Mergers

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Introduction

- Nowadays most countries have laws or regulations which call for anti-trust authorities to scrutinize mergers.
- In this lecture the welfare effects of horizontal mergers, i.e. mergers between competitors, are analyzed.
- Also the main circumstances under which such mergers should or should not be allowed are identified.

Introduction

- There are **two main issues** which should be considered when studying the effects of mergers.
- **Firstly**, a merger might allow the merged firm to unilaterally exercise **market power** and thus higher prices may result.
- **Secondly**, a merger might favour **collusion** in the industry.
  - This effect is called “coordinated effects” in US merger law and “joint dominance” in EU merger law.
  - Indeed, the merging firm would not be able to unilaterally raise prices significantly, but the merger could generate new industry conditions enhancing the scope for collusion.
  - Since firms are then more likely to – tacitly or explicitly – attain a collusive outcome, thus higher prices may result.

Agenda

- Unilateral Effects
- Pro-Collusive Effects
- Modelling Mergers
- Merger Remedies

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- **Unilateral Effects**
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Unilateral Effects of a Merger: Comparative Statics

- Unilateral effects of a merger involve comparing the one-shot equilibria in the industry before and after the merger.
- Firstly, the market power of the merging firms increase and both consumer surplus and total welfare decrease via higher prices. *("Competitive alternatives decrease; more strategic room; etc.")*
- Secondly, with efficiency gains in the merging firms, the net effect on welfare is ambiguous, as the rise in market power can be outweighed – or beneficial – by the respective price decrease.

Variables which Affect Unilateral Market Power

- Several variables affect the extent to which the merged firms will be able to exercise more market power:
  - Concentration
  - Market Shares
  - Capacities
  - Entry
  - Demand Variables
  - Buyer Power
  - Failing Firm Defence
- If, due to certain industry characteristics, the actual impact of the merger is expected to be small or even irrelevant, there is no need for intervention.
- Thus, authorities certainly need to carefully consider the variables affecting unilateral market power when making merger decisions.

Variables which Affect Unilateral Market Power: Concentration

- The more independent firms operating after the merger the less likely the merger is to be detrimental to consumers.
- The intuition is straightforward: the ability of merging firms to exert market power clearly depends on the number of rivals.
- With a merger to monopoly, for instance, the new firm does not face any restraint from competitors in its pricing decisions.
- In case of an extremely fragmented industry, where the market shares of every firm are tiny, the impact of a merger on the market price will be irrelevant.

Variables which Affect Unilateral Market Power: Concentration

- In practice, this motivates using a concentration index such as the Herfindahl-Hirschman-Index (HHI) for the authorities:

$$HHI = \sum_{i}^{N} s_i^2$$

  where N denotes the number of firms in the industry and s_i denotes the market share of firm i.

- Note that the HHI ranges from 0 (in the limit) to 1.

- The HHI is often used as a first screening device for the unilateral effects of mergers.

- *Ceteris paribus* authorities should worry more about a merger in a concentrated industry than about one in a fragmented industry.

Variables which Affect Unilateral Market Power: Concentration

- Moreover, whatever the existing level of concentration, authorities should pay enhanced attention to a merger which increases in a **sensitive way** industry concentration.
- Hence, a proxy for the likely change in concentration such as ΔHHI – i.e. the difference between post- and pre-merger concentration – is often used as an additional screening device.
- In this context the (expected) post-merger HHI is usually computed by using the sum of the pre-merger market shares for the post-merger market share of the merged firms.
- US Merger Guidelines: US competition agencies should rely on the HHI and the ΔHHI to screen mergers and decide which ones are likely to raise adverse competitive consequences.

Variables which Affect Unilateral Market Power: Market Shares

- Another simple but useful indicator of the likely market power created by a merger is given by market shares.
- For instance, Farrell and Shapiro (1990): the lower the market share of the merged firm the less severe the effect on prices.
- Besides, other models show that mergers, which result in a new largest firm, and mergers, which increase the size of the largest firm always reduce welfare.
- These findings justify using market shares of the merging firms as another possible screening device in merger control.
- If the merger involves firms with low market shares, then it is unlikely that considerable adverse effects would arise.

Variables which Affect Unilateral Market Power: Capacities

- The ability to raise prices by any given firm is limited by the existence of rivals to which consumers can switch.
- It is thus crucial that rivals are effectively competitive, and able to satisfy the possible additional demand addressed to them.
- Therefore, the larger the unused capacity of the rivals, the less likely it is that the merged firm will exercise much market power.
- Similar considerations apply to the availability of raw materials, reserves, or other indispensable inputs.

