Horizontal Mergers: theory and practice

1. Horizontal mergers
    - Unilateral effects
    - Pro-collusive (or coordinated) effects

2. EU Merger Regulation

Why modelling mergers is difficult

Brief explanation of what happens with homogenous goods and cournot competition (salant, switzer, reynolds, QJE 1981?)

Need of asset-based model

- Product differentiation (Motta, 2004)
- Homogenous goods with capacity constraints (Perry-Porter, 1985?)

Horizontal mergers: unilateral effects

- (One-shot Nash equilibrium before and after the merger.)

- If there are no efficiency gains, merging firms increase prices:

  $\rightarrow$ consumer and total surplus decrease.

- Intuitions.

Unilateral effects: A model*

$$U = v\sum_{i=1}^{n} q_1 - \frac{n}{2(1+\gamma)}\left[\sum_{i=1}^{n} q_i^2 + \frac{\gamma}{n}\left(\sum_{i=1}^{n} q_i\right)^2\right] + y \qquad (1)$$

$\gamma \in [0, \infty)$ is degree of substitution.

Whence: $$p_i = v - \frac{1}{1+\gamma}\left(nq_i + \gamma\sum_{j=1}^{n} q_j\right) \qquad (2)$$

By inversion, direct demand functions:

$$q_i = \frac{1}{n}\left[v - p_i(1+\gamma) + \frac{\gamma}{n}\sum_{j=1}^{n} p_j\right] \qquad (3)$$

- Properties of demand function

  - Both price and quantity competition can be studied

  - Aggregate demand does not depend on γ and n.

- Firms have identical technologies: $C(q_i) = cq_i$, with $c<v$.

The effects of a merger

1. Equilibrium with all single - product firms

2. Equilibrium with a multi - product firm with *m* products.

Lemma 1 *The merger increases prices and decreases consumer surplus.*

Lemma 2 *A merger always benefits the merging firms.*

The result holds unless one assumes
(i) quantity competition,
(ii)homogenous goods and
(iii) no efficiency gains.

