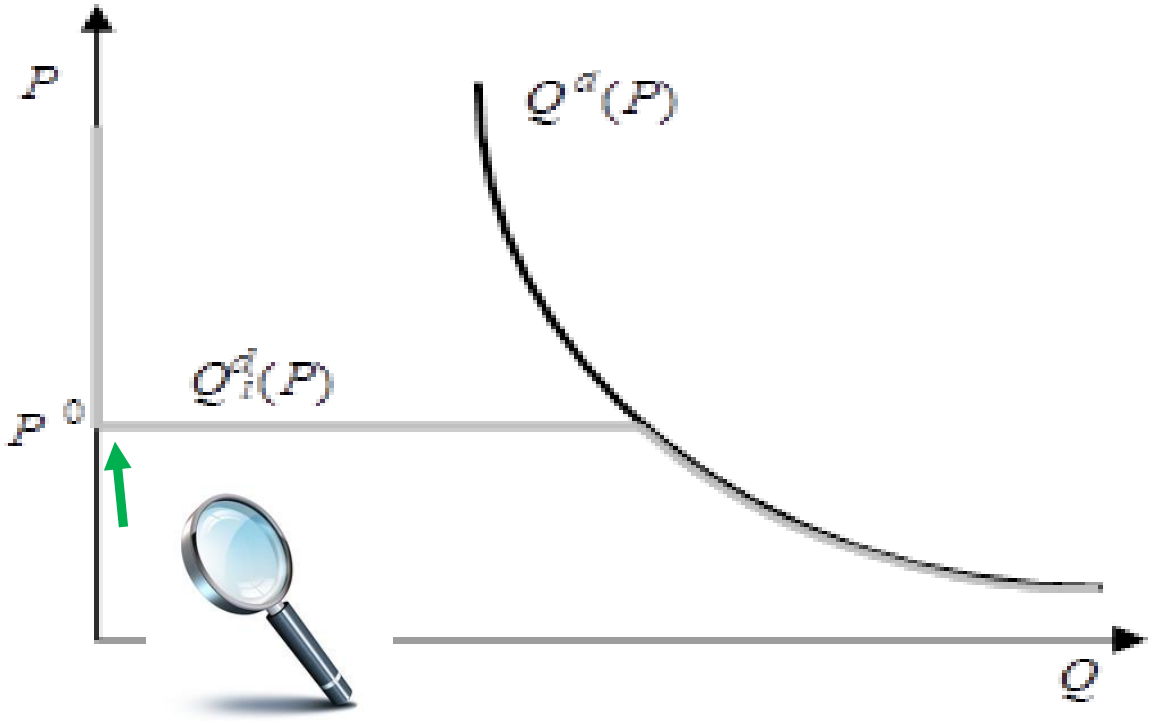
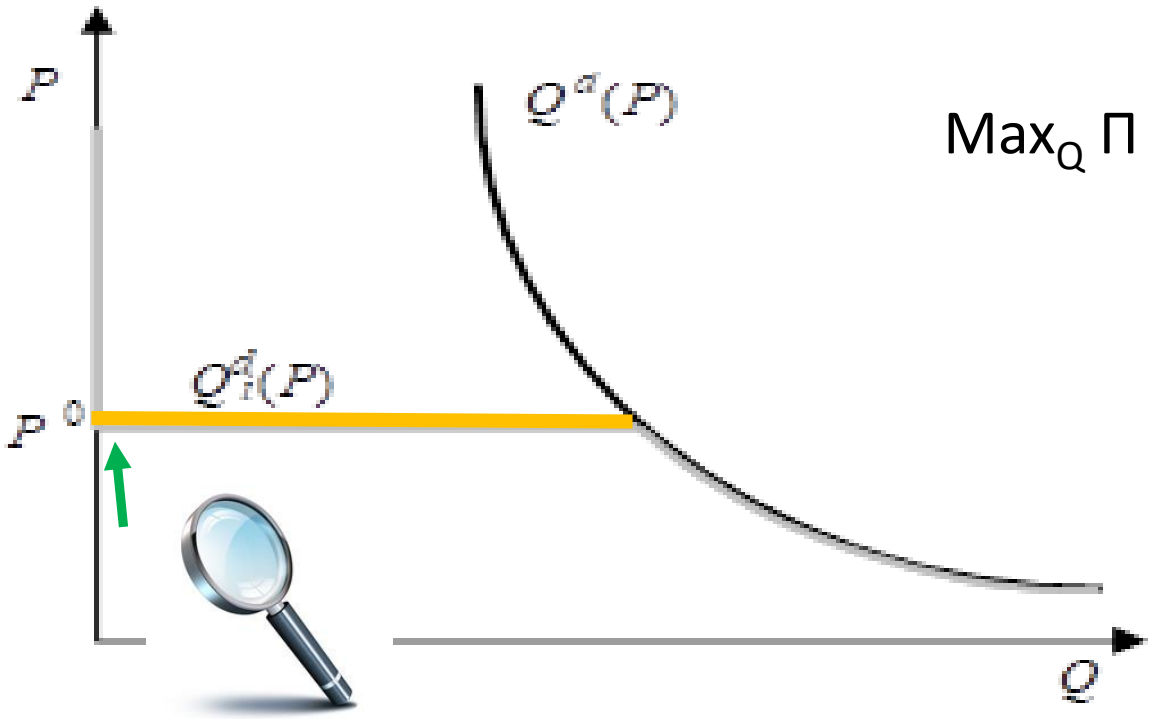
The perceived demand curve of the firm in PC

PS:
Where does P° come from?



The demand curve of the PC single firm

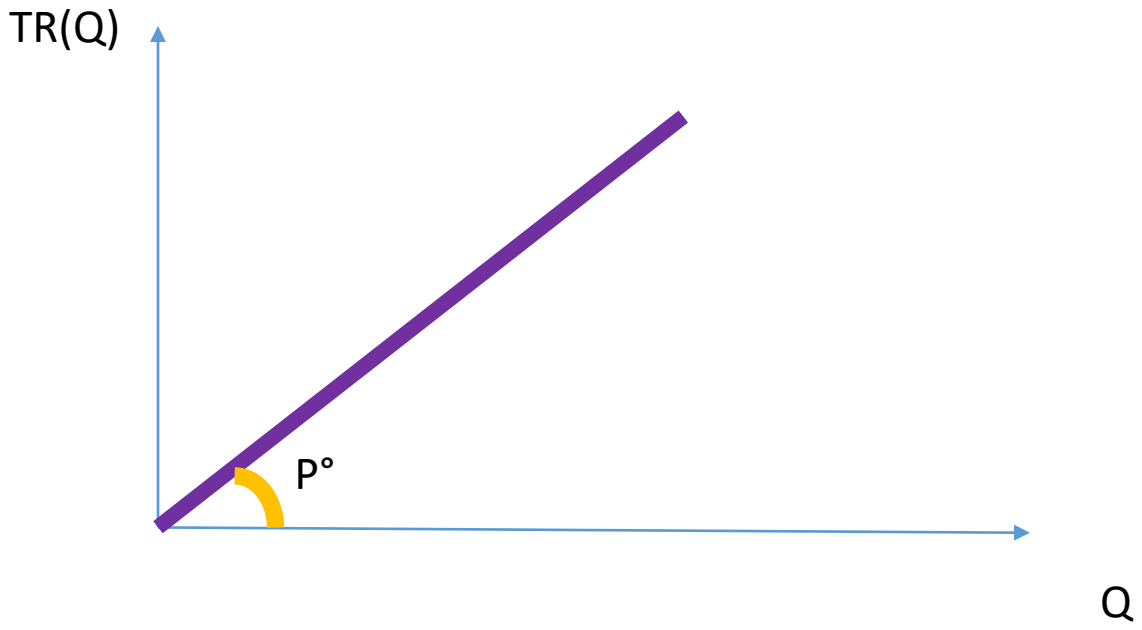
$$\underset{Q}{\text{Max}}\,\Pi\,(Q) = TR(Q) - TC(Q)$$



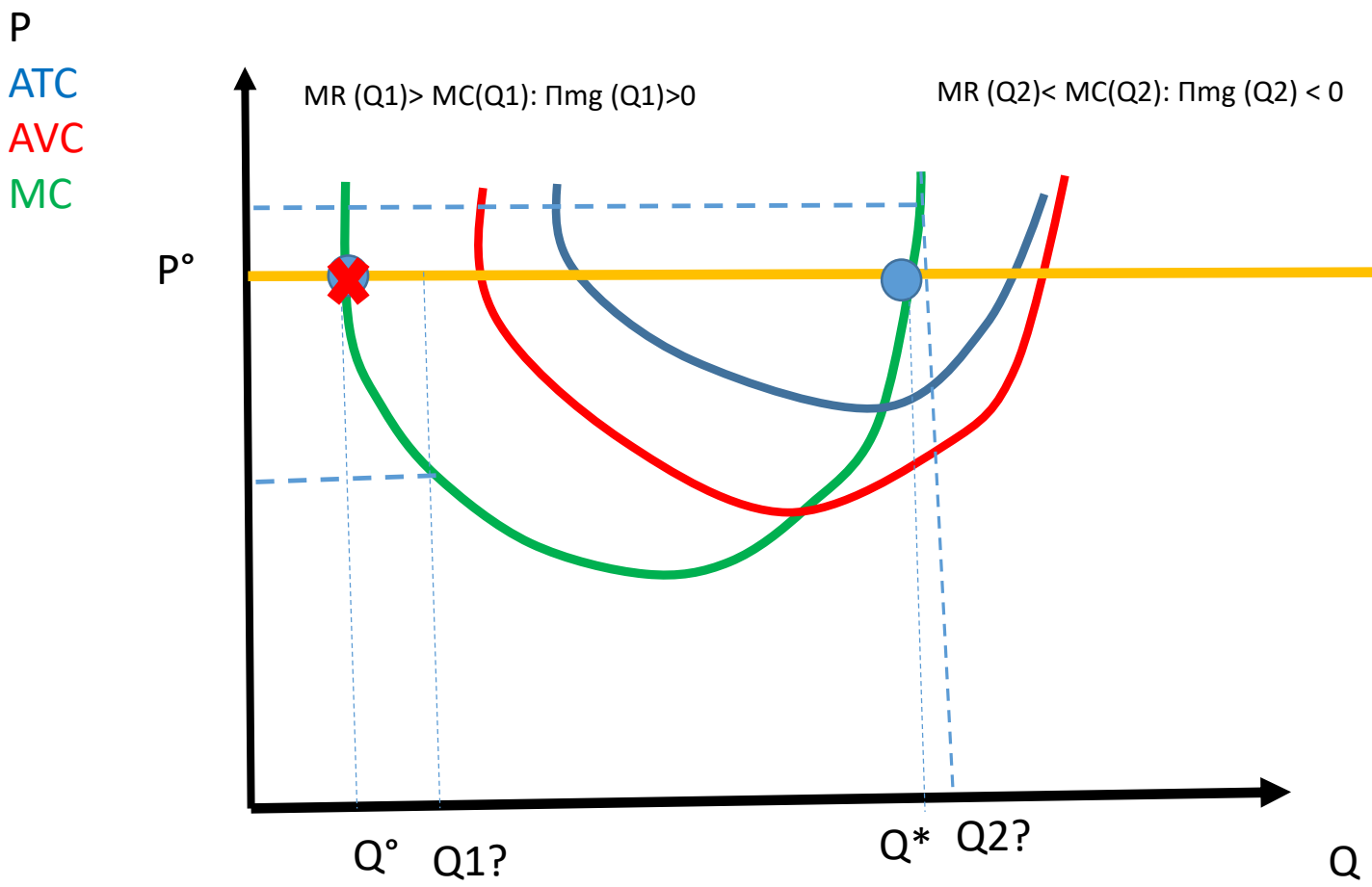
Max_Q Π (Q) = P° **Q** – TC (**Q**)

PS:
Where is the Marginal Revenue function?