Variables which Affect Unilateral Market Power: Entry

- The ability to raise prices after a merger is also limited by the existence of potential entrants.
- Recall the contestable markets theory emphazising the role of potential entrants in restraining market power of incumbents.
- Firms (local or import) which would would find it unprofitable to enter the industry at pre-merger prices might decide to enter if the merger brings about higher prices or lower quantities.
- By anticipating this effect, post-merger prices might not rise at all, or if they do, the price increases could be only transitory.

Variables which Affect Unilateral Market Power: Entry

- The extent to which potential entrants restrain the market power of actual industry players crucially depends on fixed sunk costs.
  - The larger the costs (and the more sunk, i.e. committed to the industry and not recoverable) the entrant has to incur, the higher the scope for a price increase.
- Barriers to entry can also be technological (e.g. know-how to be learned, patents of existing firms), administrative (e.g. government licences or permits), financially (getting credit), etc.
- Switching costs of various nature or network effects might also be an obstacle for new entrants.
- The evaluation of the **likelihood** of entry is difficult.
  - **Authorities** have to judge whether there are firms considering entry, how likely they are to enter, what possible barriers they face, and how long it might take for entry to be accomplished.

Variables which Affect Unilateral Market Power: Demand Variables

- Not only supply variables but also demand variables must be taken into account to understand to what extent the merging firms enjoy market power.
- For instance, in industries characterized by high switching costs, consumers would not easily change their providers, who will then enjoy market power.
- More generally, the lower the price elasticity of market demand the higher the scope for raising prices.

Variables which Affect Unilateral Market Power: Buyer Power

- The merging firms' ability to charge high prices also depends on the degree of buyer power.
- Strong buyers can constrain upstream market power by threatening to withdraw orders from one seller to give them to another.
- Or strong buyers can threaten to start upstream production by themselves.

Variables which Affect Unilateral Market Power: Failing Firm Defence

- To decide on the desirability of a merger it is important to understand what is likely to happen after it takes place.
- For instance, do entry, or demand factors, or buyer power constrain the ability of the merging firms to increase prices?
- However, it is also relevant to assess what would happen were the merger not to take place.
- Suppose that the merger involves a failing firm, i.e. a firm that would without a merger not be able to survive in the industry.
- In that case, the post-merger situation should be compared not with the pre-merger situation, but with the situation after the failing firm would have exited the industry.
- The failing firm defence is stated in the US Merger Guidelines.

Efficiency Gains

- In the absence of efficiency gains, a merger should be expected to lower both consumer surplus and total welfare.
- However, efficiency gains might offset the enhanced market power of merging firms and actually result in higher welfare.
- Intuitively, the merger might cause the insiders to be more efficient and save on their unit costs.
- If these savings are large enough, they outweigh the increase in market power resulting in lower prices benefiting the consumers.

Efficiency Gains

- In general, with efficiency gains the merging firms have two possible ways to increase profits: increase prices (reduce sales) or decrease prices (increase output).
- Which of these two ways is the most profitable cannot be said a priori, but the higher the efficiency gains the more likely the second effect will dominate.
- If efficiency gains are large enough, then the insiders to the merger will decrease sales prices and both consumer and total welfare will increase.

The Effect of Efficiency Gains on Outsiders' Profits

- In case of efficiency gains of a merger, outsiders may lose and thus oppose to it, when the merger allows insiders to cut costs.
- Intuitively, the merger changes the competitive positions of the firms in the industry to the detriment of the outsiders.
- Note that absent efficiency gains a merger can be advantageous to the outsiders: indeed, the insiders, by increasing prices and/or reducing output, benefit the rivals.
- In such cases a merger can be seen as some public good (public good = high prices or low output) provided by the insiders, while the outsiders can free-ride on the provision of the public good.
- However, typically rival firms' profits decrease when the merger has a positive effect on welfare, i.e. when there are sufficiently large efficiency gains.

The Effect of Efficiency Gains on Outsiders' Profits

- The result that generally welfare increases and outsiders' profits decrease in the case of large efficiency gains should be taken into account by authorities.
- Indeed, authorities should be careful about the reliance they place on the information received from interested parties.
- In sum, while buyers and final consumers should have an incentive to complain when the merger is likely to increase prices (thus reduce welfare), the opposite is often true for outsiders.

Possible Nature of Efficiency Gains

- **Economies of scale** and **economies of scope** are the most obvious reasons why firms combining their assets might decrease their costs.
- Indeed, due to a merger, firms might be able to reorganize their production so as to improve the division of labour; or they might benefit from lower costs due to joint production.
- Other possible gains might come from synergies in R&D, rationalization of distribution and marketing activities, as well as cost savings in administration.

