

***University of Cassino***  
***Economics and Business***  
**Academic Year 2018/2019**

**International Economics**  
**International Trade**  
**(Monopolies and trade –**  
**Lecture 6)**

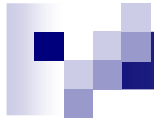
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# Monopolistic competition

Firms in monopolistic competition are characterized by:

- (I) downward sloping demand curve, i.e. the demand faced by monopolistic firms is price elastic;
- (II) decreasing average costs (economies of scale or increasing returns to scale) over a relatively large range of output;
- (III) many competitors in the market.



# When monopolistic competition arises

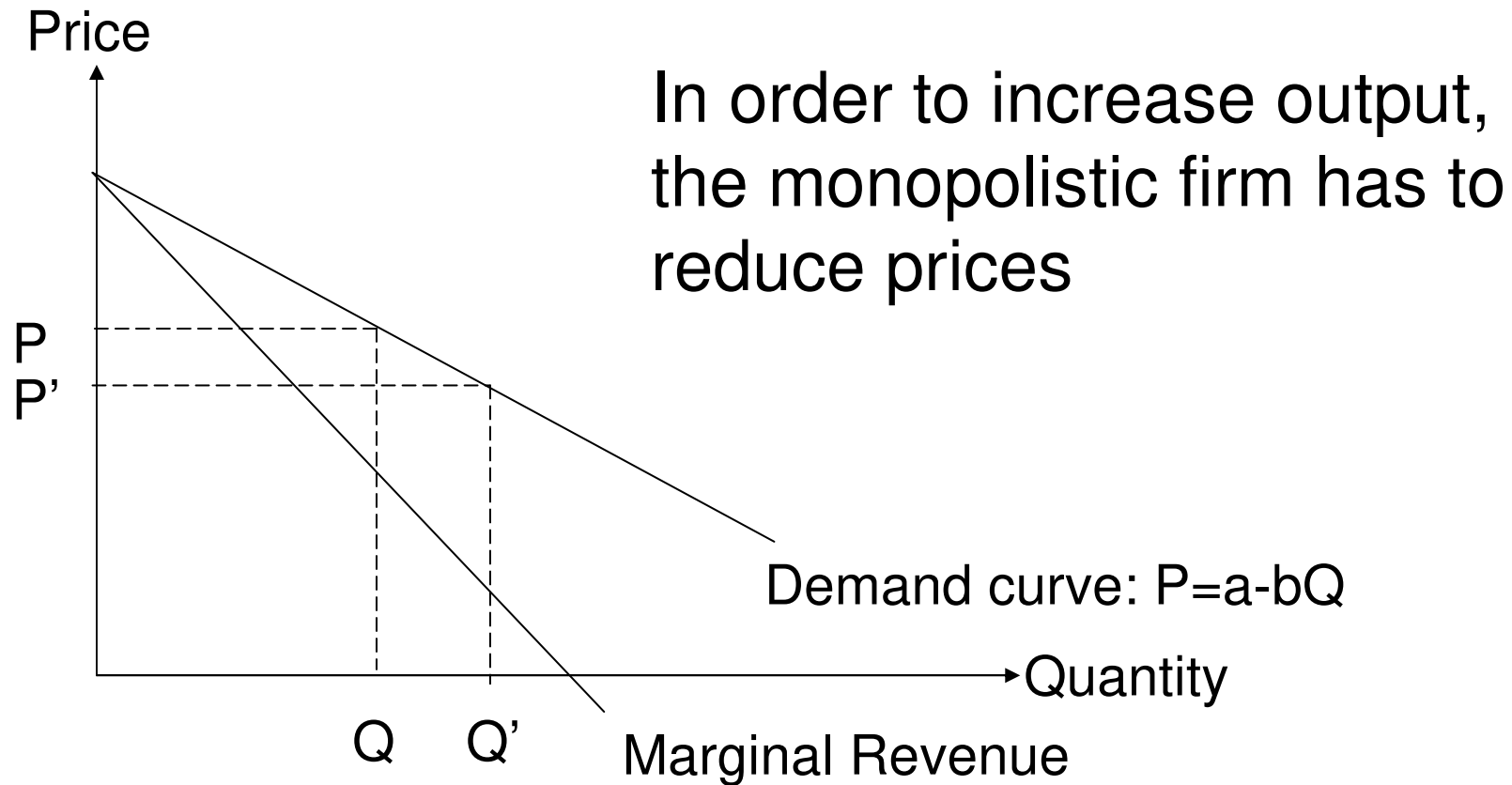
(I) When firms can have some control over prices (so as to make its demand curve downward sloping).

