THEME 2
THE FUNCTIONING OF MARKETS AND ALLOCATIVE ROLE OF GOVERNMENT

OVERVIEW THEME 2

THE FUNCTIONING OF MARKETS AND ALLOCATIVE ROLE OF GOVERNMENT

- Price mechanism in non-competitive markets: monopoly, oligopoly and monopolistic competition
- Government measures to adjust for market failures: externalities, asymmetric information and market power
- Public goods

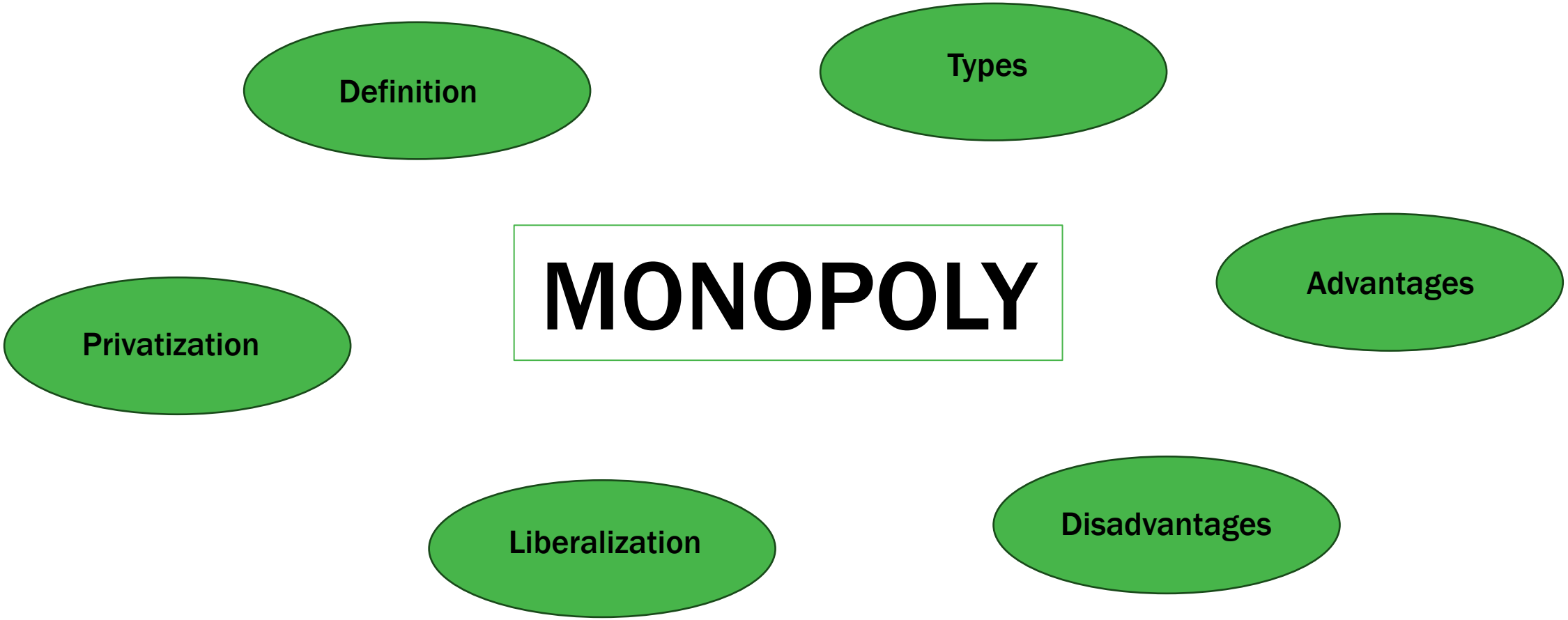
CHAPTER 1: PRICE MECHANISM IN NON-COMPETITIVE MARKETS: MONOPOLY, OLIGOPOLY AND MONOPOLISTIC COMPETITION

1. Price mechanism in monopoly
2. Price mechanism in oligopoly
3. Price mechanism in monopolistic competition

1. PRICE MECHANISM IN MONOPOLY

WHAT IS A MONOPOLY?