Assessment of Efficiency Gains

- From the theoretical viewpoint a distinction between cost savings that directly affect variable production costs and those affecting fixed costs is desirable.
- The former type of efficiency gains are likely to have a direct impact on prices, while the latter type would not modify the price decisions of the firms (which depend only on variable costs).
- Efficiency gains in fixed costs may still have a positive welfare effect: this would come only from profit increases due to lower fixed cost duplication, as consumer surplus would not change.
- If authorities attach a higher weight to consumer welfare (or legal requirement that some firms' gains be passed on to consumers), efficiency gains due to fixed cost savings are less favourable.

Assessment of Efficiency Gains

- Besides, efficiency arguments should be accepted only as long as cost savings of the merger could not be achieved otherwise.
- For instance, if the firms claim that the merger would create efficiency gains due to reducing personnel costs, one should ask if theses savings could not be achieved without the merger.
- Where efficiency gains could be achieved without a merger they should not be accepted as an efficiency defence of the merger.
- In such a case the efficiency gains could be obtained without reducing the number of independent competitors.

Efficiency Gains and Asymmetric Information

- A crucial issue in the discussion of efficiency gains is the assessment of the likelihood of the gains from a merger.
- Generally, there is asymmetric information between a competition authority and the merging parties.
- Indeed, the merging parties are more informed about the structure of production and the functioning of the market.
- When efficiency gains are a crucial determinant in the decision on the prohibition or acceptance of the merger, the merging firms have an incentive to overstate efficiency claims.
- For opposite reasons, the rivals which fear that the merger could jeopardize their competitive positions have an incentive to understate the efficiency gains of the merger.
- Authorities will thus want to rely on independent studies to try to evaluate efficiency considerations.

Balancing Efficiency and Market Power Considerations

- Finally, if efficiency gains appear to exist (and that they are merger-specific), then it has to be evaluated whether they are sufficiently large to positively affect consumer (and total) surplus.
- In practice, to compute the likely net result of the market power and efficiency gains effects is very difficult and case-specific.
- Certainly, the stronger the likelihood that the merger allows the parties to exercise higher market power, the larger should be the efficiency gains required to authorize the merger.

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Pro-Collusive Effects

- The mechanism through which a merger can negatively affect welfare considered so far has been **unilateral market power**.
- A further important mechanism is given by **pro-collusive effects** ("coordinated effects" or "joint dominance").
- Accordingly, the merger does not pose a threat of market power by a single firm, but generates more favourable conditions for collusion in the industry.
- In other words, before a merger firms might not be able to reach a collusive outcome, whereas the merger might create the structural conditions for the firms to (tacitly or overtly) collude.

Pro-Collusive Effects

- There are two main reasons why a merger might favour the creation of collusive outcomes.
- Firstly, a merger by definition reduces the number of independent firms.
- Since it has be shown in Lecture III that the fewer the market participants, the higher the scope for collusion in the industry, a merger makes it more likely that firms will charge higher prices.
- Secondly, a merger might give rise to a more symmetric distribution of assets in the industry.
- When this is the case, it has been argued in Lecture III, that a collusive equilibrium will also be more likely.

Factors Which Affect Collusion

- The more an industry is already characterized by the co-existence of factors favouring collusion, the more risky to allow a merger, as it would increase the likelihood of collusion.

- Such factors include (cf. Lecture III):
  - Importance of entry barriers.
  - Presence of structural links like cross-ownership.
  - Existence of information exchange between firms.
  - Presence of multi-market contacts.
  - Regularity and frequency of market interactions.
  - Absence of countervailing power.
  - Existence of clauses such as best-price and retail-price-maintenance.

Factors Which Affect Collusion

- The analysis of **pro-collusive effects** will therefore have to take into account all such factors.
- It is difficult a priori to predict whether a merger might lead to a collusive outcome or not.
- In principle, the more an industry contains factors favouring collusion, the stricter agencies should be towards the merger.
- Typically, the analysis is complex and involves much room for discretion, as it is hard to understand how such factors interact and whether collusion is likely to arise from the merger or not.
- Economics indicates the factors affecting collusion, but is silent on the net effect upon its likelihood, if an industry presents some circumstances favouring and others discouraging collusion.
- There simply is no rule on how to weigh the different factors, and the final judgement on whether a merger results in collusion depends on which factors are more crucial in the case at hand.