This occurs in case of:

- product differentiation, or/and
- geographical monopoly.

(II) When fixed costs are substantial with respect to variable costs (so as to make average costs decreasing).

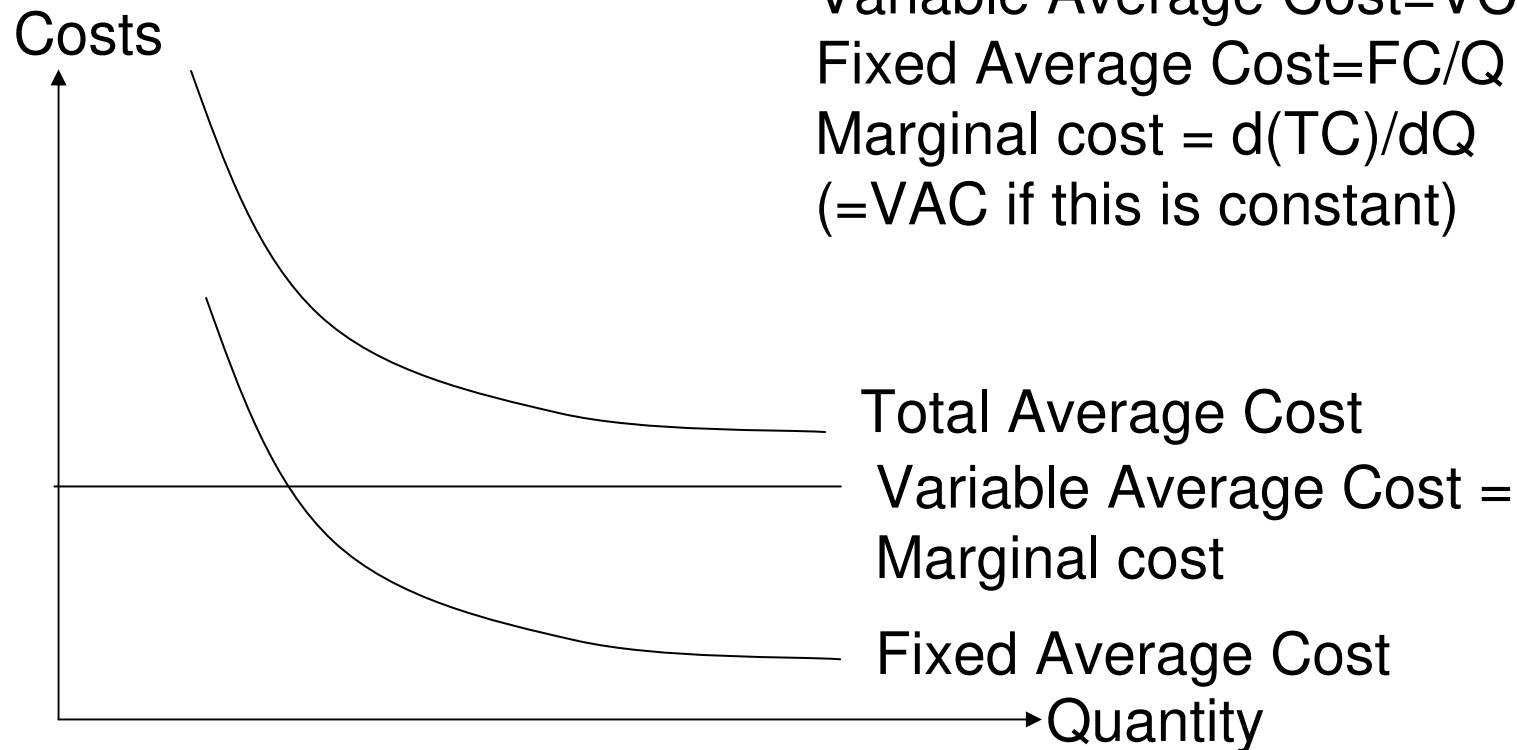
# The downward sloping demand curve (I)