MR and TR in PC



P° and the first point on the ST supply curve

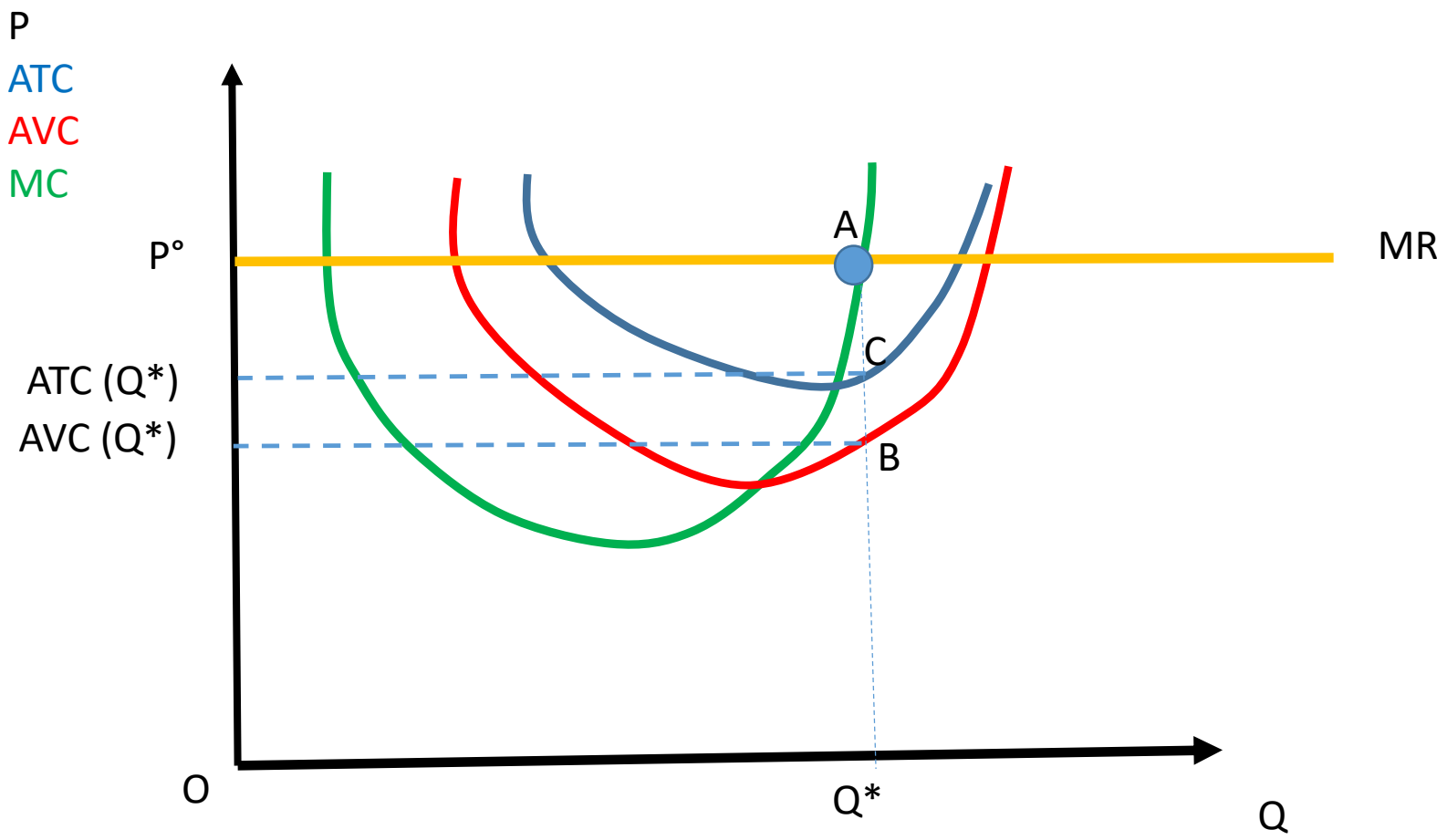


$Max_Q \Pi(Q) = P^\circ \mathbf{Q} - TC(\mathbf{Q})$

$MC(Q^*) = MR(Q^*)$

$(\delta TC/\delta Q) = P^\circ$

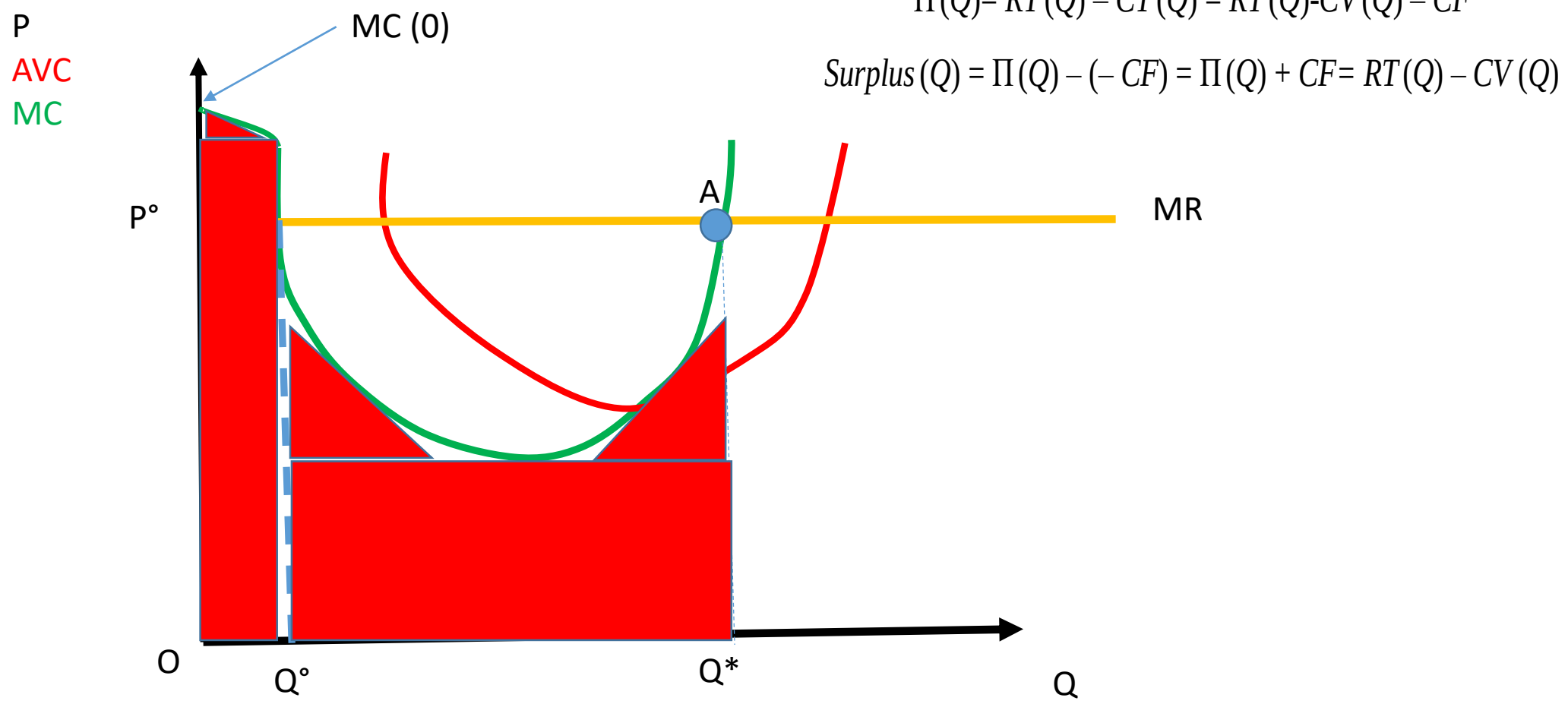
Economic and accounting profits: where are they?



Economic profits: where are they?

$$\Pi(Q) = RT(Q) - CT(Q) = RT(Q) - CV(Q) - CF$$

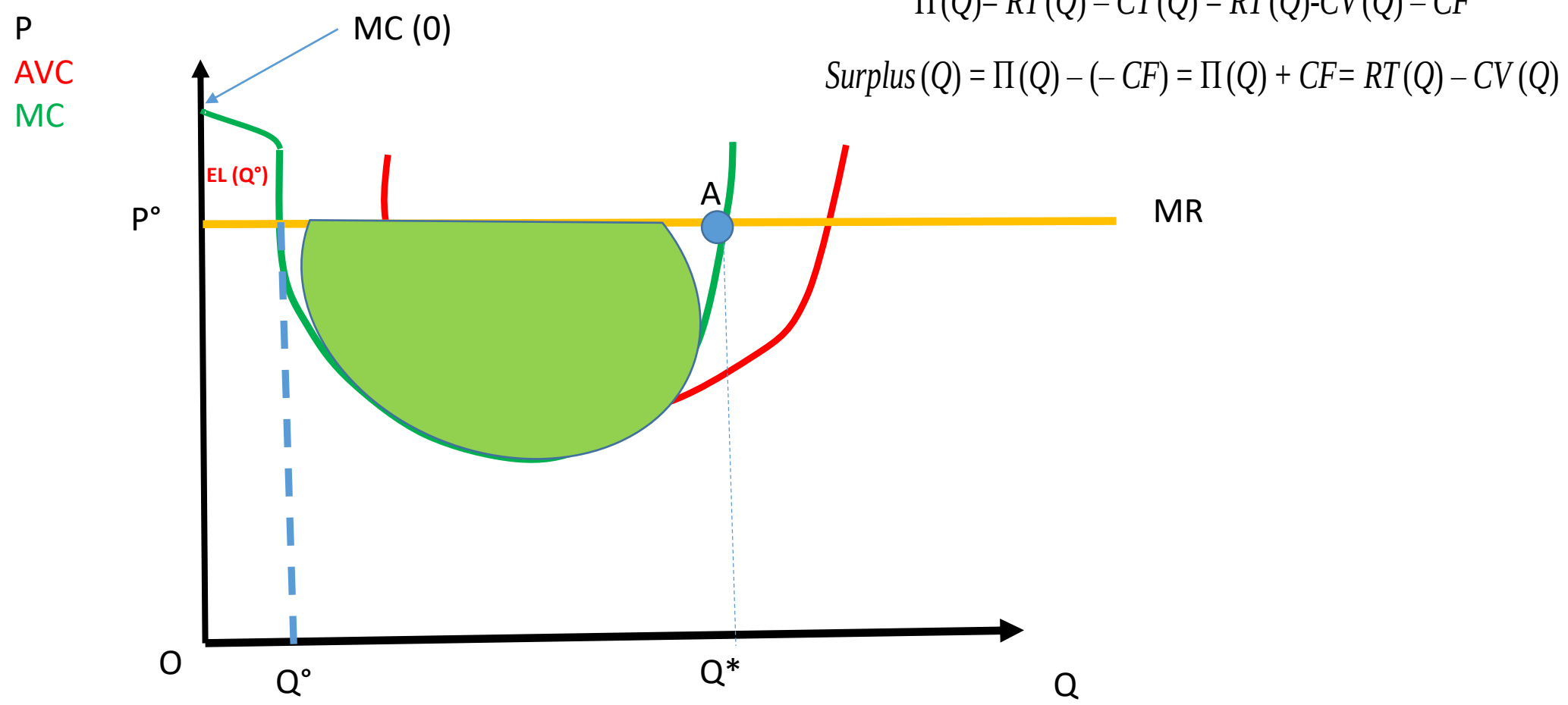
$$Surplus(Q) = \Pi(Q) - (-CF) = \Pi(Q) + CF = RT(Q) - CV(Q)$$



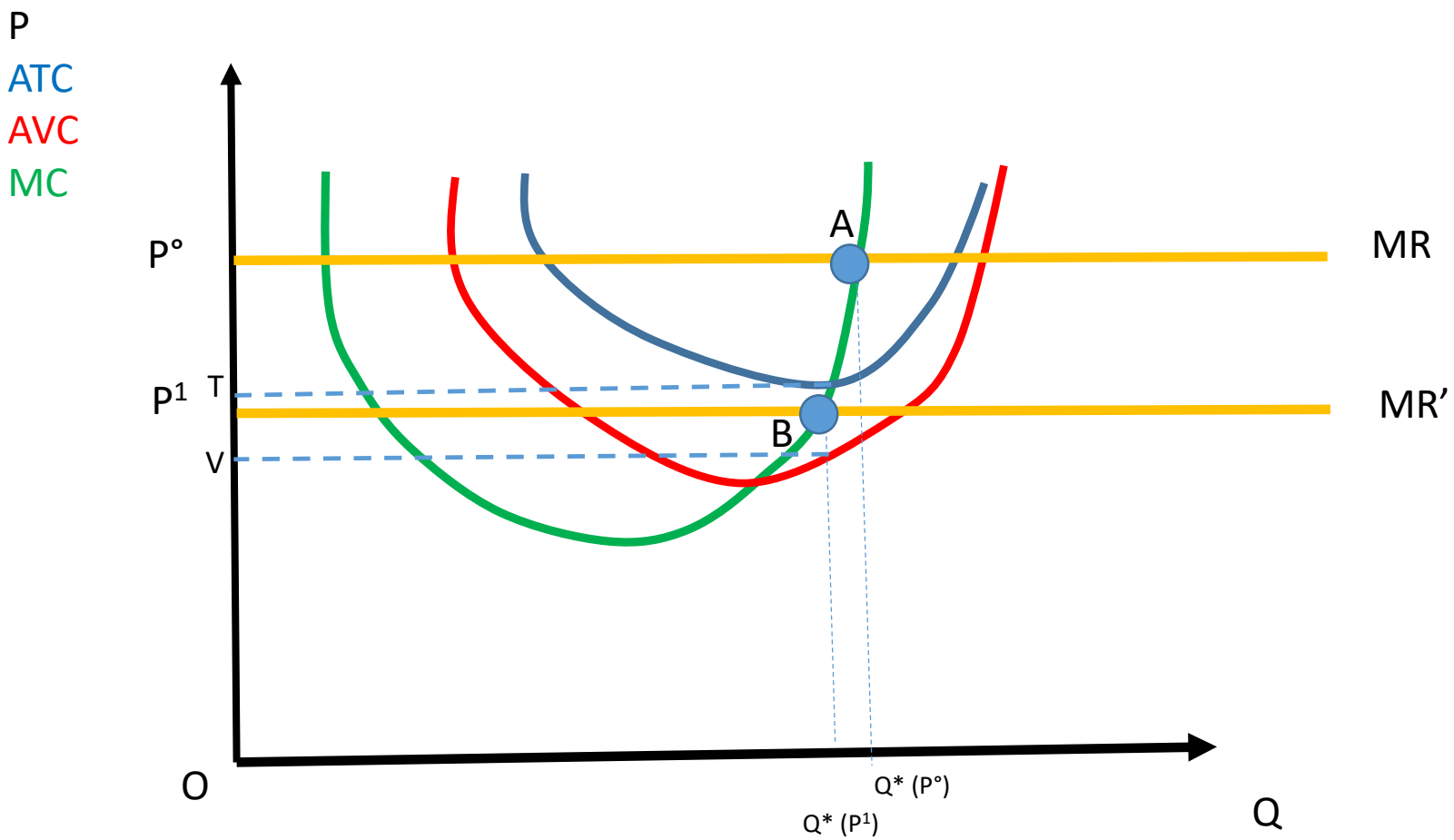
Economic profits: where are they?

