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Economic analysis and EC Merger Policy

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Abstract[*]

We present the economic analysis of mergers and its policy implications in a non-technical way. We also review the main features of the EC merger policy and suggest some modifications which would help to bring it in line with economic thinking. More specifically, we argue that the EC merger policy has two main distortions. The first one is that it prohibits only mergers which create or reinforce dominance, whereas economic analysis suggests that there exist mergers which are detrimental to welfare even though they do not raise issues of dominance. The second distortion is that the EC merger policy does not recognise the role played by cost savings which might give rise to overall beneficial effects of mergers.

1. INTRODUCTION

This paper summarises the economic analysis of mergers and its policy implications in a non-technical way. It also offers an economist's view on the main features of the EC merger policy and suggests some modifications which would help to to bring it in line with economic thinking. More specifically, we shall argue here that the EC merger policy has two main distortions. The first one is that it prohibits only mergers which create or reinforce dominance, whereas economic analysis suggests that there exist mergers which are detrimental to welfare even though they do not bring about dominance. Hence, some mergers are allowed which should instead be
prohibited. The second distortion is that the EC merger policy does not recognises the role played by cost savings, which might give rise to positive welfare effects of mergers. Accordingly, efficiency gains should explicitly be taken into account, otherwise some mergers are prohibited which should instead be allowed.

The paper is organised in the following way. Section 2 summarises the main economic arguments which should be considered when assessing mergers. In particular, we shall look first (section 2.1) at the unilateral effects ofmergers (when firms increase prices after the merger but without any coordinated behaviour with rivals), and then (section 2.2) at the pro-collusive effects of mergers (when firms increase prices after the merger because it facilitates collusion). To deal with the latter topic, we shall have to analyyse in detail what is collusion and what are the main factors which allow to sustain it. Section 3 builds upon the previous theoretical section to briefly discuss the EC merger policy and its main weaknesses.

2. ECONOMIC ANALYSIS OF MERGERS

This section analyses the main results about the impact of mergers[1] provided by economic theory[2]. There are two main cases which should be considered when studying the effects of mergers. Firstly, the case where the merger might allow a firm to *unilaterally* exercise market power and raise prices. In the US, this amounts to analysing the *unilateral effects* of

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[1] Note that throughout this article I will use the term "merger" which I use here as a synonimous of the perhaps more general legal term "concentration". When analysing the economic effects of a concentration, the distinction between a takeover and a commonly agreed merger is largely irrelevant.
[2] For a formal analysis, see Kühn, K-U. and M. Motta, 1999, "Horizontal Mergers", mimeo.

a merger. In the EU, this corresponds to the case of *single firm dominance* if the merger creates a firm with sufficiently high market power that it can profitably increase prices.

The other case arises when a merger might favour collusion in the industry. Here, the merging firm would not be able to unilaterally raise prices above a certain threshold, but the merger could determine new industry conditions which enhance the scope for collusion. Prices could then increase as firms are more likely to attain a (tacitly or explicitly) collusive outcome. This issue falls under the category of *joint dominance* (or collective dominance; sometimes also oligopolistic dominance) in the EU and *coordinated effects* of a merger in the US.

2.1 Horizontal Mergers: Unilateral Effects

To understand why a merger might allow a firm to unilaterally increase market power, consider a simple example. Imagine that in a given town there are a few independent grocery stores. Competition constrains the market power of each store: if one of them tried to increase prices in a significant way, many among its current consumers would start and do their shopping at some other store. Anticipating this, the store considering the price increase will refrain to do so. Its market power, that is its ability to charge consumers a high mark-up, is therefore limited by the presence of the rival stores.

Such market power, however, will increase if two or more stores merged to give rise to a chain of grocery stores. A contemporaneous increase in the price of each product sold by the merged stores would be profitable, because the number of rival stores is reduced. Consumers would have to travel higher distances to find a store with lower prices, and many of them will shop at their usual store despite higher prices.

In general, therefore, the merger increases (by some degree) market power of the merging firms, which in turn will increase prices. To be more precise, there exists a small difference on the predictions about the price effects of mergers made by different models in the industrial economics literature. In particular, models which assume that firms' decision variable is market price predict that both the prices charged by the merging firms, and by the outsiders would rise; conversely, models which assume that firms' decision variable is quantity predict that the merging firms would reduce their outputs (that is, they would raise their price), whereas the outsiders would *increase* their outputs (they would

reduce price)[3]. This difference is not important, however, as both models predict that the overall effect of the merger (in the absence of efficiency gains) is to reduce consumer surplus[4].