Efficiency Gains and Pro-Collusive Effects

- In general, an improvement of the efficiency of operations should be looked at positively as it should decrease prices.
- This is more so if the merger results in a firm which has lower costs, or larger capacity, than the rivals, as these elements might disrupt collusion by creating a stronger incentive to deviate.
- However, it is also possible that the merger and its efficiency gains create symmetric conditions in the industry.
- Example: 2nd and 3rd largest firms merge reaching the same product range and technological level as the industry leader: this can favour collusion by creating a more symmetric environment.
- However, it is unlikely that this effect might outweigh the potential welfare benefits of the efficiency gains.
- In particular, if such a merger is not allowed, the risk is that the gap with respect to the leading (more competitive) firm widens and in the long-run this could result in single-firm dominance.

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Modelling Mergers

- A simple product differentiation model is now constructed to model the **unilateral effects** of mergers.
- Assume that there are three single product firms 1, 2, and 3 with identical marginal costs $c \geq 0$.
- The demand functions for $i \in \{1, 2, 3\}$ are as follows:

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

  where $\gamma \in [0; \infty]$ is the product substitutability and $v > c$.
- Note that the firms' products are given exogenously, and a merger does not affect product choice or the degree of product substitutability (assumed to be symmetric among all products).

Pre-Merger Equilibrium

- Before the merger takes place, there are three identical single-product firms 1, 2, and 3 with profit functions

$$\pi_i = (p_i - c)q_i$$

for every $i \in \{1, 2, 3\}$.

- The first-order conditions $\frac{\partial \pi_i}{\partial p_i} \stackrel{!}{=} 0$ induce

$$p_i = \frac{3v + (3 + 2\gamma)c + \gamma p_j + \gamma p_k}{2(3 + 2\gamma)}$$

for $i, j, k \in \{1, 2, 3\}$ such that $i \neq j \neq k$.

Pre-Merger Equilibrium

- Imposing symmetry on prices yields pre-merger equilibrium

$$p^*_{pre} = \frac{3v + (3 + 2\gamma)c}{2(3 + \gamma)}$$

- Outputs and profits then obtain as

$$q^*_{pre} = \frac{(v - c)(3 + 2\gamma)}{6(3 + \gamma)}$$

$$\pi^*_{pre} = \frac{(v - c)^2(3 + 2\gamma)}{4(3 + \gamma)^2}$$

- Note that as substitutability γ among the products increase, equilibrium quantities and profits decrease.

Merger Between Two Firms

- Suppose that a merger takes place between firms 1 and 2.
- In the industry there are now the insider and outsider parties to the merger, denoted by in and out, respectively.
- Note that in sells two products, while out sells one product.
- Profits are as follows:

$$\pi_{in} = \sum_{i=1}^{2} \left(\frac{(p_i - c)}{3} \left(v - p_i(1+\gamma) + \frac{\gamma}{3}(p_1 + p_2 + p_3) \right) \right)$$

$$\pi_{out} = \frac{(p_3 - c)}{3} \left(v - p_3(1+\gamma) + \frac{\gamma}{3}(p_1 + p_2 + p_3) \right)$$

Merger Between Two Firms

- The first-order conditions $\frac{\partial \pi_{in}}{\partial p_1} \stackrel{!}{=} 0$, $\frac{\partial \pi_{in}}{\partial p_2} \stackrel{!}{=} 0$ and $\frac{\partial \pi_{out}}{\partial p_3} \stackrel{!}{=} 0$ induce

$$3v + (3+\gamma)c - 2(3+2\gamma)p_1 + 2\gamma p_2 + \gamma p_3 = 0$$

$$3v + (3+\gamma)c - 2(3+2\gamma)p_2 + 2\gamma p_1 + \gamma p_3 = 0$$

and

$$3v + (3+2\gamma)c - 2(3+2\gamma)p_3 + \gamma(p_1+p_2) = 0.$$

- The post-merger equilibrium prices then obtain (with $p_1^* = p_2^* = p_{in}^*$ and $p_3^* = p_{out}^*$) as

$$p_{in}^* = \frac{(2+\gamma)(3+2\gamma)c + (6+5\gamma)v}{2(\gamma^2+6\gamma+6)}$$

$$p_{out}^* = \frac{(3+\gamma)c(1+\gamma) + (3+2\gamma)v}{\gamma^2+6\gamma+6}$$

Merger Between Two Firms

- Post-merger output then read as

$$q_{in}^{*} = \frac{(3+\gamma)(6+5\gamma)(v-c)}{18(6+6\gamma+\gamma^2)^2}$$

$$q_{out}^{*} = \frac{(3+2\gamma)(v-c)}{9(6+6\gamma+\gamma^2)}$$

and post-merger profits as

$$\pi_{in}^{*} = \frac{(3+\gamma)(6+5\gamma)^2(v-c)^2}{36(6+6\gamma+\gamma^2)^2}$$

$$\pi_{out}^{*} = \frac{(3+2\gamma)^3(v-c)^2}{9(6+6\gamma+\gamma^2)^2}$$

Effect on Prices

- It can now be seen that the merger increases prices and therefore decreases consumer surplus.
- Indeed, observe that the inequality $p^*_{in} > p^*_{pre}$ simplifies to

$$\frac{(3+2\gamma)\gamma(v-c)}{2(3+\gamma)(6+6\gamma+\gamma^2)} > 0$$

(Recall that $v > c$ holds by assumption.)