$$\Pi(Q) = RT(Q) - CT(Q) = RT(Q) - CV(Q) - CF$$

$$Surplus(Q) = \Pi(Q) - (-CF) = \Pi(Q) + CF = RT(Q) - CV(Q)$$



New price P1

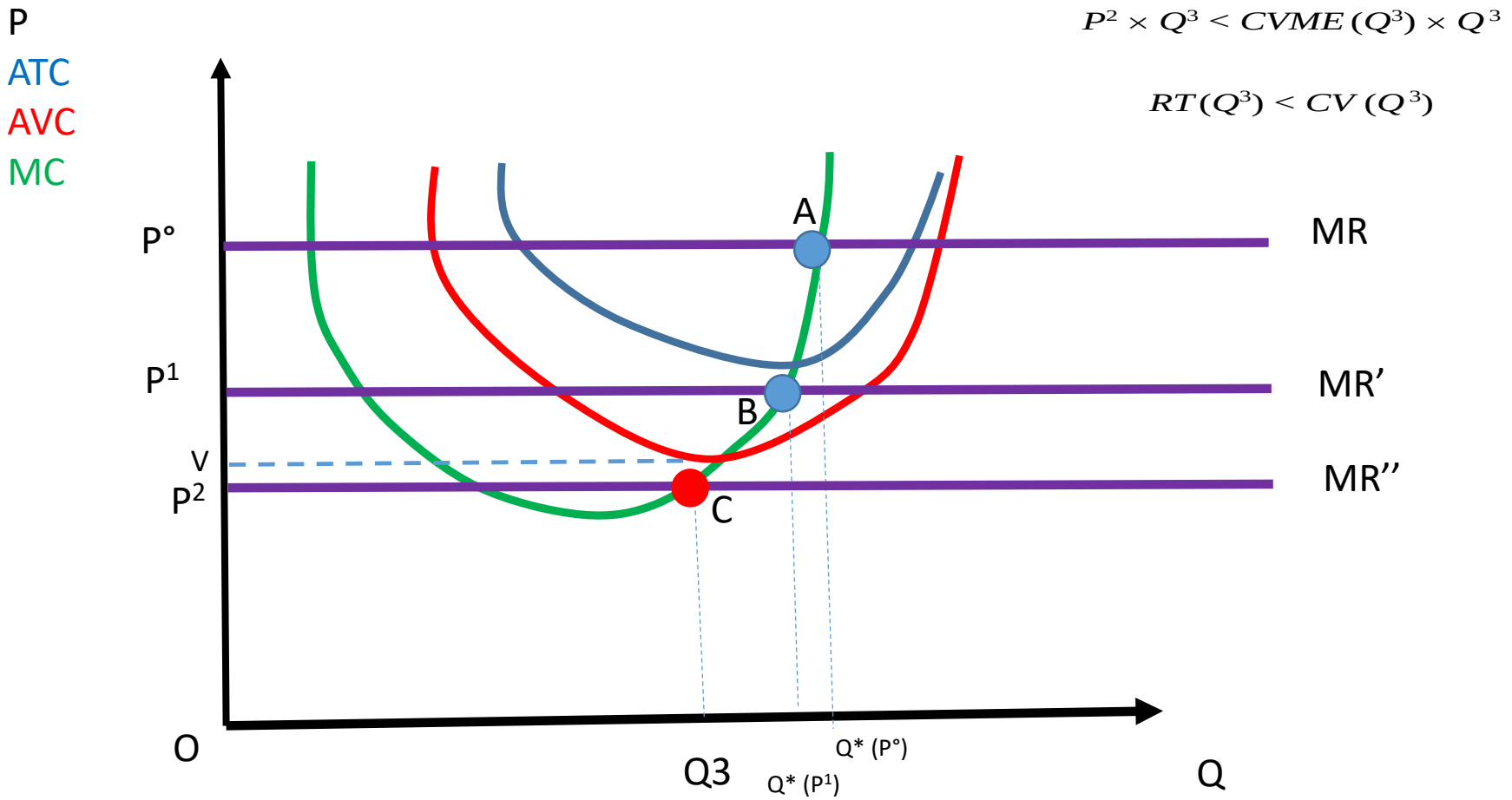


New price P2

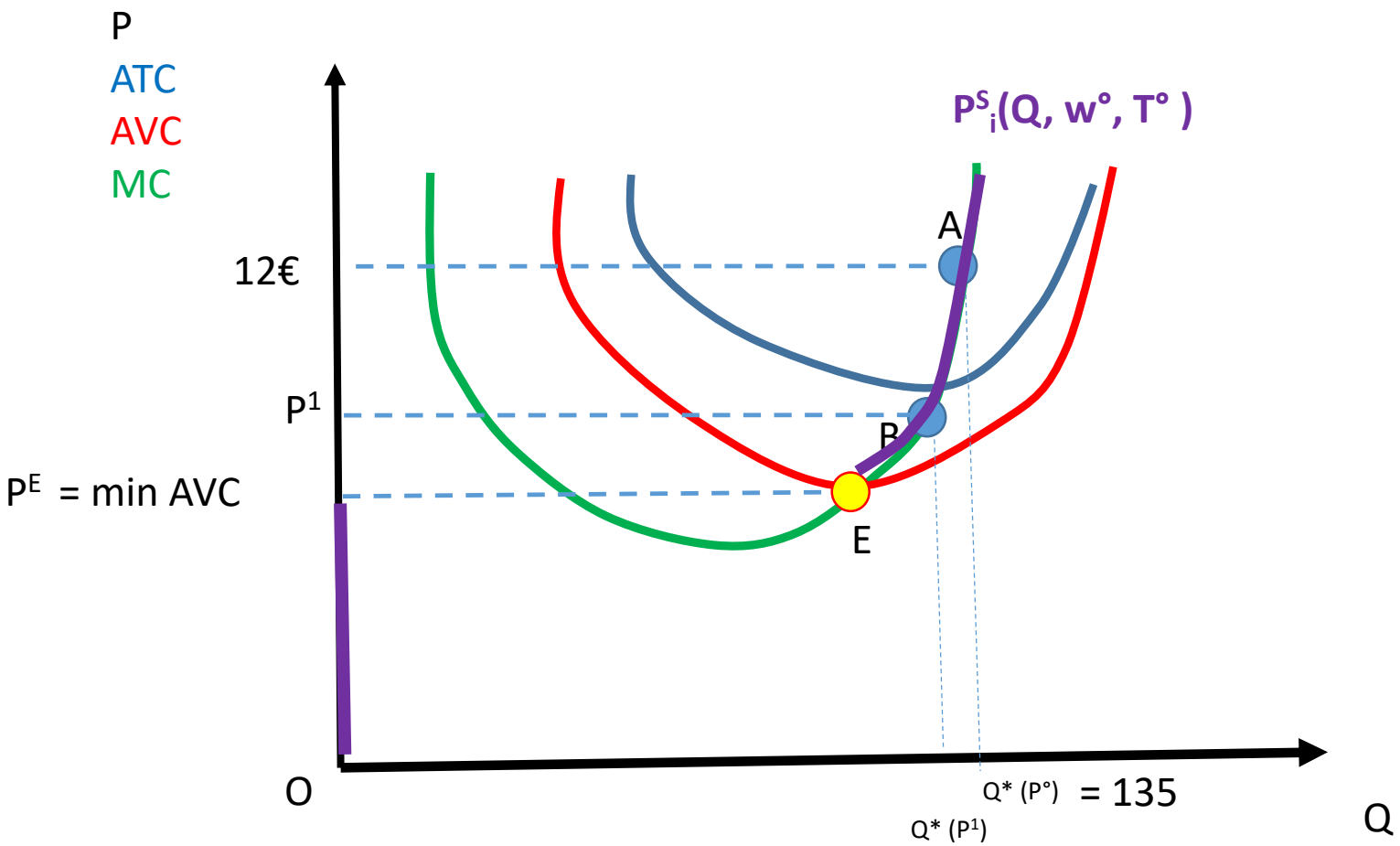
$$P^2 < CVME(Q^3)$$

$$P^2 \times Q^3 < CVME(Q^3) \times Q^3$$

$$RT(Q^3) < CV(Q^3)$$



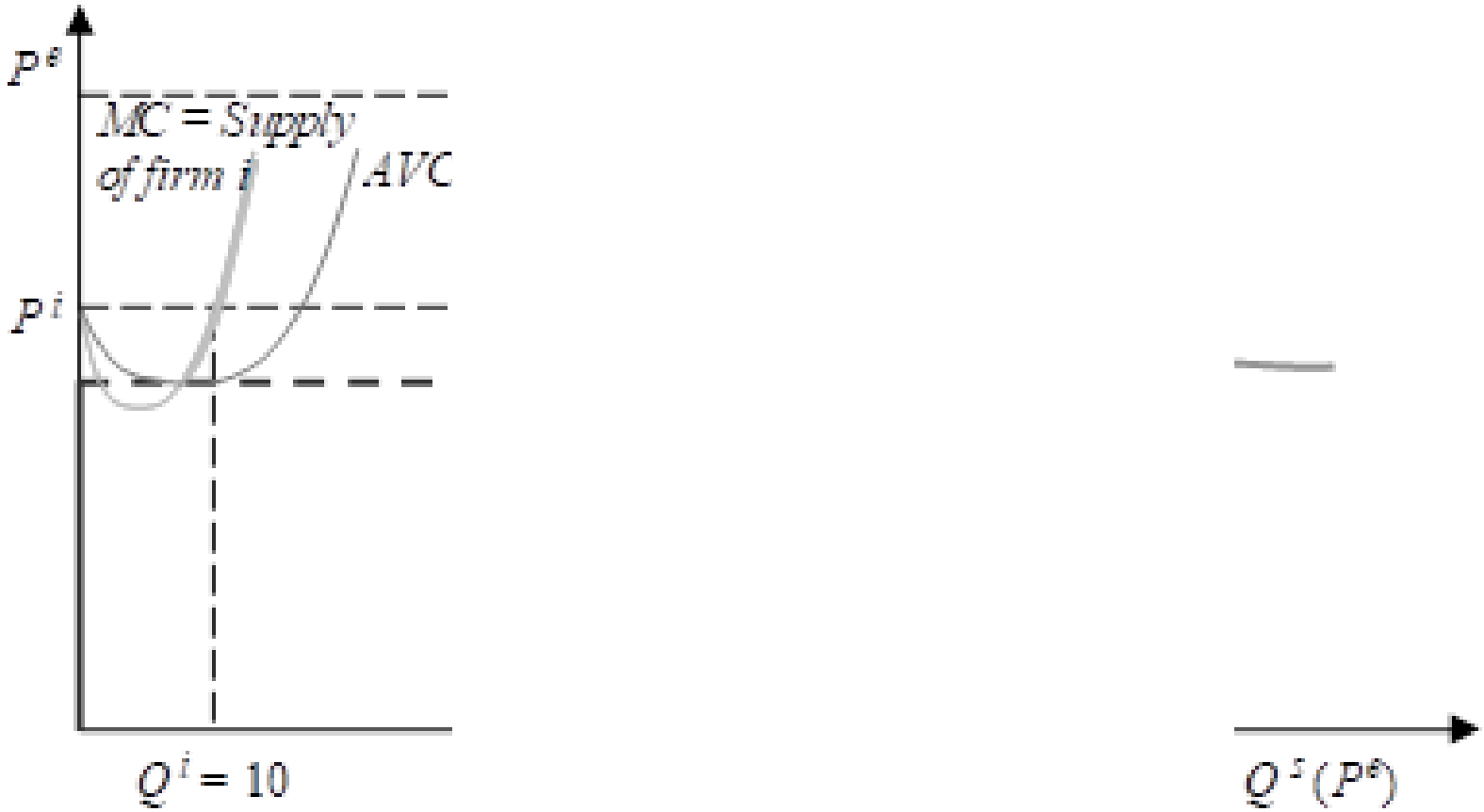
Exit Point and the supply curve of firm «i»



From the x to the y axis:
Marginal Cost curve
The 135th unit costs 12 € for the firm

From the y to the x axis:
Supply curve of firm «i»
At the price of 12 € the firm **desires** to supply 135 units.

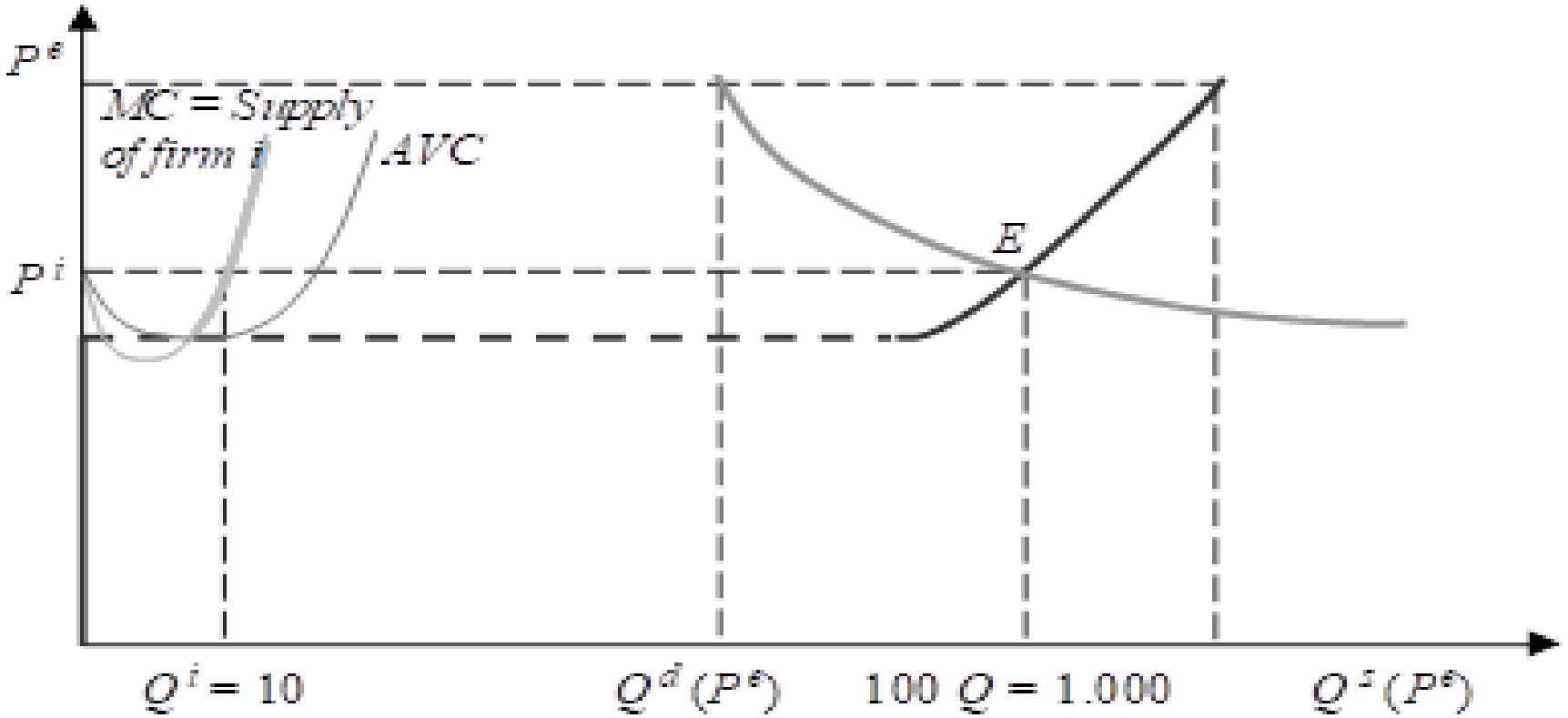
The ST supply curve of the industry - Case 1



