

# BS2243 – Lecture 8

## Strategic pricing and price discrimination

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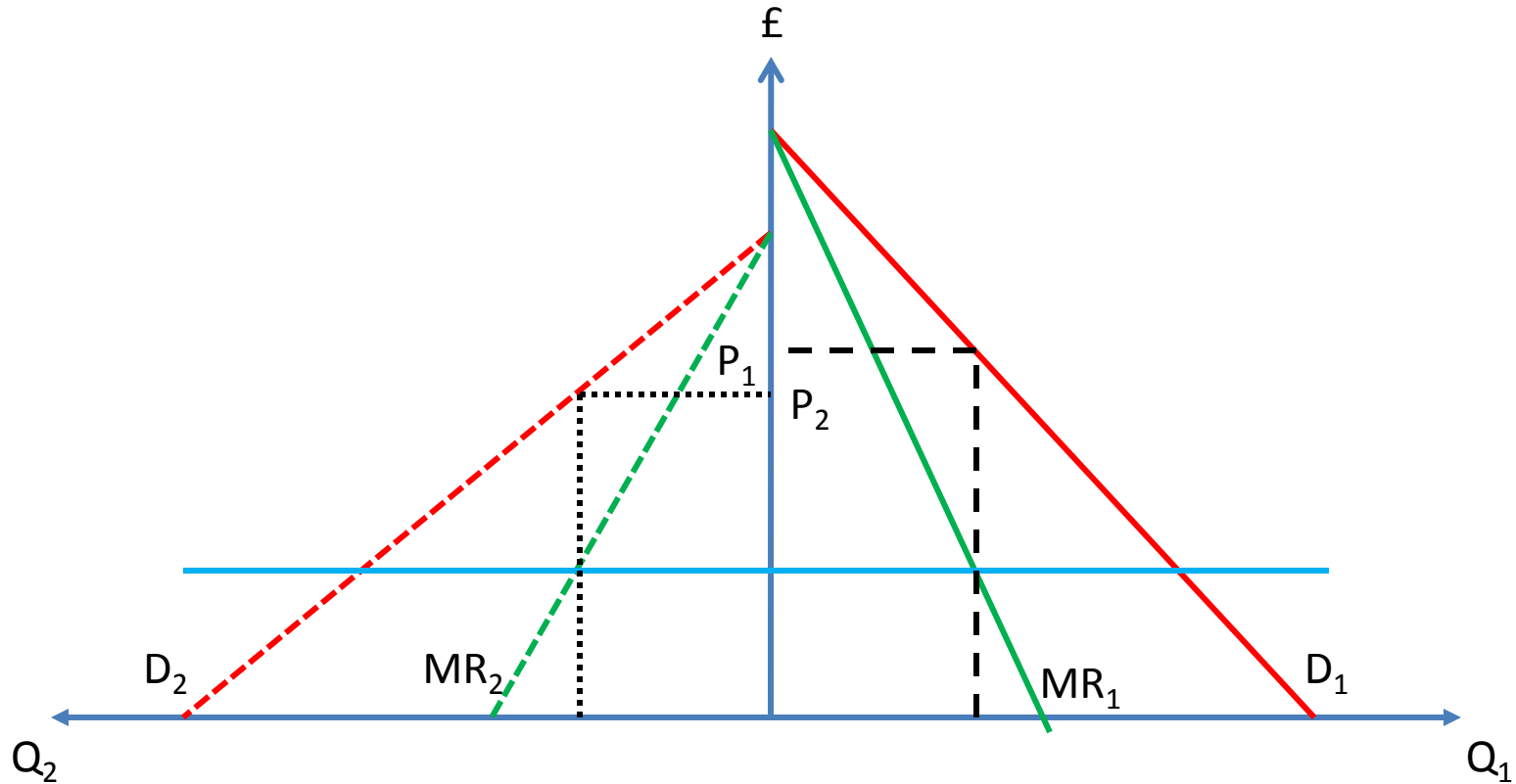
# Strategic pricing

- Simple price discrimination
- Two-part tariff
- Tie-in sales
- Quantity and quality choice