- To illustrate this result, consider the best-reply functions of the firms before and after the merger, e.g. for products 1 and 3.

Effect on Prices

- In the (p_3, p_1)-space, and for given p_2, before the merger the best-reply functions of the insider and of the outsider are obtained from the corresponding first-order conditions as follows:

$$BR_{in}^{pre}(p_3): \quad p_1 = \frac{3v + (3+2\gamma)c + \gamma p_2 + \gamma p_3}{2(3+2\gamma)}$$

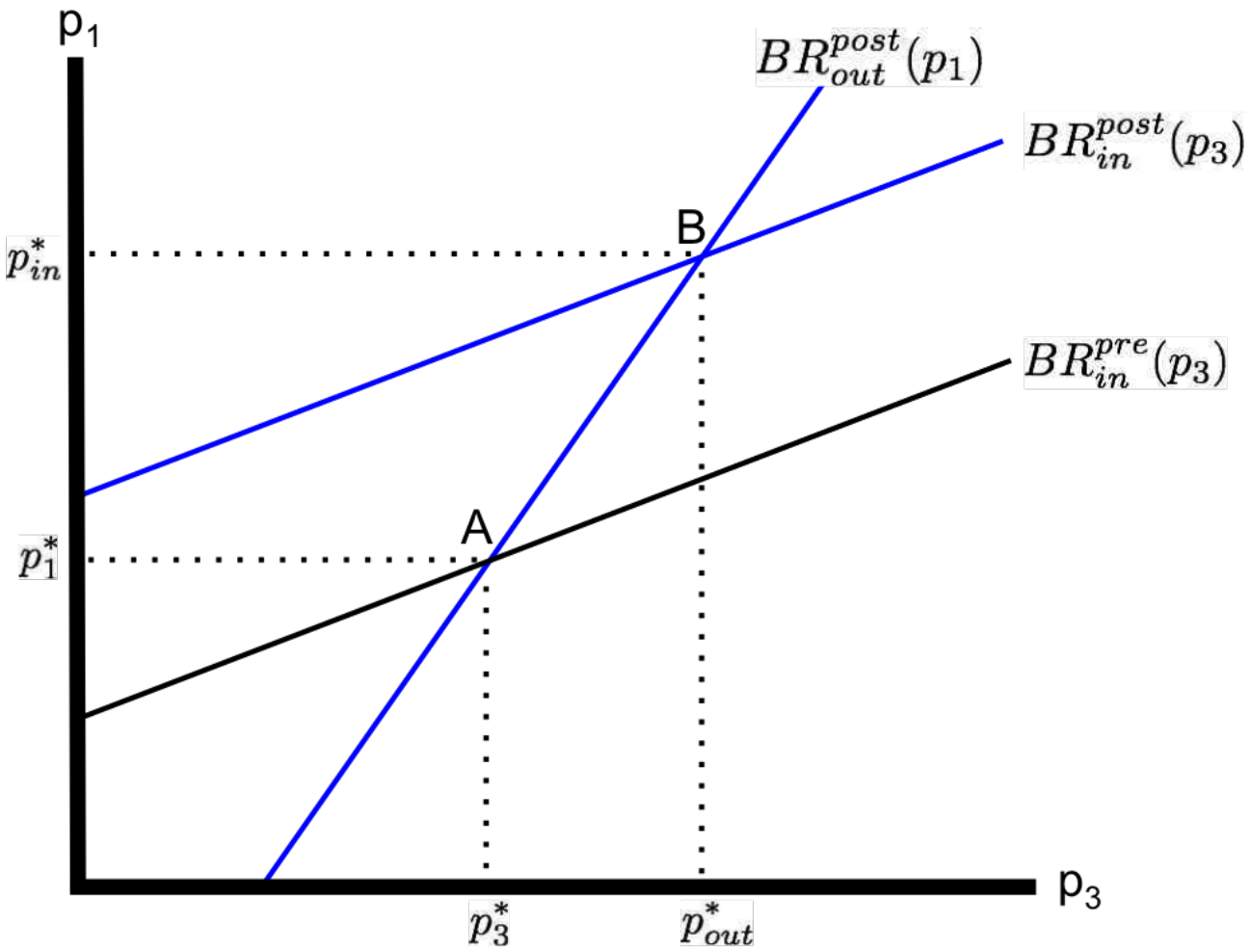
$$BR_{out}^{pre}(p_1): \quad p_3 = \frac{3v + (3+2\gamma)c + \gamma p_1 + \gamma p_2}{2(3+2\gamma)}$$