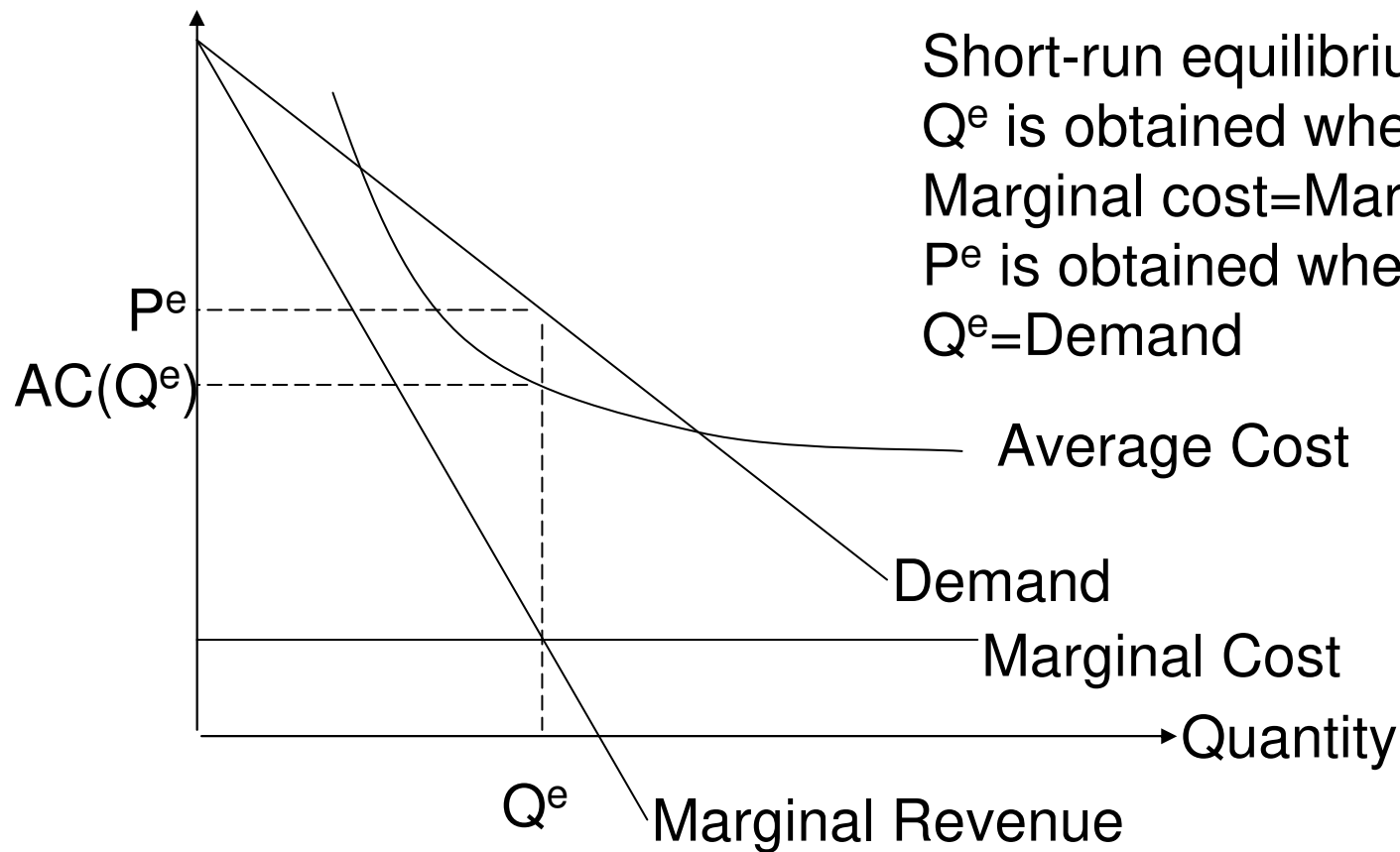
Marginal Revenue is derived from the Demand curve. Since Total Revenue= $Q(a-bQ)$ , then  $MR = a-2bQ$ .

# Decreasing average costs (II)

Total Cost = Variable+Fixed Cost  
Total Average Cost = Total Cost/Q  
Variable Average Cost=VC/Q  
Fixed Average Cost=FC/Q  
Marginal cost =  $d(TC)/dQ$   
(=VAC if this is constant)



# Monopolistic firm in s-r equilibrium



Short-run equilibrium if:  
 $Q^e$  is obtained when  
Marginal cost = Marginal revenue  
 $P^e$  is obtained when  
 $Q^e = \text{Demand}$