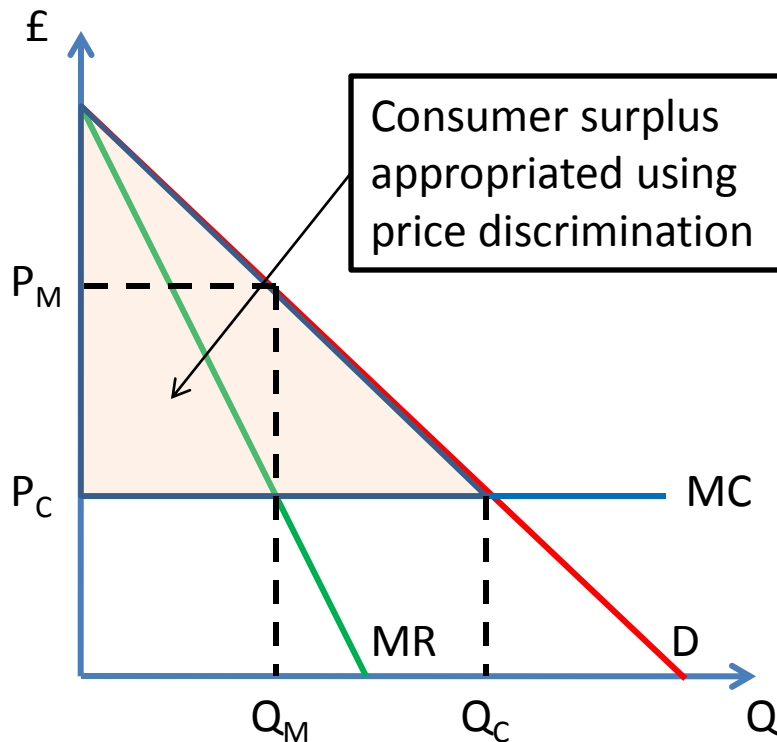
# Simple price discrimination - conditions

- Firm must have market power to set price
- Firm must be able to infer willingness to pay
- Firm must be able to prevent resales
  - Services
  - Warranties
  - “Adulteration” of product
  - Transactions cost
  - Government/contractual intervention

