

# Ch10. Monopoly



## 10.1 MONOPOLY

### Average Revenue and Marginal Revenue

- **marginal revenue** Change in revenue resulting from a one-unit increase in output.

To see the relationship among total, average, and marginal revenue, consider a firm facing the following demand curve:

***P = 6 - Q: From the table info, we can draw the AR & MR graphs***

**TABLE 10.1 Total, Marginal, and Average Revenue (see  $P = AR$ )**

<b>Price (P)</b>	<b>Quantity (Q)</b>	<b>Total Revenue (R)</b>	<b>Marginal Revenue (MR)</b>	<b>Average Revenue (AR)</b>
\$6	0	\$0	---	---
<b>5</b>	<b>1</b>	<b>5</b>	<b>\$5</b>	<b>\$5</b>
<b>4</b>	<b>2</b>	<b>8</b>	<b>3</b>	<b>4</b>
3	3	9	1	3
2	4	8	-1	2
1	5	5	-3	1

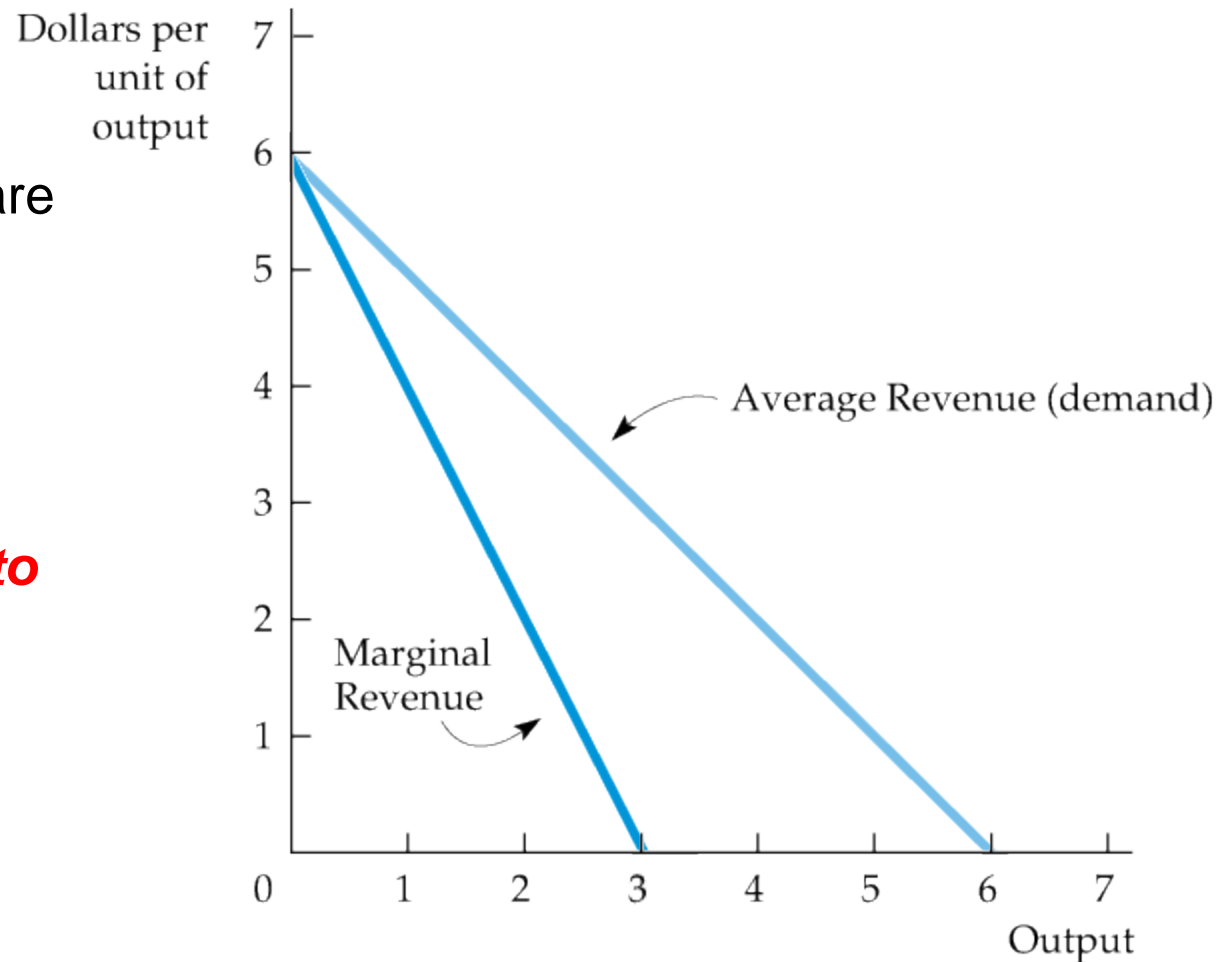
# 10.1 MONOPOLY

## Demand curve

Average and marginal revenue are shown for the demand curve

$$P = 6 - Q.$$

**MR cuts x-axis into two equal parts**



# 10.1 MONOPOLY

## The Monopolist's Output Decision

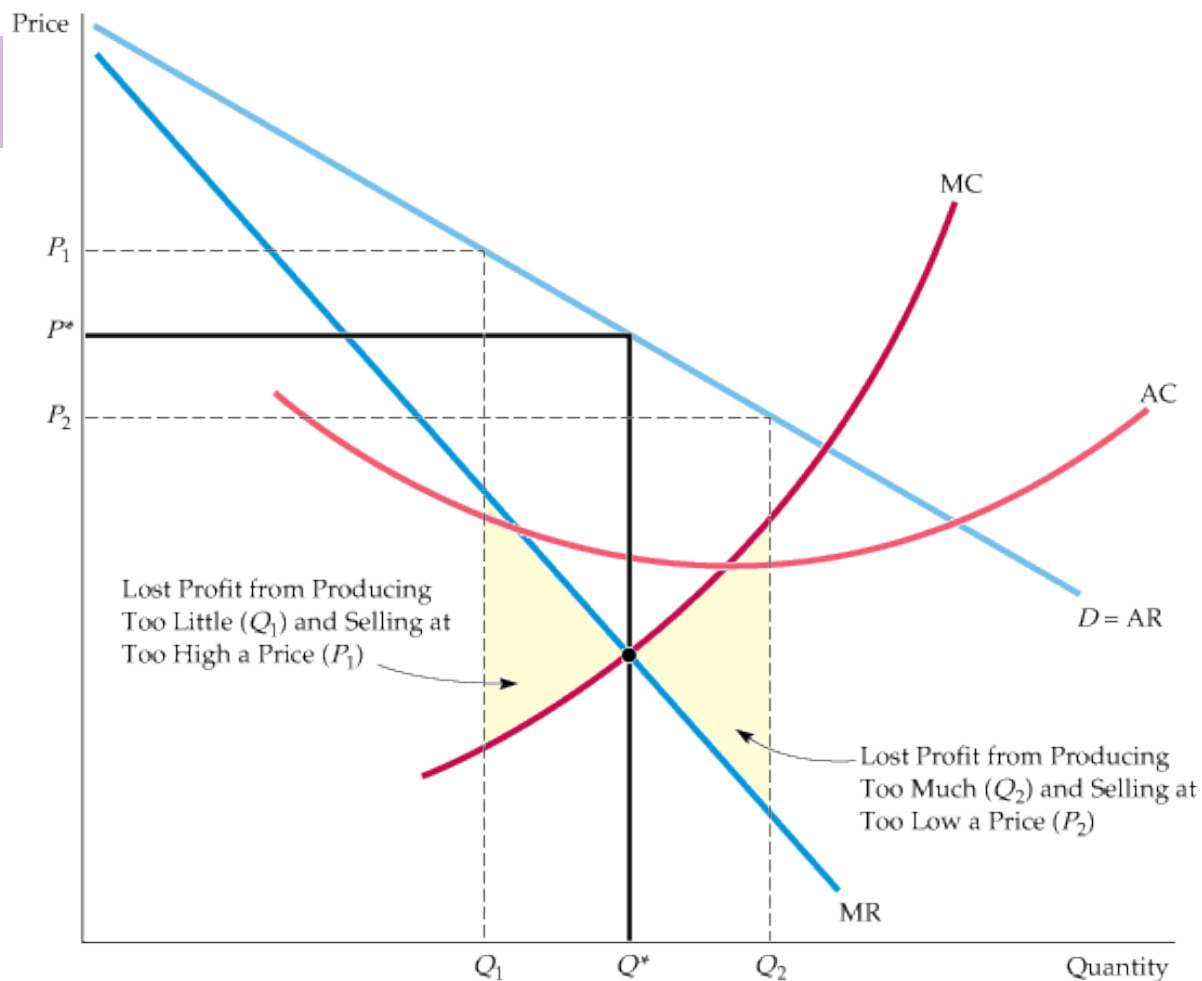
Profit Is Maximized When  $MR=MC$  for the firm

$Q^*$  is the output level at which  $MR = MC$ .

