Chapter 6: Market size and scale effects
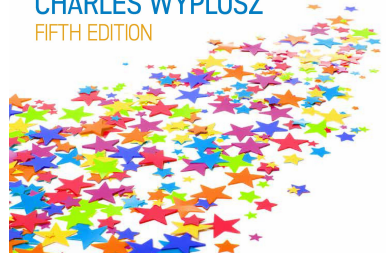
"The countries of Europe are too small to give their peoples the prosperity that is now attainable and therefore necessary. They need wider markets."
Jean Monnet, 1943

"By its size – the biggest in the world – the single market without frontiers is an invaluable asset to revitalize our businesses and make them more competitive. It is one of the main engines of the European Union."
Jacques Delors,1987

Market size matters

- European leaders always viewed integration as compensating small size of European nations. Implicit assumption: market size good for economic performance.

- Tearing down intra-EU barriers bring a 'pro-competitive effect', which , in turn, puts pressure on profits and the market's response is 'merger mania'. That is, the pro-competitive effect squeezes the least efficient firms, prompting an industrial restructuring so that Europe is left with a more efficient industrial structure, with fewer, bigger, more efficient firms competing more effectively with each other.

- Schematically: liberalization → defragmentation → pro-competitive effect → industrial restructuring.

Market size matters: some evidence

A study on French manufacturing firms shows that implementation of the Single Market Programme and the Economic and Monetary Union Treaty (Maastricht Treaty) lowered the price–cost ratio margin 4 to 5 percentage points (and other studies find similar qualitative results).
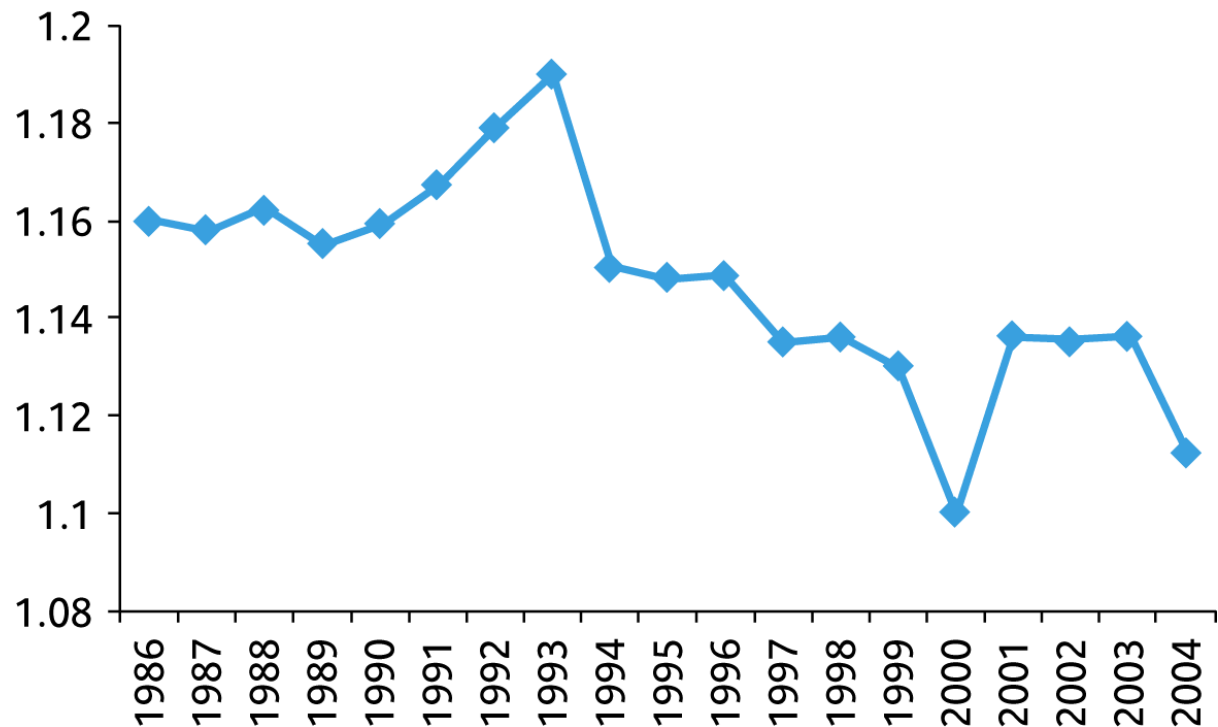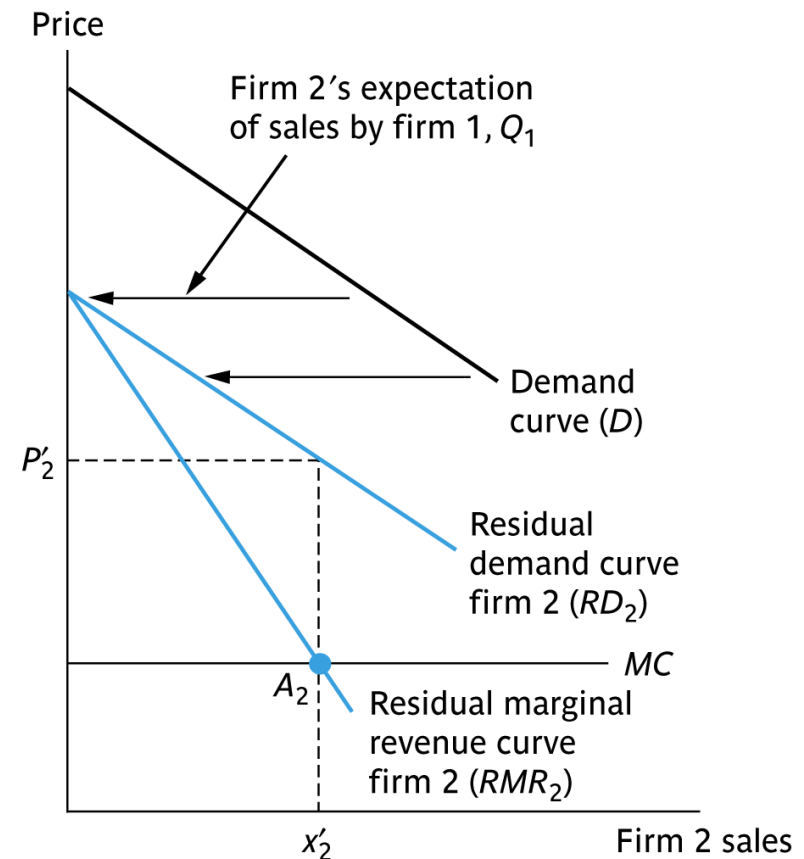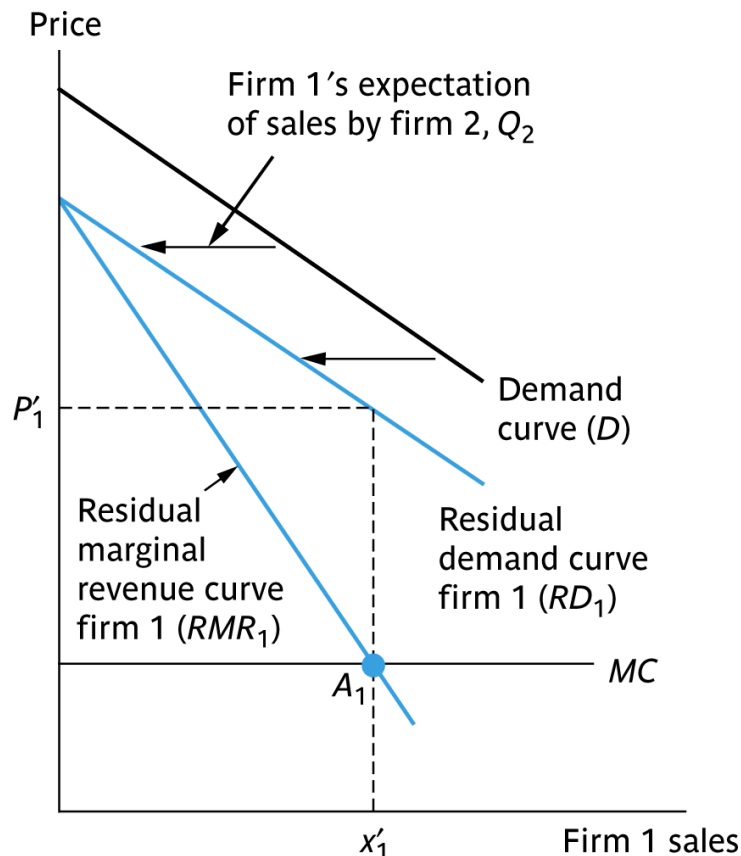
Theoretical preliminaries: monopoly

The monopoly case is easy because it avoids strategic interactions.