# Simple price discrimination – opportunity

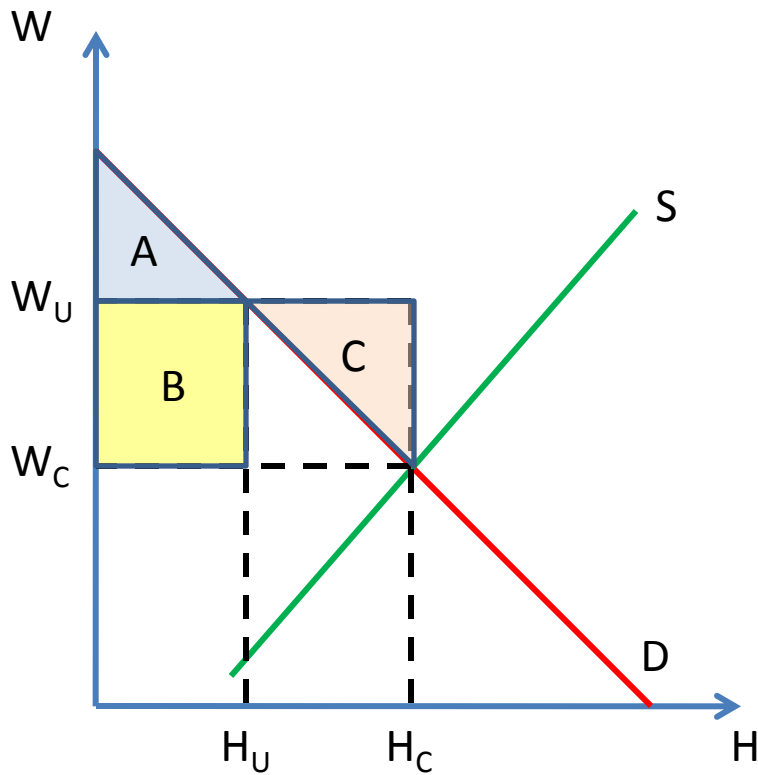


# Simple price discrimination – gains



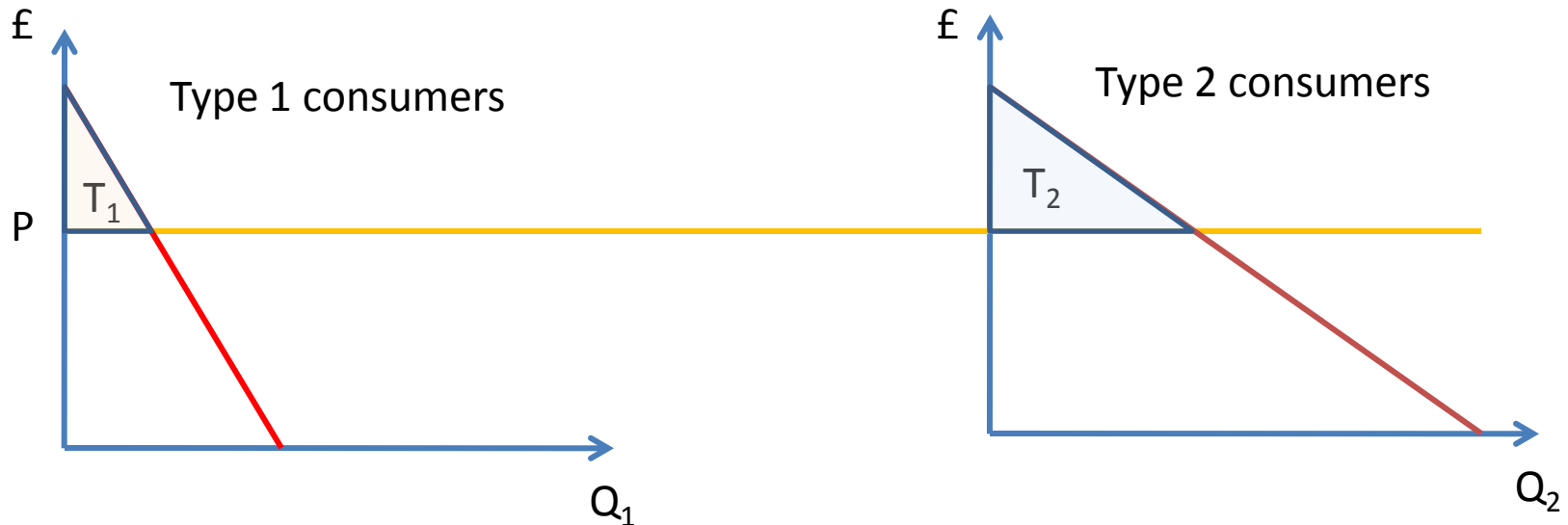
- Competition:  $(P_C, Q_C)$
- Monopoly:  $(P_M, Q_M)$
- Discriminating monopolist:
  - D is the MR curve
  - $MC = MR$  at  $Q_C$
  - Appropriates the consumer surplus generated in a competitive market

# Simple price discrimination – example



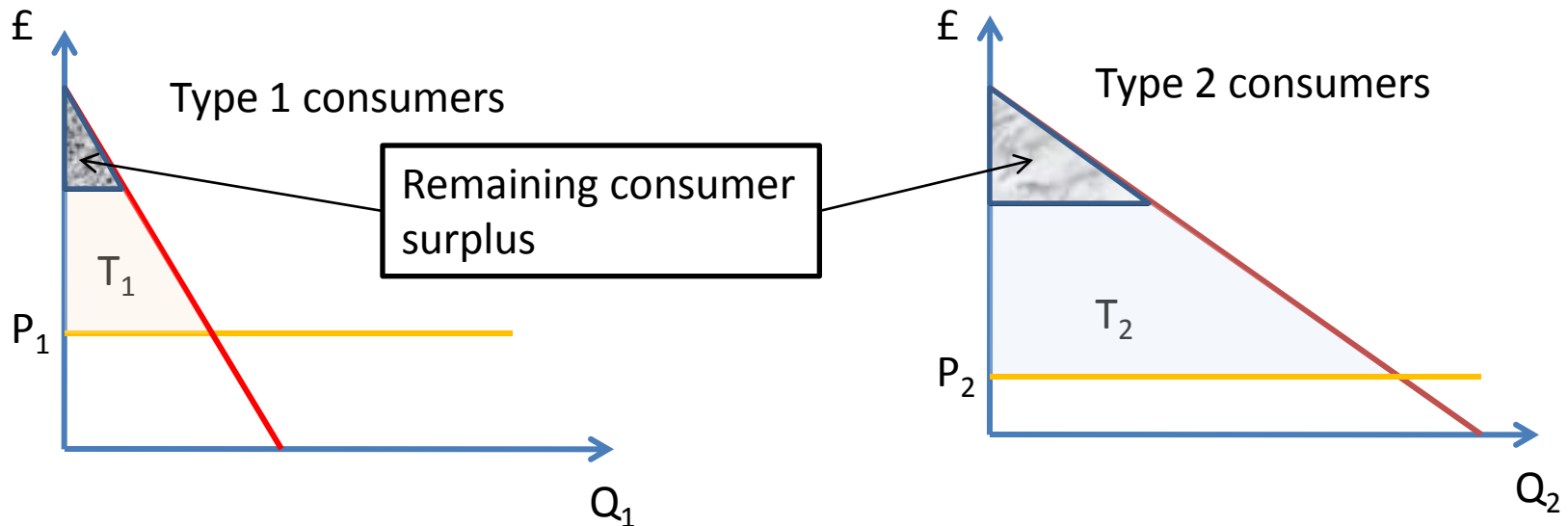
- Market:  $(W_C, H_C)$
- Unionised wage:  $W_U$
- Firm:
  - Benefits = A
  - Cost = C
  - A might equal C
- Union:
  - Benefits = B