Average Cost

Demand

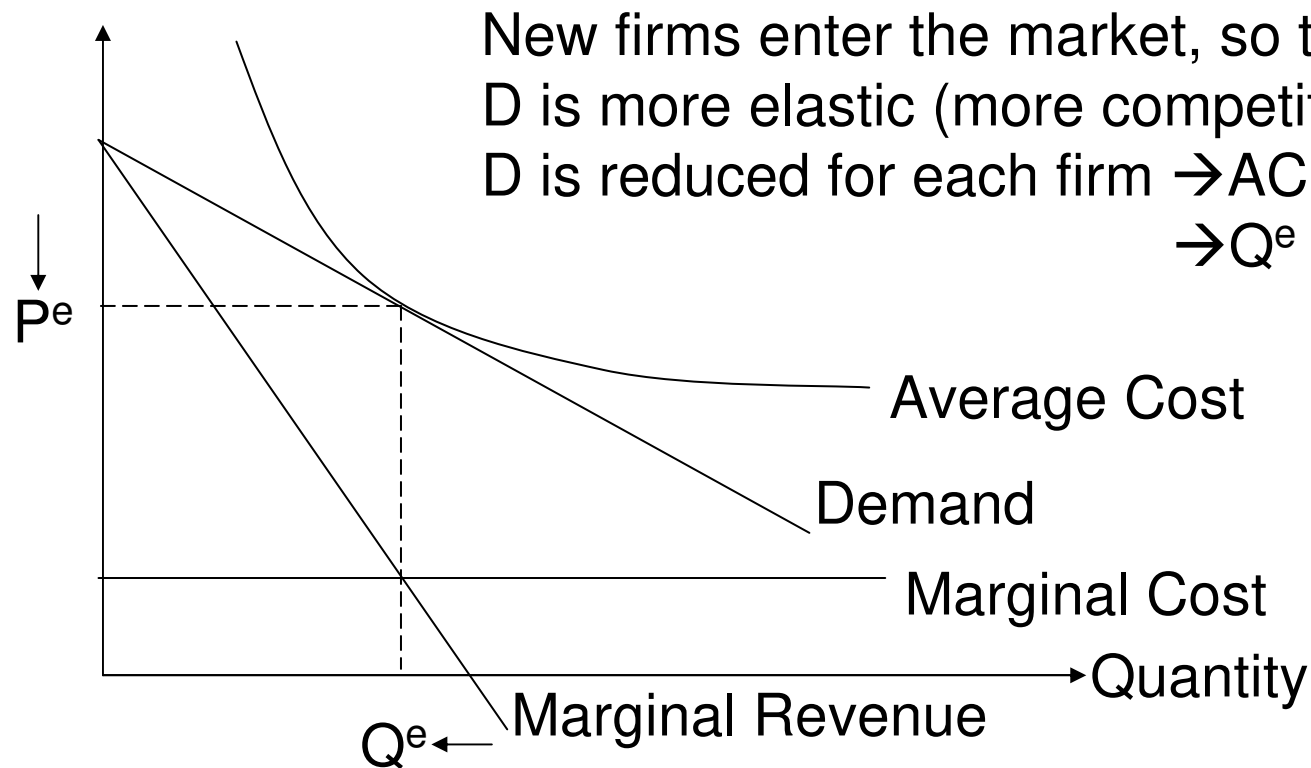
Marginal Cost

Quantity

$Q^e$  Marginal Revenue

Since  $P^e > \text{Average Cost at } Q^e$ ,  
then Profits  $> 0$  and other firms will enter the market.