Profit-maximizing strategy: marginal revenue = marginal cost.
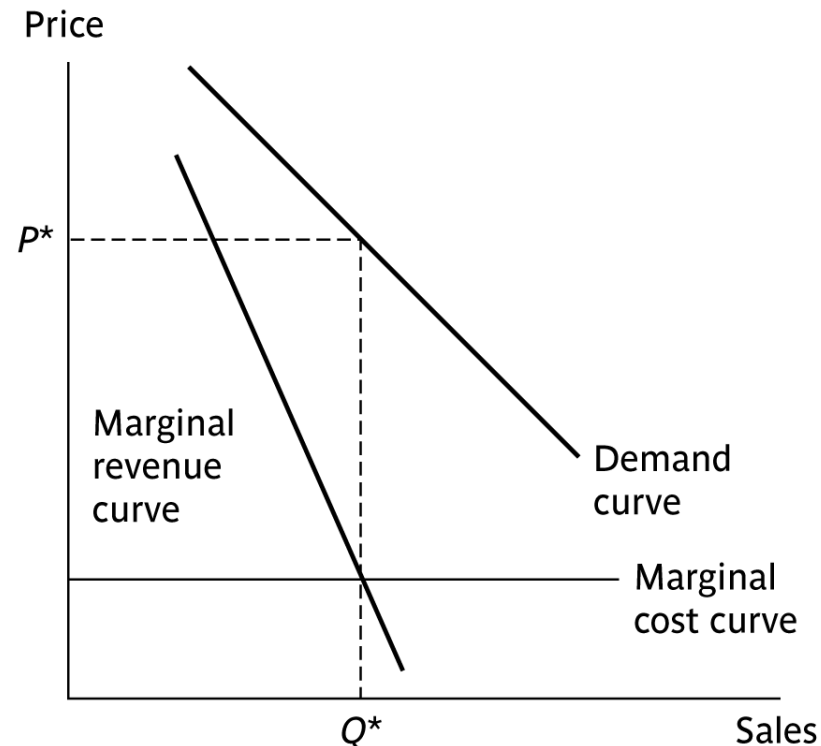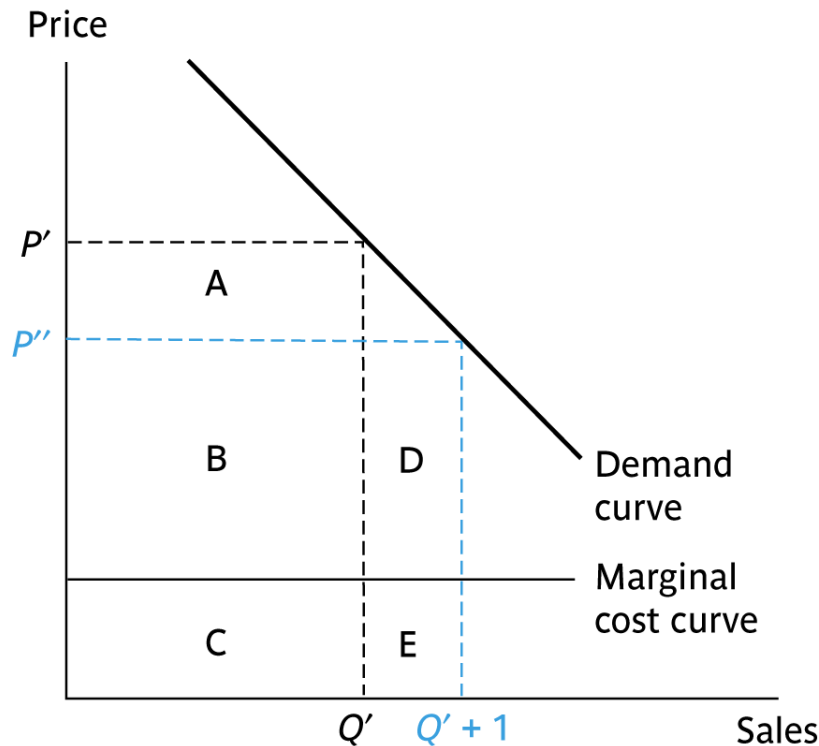
Theoretical preliminaries: duopoly

We consider strategic interactions assuming that each firm acts as if the other firms' outputs are fixed (Cournot-Nash equilibrium). Thus, each duopolist believes it is a monopolist on the demand curve shifted to the left because of the amount sold by the other firm.

Theoretical preliminaries: duopoly

- In equilibrium, the duopolists' expectations must be consistent.

- How do we find the expectation-consistent set of outputs? The easiest way is to assume that firms are symmetric in equilibrium and sell the same amount.

- Oligopoly can be analyzed using the same logic!