# Two-part tariff – basics



- A fixed charge for one product and a marginal charge for another
- If the firm reduces price, it can charge a higher lump sum fee
- If it cannot distinguish between the two types of customers, it will not be able to charge more than  $T_1$  as lump sum fee
- Strategy would have two components: (1) the trade off between price and lump sum fee, and (2) whether or not to focus on Type 2 consumers only

# Two-part tariff – strategy



- The firm offers two combinations  $(T_1, P_1)$  and  $(T_2, P_2)$ :  $T_1 < T_2$  and  $P_1 > P_2$
- Type 1 consumers choose  $(T_1, P_1)$  because the lump sum fee is low and they do not lose all their consumer surplus
- Type 2 consumers choose  $(T_2, P_2)$  because the low price generates a lot of consumer surplus, not all of which is lost to the lump sum fee
- The consumers self select themselves, revealing their type to the firm

# Tie-in sales – justifications

- Efficiency
- Evade regulations
- Hidden price discounts
- Quality assurance

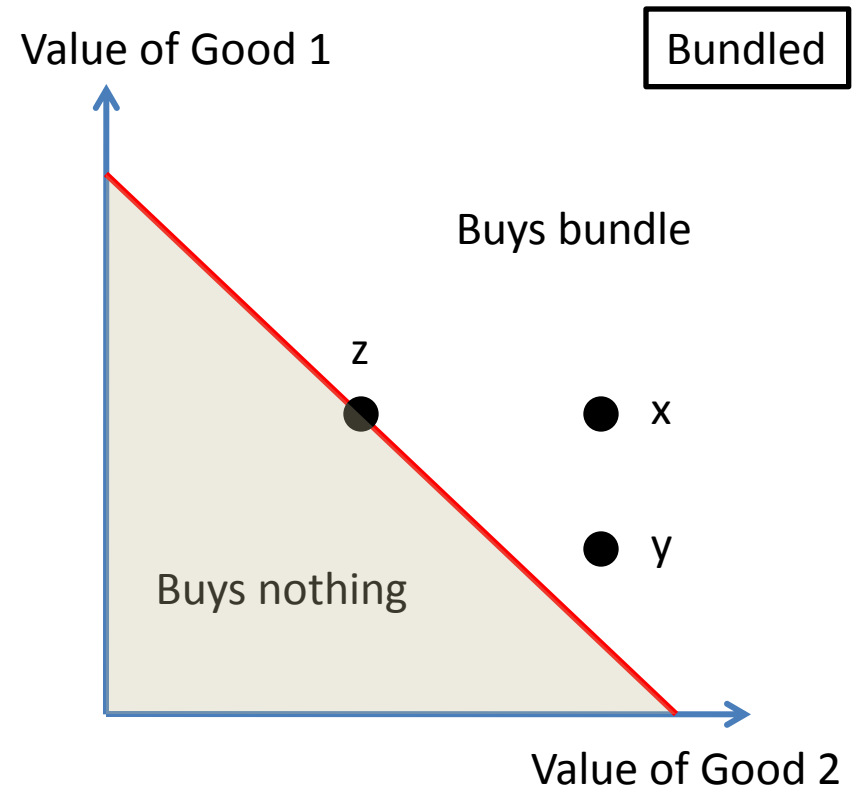
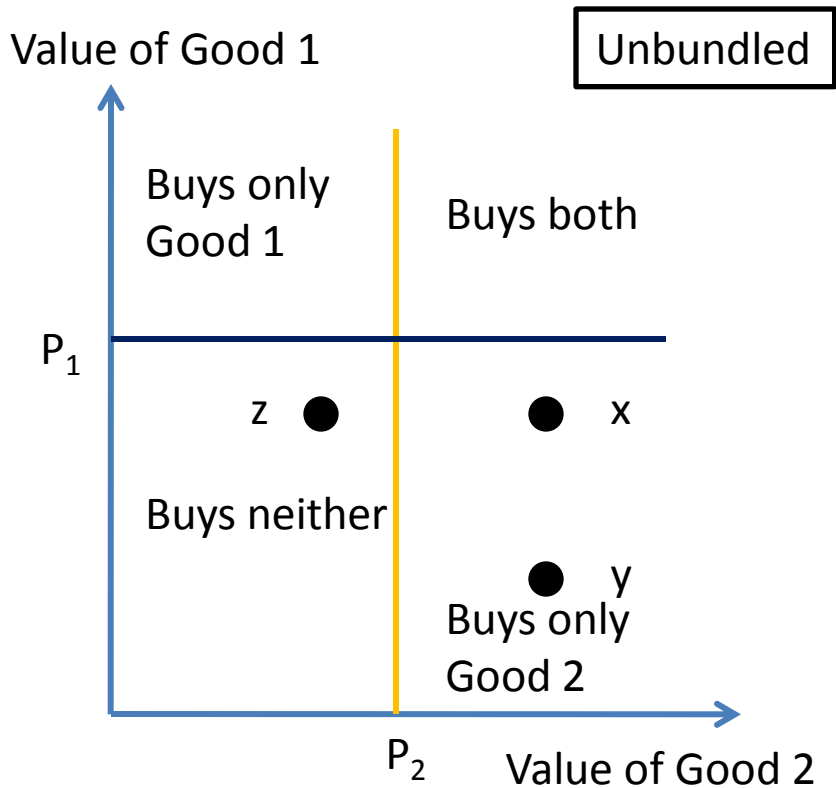
# Tie-in sales – monopolised products