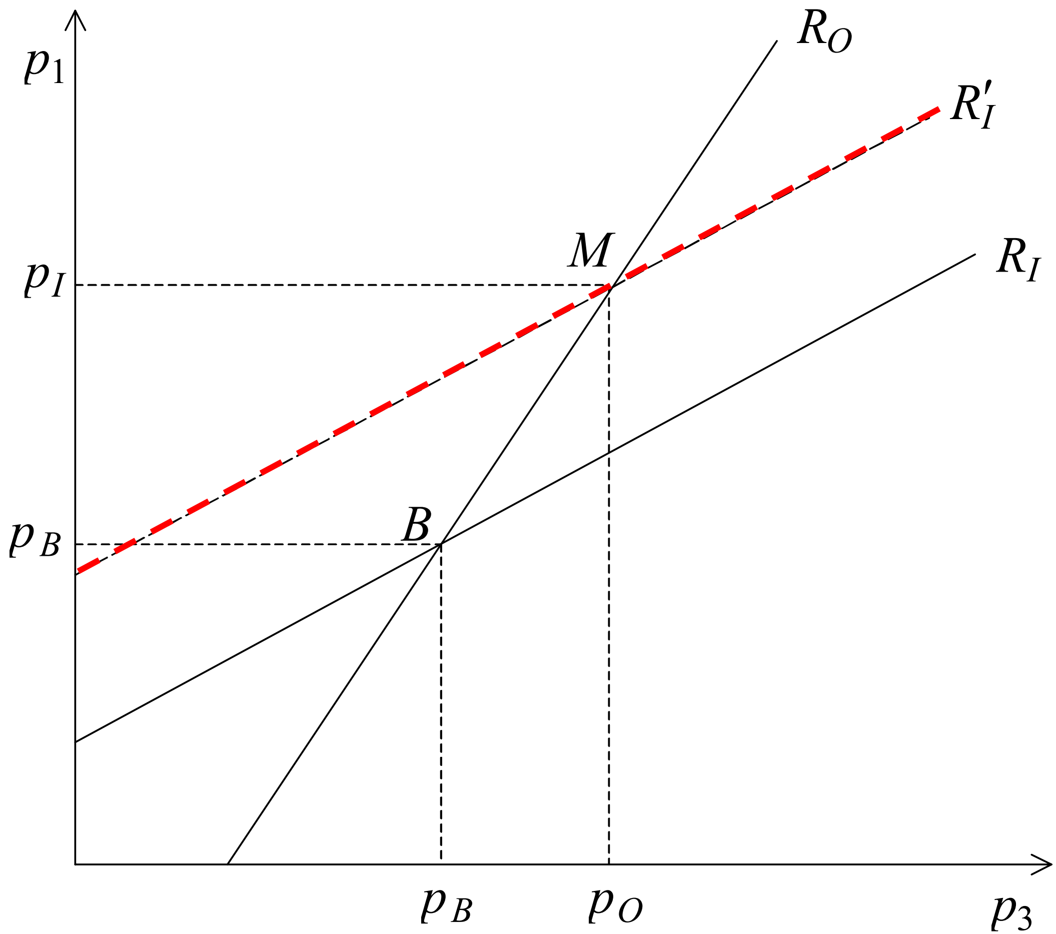


Figure 5.1. Effects of a merger absent efficiency gains: Strategic complements

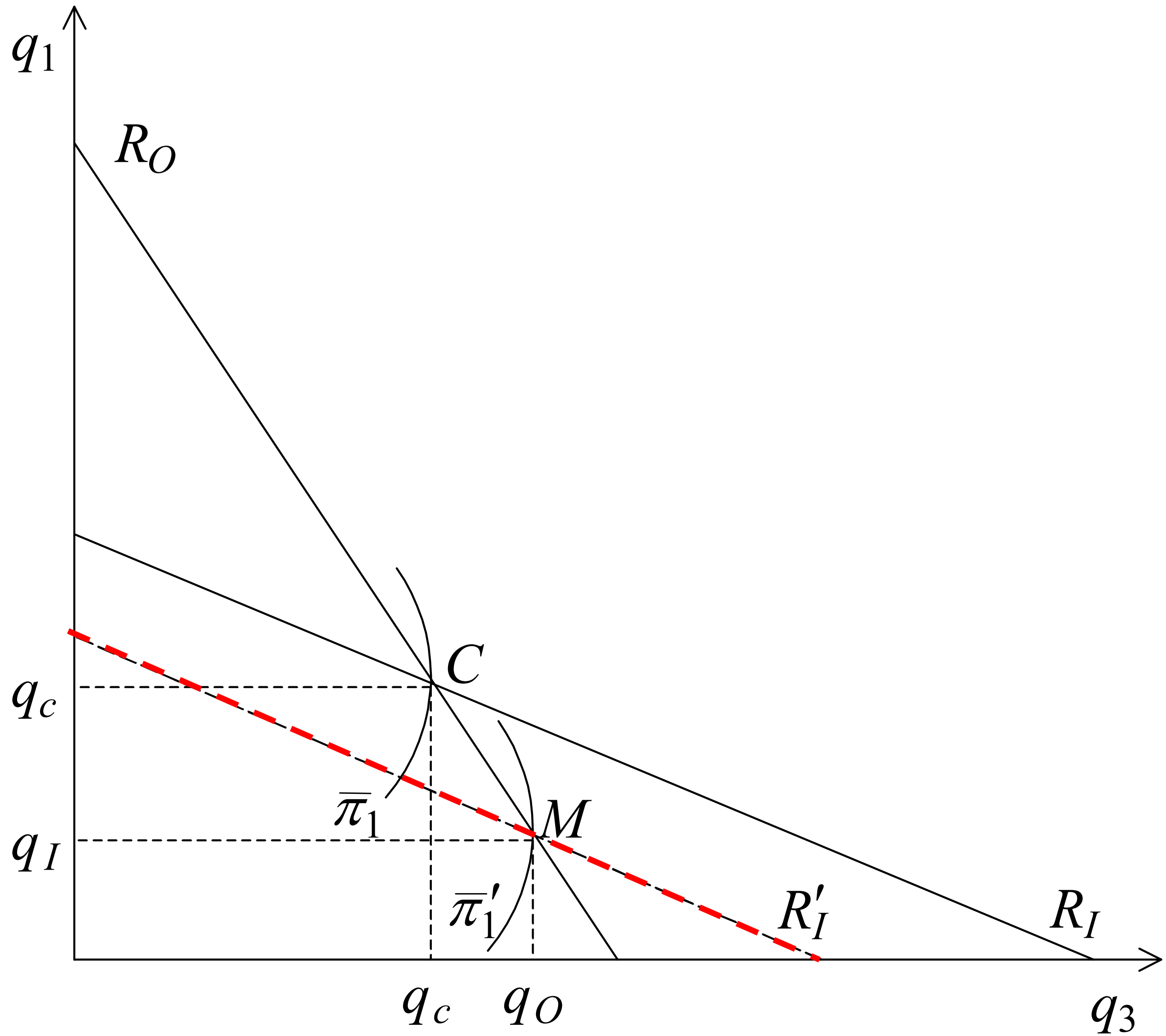


Figure 5.2. Effects of a merger absent efficiency gains: Strategic substitutes

Lemma 3 *The merger increases outsiders' profits.*

This result does not depend on whether firms compete on prices or quantities.

Lemma 4 *The merger increases producer surplus.*

Lemma 5 *The merger reduces net welfare.*

Efficiency gains

If savings from the merger are large enough, they will outweigh the increase in market power and result in lower prices.

Assessment of efficiency gains.

- Distinction between cost savings that will affect variable production costs (and prices), and cost savings that affect fixed costs.
- Efficiencies from technical rationalisation are easier to demonstrate.
- Efficiencies should be merger--specific.
- Independent studies to try and evaluate efficiency considerations.

Efficiency gains from mergers*

A merger creates a larger firm. Possible cost savings: the merged entity has unit cost *ec*, with $e \leq 1.$

The lower e, the higher the efficiency gains.

Lemma 6 *The merger is beneficial to consumers if and only if it involves enough efficiency gains, i.e. if and only if:* $e \leq \overline{e}.$