The effect of the merger on the firms is of some interest. In general, theory predicts that the merger will benefit the insiders, in the sense that the profit made by the new firm is higher than the sum of the profit made by the partner firms if the merger had not taken place[5]. What is perhaps more surprising to some readers, though, is that in general the merger will also benefit the outsiders, that is the independent firms still operating in the industry. This is because the insiders, by increasing prices and/or reducing output, push the overall prices in the market up, to the benefit of the rivals as well. Indeed, the rivals might gain more than

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[3] For papers where firms choose quantities (technically, we say that products are *strategic substitutes*) see for instance Salant, Stephen, Sheldon Switzer and Robert Reynolds, 1983, "Losses from horizontal mergers: the effects of an exogenous change in industry structure on Cournot-Nash equilibrium", Quarterly Journal of Economics 98, 185-199. and Farrell, Joseph and Carl Shapiro, 1990, "Horizontal Mergers: an Equilibrium Analysis", American Economic Review 80, (1), 107-125. For a paper where firms choose prices (i.e., products are *strategic complements*), see Deneckere, Raymond and Carl Davidson, 1985, "Incentives to form coalitions with Bertrand competition", Rand Journal of Economics 16, 473-486.

[4] Even in the models where firms set quantities, the increase in quantities sold by the outsiders is outweighed by the decrease in the quantities sold by the insiders.

[5] There are some theoretical and empirical qualifications to this result. On the theoretical side, Salant et al. (1983) (*cit.*) showed that merging firms would lose from a merger. However, their model depends on a series of strong assumptions which must contemporaneously be satisfied: (1) firms choose quantities; (2) products should be very close substitutes; (3) there are no (or very small) efficiency gains from the merger. Relaxing one of these assumptions is enough to restore insiders' profitability from the merger. Empirical evidence is not conclusive on whether the merger is (statistically) profitable for insiders: see, among others, Mueller, Dennis C., 1985, Profits in the Long-run, Cambridge, Cambridge U.P., Ravenscraft, David J. and Scherer, Frederic M., 1987, "Mergers, sell-offs, and economic efficiency", Washington, D.C.: Brookings Institution, Caves, Richard E., 1989, "Mergers, Takeovers and Economic Efficiency. Foresight vs. Hindsight", International Journal of Industrial Organization, 7, 151-174., Frank, Julian, Harris, Robert S., and Titman, Sheridan, 1991, "The Postmerger Share-Price Performance of Acquiring Firms", Journal of Financial Economics; 29(1), 81-96. Several explanations have been suggested as to why mergers might be on average unprofitable. See Roll, Richard, 1986, "The hubris hypothesis of corporate takeovers", Journal of Business, 59 (2), part 1, 197-216., Morck, Randall Andrei Schleifer and Robert Vishny, 1990, "Do Managerial Incentives Drive Bad Acquisitions?", Journal of Finance, 45 (1), 31-48. and Fauli-Oller, Ramon and Massimo Motta, 1996, "Managerial Incentives for Takeovers", Journal of Economics and Management Strategy, 5(4), 497-514.

the insiders from the merger[6]. If there are no efficiency gains which modify the relative competitiveness of the different firms, therefore, the merger is beneficial to insiders and outsiders alike, and therefore unambiguously increase producer surplus.

Therefore, the merger decreases consumer surplus but increases producer surplus. However, it is possible to show that the net effect on welfare, defined in the standard way as the sum of consumer surplus and producer surplus, is negative. In sum, because it increases market power, mergers hurt consumers and society at large. (Recall that we are considering here the case where the merger does not result in efficiency gains).

2.1.1 Variables which Affect Unilateral Market Power

It can be proved that - other things being equal - the larger the number of independent firms operating after the merger the less likely that it will be detrimental to consumers. The intuition for this result is straightforward, as the ability of merging firms to exert market power clearly depends on the number of rivals. In the case of a merger to monopoly, for instance, the new firm will not face any restraint in its pricing decision. At the other extreme, in an industry which is extremely fragmented and in which each firm possesses only tiny market shares, the impact of a merger on the market price will be irrelevant. This gives us a rationale for using a concentration index, like for instance the Herfindahl-Hirschman Index (HHI)[7], as a first screening device for unilateral effects of mergers: Ceteris paribus, we should worry more about a merger in an industry which is already highly concentrated than about one which occurs in a fragmented industry.