# Monopolistic firm in l-r equilibrium



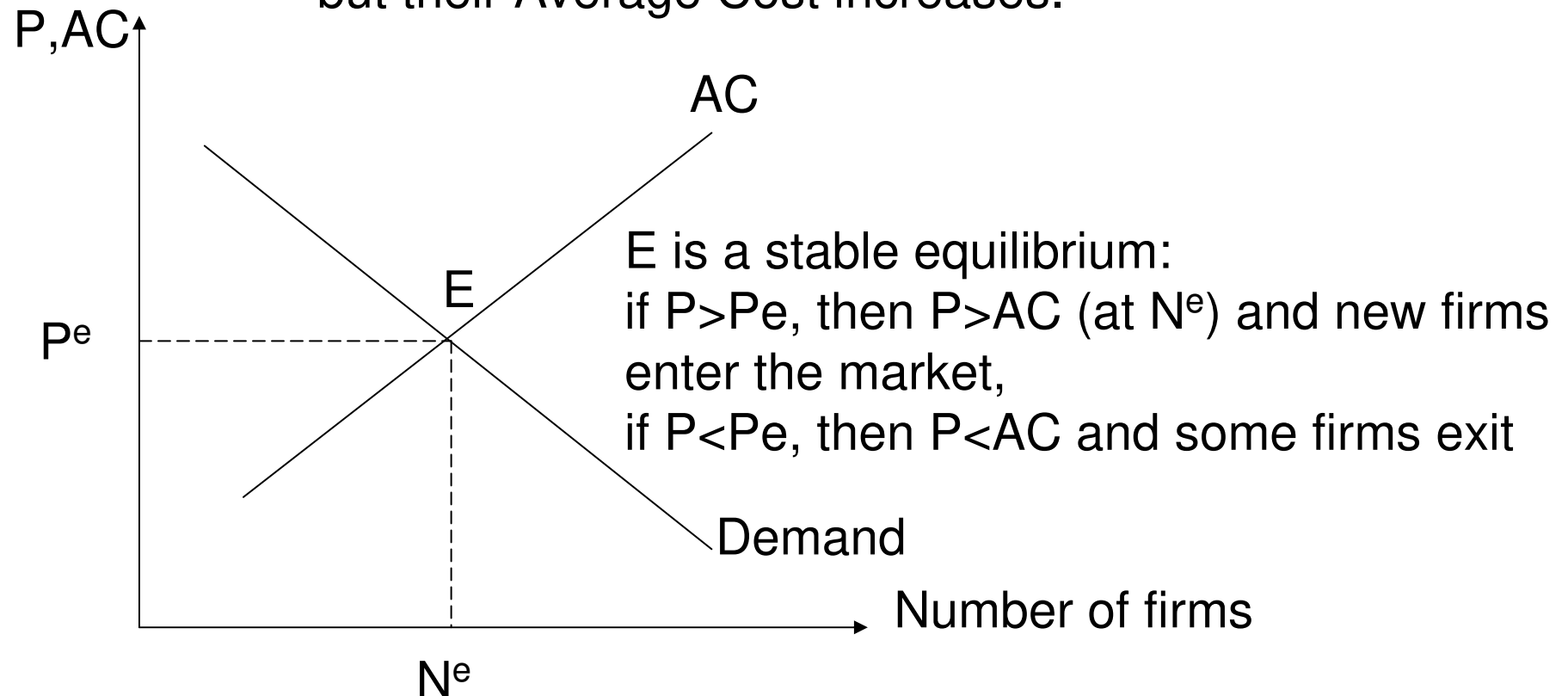
New firms enter the market, so that:  
D is more elastic (more competition)  $\rightarrow P^e$  is lower  
D is reduced for each firm  $\rightarrow AC(Q^e)$  is higher  
 $\rightarrow Q^e$  is smaller.

Long-run equilibrium:  $P^e = \text{Average Cost at } Q^e$   
so that Profits = 0 (as in perfect competition).

# Monopolistic market

The Monopolistic market includes  $N$  monopolistic firms. More firms in the same market (Demand) implies that:

- they should reduce prices (more competition),
- but their Average Cost increases.