& then  $P = AR$

At  $Q_1$ ,  $MR > MC$  but lower profit made;  $P$  too high for  $Q_1$ .

At  $Q_2$ ,  $MR < MC$ ; profit is lost;  $P$  too low for  $Q_2$



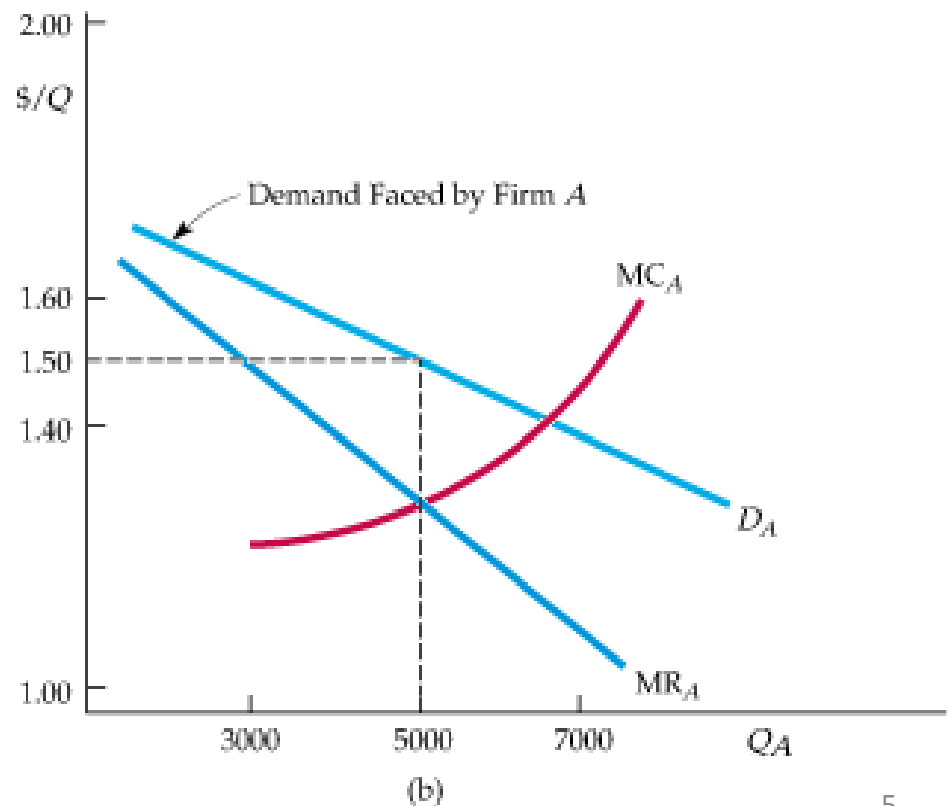
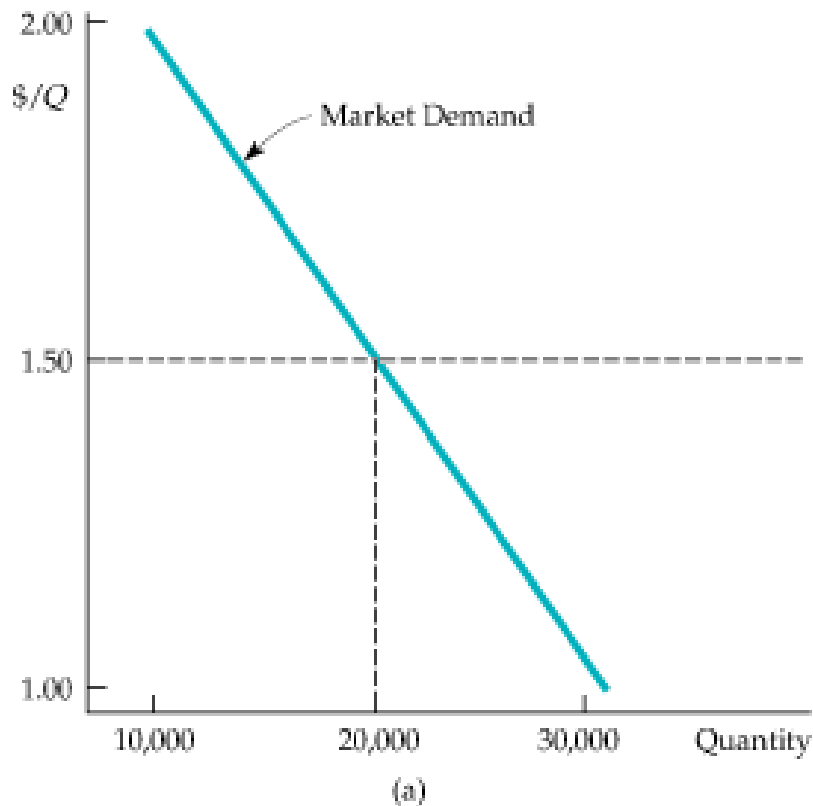
## 10.2