For the same reasons, and whatever the existing *level* of concentration, we want to pay more attention to a merger which *increases* in a sensitive way industry concentration than to one which increases it only marginally. This gives us a rationale for using a proxy for the likely

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[6] A merger can therefore be seen as a sort of "public good" (the public good being high prices) provided by the insiders, while the outsiders might "free ride" on the provision of the public good.

[7] The HHI is the most standard index of concentration to be found in industrial organisation and it is the most often used in antitrust analysis. It is given by the sum of the squares of market shares of the firms in the industry. It can vary between 0, when the market is entirely fragmented (each firm has a market share close to 0) and 10,000 when there is only one firm in the industry, which has 100% of the market. (The index takes values between 0 and 1 if fractions instead of percentage values are used).

change in concentration (such as ΔHHI, that is, the difference between post- and pre-merger concentration) as an additional screening device.

These two indexes are used by the US agencies to screen mergers and decide which ones are likely to raise adverse competitive consequences and which ones are not[8].

Another simple but useful indicator of the likely market power created by the merger is given by market shares (on which the European Commission usually focuses in reviewing mergers). Farrell and Shapiro (1990), for instance, show that the lower the market share of the merging companies the less detrimental the effect on market prices[9]. McAfee and Williams (1992)[10] find 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 little market shares then it is unlikely that considerable adverse effects would arise.

Besides current market shares, the analysis of the relative productive capacity of the firms is very important in determining the market power enjoyed by the insiders. We have seen that the ability to raise prices by any given firm is constrained by the existence of rivals to which consumers can switch. It is therefore crucial that such rivals be effectively competitive, and in particular be able to satisfy the additional demand addressed to them. In other words, one has to look at the distribution of capacities within the industry to make sure that existing competitors are not already operating at capacity. Imagine for instance a situation where two merging firms have together only, say, 35% of the market, but are the only firms in the industry with spare capacity. In this case, market shares would clearly understate the market power of the insiders, which can profitably raise prices as outsiders will not be able to cover - at least in the short run - any additional demand.

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[8] See US Merger Guidelines (1992, sect. 1.5).

[9] It might also be possible that a merger between small firms might decrease market prices even in the absence of efficiency gains. This is because they analyse the case where firms choose quantities: the outsiders react to the lower quantity of the insiders by increasing their own output. When the insiders are small firms, their output reduction might be of a lower order of magnitude than the output expansion of the large outsider firms.

[10] McAfee, Preston, Williams, Michael A., 1992, "Horizontal Mergers and Antitrust Policy", Journal Industrial Economics, 40(2), 181-187.

For the same reasons, consideration of market shares alone can be misleading in industries where production depends on the availability of raw materials or other indispensable inputs. For instance, sellers of mineral water depend on the water reserves of their sources[11]; platinum producers depend on the reserves contained in their mines[12] and so forth[13]. Availability of such resources must be kept in proper consideration in order to assess market power, as the Commission correctly recognises this point in its decisions.

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

The capacity of firms to raise prices after a merger is limited by the existence of potential entrants in the industry. Firms which 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[14]. By anticipating this effect, post-merger prices might not rise at all; or, if they do, the price increase would be transitory. The extent to which potential entrants restrain market power of actual industry participants crucially depends on fixed sunk costs. The larger (and the more sunk, i.e. committed to the industry and not recoverable) the costs that an entrant has to incur the higher the scope for price increase.

The evaluation of the likelihood of entry involves a lot of difficulties. Antitrust authorities will have to judge whether there are firms which might consider entry, how likely they are to do so, what are the possibile barriers[15] they face and how long it might take for entry to

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[11] See Nestlè/Perrier, IV/M.190 [1992], OJ L356.

[12] See Gencor/Lonrho.

[13] Airtours/First Choice is another case where capacity plays a crucial role.

[14] Entry might also take the form of imports from abroad. If after a merger prices rise, foreign firms' competitiveness increase. As a result, imports might discipline the market in the same way as local entrants.