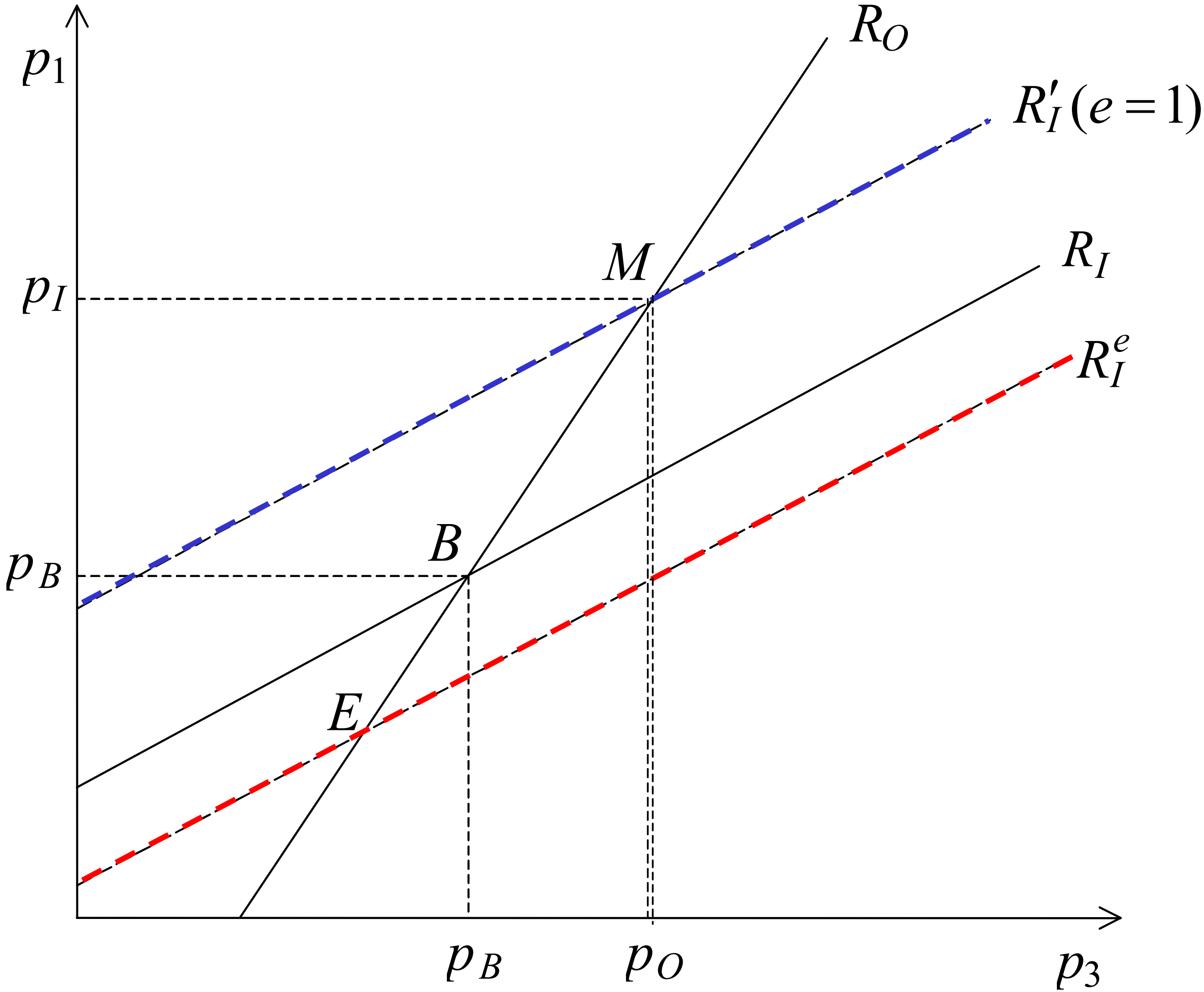


Figure 5.3. Effects of a merger with efficiency gains

Lemma 7 *A merger always benefits the merging firms.*

Lemma 8 *The merger increases outsiders' profits if efficiency gains are small enough, i.e. if* $e > \bar{e}$:

Only if there are important efficiency gains will the outsiders lose from the merger.

Lemma 9 *The merger always increases producer surplus.*

Lemma 10 *The merger improves net welfare if it involves enough efficiency gains, i.e. if* $e \leq \bar{e}$.

Horizontal mergers: pro-collusive effects

The merger might create the structural conditions for the firms to (tacitly or explicitly) collude.

Two main reasons.

- Reduced number of firms.
- More symmetric distribution of assets.

How to proceed in merger cases: a check-list

Unilateral effects

- Market definition:
  - Product market definition
  - Geographic market definition
- Market power:

  Market shares and distribution of capacities; Elasticity of market demand; Elasticity of supply of the rivals (and their excess capacity); Potential entrants; Switching costs; Power of the buyers

  If possible, econometric analysis.

- Efficiency gains

Two possible outcomes:

- The merger enables firms to significantly raise prices beyond the current level.

  $\Longrightarrow$ Prohibition or remedies.