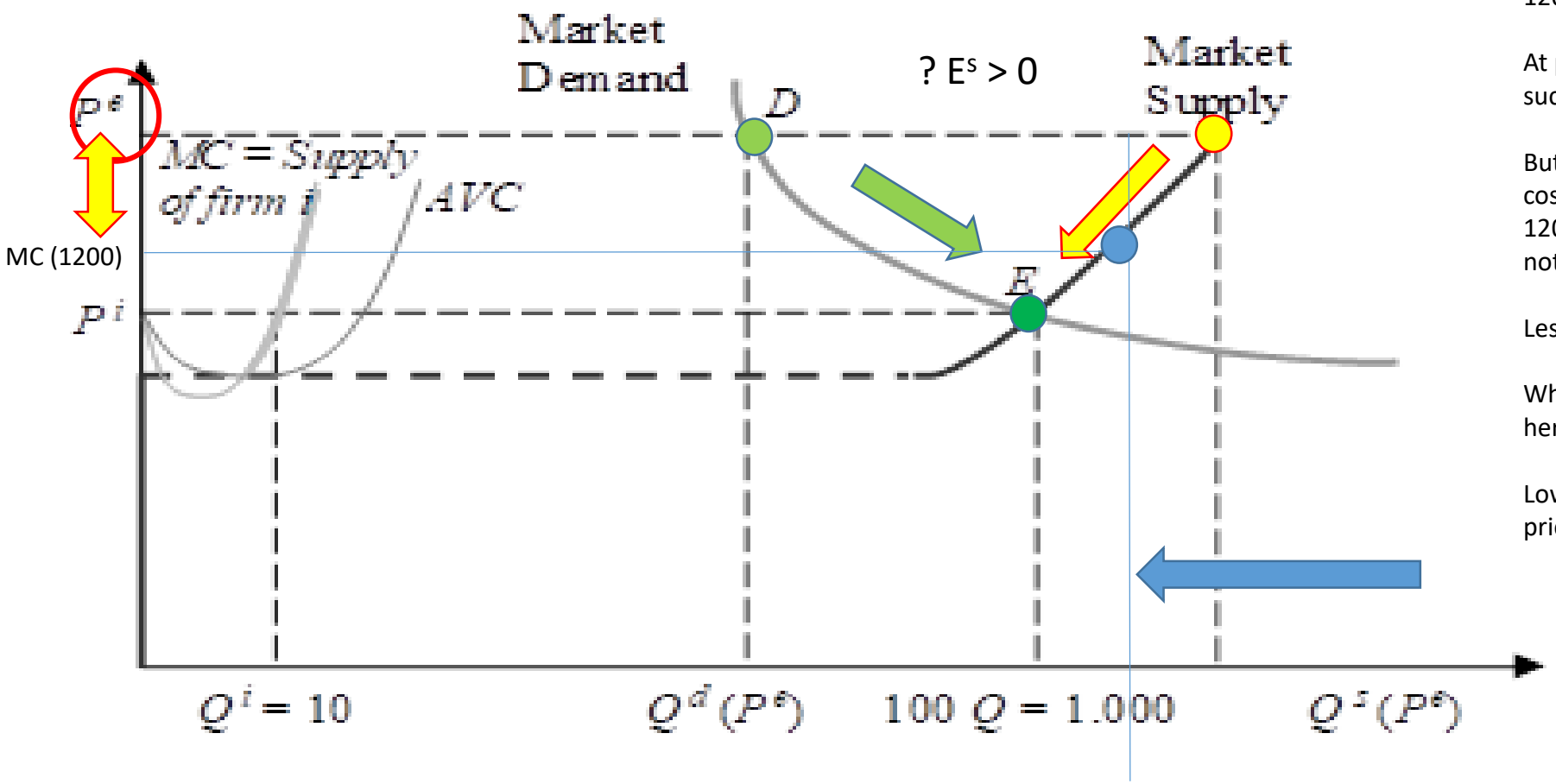
The ST supply curve of the industry - Case 1

Fixed unitary costs of productive factors: w=w°

N° = 100 firms



The ST supply curve of the industry, toward equilibrium - Case 1



Look carefully to this firm. It would like to sell to the 1200th consumer.

At price P° it does not succeed.

But how much does it cost to produce the 1200th quantity it does not sell?

Less than P°!

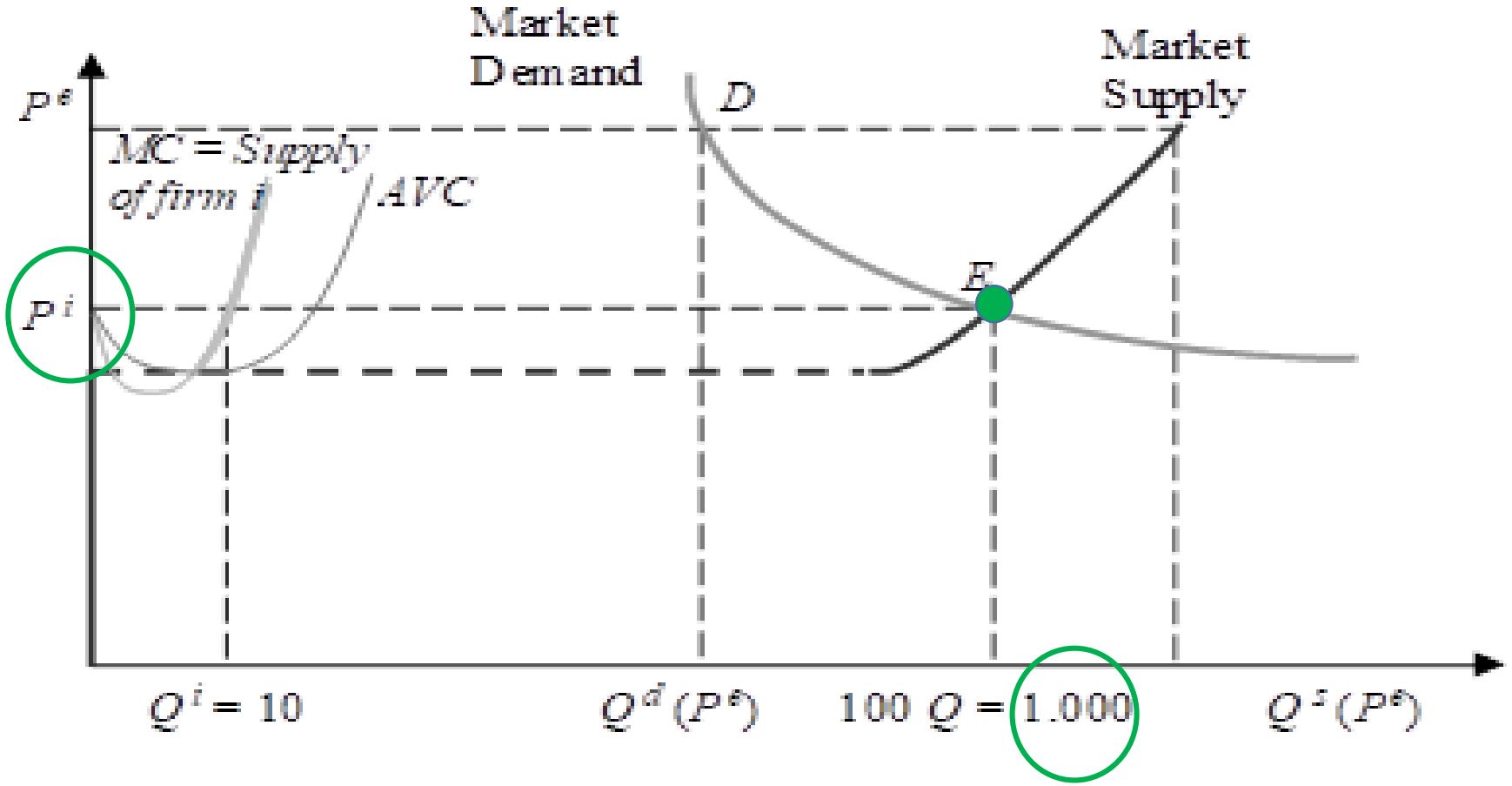
What would you do in her/his shoes?

Lower infinitesimally price!

The ST supply curve of the industry: equilibrium – Case 1

In the short-term, in equilibrium the prices of goods and the quantity produced - P^I and Q (P^I) - are such to guarantee the maximization of profits and of utility and the equality between quantities supplied and demanded in the market.

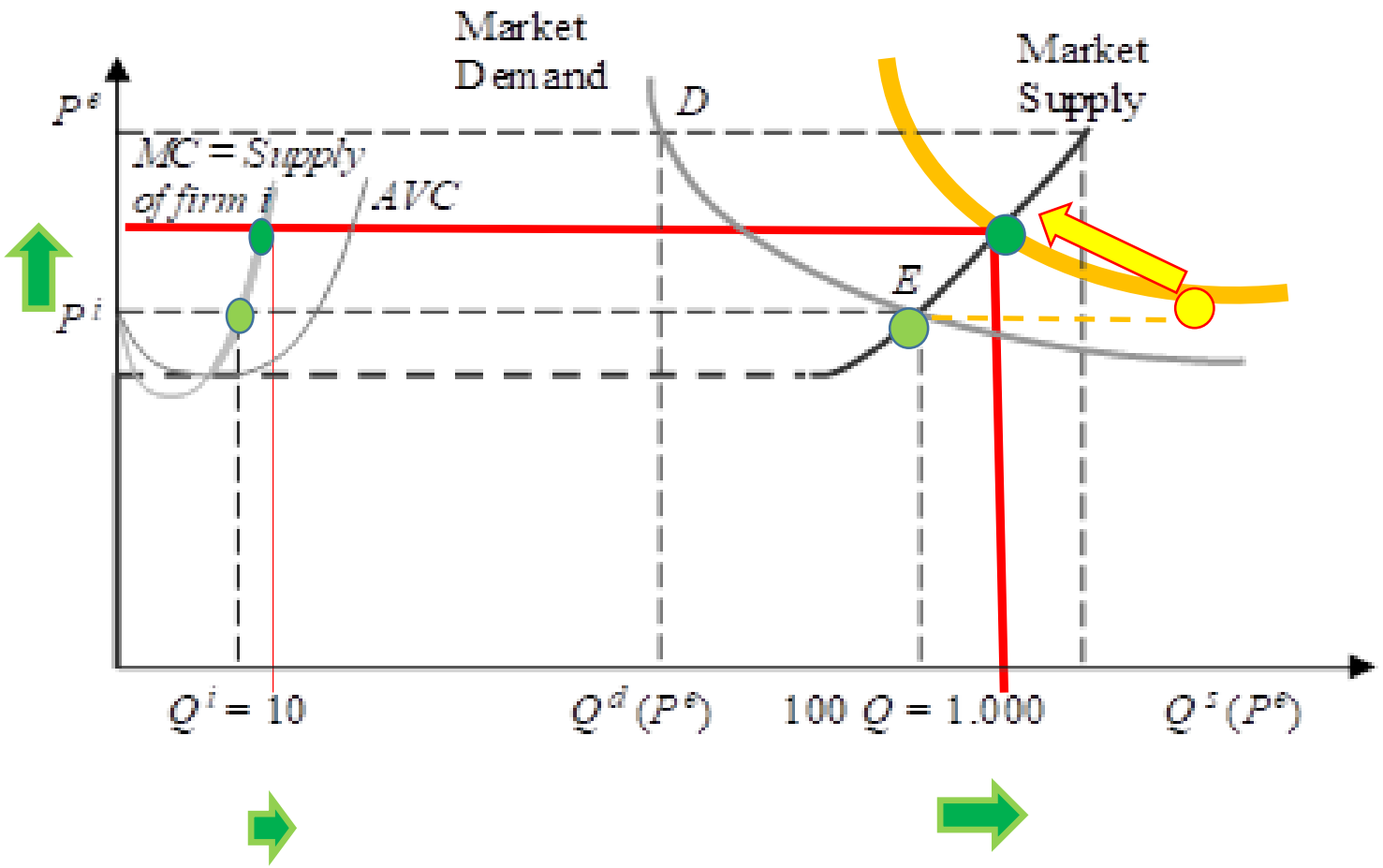
Preferences **and** technology thus explain a given exchange value



Masks and price – Case A

Higher price leads each producer to raise production and accommodate the greater demand

What is the impact of an increase in demand on quantities sold and price?
Demand (and preferences) matter!