Duopoly

Price

Typical firm's expectation of the other firm's sales
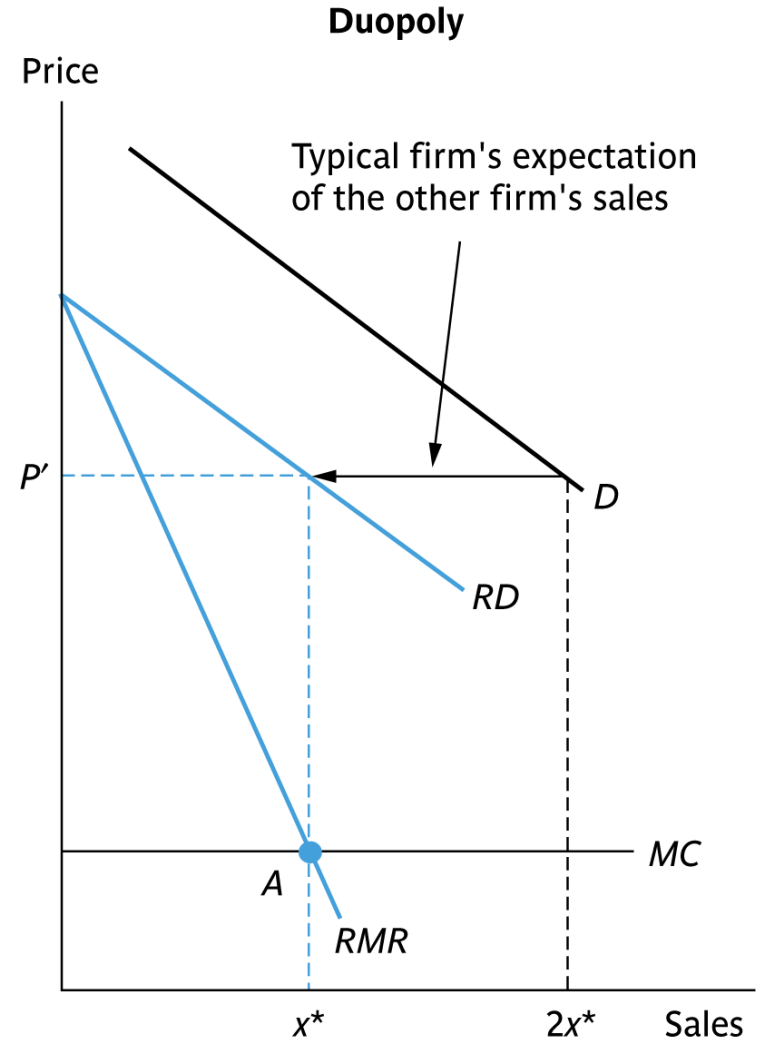
The BE–COMP diagram in a closed economy

→ To study the impact of European integration on firm size and efficiency, the number of firms, prices, and output, it is useful to have a diagram in which all of these things are determined: BE-COMP diagram.

We begin with the case of a closed economy:

- COMP curve: imperfectly competitive firms charge a price that exceeds their marginal cost; the COMP curve illustrates the relationship between mark-up (μ) and the number of firms;

- BE curve: the break-even curve illustrates that more firms will be able to survive if the price is far above marginal cost, i.e. if the mark-up (μ) is high.

The BE–COMP diagram in a closed economy

Mark-up (μ)

μ_{mono}

μ_{duo}

BE (break-even) curve

μ'