- After the merger the best-reply functions obtain as:

$$BR_{in}^{post}(p_3): \quad p_1 = \frac{3v + (3+\gamma)c + 2\gamma p_2 + \gamma p_3}{2(3+2\gamma)}$$

$$BR_{out}^{post}(p_1): \quad p_3 = \frac{3v + (3+2\gamma)c + \gamma p_1 + \gamma p_2}{2(3+2\gamma)}$$

Effect on Prices: Illustration



Effect on Prices: Illustration

- As the figure illustrates, the merger determines an upward shift of the best-reply function of the insider product.
- Formally, the intercept of BR_{in}^{post} is higher than that of BR_{in}^{pre}, as $p_2 > c$ must hold at equilibrium.
- Thus, the equilibrium price increases after the merger for both the insider as well as outsider products.
- Note that the price increase of the insider product is larger than that of the outsider product, which implies a reallocation of output in favour of the outsider.

Effect on Prices: Intuition

- When firms act non-cooperatively in the marketplace, each imposes a negative externality on the others by choosing a price which is too low compared to the joint-profit-maximizing one.
- If two firms merge, they will take into account the negative externality imposed on each other, and raise their price.
- The other firms will react ("prices are strategic complements") by increasing their prices, but not as much as the merging firms.

Effect on Insiders' Profits

- It can also be seen that the merger benefits the merging firms.
- Indeed, observe that the inequality $\pi_{in}^* > \pi_{pre}^*$ simplifies to

$$\frac{\gamma^2(27+63\gamma+42\gamma^2+7\gamma^3)(v-c)^2}{36(\gamma^2+6\gamma+6)^2(3+\gamma^2)^2} > 0$$

- The result that the merger benefits the merging parties is not robust: it critically depends on the price competition assumption.

Digression: Effect on Insiders' Profits with Quantity Competition

- For example, Salant et al. (1983): a merger between two firms – competing in quantities – is detrimental to the parties unless it gives them a monopoly, i.e. $n = 2$.
- Intuitively, the merging firms internalize the negative (pecuniary) externality given by the too-low prices in the industry, and reduce their outputs (in order to push prices upward via the market).
- The firms' actions being strategic substitutes, the outsiders optimally respond by increasing their outputs: this allows them to gain market share but moderates the price increase.
- As a result, the insiders lose market shares and profits, as the lower output is not compensated by the price rise in the industry.

Effect on Outsiders' Profits

- It can be seen that the merger increases the outsiders' profits.
- Indeed, observe that the inequality $\pi^*_{out} > \pi^*_{pre}$ simplifies to

$$\frac{\gamma^2(36+36\gamma+7\gamma^2)(3+2\gamma)(v-c)^2}{36(\gamma^2+6\gamma+6)^2(3+\gamma^2)^2} > 0$$

- This result does not depend on whether firms compete in prices or quantities.
- Intuitively, there is a free-riding effect enjoyed by the outsiders: when the merging firms increase their prices (or reduce their output), they reduce a negative externality for the whole industry.
- Therefore, the outsiders will benefit from the merger.
- Note that the merger was assumed not to create any efficiency gains, e.g. cost savings, for the insiders here.

Efficiency Gains

- Assume that when two firms merge, they generate cost savings reducing their marginal cost from c to ec with $e \leq 1$.
- The parameter e can be interpreted as an inverse measure of the efficiency gains from the merger.
- Assume further that the cost advantage by the merged firm is not large enough to force the outsider to exit the market.
- Profits are as follows

$$\pi_{in} = \sum_{i=1}^{2} (p_i - ec) q_i$$

$$\pi_{out} = (p_3 - c) q_3$$

where $q_i = \frac{1}{3}\left(v - p_i(1+\gamma) + \frac{\gamma}{3}\sum_{j=1}^{n} p_j\right)$ is the demand for product $i \in \{1,2,3\}$.