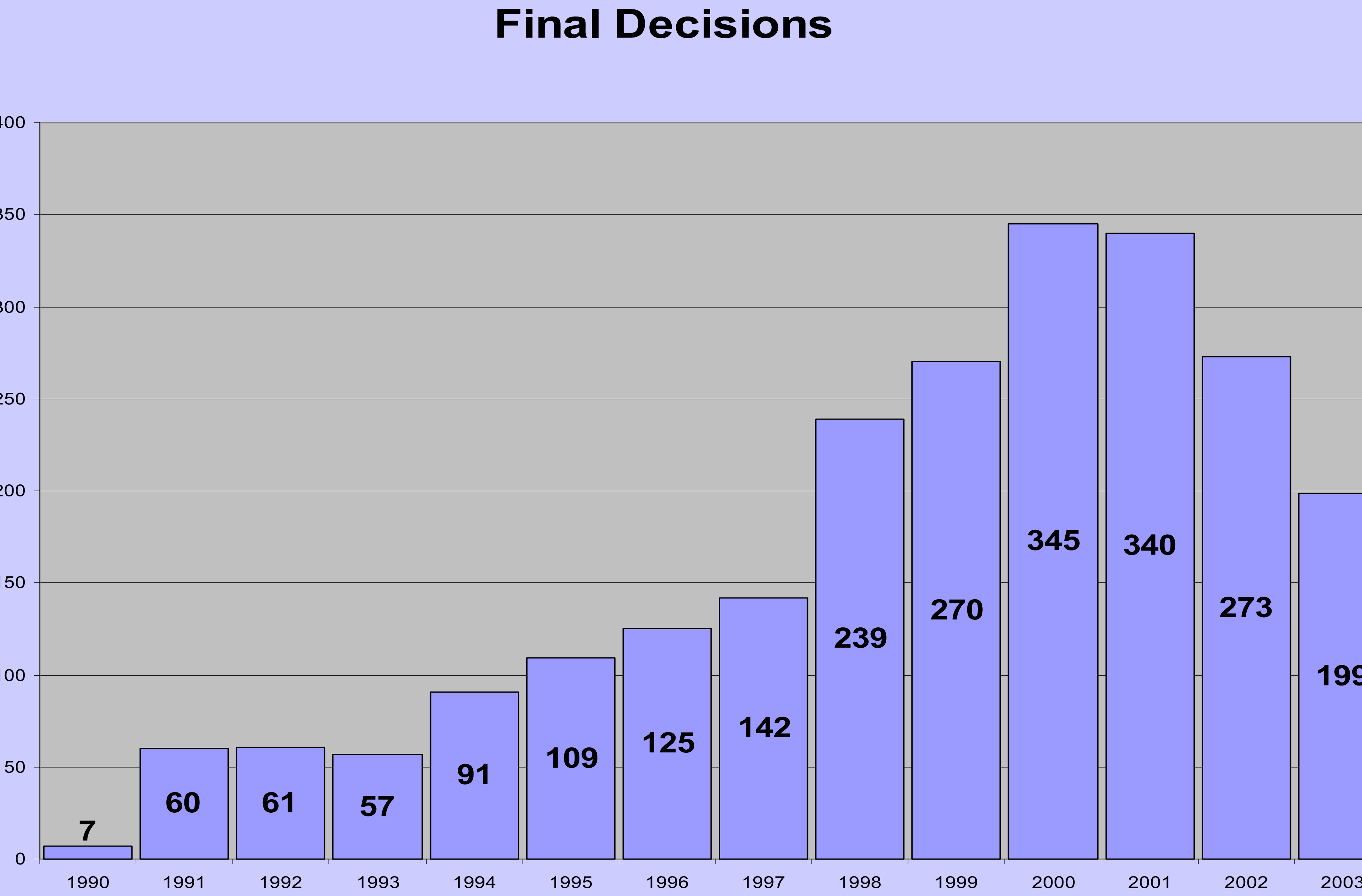
- Might collusion arise after the merger?

Joint dominance

Number of firms and concentration; Distribution of market shares and capacities; Potential entrants (and switching costs); Buyers' power; Observability of other firms' behaviour (exchange of information, competition clauses, resale price maintenance); Frequency of market transactions and magnitude of orders.