COMP curve

$n = 1$ $n = 2$ n' Number of firms
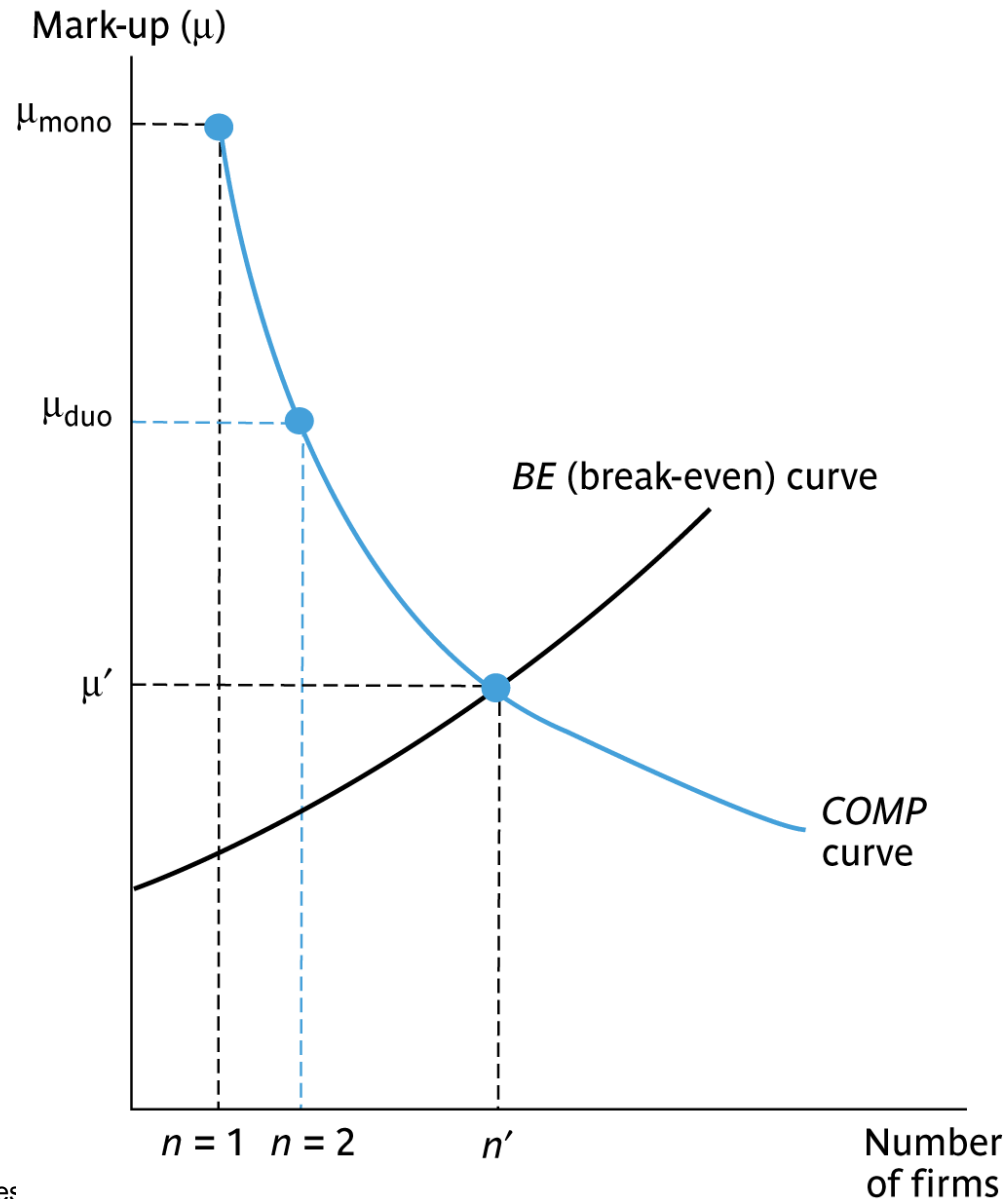
The BE–COMP diagram in a closed economy

From the equilibrium on the BE-COMP diagram, we can determined the equilibrium number of firms, mark-up, price, total consumption and firm size all in one diagram.
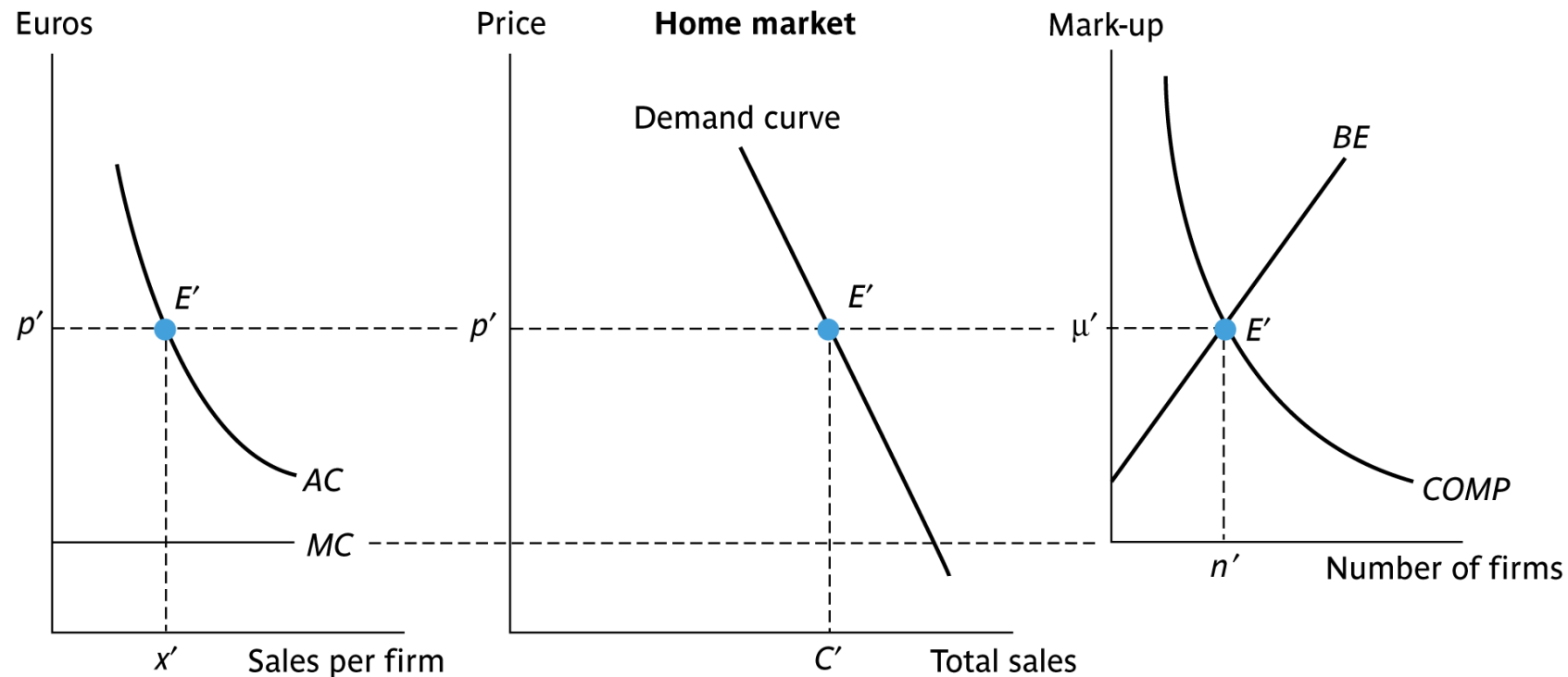
The impact of European liberalization

