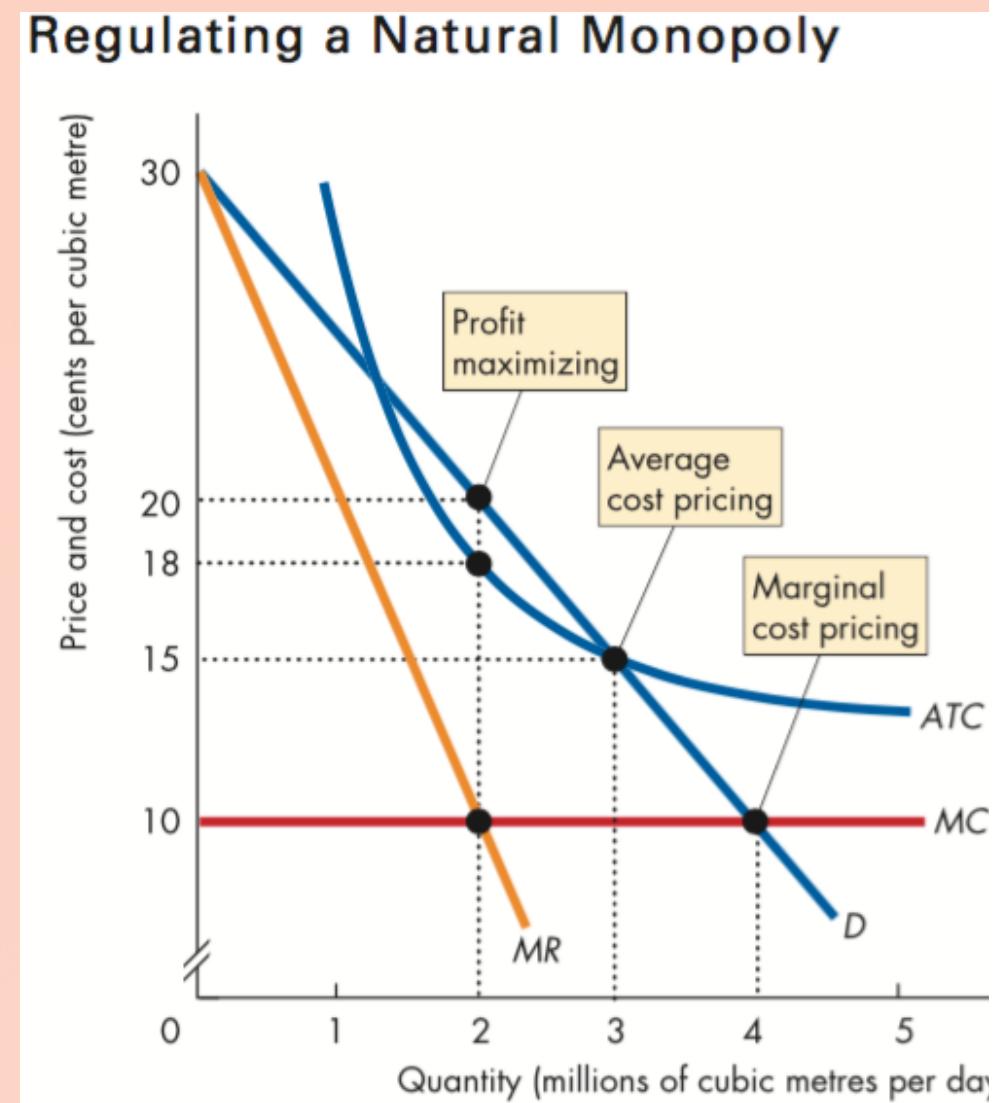
# Efficient Regulation of a Monopoly- Marginal Cost Pricing Rule

- ◆ As we know, a Monopolist produces inefficient (less) quantity. The government can solve this problem by regulating the Price equal to MC- known as the **Marginal Cost Pricing Rule**— here **MSB=MSC**
- ◆ However, there is a problem here for the Monopoly. As in Monopoly, Average Total Cost is greater than MC and hence if  $P=MC$ , then Monopoly will incur loss and will eventually go out of business.
- ◆ In such a case, government has to subsidise the Monopolist



# Monopoly Regulation- Average Cost Pricing Rule

- ◆ This Rule sets the Price equal to average total cost.
- ◆ And So the Monopolist will now make Zero Economic Profit, as  $P=ATC$  or  $P=LRAC$
- ◆ However, it creates dead-weight loss in comparison to Marginal cost pricing Rule