EU Merger Policy

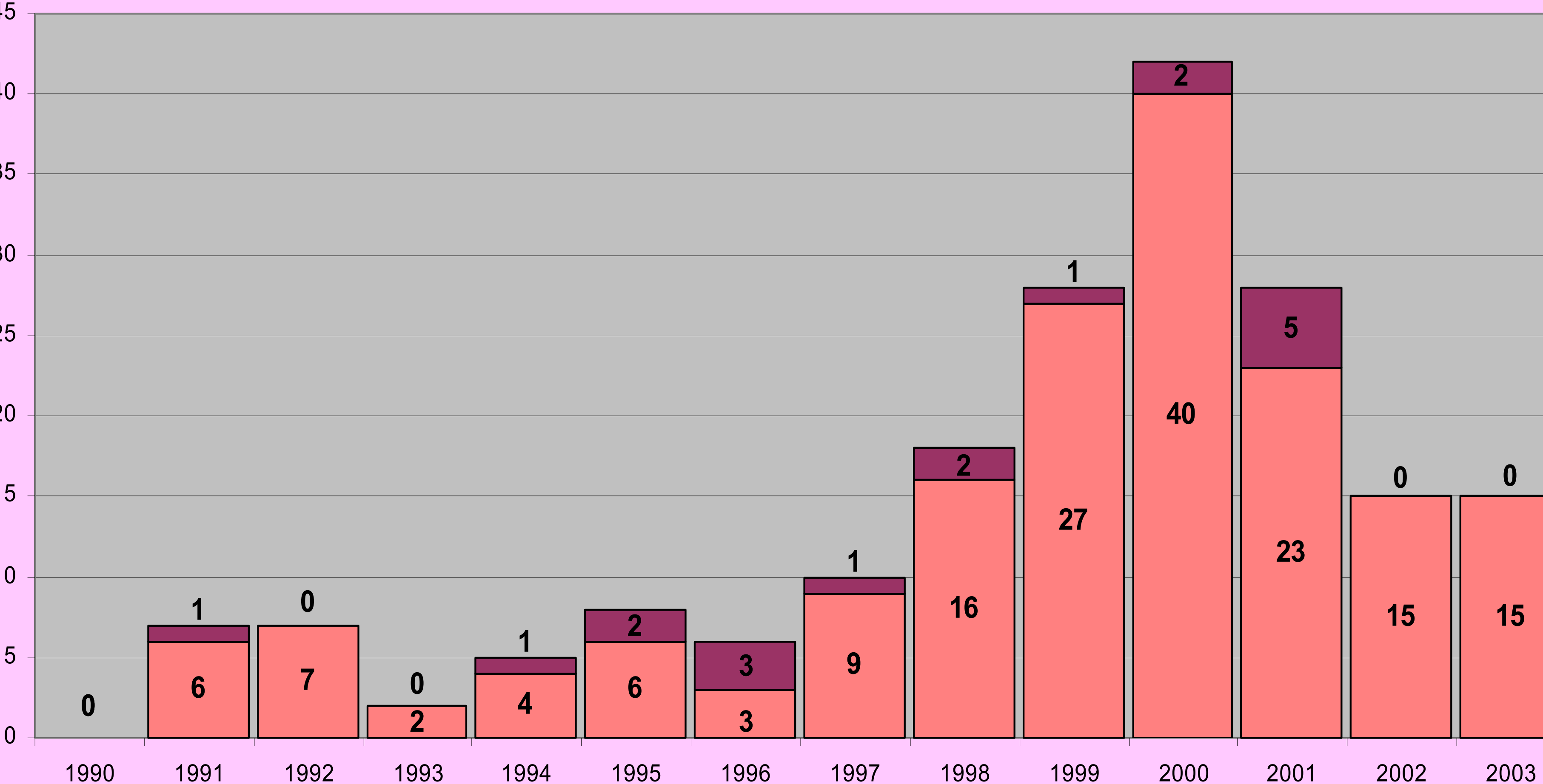
- Preventive authorisation system (MTF at DG-COMP, but recent re-organisation)
- One-stop shop for mergers (subsidiarity principle)
- Reasonably quick and effective, with certain time horizon