## MONOPOLY POWER

**Definition:** Extend to which a firm can charge  $P$  above  $MC$  without inducing new firms into the market.

This is represented by a sloping demand curve.

The steeper the demand curve, the more the monopoly power.



## 10.4 THE SOCIAL COSTS OF MONOPOLY POWER

### Deadweight Loss from Monopoly Power

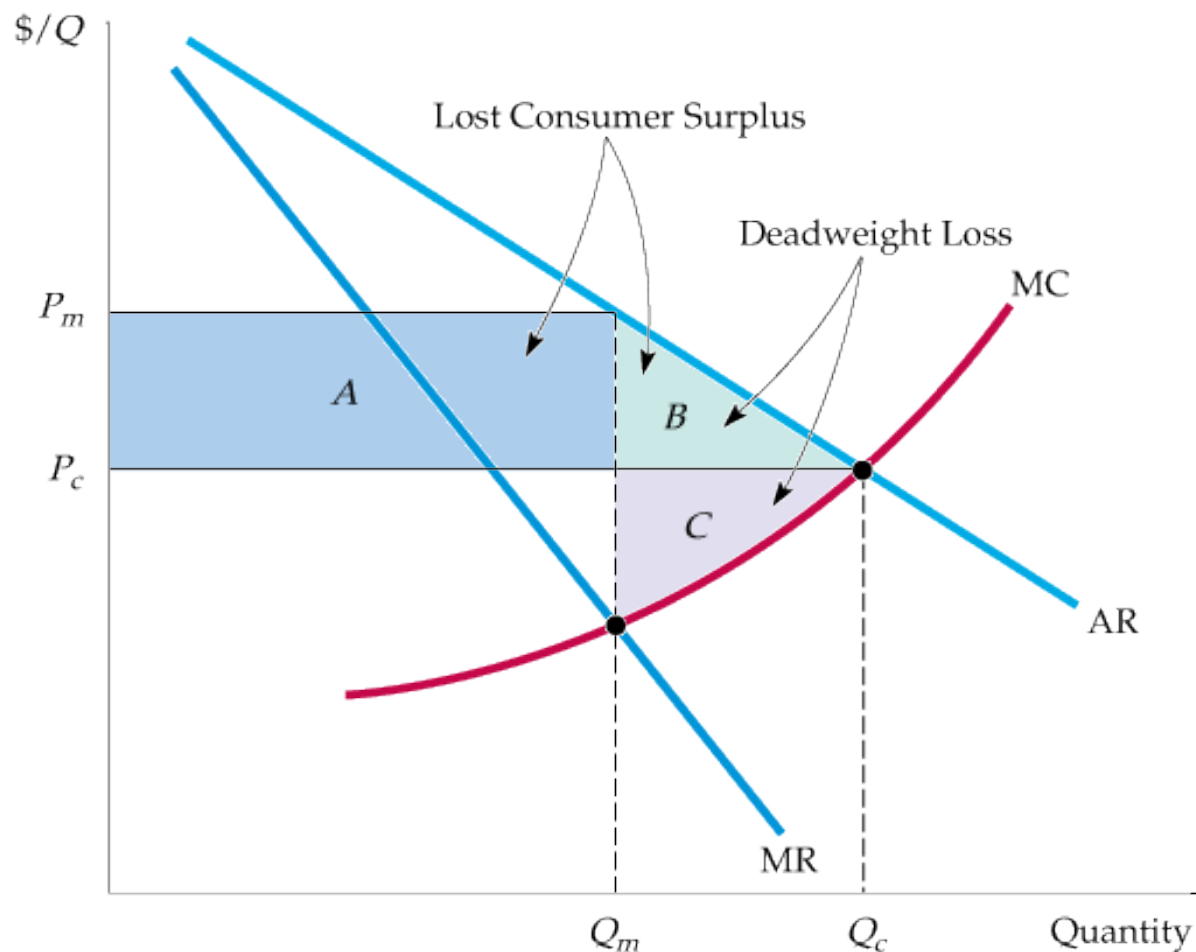
$P_c$  is competitive price

$P_m$  is monopoly price

Moving from  $P_c$  to  $P_m$  consumers lose  $A$  and  $B$

Producer gains  $A$  but lose  $C$ .