FLASHBACK



MONOPOLY PRICING

Principles of monopolistic price-setting

- No competition >>> monopolist is price-setter or price-maker
- Like any supplier, monopolist aim to maximize profit

  MR = MC
- Since there are no alternatives, consumer demand tends to be inelastic

De Lijn is increasing its prices by an average of 4.2 per cent in February

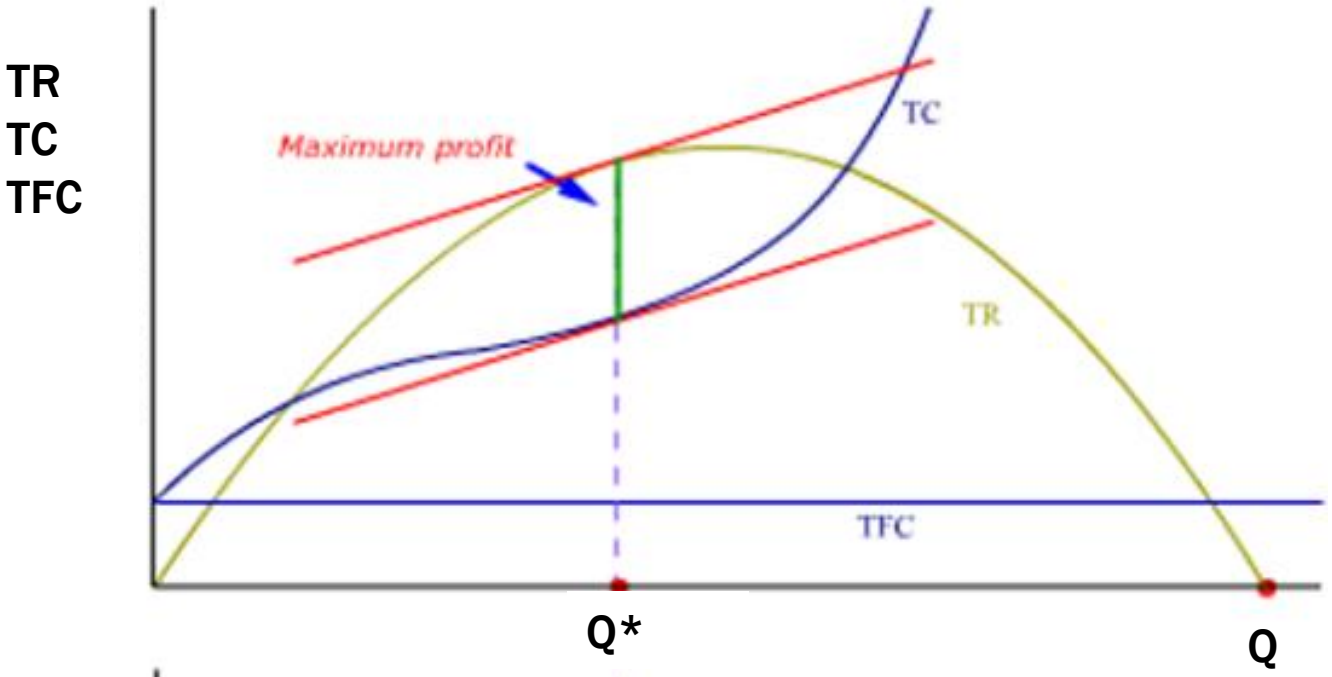
The fares for travelling by bus or tram with De Lijn will increase by an average of 4.2 % in February. Season tickets and multi-trip tickets in particular will become more expensive. This was announced by the Flemish public transport company on Friday.

'De Lijn has autonomy over its fares,' says Flemish Minister of Mobility Annick De Ridder (N-VA) in De Lijn's press release.

'It is only logical that the fares should evolve in line with the index, something that never happened in the previous legislature.'