Source: European Merger Control - Council Regulation 4064/89 - Statistics

Figure 5.4.1. Number of final decision on mergers taken by the EC Commission

Remedies and Prohibition

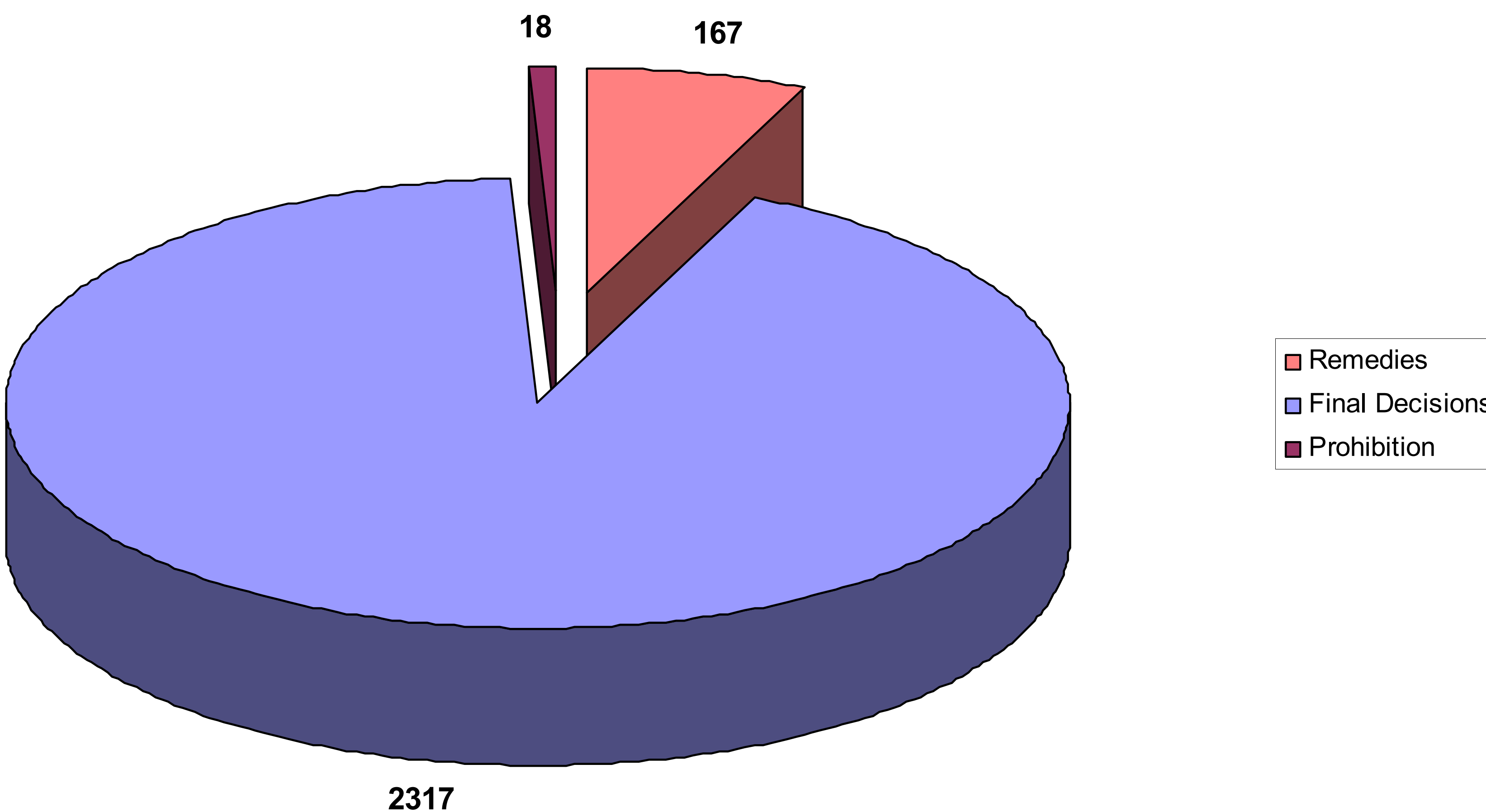


Source: European Merger Control - Council Regulation 4064/89 - Statistics

Remedies Prohibition

igure 5.4.2. Number of final decision on mergers taken by the EC Commissio

Totals: 1990 - 30 Nov. 2003



Source: European Merger Control - Council Regulation 4064/89 - Statistics

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The EU Merger Regulation 4064/89 was source of inefficient biases.

1) Restricting attention to mergers which create dominance implies that some welfare detrimental mergers might be approved.

(Joint dominance to cover unilateral effects: not a good approach. *Airtours* judgment.)

2) Failure to consider efficiency gains might result in beneficial mergers being blocked by the EU authorities.

New Merger Regulation

- Compromise between “dominance” and “SLC” test.
- (Applicable as from May 1, 2004) It will prohibit mergers that “would significantly impede effective competition, in the common market or in a substantial part of it, in particular as a result of the creation or strengthening of a dominant position”.
- Merger guidelines (also from May 1, 2004) clarify DG-COMP’s approach to mergers.
- They will also include an efficiency defence.