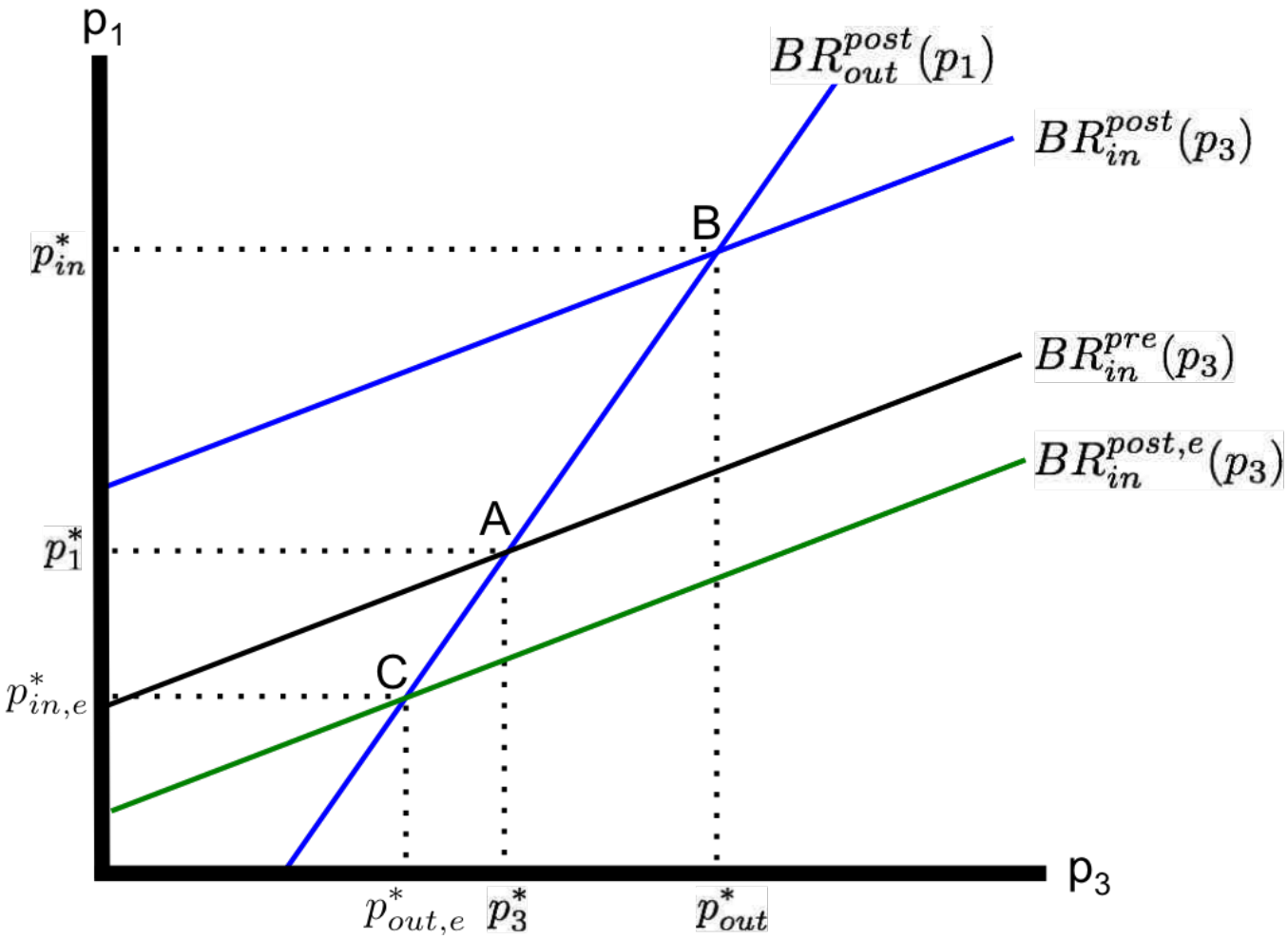
Efficiency Gains

- The first-order conditions $\frac{\partial \pi_{in}}{\partial p_1} \stackrel{!}{=} 0$, $\frac{\partial \pi_{in}}{\partial p_2} \stackrel{!}{=} 0$, and $\frac{\partial \pi_{out}}{\partial p_3} \stackrel{!}{=} 0$ induce the following best-reply functions for one of the products of the merged firm 1&2 and for the outsider 3 in the (p_3, p_1)-space:

$$BR_{in}^{post,e}(p_3): \quad p_1 = \frac{3v + (3+\gamma)ce + 2\gamma p_2 + \gamma p_3}{2(3+2\gamma)}$$

$$BR_{out}^{post}(p_1): \quad p_3 = \frac{3v + (3+2\gamma)c + \gamma p_1 + \gamma p_2}{2(3+2\gamma)}$$

Efficiency Gains: Illustration



Efficiency Gains: Illustration

- As the figure shows, the existence of efficiency gains affects the position of the best-reply functions of the insider products: the lower e the lower $BR_{in}^{post,e}(p_3)$.
- Note that for small enough e the best-reply function $BR_{in}^{post,e}(p_3)$ will be below (rather than above) the pre-merger best-reply function $BR_{in}^{pre}(p_3)$ implying a price reduction (rather than a rise).
- Hence, with large enough efficiency gains the merger increases consumer surplus.
- Besides, with lower post-merger prices (e.g. C) the outsider is hurt by the merger: both firms set lower prices, but the outsider has the same production costs and its profits thus decrease.