	Type 1 consumers	Type 2 consumers
Amount willing to pay for Good A	£ 9,000	£ 10,000
Amount willing to pay for Good B	£ 3,000	£ 2,000
Amount willing to pay for Goods A and B	£ 12,000	£ 12,000
<i>Revenue from separate sales = <math>(9,000 \times 2) + (2,000 \times 2) = £22,000</math></i>		
<i>Revenue from tied-in sales = <math>(12,000 \times 2) = £24,000</math></i>		

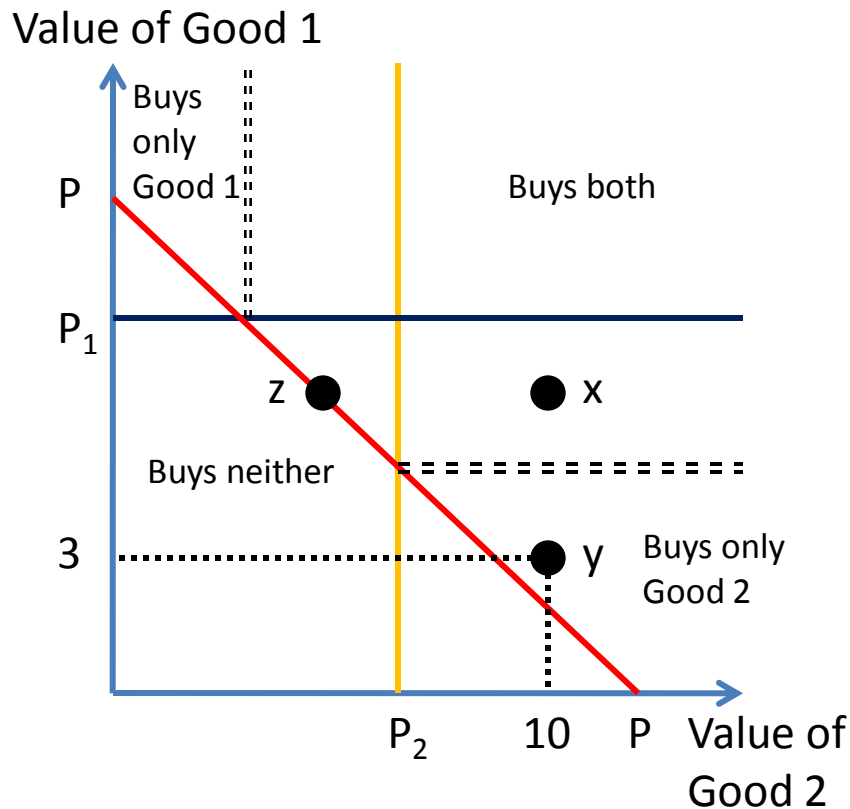
	Type 1 consumers	Type 2 consumers
Amount willing to pay for Good A	£ 9,000	£ 10,000
Amount willing to pay for Good B	£ 500	£ 2,000
Amount willing to pay for Goods A and B	£ 9,500	£ 12,000
<i>Revenue from separate sales = <math>(9,000 \times 2) + (500 \times 2) = £20,000</math></i>		
<i>Revenue from tied-in sales = <math>(9,500 \times 2) = £19,000</math></i>		

Lesson: Tie-in sales work when the willingness to pay for different goods is inversely correlated for different consumer types.