- European integration has involved a gradual reduction of trade barriers. The basic economic effects of this gradual reduction can, however, be illustrated more simply by considering a much more drastic liberalization – taking a completely closed economy and making it a completely open economy.

- To keep things simple, we suppose that there are only two nations, Home and Foreign, and that these nations are identical.

- The immediate impact of the no-trade-to-free-trade liberalization is to provide each firm with a second market of the same size and to double the number of competitors in each market. How does this change the outcome?

The impact of European liberalization
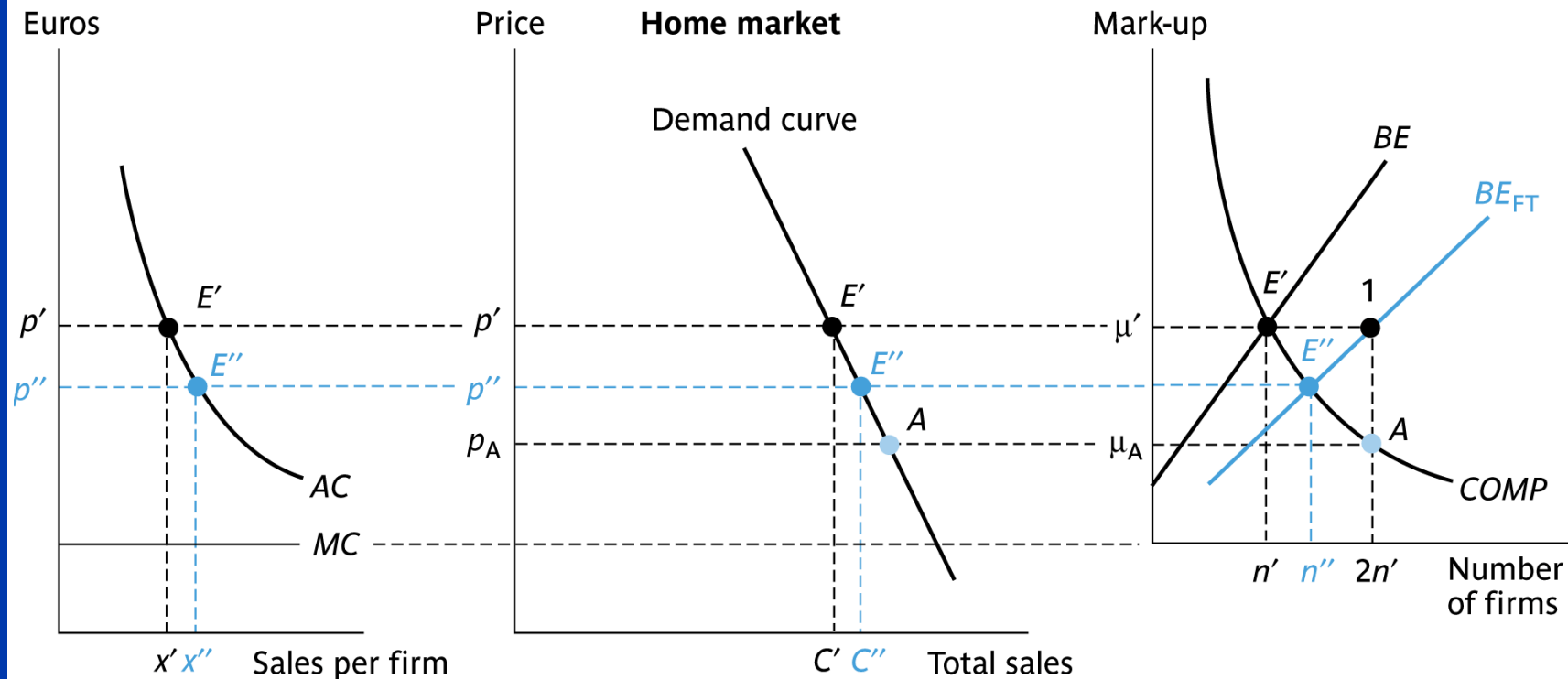
The impact of European liberalization