..... monopoly

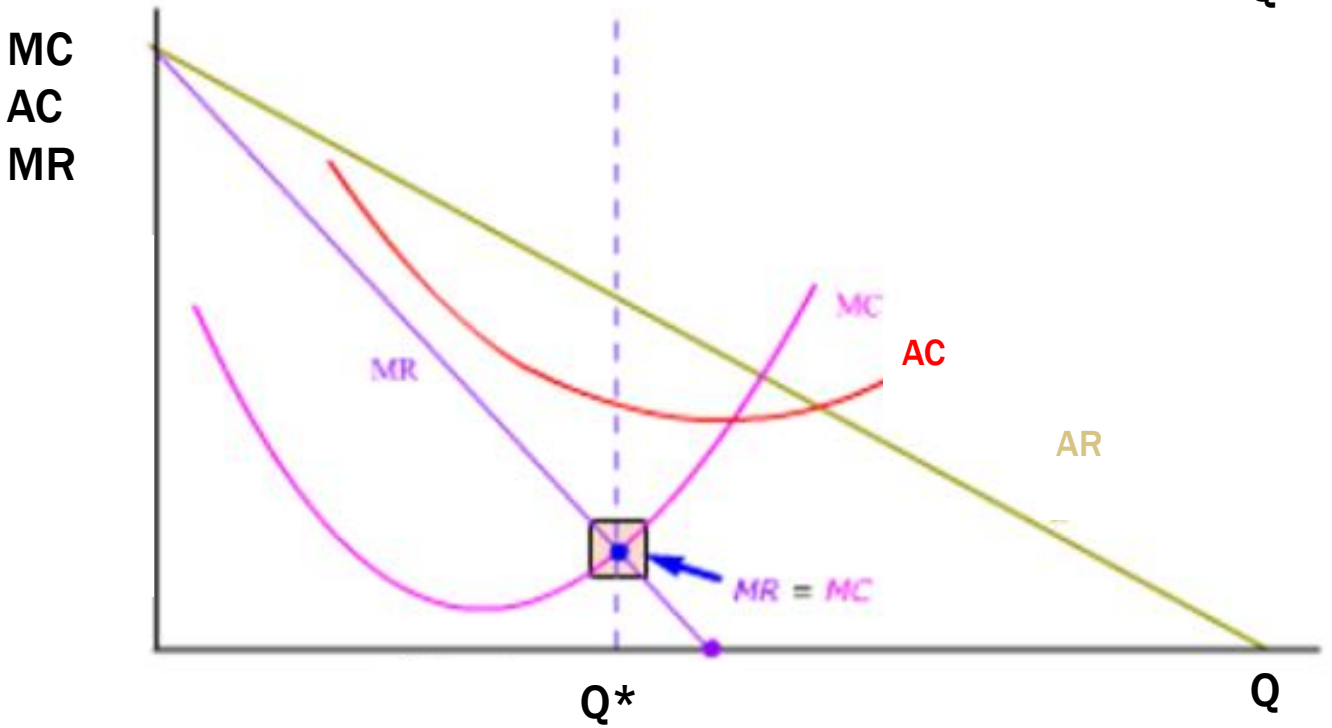
Meaning?