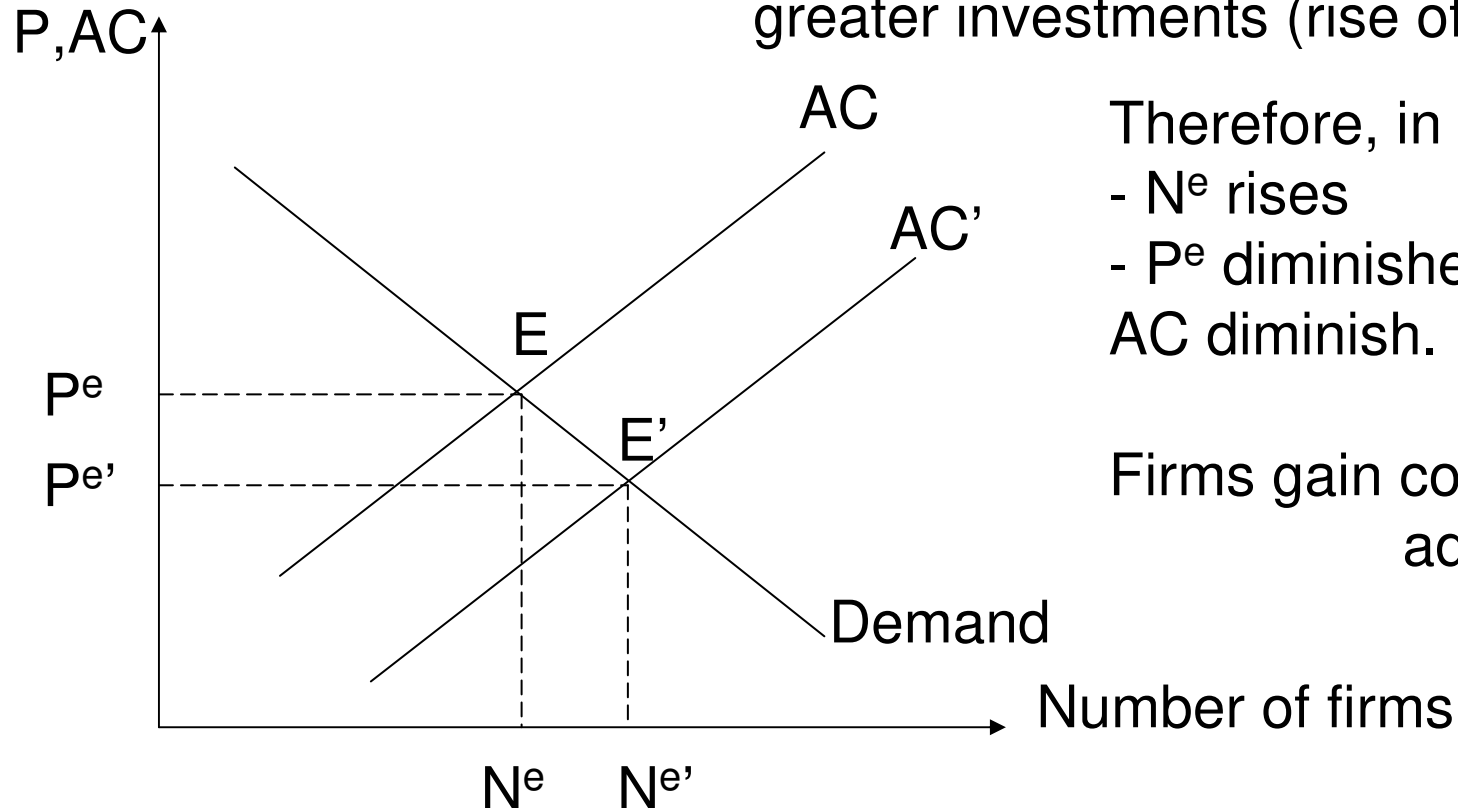


# Monopolistic market (expansion)

(eg because of trade)

If the market expands:

- new firms can enter the market,
- each firm can increase its size through greater investments (rise of fixed costs).



Therefore, in equilibrium:

- $N^e$  rises
- $P^e$  diminishes because AC diminish.

Firms gain competitive advantage.



# Product differentiation and geographical monopoly

- Both product differentiation and geographical monopoly require:
  - new investments, so that *fixed costs* rise,
  - expanded market.
- Product differentiation means changing product while remaining within the same industry.
- This fact gives place to intra-industry trade.



# Intra-industry Trade: definition

- **Intra-industry trade:** International trade of products made within the same industry (steel-for-steel, bread-for-bread)
- Intra-industry trade is growing increasingly important in international trade especially between industrial countries
- **Inter-industry trade:** International trade of products between two different industries (steel-for-bread)



# Intra-industry Trade and the aggregation problem

- Fundamental problem is defining an industry.
- For example, if computers are defined as office machinery, then computers and pencil sharpeners are in the same industry,
- More broadly an industry is defined, the more trade appears to be intra-industry



# Where is Intra-industry Trade

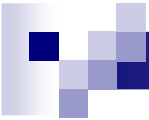
Evidence suggests that intra-industry trade is greater

- in high-technology industries
- where there is more scope for product differentiation
- in countries more open to trade
- in nations that have received larger amounts of foreign direct investment.



# The gains from Intra-industry Trade

- **Lower prices:** An increase in the size of the market allows for scale economies, which lowers production costs and eventually prices to consumers (not only of imports but also of exports, contrary to the standard comparative advantage).
- **Increase in the number of firms:** There is a high likelihood that intra-industry trade expands the number of domestic firms and the quantity of domestic output.
- **Increase in consumer choices:** Intraindustry trade tends to give access to a much greater variety of goods than produced domestically.