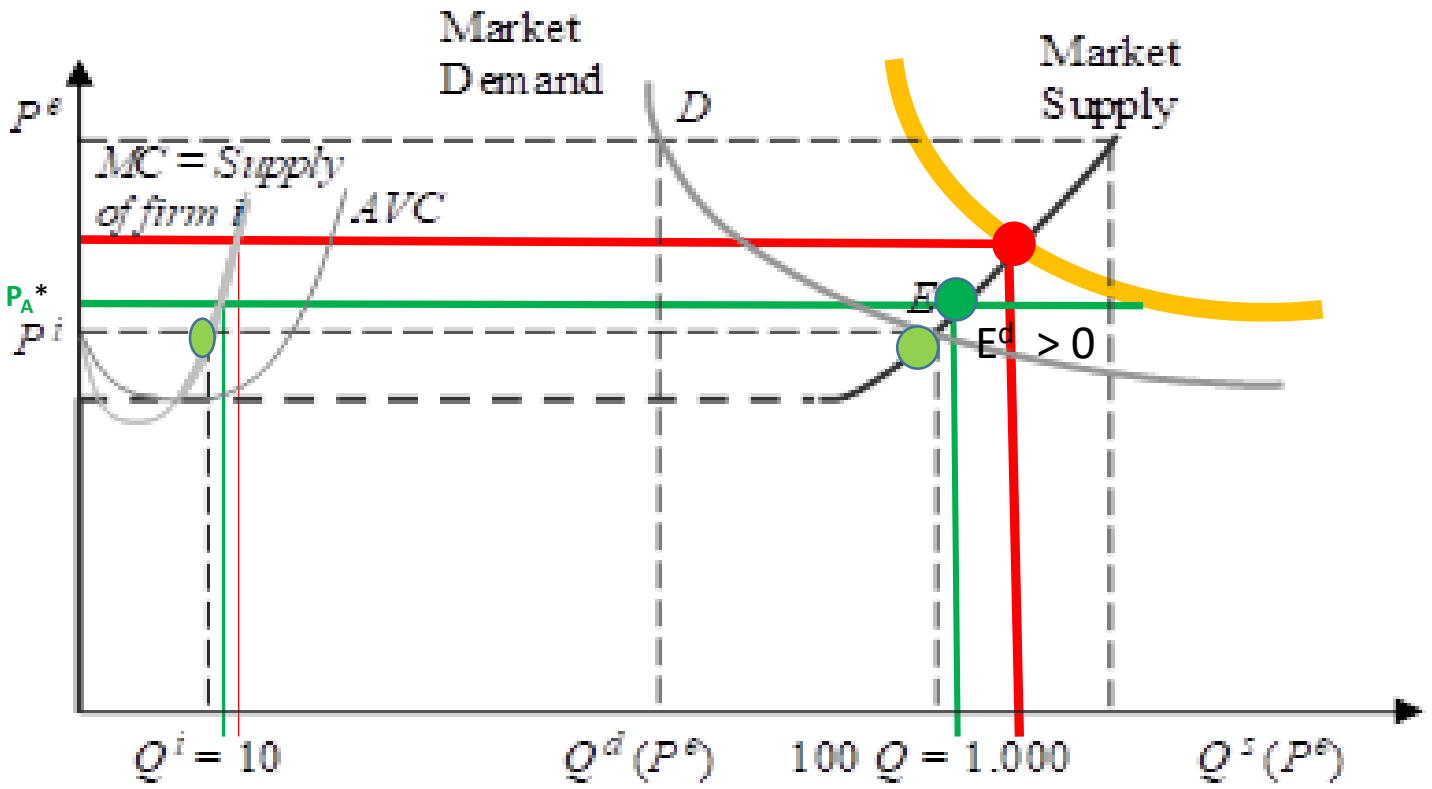


Masks and price – Case B: price ceiling

Introduction of a maximum price (green), rationing of demand. Protests by 100 firms demanding higher maximum price.

Price were kept low and firms were «helped» to produce more (who pays?)

Here too, demand (preferences) count!



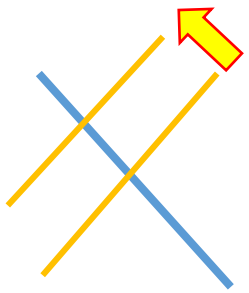
The ST supply curve of the industry - Case 2

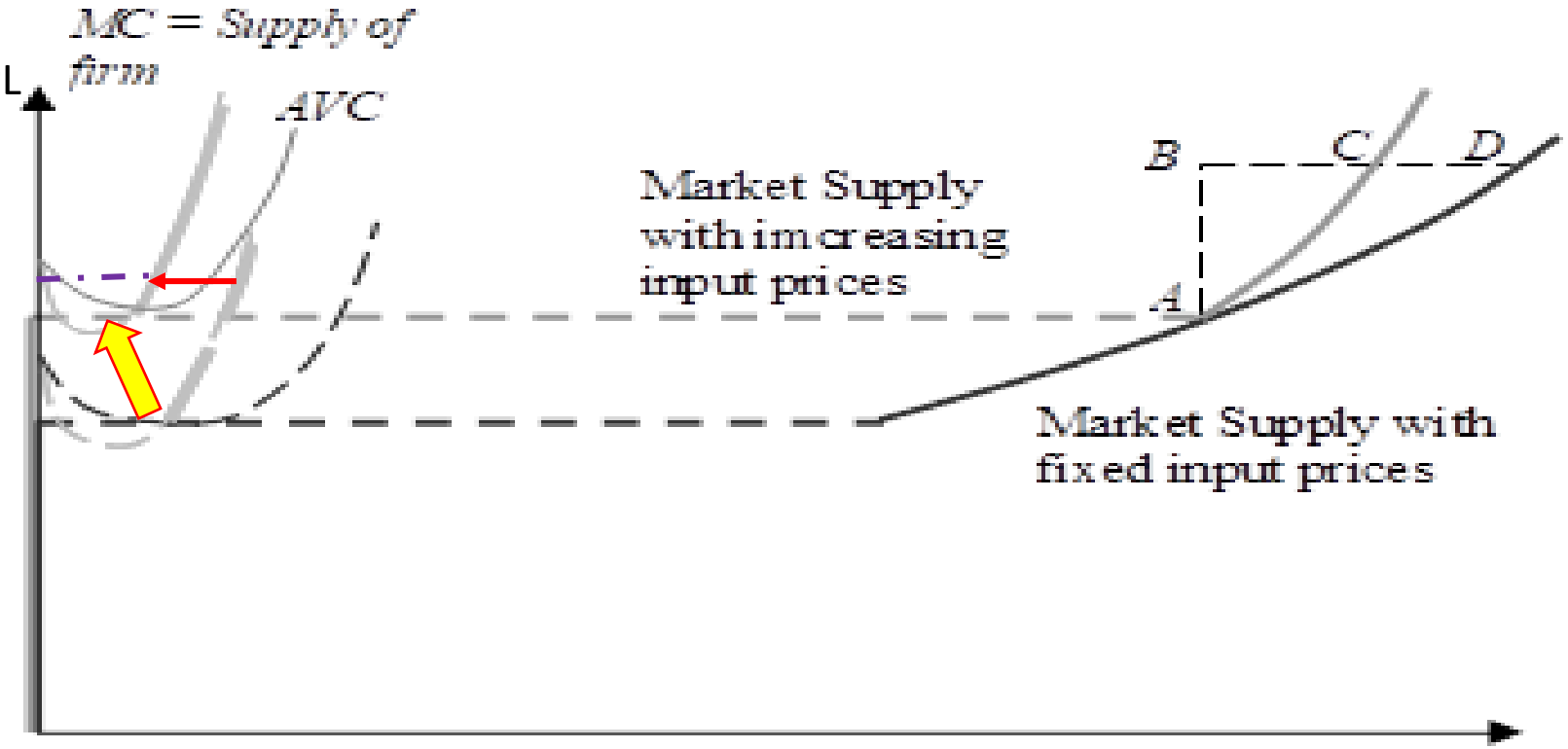
Variable factor unitary cost of production (input) is kept fixed: what if it rises with production of Q?

MC (Q, w°) = **w°**/MPL

MC (Q, w1) = w1/MPL

w1>w°





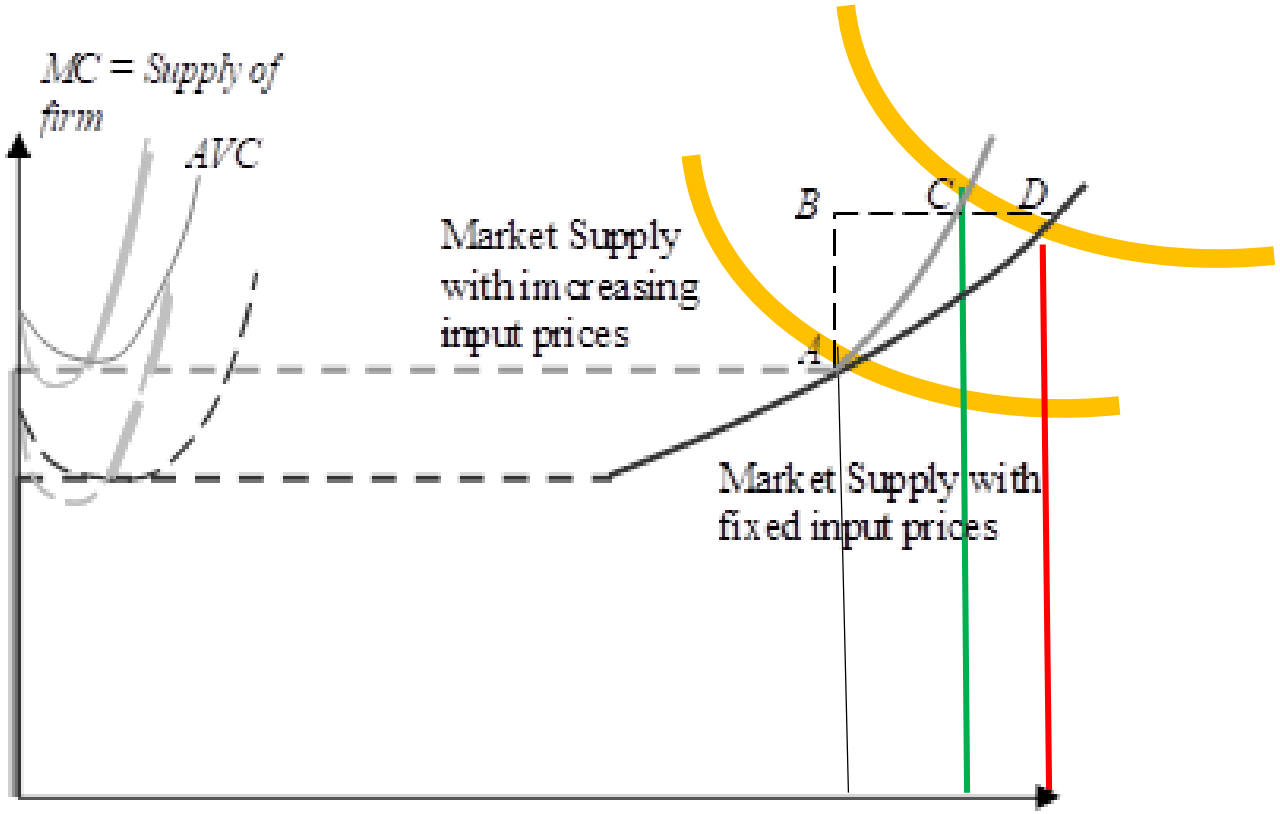
A given increase in price (trait AB) generates higher desired supply but also higher demand of inputs: w° goes up to w1.
So this increse in price generates a lower increase in quantities supplied
(trait BC rather than trait BD) compared to case where w remains fixed. The supply curve shifts west.

Masks and Price -Case C

MC (Q, t°) = t°/MPT

Variable unitary costs of production factor tissue (t)

Marginal cost rose. From 0,08 to 0,39 €. Because of technology (red, same cost function) yes but also changed cost of inputs (green, new cost function)?



Pasta market: Wars, Climate Change and Wheat price - Case D

MC (P, wh°) = wh°/MPw

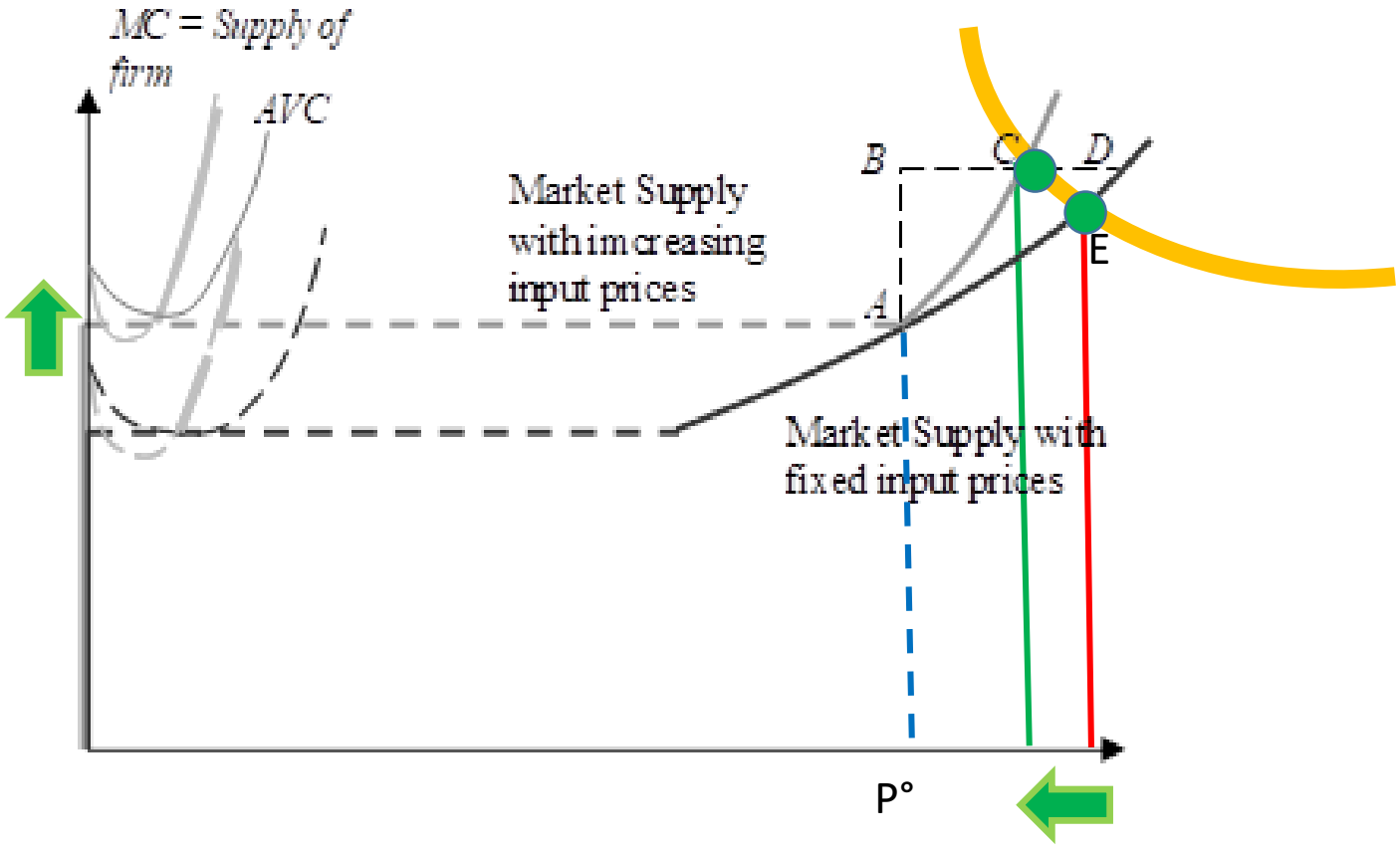
MC (P, wh1) = wh1/MPw

Supply shock, above P° units of pasta

From E to C?