→ Integration implies that the BE curve shifts out.

Defragmentation:
- Initially, typical firm has 100% sales at home, 0% abroad;
- After integration, 50%-50% (can't be seen in diagram).

Pro-competitive effect:
- equilibrium moves from E' to A with firms losing money (below BE);
- markup falls and short-run price impact p' to p_A.

Industrial restructuring:
- from A to E'', number of firms from $2n'$ to n'';
- firms enlarge market shares and output, and AC falls from p' to p'';
- mark-up rises and profitability is restored.
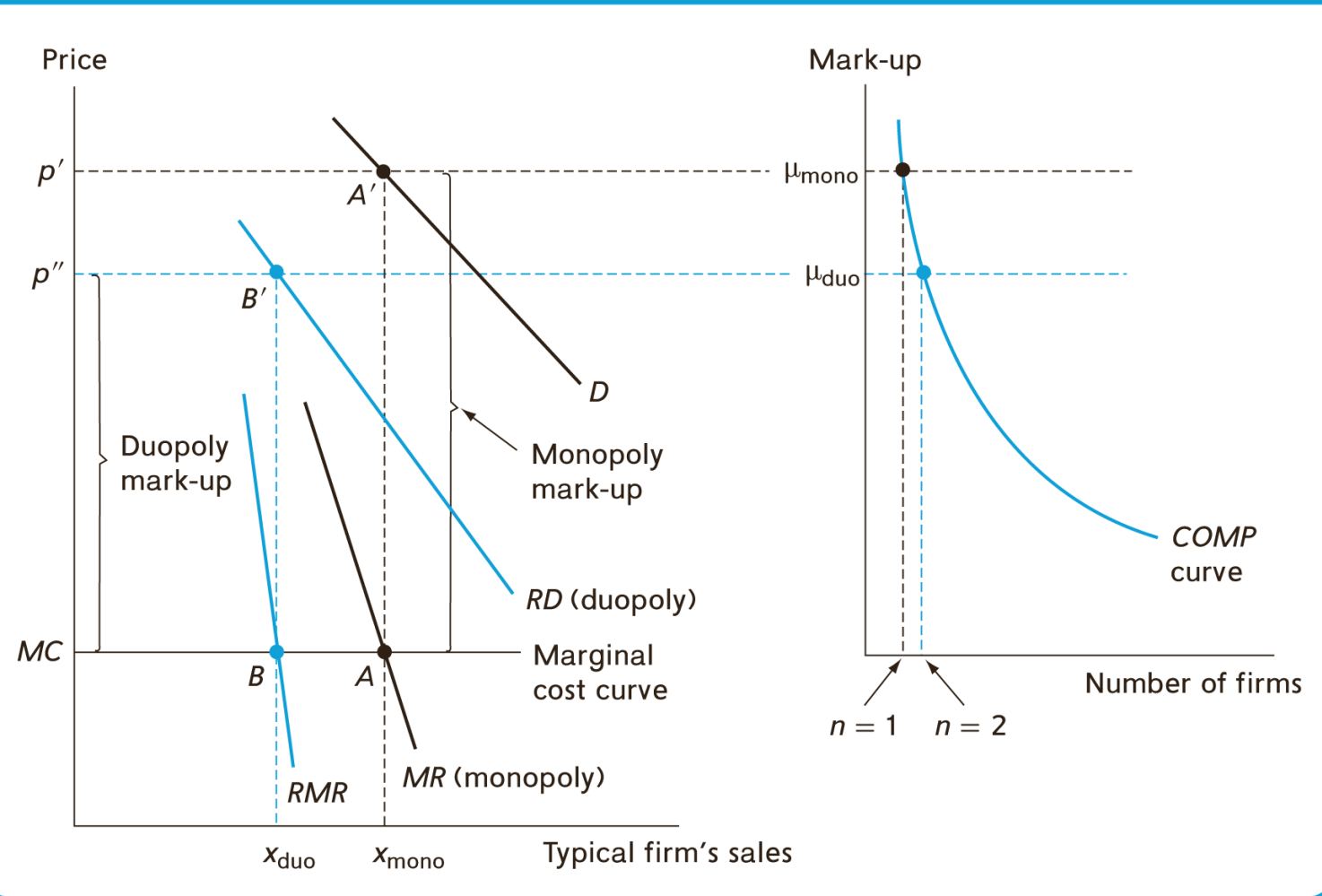
The impact of European liberalization