# Tie-in sales – mixed bundling – I



# Tie-in sales – mixed bundling – II



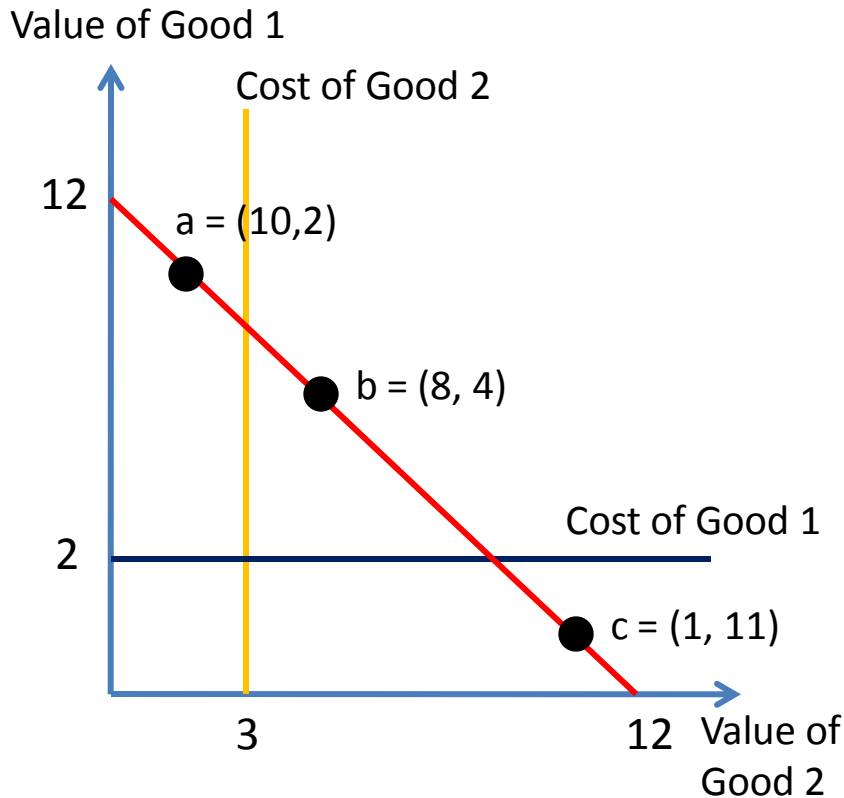
- Prices:  
 $P_1 = 8, P_2 = 8, P = 12$

## Consumers:

- At  $y (3, 10)$ :  
 CS of Good 2 =  $10 - 8 = 2$   
 CS of bundle =  $13 - 12 = 1$   
 Buy only Good 2
- At  $x (6, 10)$ :  
 CS of Good 2 =  $10 - 8 = 2$   
 CS of bundle =  $16 - 12 = 4$   
 Buys fixed price bundle

Mixed bundling

# Tie-in sales – mixed bundling – III



- Three types of consumers:  $a, b, c$
- Cost:  
Good 1 = 2, Good 2 = 3
- Pricing separately:  
 $P_1 = 8$ , Profit =  $(8 - 2) \times 2 = 12$   
 $P_2 = 11$ , Profit =  $(11 - 3) = 8$   
Total profit = 20
- Bundling:  
 $P = 12$ , Profit =  $(12 - 5) \times 3 = 21$
- Mixed bundling:  
 $P_1 = 9.99$ ,  $P_2 = 10.99$ ,  $P = 12$   
 $a$  buys only Good 1,  $b$  buys bundle,  $c$  buys only Good 2  
Profit =  $7.99$  (from  $a$ ) +  $7$  (from  $b$ ) +  $7.99$  (from  $c$ )  
= 22.98

Mixed bundling

# Quantity and quality choice

- Purchasing a minimum quantity
- Selection of price schedules before demand is realised
- Premium for priority
- Auctions
- Quality choice