What happens to price and quantities for this negative supply shock?

Variable unitary costs of prices of wheat, wh



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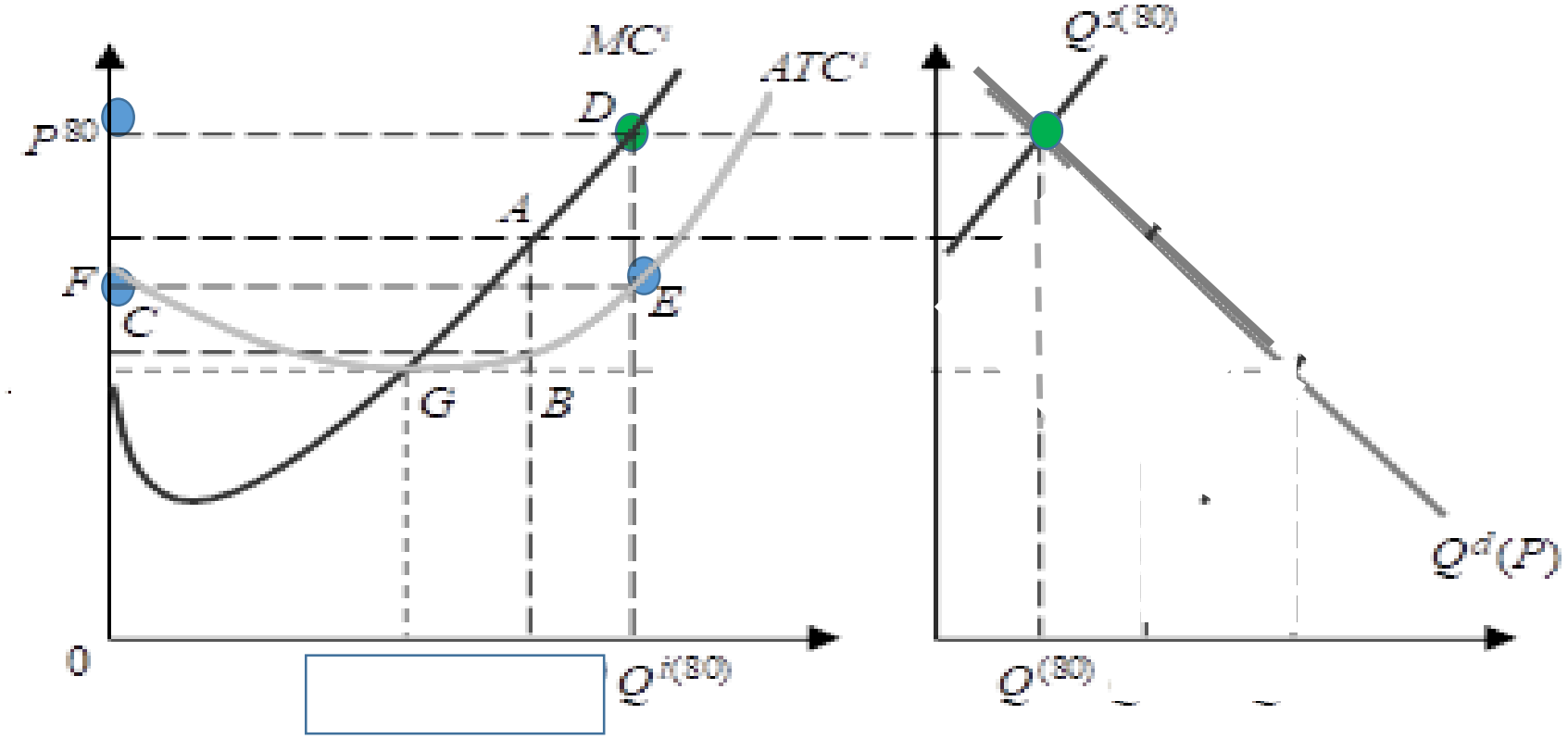
PC and ST Equilibrium with 80 firms: profits?

LT equilibrium with free entry: what changes?



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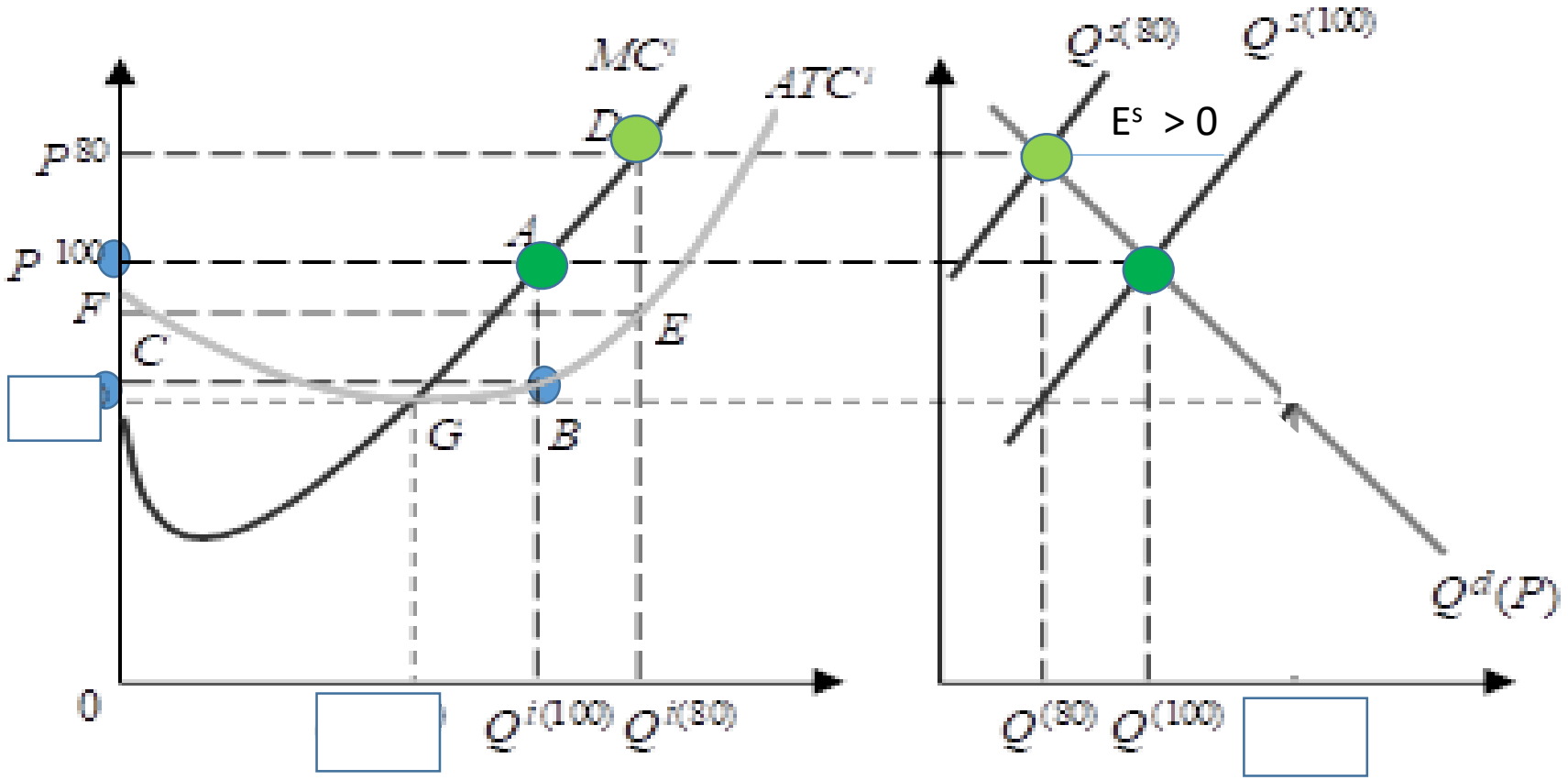
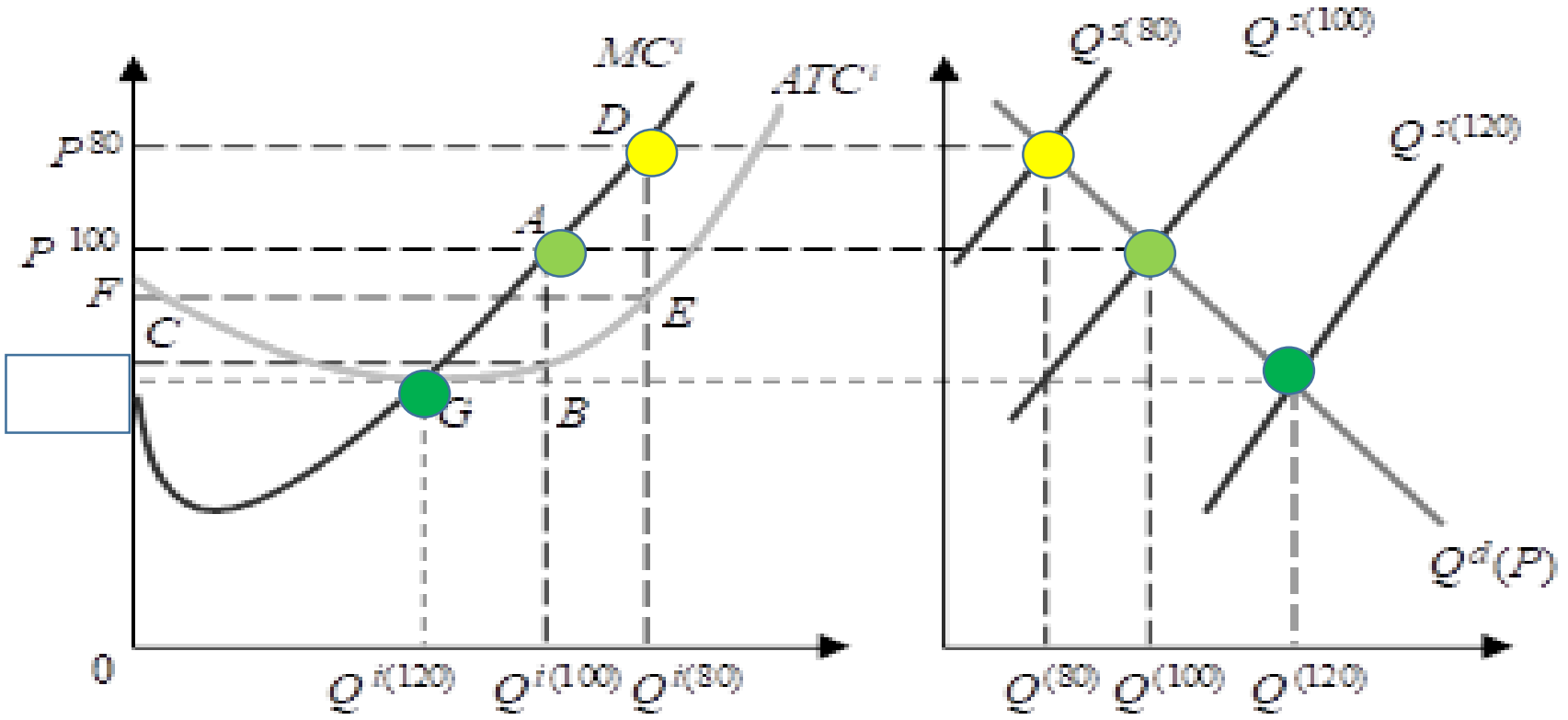
PC and LT with free entry – Equilibrium?