So  $B$  and  $C$  surplus go into waste



# Ch11 Price discrimination



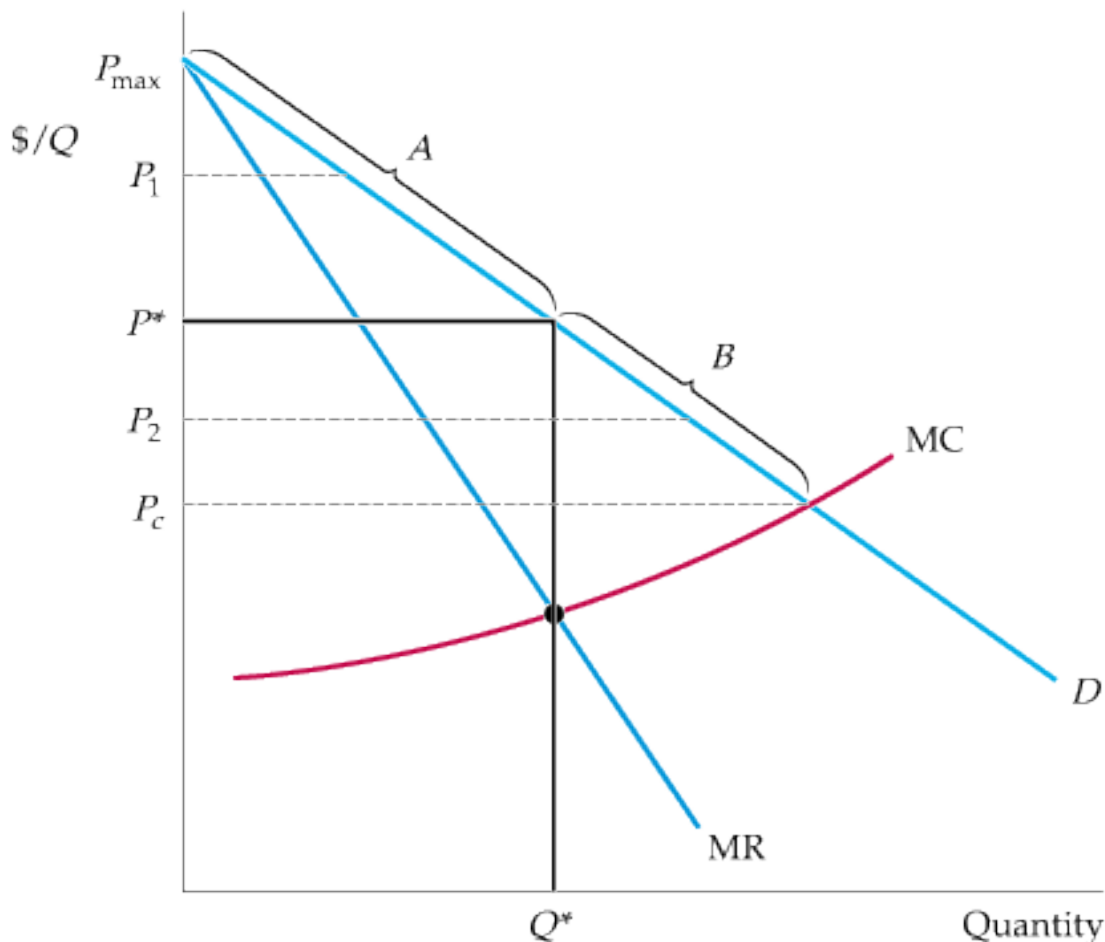
# 11.1 CAPTURING CONSUMER SURPLUS

## Capturing Consumer Surplus

If a monopolist can charge **only one price** for all customers, that price will be  $P^*$  and the quantity produced will be  $Q^*$ .