# Example of intraindustry trade

## US-Canadian Merchandise Trade

2011 (billions of US \$)

Top Five U.S. Exports	Value	Top Five U.S. Imports	Value
Vehicle parts, not engines*	21.4	Crude oil	67.9
Busses, trucks, other vehicles*	13.8	Passenger cars*	38.3
Passenger cars*	12.2	Natural gas	12.8
Other petroleum products	9.4	Vehicle parts, not engines*	10.1
Industrial machines	8.4	Other petroleum products	9.5

Vehicles and vehicle parts are the largest component of U.S.-Canadian trade.

*Source: U.S. Census Bureau, "End-Use Data," Country and Product Trade Data, 2011.*

→ Vehicle parts, not engines and Passenger cars appear in both sides



# Trade and Geography

- Geographical monopoly means monopoly over a regional market.
- In order to sell over an extended regional market, the firm has to be big.
- In order to profitably sell over an extended regional market and to be big, the firm should have Economies of scale.
- Transportation costs should be small relatively to fixed costs.
- The pattern of trade changes with Geographical monopoly.





# Geography, Transportation Costs, and Economies of Scale

- In case of low transportation costs and internal economies of scale, it is convenient:
  - to do *not* produce next to each market,
  - but to concentrate production in big firms.
- In case of high transportation costs and *no* internal economies of scale, it is convenient:
  - to produce next to each market,
  - to decentralize production in small plants.



# Transportation Costs, Economies of Scale and Foreign Investment

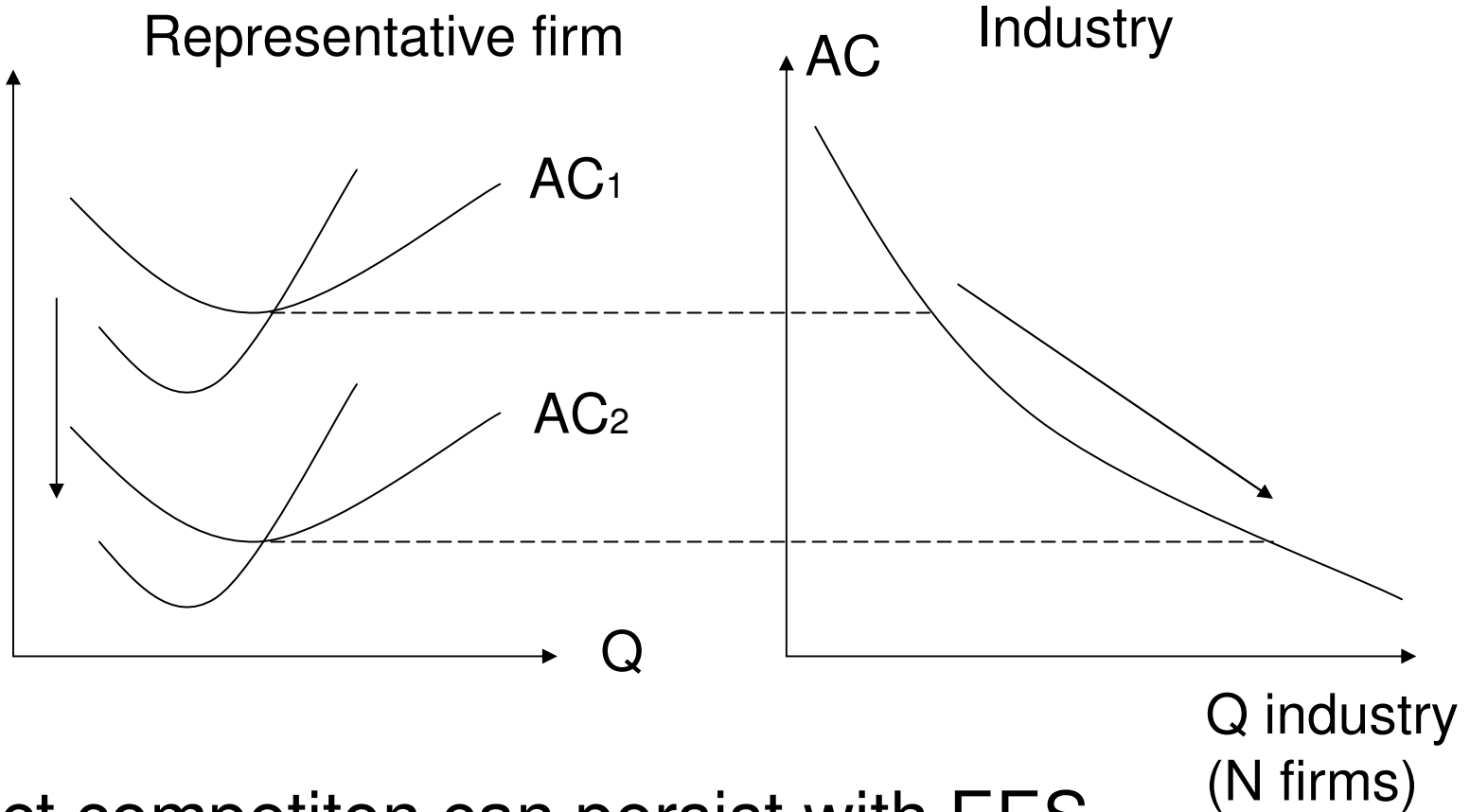
- Most foreign investment today is directed towards high income countries, not developing countries (where labor is cheaper) because of:
  - internal economies of scale (lower AC),
  - transportation costs.