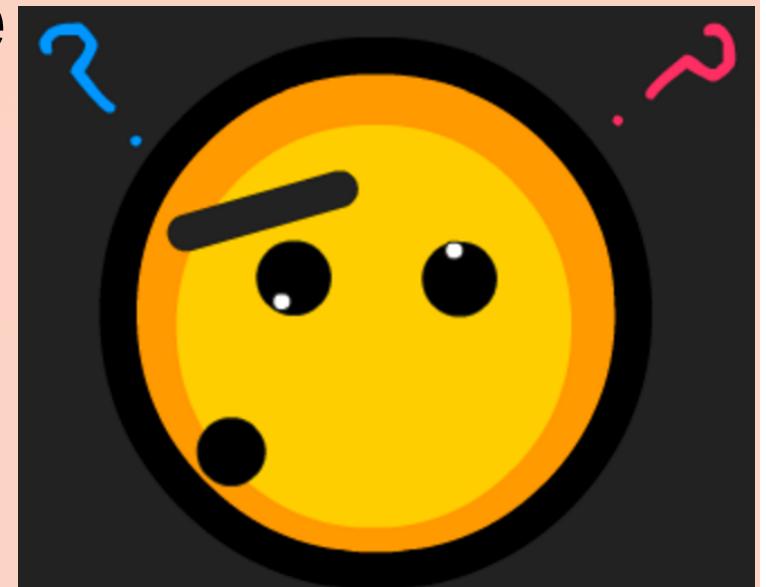


# **So which one's better....**

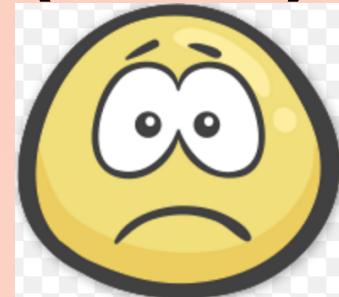
**Marginal Cost Pricing Rule**

**Or**

**Average Cost Pricing Rule**



# Average Cost Pricing (ACP) is a Challenge!



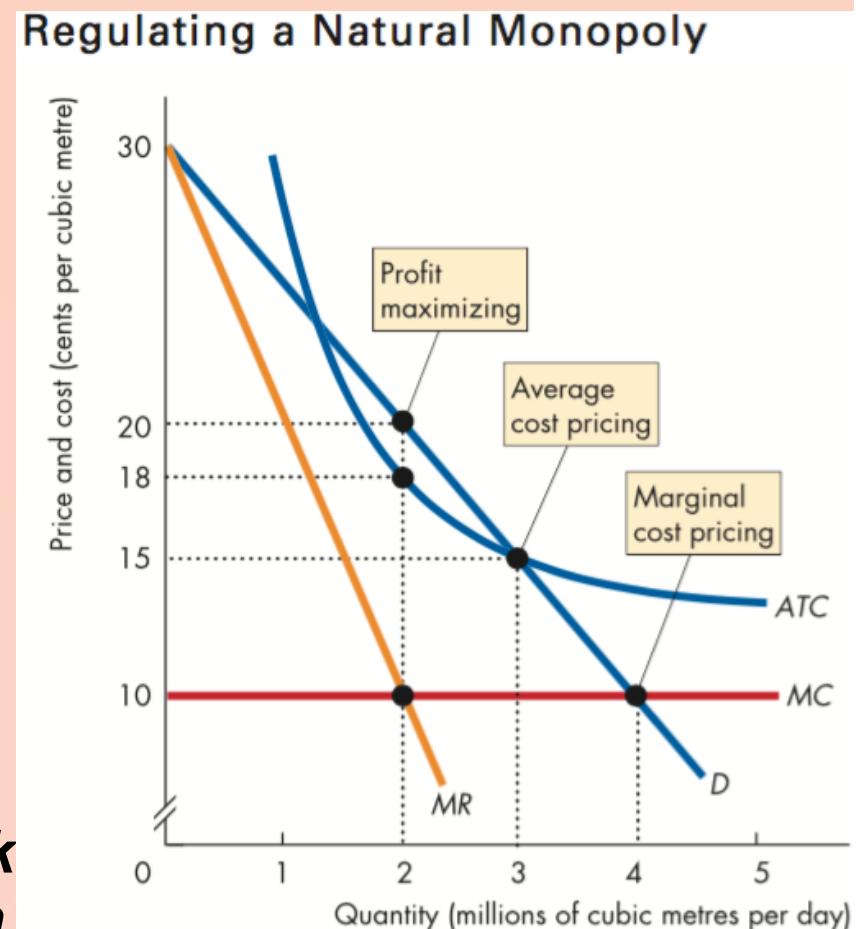
- ◆ To implement the ACP Regulation, the government first needs to know the true costs of the firm. So regulators use the following practices :

1) Rate of Return regulation: A firm must justify its price by showing that its return on capital does not exceed a specific target.

However, this type of regulation ends up supporting self-interest (of Monopoly) than the social interest (of community), since Managers of Monopoly now have incentive to inflate costs or simply record higher costs

# ACP Regulation- Price Cap Regulation

- ◆ Price Cap regulation is simply a Price ceiling— a rule that specifies that firms cannot exceed a set price
- ◆ If a price cap is set at 15tk then the Monopoly will only sell 3MW of electricity at 15tk per MW.
- ◆ Interestingly this regulation is sometimes combined with *Earning Share Regulation*— where a Monopolist requires to refund back their customers when profit too high





A cartoon illustration of six penguins running towards a finish line. The penguins are blue with white bellies. The background is light blue with white floral patterns. A large orange sign with the word "FINISH" in blue letters is positioned at the top right. The penguins are in various stages of their run, with some having their arms raised in excitement. One penguin on the far right is holding a checkered racing flag.

FINISH

# **Essential Readings For Today!**

***Economics. Parkin, Powell, Matthews  
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***Chapter 12- pages 289-291***