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Merger Remedies

- Authorities might approve a merger only if certain merger remedies were adopted by the merging firms.
- Merger remedies fall into two categories.
- Firstly, structural remedies modify the allocation of property rights: they include divestiture of an entire ongoing business, or partial divestiture.
- Secondly, behavioural remedies set constraints on property rights: they oblige the merging firms not to abuse certain assets, or to enter into specific contractual arrangements.
- Remedies differ in the involvement required by the authorities.
- Behaviroual remedies usually entail continuous monitoring by the authorities, whereas structural remedies do not.
- Structural remedies may be more risky, since not reversible: if divestment of certain assets was badly chosen (or end up with the wrong buyer), the competitive damage cannot be undone.

Divestitures

- When two firms merge there might be substantial overlaps in geographic areas and/or lines of business.
- Whereas the merger does not create problems overall, anti-competitive effects in those markets should be avoided.
- (Selected) divestment of assets may be the natural remedy.
- Divested assets can either be bought by a new firm or by an existing competitor: in both events the authorities should ensure that the buyer will be an active competitor in the market.

Problems with Divestitures

- Firstly, the merging parties have an incentive to make sure that the purchaser of the divested assets will not be a competitor.
- Hence, the authorities should ensure that the seller does not engage in activities to reduce the value fo the assets (e.g. transfer of patents, brands, personnel) or hinder the sales.
- Secondly, there are informational asymmetries between the seller and the buyer especially if the latter is an entrant.
- Thirdly, if some relationship were needed between the seller and the buyer of the divested assets, the remedy is unlikely to restore competition (e.g. collusion or buyer dependence).
- Examples: supply of essential inputs or technical assistance.
- Fourthly, even an auction will not guarantee the best possible outcome in terms of welfare.
- Indeed, a soft competitor might end up with the divested assets and not a fierce competitor, since it is likely that the latter's expected profits are smaller than the former's.

Problems with Divestitures

- Fifthly, structural remedies might increase the risk of collusion in the industry, if the divested assets increase symmetry or create multi-market contacts between the buyer and the merged firms.
- The latter issue points to a tension between two problems.
- On the one hand, authorities should guarantee the reinforcement or creation of a viable firm to avoid problems of unilateral effects. *("single-firm dominance by the merging firms")*
- On the other hand, authorities should also avoid pro-collusive effects after the merger. *("joint dominance")*
- Thus, the evaluation of merger remedies should follow the same two-foldness used in merger analysis: evaluation of both unilateral effects and pro-collusive effects.
- Merger remedies should be accepted, and the merger proposal cleared, only if both "tests" are satisfied.

Behavioural Remedies

- Behavioural remedies are mainly commitments guaranteeing that competitors enjoy a level playing field in the purchase or use of key assets, inputs or technologies owned by the merged firms.
- Such commitments might be purely behavioural or contractual.
- For instance, the merging parties might be obliged to license a given technology to a rival.
- Or, if the merging parties' key assets are not owned but secured via exclusive long-run contracts, the remedy might involve giving up or shortening part of the totality of such contracts.

Behavioural Remedies

- Another category of behavioural remedies consists of so-called vertical firewalls.
- Suppose that the merger creates a vertically integrated firm, e.g. one where the upstream unit supplies not only the downstream unit but also rivals.
- It is then possible that competitively sensitive information about downstream rivals be passed from the upstream to its merged downstream unit, thereby distorting the competitive process.
- Authorities might require that no such information is circulated within different units of the firm ("non-disclosure provisions").
- Also other discriminatory practices against downstream rivals should be prohibited by the authorities.

Problems with Behavioural Remedies

- Most of the behavioural remedies by their nature require some type of ongoing regulation or monitoring, and they are thus likely to engage the resources of the authorities long after the merger.
- Some of the measures are also relatively easy to evade unless there is careful monitoring as well as the regulator knows the industry well, which is not likely for the competition authorities.
- For instance, foreclosure or discriminated access can take subtle forms: increasing prices, reducing quality, delayed supplies.
- Behavioural remedies are problematic when aiming at facilitating entry by ensuring competitors access to a key technology.
- Often the implementation requires a transitory period of collaboration between the merged firm and the entrant.
- Since the entrant will be a competitor, the merged firm will have an incentive to not effectively collaborate during that period.