Ideally, the firm would like capture all consumer surplus in **A**, by **charging higher price** to consumers willing to pay (WTP) above  $P^*$ .

The firm would also like to sell to consumers willing to pay prices **lower than  $P^*$** , and capture **Triangle B**





## 11.2 PRICE DISCRIMINATION

### First-Degree Price Discrimination

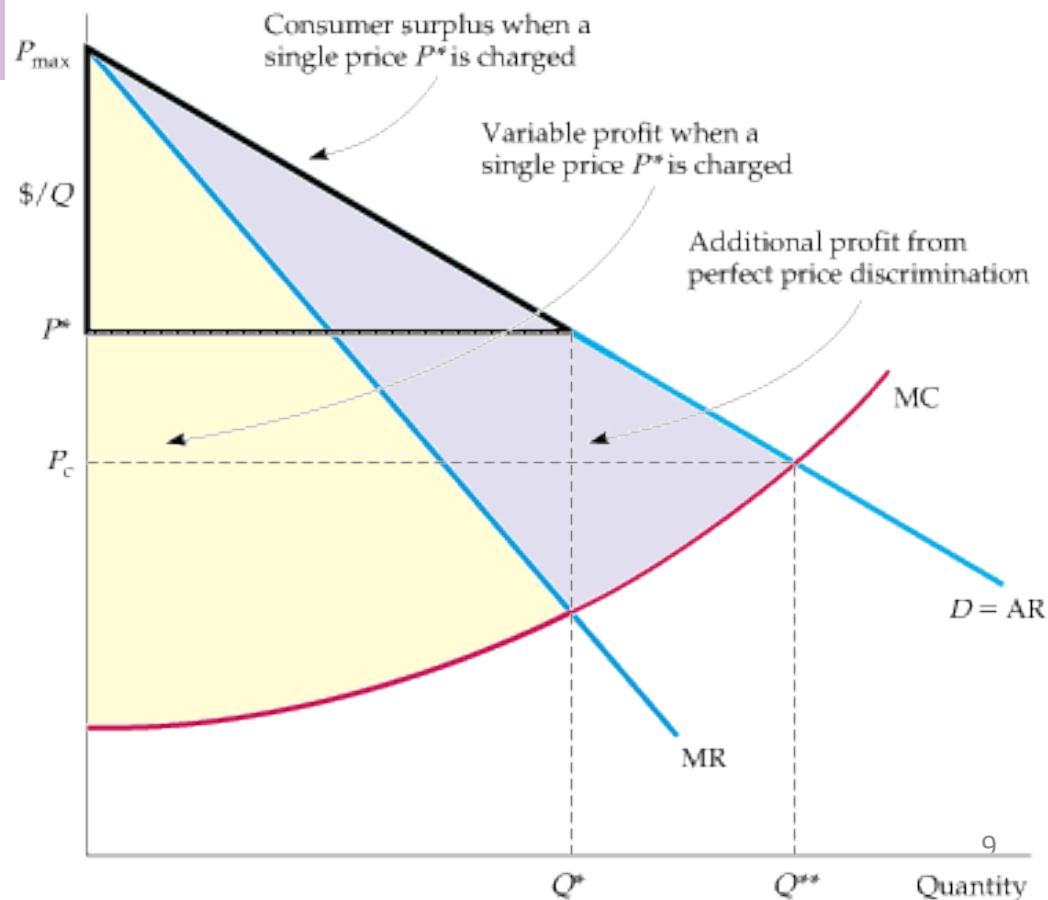
- **first-degree price discrimination** Practice of charging **each** customer **her reservation P**,
- **reservation price** = Max P a customer is WTP for a good).

#### Additional Profit from Perfect First-Degree Price Discrimination

Because the firm charges each consumer her reservation P, it is profitable to expand output to  $Q^{**}$  at  $P_c$ .

**When only a single price,  $P^*$** , is charged, the firm's variable profit is the **yellow area** between the MR and MC curves.

With perfect price discrimination, this **profit expands by** the area between AR (demand) and MC (**additional blue**)



## 11.2 PRICE DISCRIMINATION

### First-Degree Price Discrimination

#### Imperfect Price Discrimination

##### In practice:

- Firms usually don't know the reservation price of **each & every** consumer, but sometimes reservation prices can **be roughly identified**.

- And we get **imperfect** price discrimination - could be based on:  
**Geography, age, occupation, etc**

\* Study other types of discriminations, eg based on quantities