PC and LT – Equilibrium



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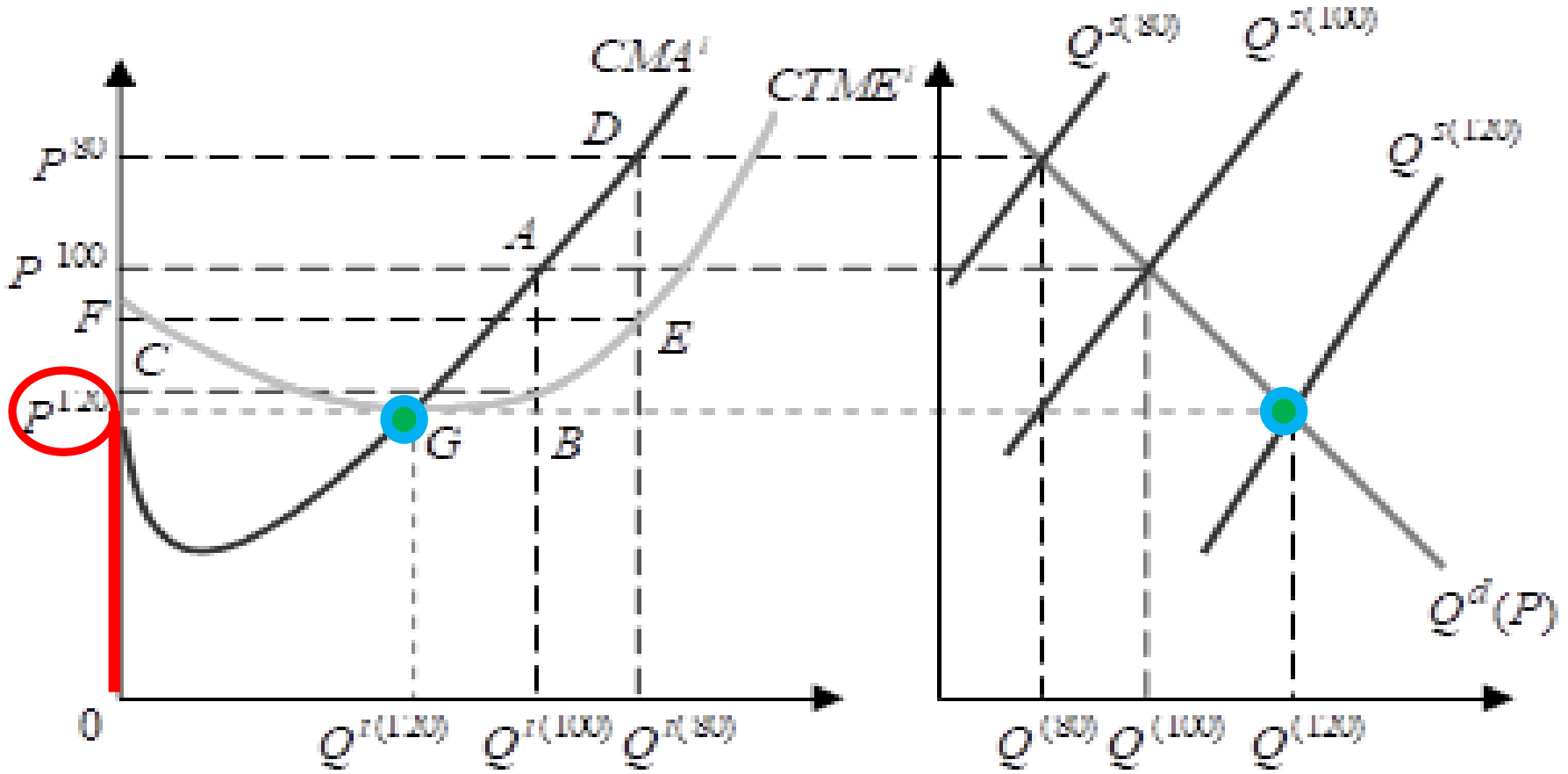
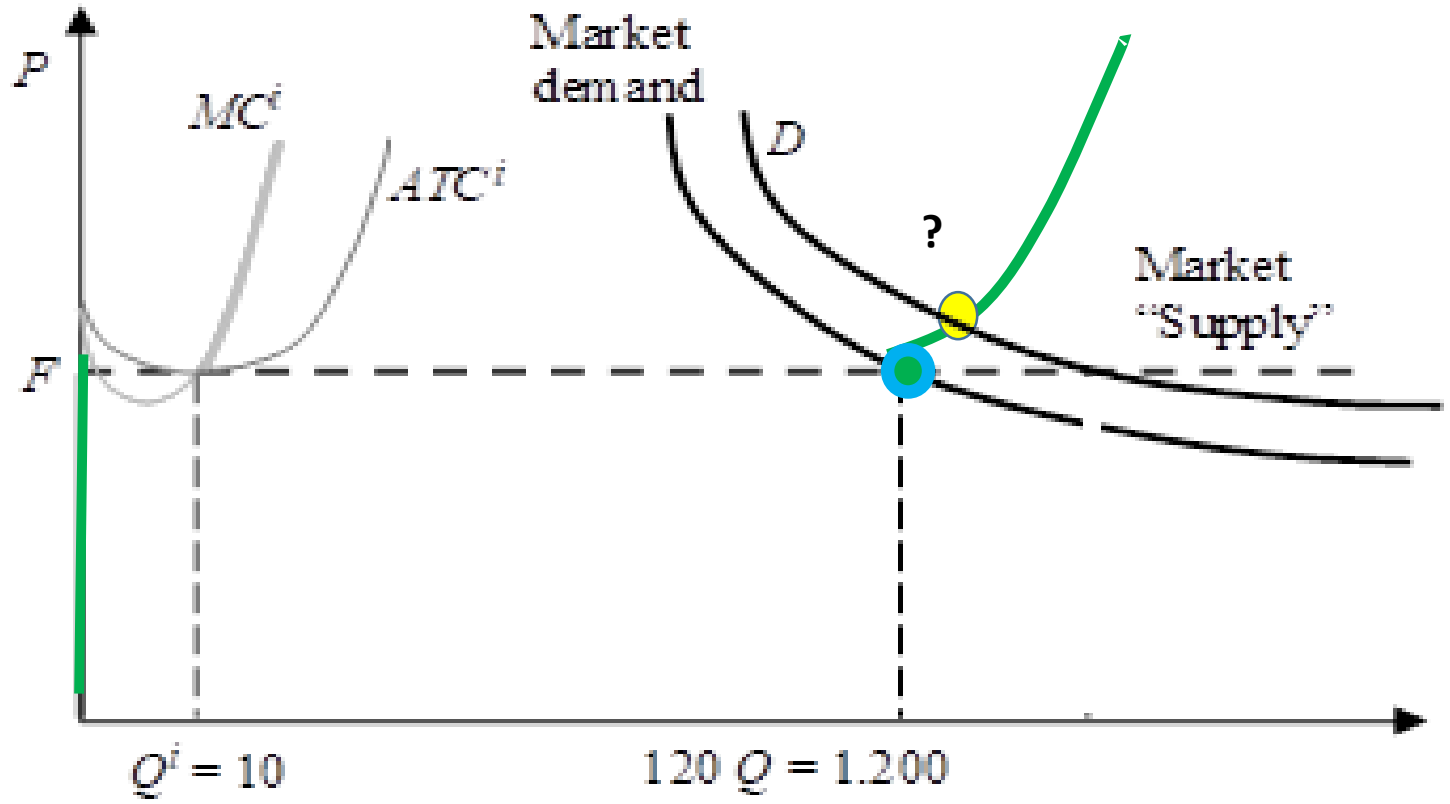
PC and LT – Constant Costs

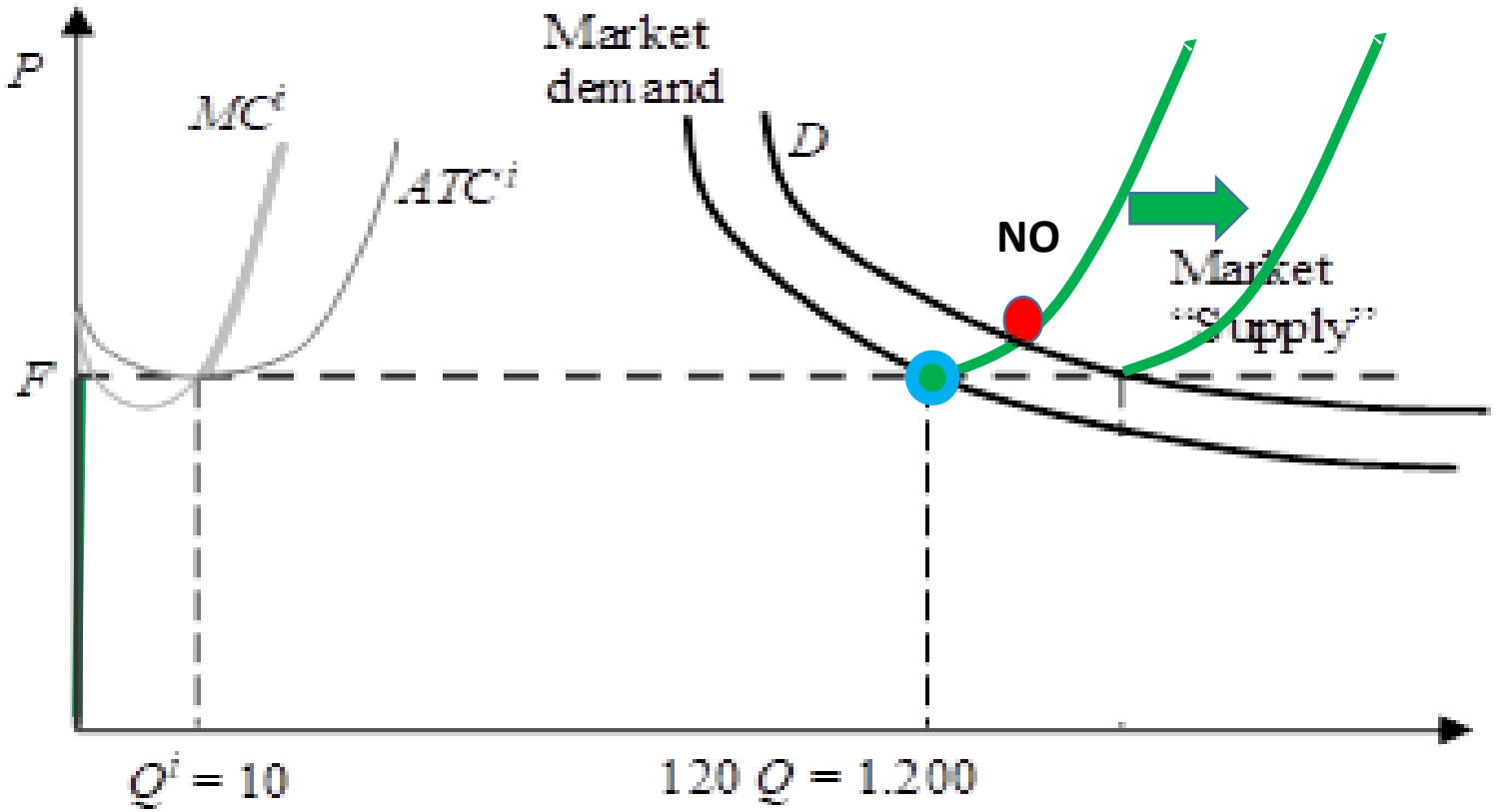
Exit Point
Min AVC G



PC, LT and Price: demand changes



PC, LT and Price



LT equilibrium with identical firms and constant costs

As in the short-term equilibrium, in the long-term equilibrium the prices of goods and the quantities produced P^{120} and Q^{120} are such as to ensure that profits and utility are **maximised** and that the quantities offered and demanded on the market are equal, subject to the following **additional conditions**:

(i) no company on the market wishes to change the size or quantity of the inputs;
(ii) no company on the market will wish to leave the market as it achieves exactly what it could achieve in other sectors;
(iii) no company outside the market will wish to enter the market, because it obtains exactly what it could obtain in other sectors. That is, there are **no extra profits**.

In the long-term competitive equilibrium companies produce at the lowest point of average costs, where average costs, marginal costs and price coincide, at the **efficient scale**.

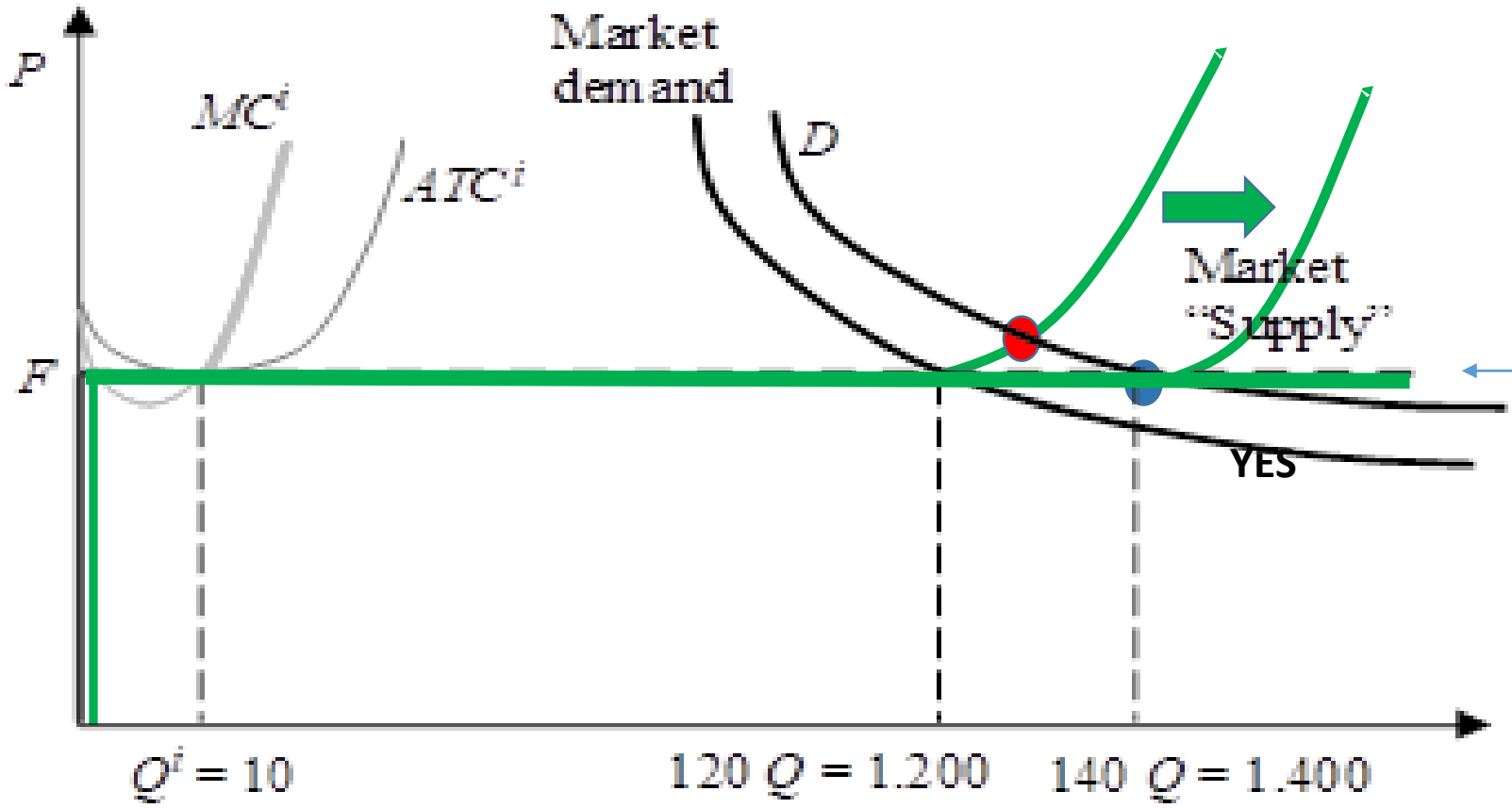
LT equilibrium with identical firms and constant costs

In the long run, as opposed to the short run in which an increase in the price made the production of each firm grow and therefore the market supply too, an increase in the price does not increase the supply of each individual firm present on the market but rather attracts new firms, until the price has fallen back to the point of minimum average costs.

In the long-term greater demand generates a rise in the number of firms and of quantities, not of price, which remains always equal to the exit price.