P is not constant (unlike perfect competition) >>>
TR is not a straight line

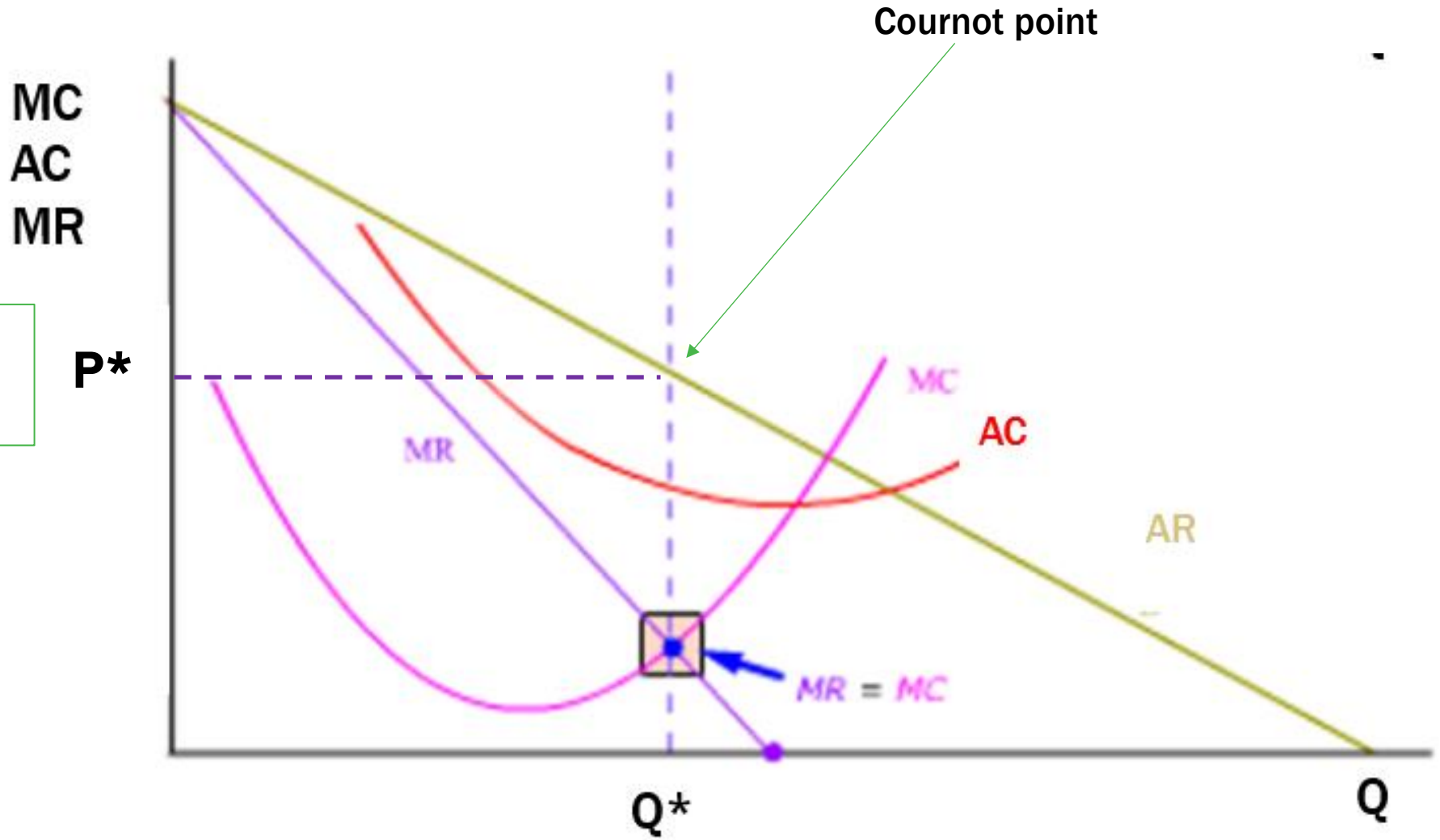
TC = TFC + variable part

maximum profit in Q*



P is not constant (unlike perfect competition) >>>
MR and AR are not horizontal

maximum profit in Q*



P* =
optimal price

Q* = optimal (production) quantity

(NL) IETS OVER AFGELEIDEN

De afgeleide van een functie is de richtingscoëfficiënt van de raaklijn in een punt van die functie.

Afgeleide van TR = MR **=** *Afgeleide van TC = MC*

Rekenregel voor afgeleide:

$f(x) = a\,x^2 + b\,x + c \quad >>> \quad d\,f(x) = 2\,a\,x + b$

Voorbeelden:

$f(x) = 3x^2 + 2x + 5 \quad >>> \quad d\,f(x) = 6x + 2$

$f(x) = -x^2 + 4x \quad >>> \quad d\,f(x) = -2x + 4$

$f(x) = 4x^2 - 3x + 12 \quad >>> \quad d\,f(x) = 8x - 3$

$f(x) = -2x^2 + 6x - 3 \quad >>> \quad d\,f(x) = -4x + 6$

MATHEMATICAL ANALYSIS: EXAMPLE

DATA:

Imagine a shop named BIGSTUFF has a monopoly in bike helmets.
Cost function: $TC = 20Q^2$
Demand function: $P = 210 - Q$

P in €
Q in units

QUESTION:

Calculate the optimal quantity, optimal price and maximum profit!

STEP 1: calculate TR

TR = P * Q = AR * Q

TR = (210 – Q) * Q

TR = $210Q - Q^2$

STEP 2: calculate MR

MR = first derivative of TR

MR = $d(210Q - Q^2)$

MR = 210 – 2Q

STEP 3: calculate MC

MC = first derivative of TC

MC = $d(20Q^2)$

MC = 40Q

STEP 4: calculate optimal quantity

MC = MR

40Q = 210 - 2Q

42Q = 210

Q = 5

STEP 5: calculate optimal price

$P = AR = 210 - Q$

$P = \quad 210 - 5$

$P = \quad €205$

STEP 6: calculate optimal profit

$TP = \quad TR - TC$

$TP = \quad 210Q - Q^2 - 20Q^2$

$TP = \quad (210 * 5) - 25 - (20 * 25) = \quad €525$

MATHEMATICAL ANALYSIS: EXERCISE

DATA:

Imagine a business named SUNBEACH has a monopoly in beach chairs.
Cost function: $TC = 30 + 2Q^2$
Demand function: $P = 180 - 4Q$

P in €
Q in units

QUESTION:

Calculate the optimal quantity, optimal price and maximum profit!

STEP 1: calculate TR

STEP 3: calculate MC

STEP 2: calculate MR

STEP 4: calculate optimal quantity

STEP 5: calculate optimal price

STEP 6: calculate optimal profit