Welfare effects:

- The four-sided area marked by p′, p″, E′ and E″ corresponds to the gain in Home consumer surplus. The exact same gain occurs in the Foreign market (not shown).
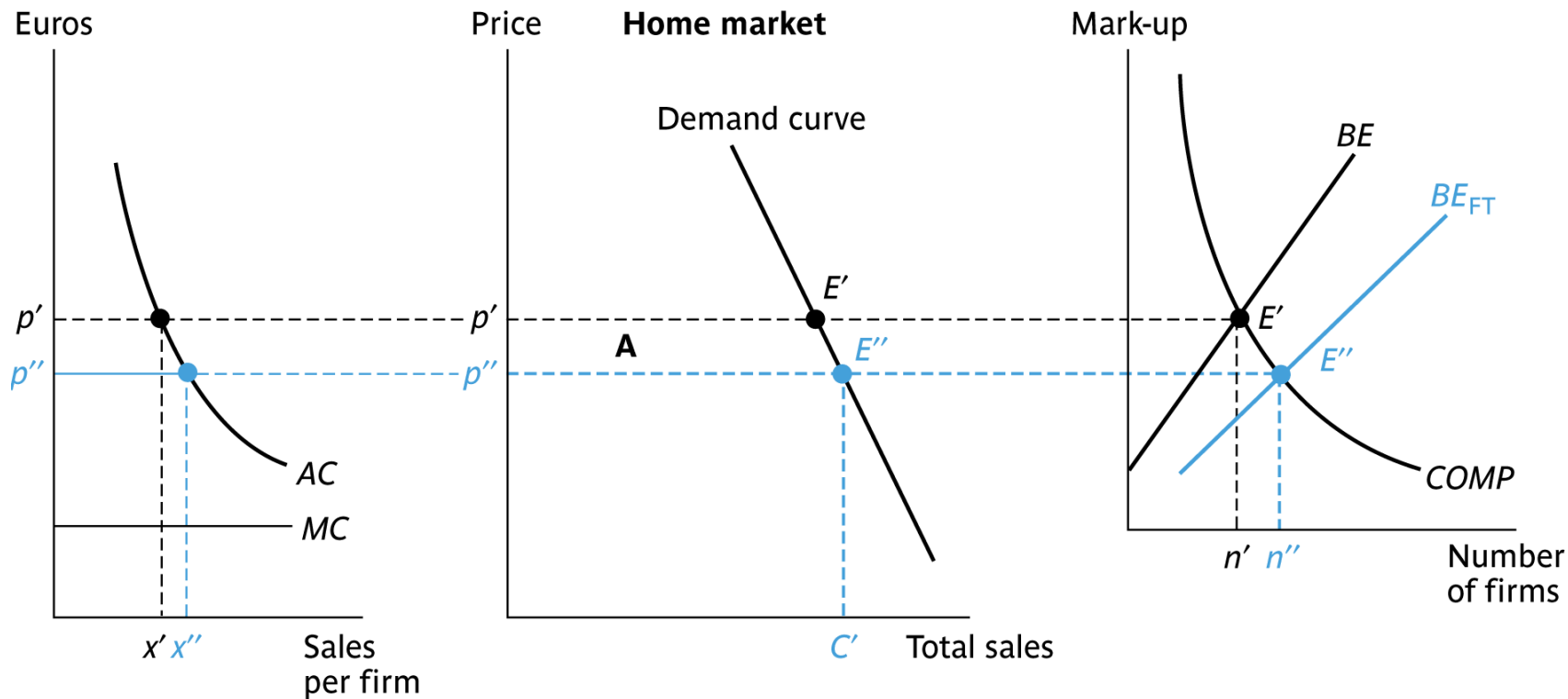
Annex: COMP curve in more detail

Figure A6.1 Impact of more firms on prices and price–cost mark-ups

Annex: BE curve in more detail

Figure A6.2 The BE curve in detail