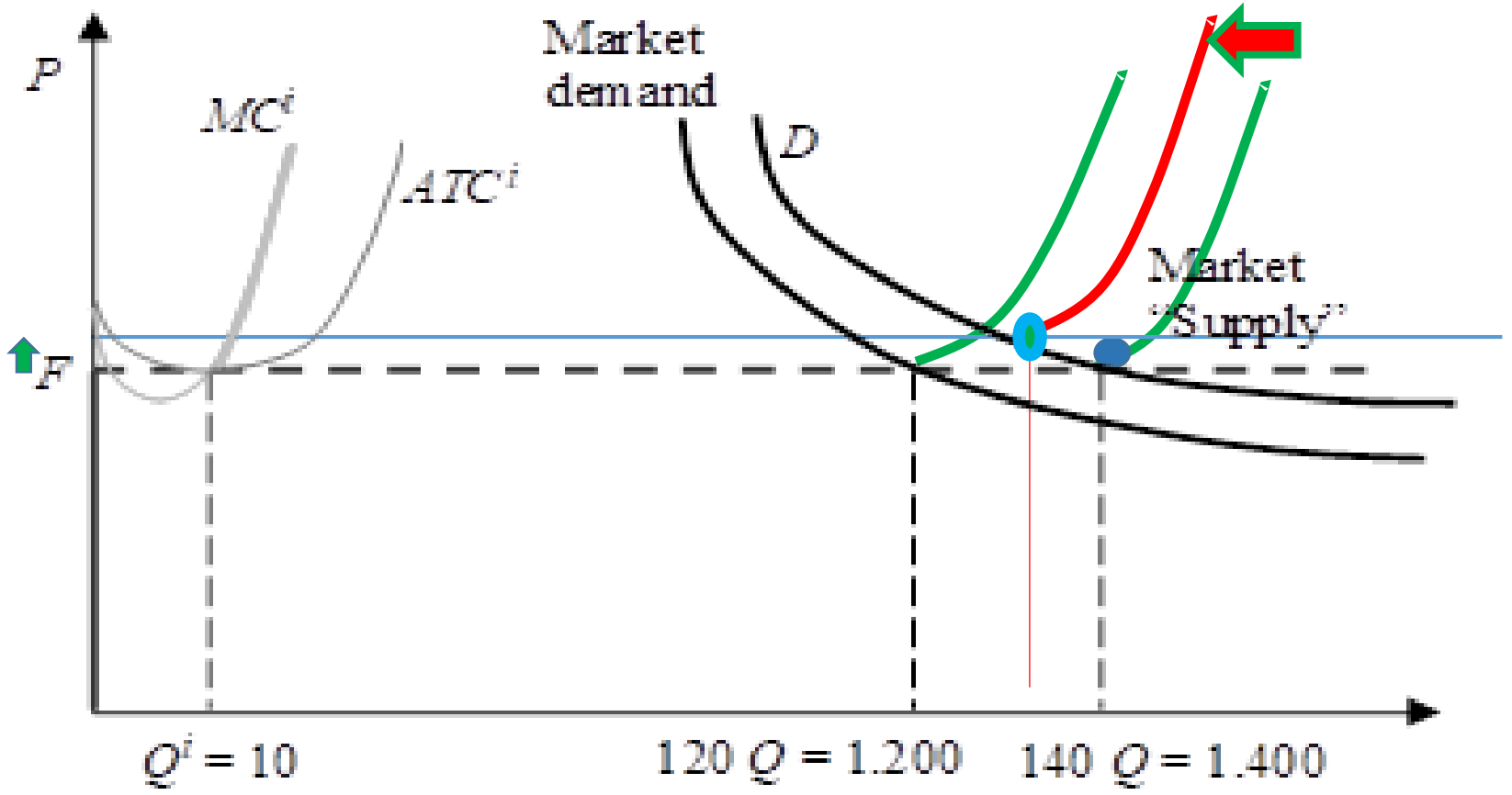
Price is NOT anymore explained by preferences or demand but only by TECHNOLOGY (min AVC)!

LT supply curves in PC, constant unitary costs



Our LT aggregate supply curve!

PC, LT and price at variable input prices



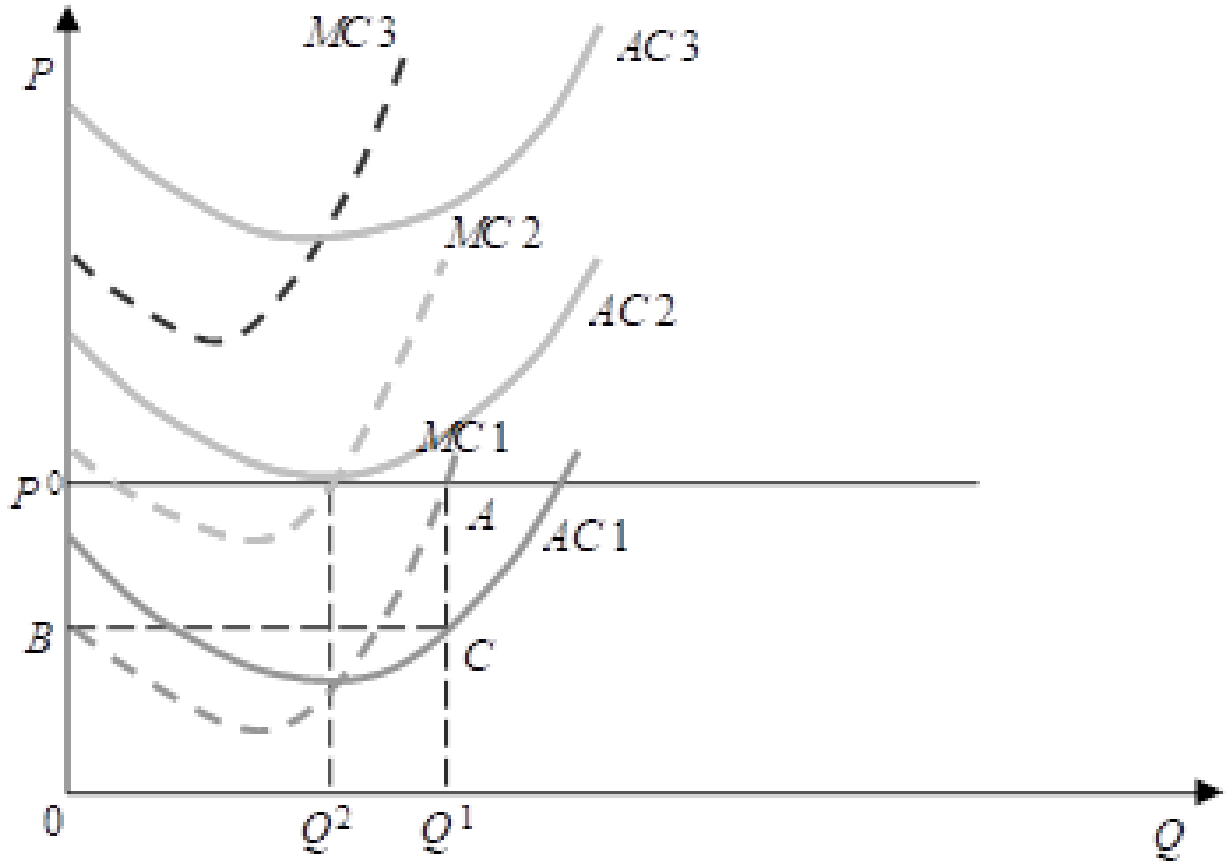
PS: If input prices grow with the growth of production, if inputs are scarce, demand comes back to play a role in determining prices.

LT Equilibrium and different firms

3 type 1 firms
4 type 2 firms
Millions of type 3 firms

Differentiated profit.

Positive long terms profits for…



LT Equilibrium and different firms

3 type 1 firms
4 type 2 firms
Millions of type 3 firms

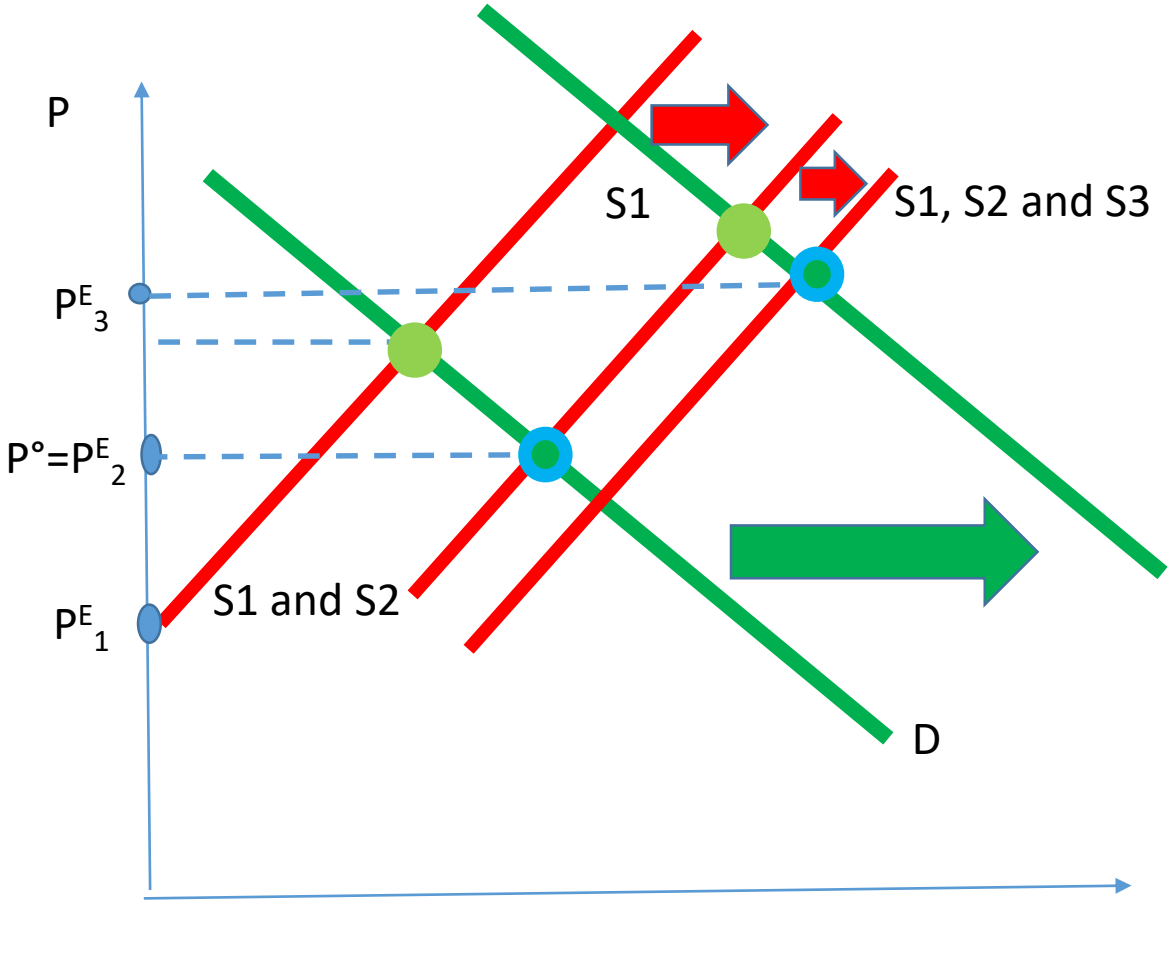
First equilibrium?

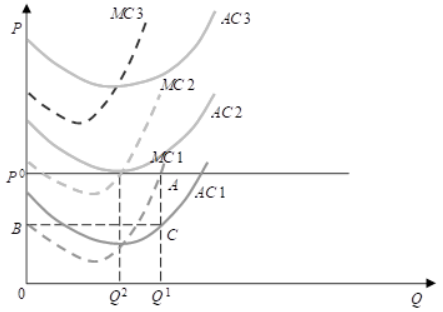
Second equilibrium with larger demand?

Demand and preferences matter again when inputs are scarce.

Extra profit?

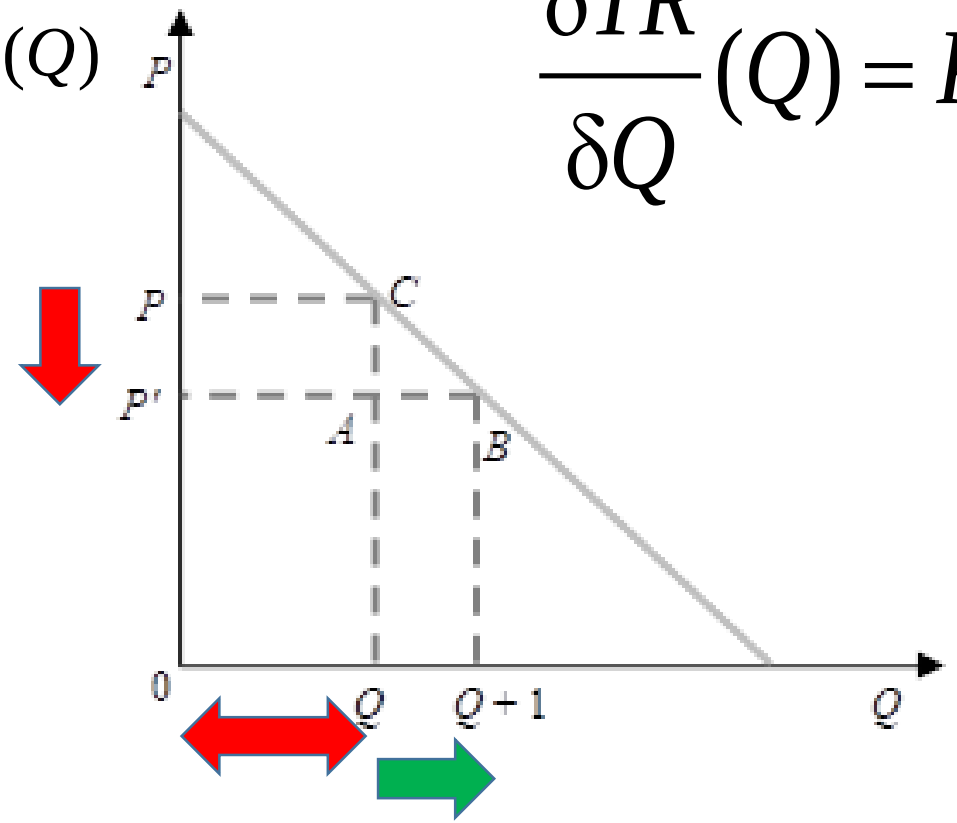
Are you sure?





The (uniform pricing) Monopolist

$$\frac{\delta TR}{\delta Q} = \frac{\delta\left[P(Q)Q\right]}{\delta Q} = \frac{\delta P}{\delta Q}Q + P(Q)$$



$$\frac{\delta TR}{\delta Q}(Q) = P(Q)\left[1 - \left(\frac{1}{\varepsilon(Q)}\right)\right]$$