# Internal and External Economies of scale

- The economies of scale are **internal** when *larger firms* have lower AC, and thus enjoy competitive advantage.
- The economies of scale are **external** when *greater number* of firms reduces the AC of each of them. Reasons:
  - knowledge spillovers,
  - market for trained workers,
  - market for special input suppliers.

# External Economies of Scale



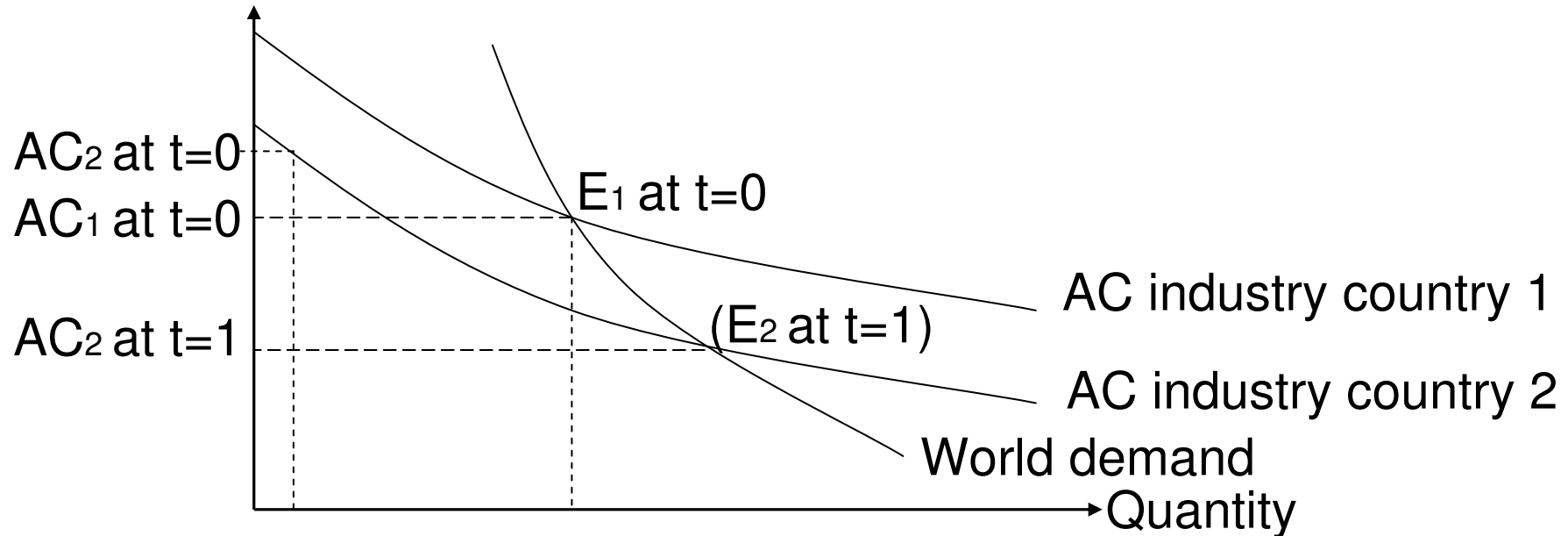
Perfect competition can persist with EES



# Economies of scale and specialization

- Larger markets enable firms/industry to reduce AC and prices, and reductions of prices expand markets. This is a self-reinforcing process.
- Therefore, **time** matters in market competition:
  - advantage to be the first to enter the market
  - specialization is a process.
- Specialization and trade may be explained by history.

# Specialization and history



- Industry of country 2 would have achieved lower AC if it entered the world market before industry of country 1.
- Specialization may prevent gains from trade.