[15] Barriers to entry can be of very different nature. They might be technological (know-how to be learned, but also patents might protect the existing firms), administrative (e.g. when government licenses or permits are needed to operate), linked to the financial market (firms might have problems in obtaining financing for the new venture), and so on. In many circumstances, consumer preferences might also be an obstacle, as when the existing market participants have built brand consciousness and loyalty throughout the years, and an entrant should invest heavily

be accomplished (the more it takes the higher the damage to consumers and social welfare). This is recognised by both the EC Commission and the US Department of Justice (see for instance Merger Guidelines, section 3).

The merging firms' ability to charge high prices also depends on the degree of concentration of the buyers. A firm is clearly more free to exert market power if it faces a large number of dispersed consumers or buyers than if it faces one or few strong buyers[16]. A strong buyer can make use of its bargaining power to stimulate competition among the sellers, either by threatening to withdraw orders from one seller to give them to another, or by threatening to start upstream production itself[17].

Because of coordination problems, entry into the sellers' industry by new firms can also be easier when buyers are concentrated. Imagine for instance a situation where the merger creates a monopolistic firm (the reasoning would be similar if there are few sellers), and that potential entrants would have to make a considerable sunk investment to be able to operate in this market. If buyers are dispersed, and potential entrants have similar cost levels, orders are likely to be distributed across sellers. Winning orders from a few buyers might not be enough to justify this investment, and as a result no new firm might enter the industry, even though each potential entrant is more efficient than the monopolist. Because buyers are not coordinating in the decision of which seller to select, they might end up with having the monopolist as only seller in the industry, and hence face much higher bills than if entry had occurred. When instead there is just a single buyer (or all the buyers coordinate), then it will give its order to one of the entrant and this will be able to enter the industry[18]. This argument was used by the Commission in the ABB/Daimler-Benz case, which was cleared (subject to conditions) mainly on the grounds that Deutsche Bahn (the German railways operator), the only buyer for mainline trains, would have exerted competitive pressure on the producers of trains and railways materials.

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in advertising to win the confidence of the consumers. Switching costs of various nature might also be an important obstacle to new entrants.

[16] Galbraith, John Kenneth, 1952, "American Capitalism: The Concept of Countervailing Power", is probably the first author who has argued that countervailing power of buyers can considerably restrain the market power of sellers.

[17] See Scherer, F.M, and Ross, David, 1990, Industrial Market Structure and Economic Performance, Boston, Houghton Mifflin, Third Ed. (chapter 14) for a discussion and a number of examples.

[18] For a formal presentation of this argument, see Chiara Fumagalli and Massimo Motta "Buyers' coordination", mimeo, 1999.

2.1.2 Efficiency Gains

We have seen that in the absence of efficiency gains a merger should be expected to lower both consumer surplus and total welfare. However, it is well established in the economic literature that efficiency gains might offset the enhanced market power of merging firms and result in higher welfare[19]. This is because the merger might cause the insiders to be more efficient and save on their unit costs. If these savings are large enough, they will outweigh the increase in market power and result in lower prices, to the benefit of consumers.

To better illustrate the opposite forces at work, consider again the example made above, where two or more stores in the same town merge. We have seen that the merger allows them to exercise market power. In the absence of efficiency gains, this means that the new chain store would find it profitable to charge higher prices. But consider now the case where the merger allows the partner stores to rationalise their activities, better organise their transportation network, bargain harder with suppliers, save on the duplication of promotions (such as coupons and special offers sent to consumers) and so forth. In this case, the merger allows for the chain store operations to be run more efficiently than before, so that savings in unit costs will occur.

The new merged firm might of course still increase its prices (its sales decreasing but its mark-up increasing both because of the price rise and of the lower costs). This strategy would certainly be profitable because we have seen it was so even in the absence of any cost saving. However, it is not necessarily optimal (that is, *the most profitable* strategy) any longer. Indeed, because of efficiency gains, another profitable strategy might now be to reduce prices and attract new consumers. For instance, in the case where prices and unit costs decreased proportionally, the unit mark-up would be exactly the same as before the merger, but total profits would be higher as lower prices increase the chain store's demand.

In general, therefore, with efficiency gains the merging firms has two possible ways to increase their profits: to increase prices (reduce sales), or to decrease prices (increase output). Which of these two ways is

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[19] The first to point out that efficiency gains might offset enhanced market power was Williamson, Oliver E., 1968, "Economies as an Antitrust Defense: The Welfare Trade-offs", American Economic Review, 59,954-959. See also Farrell and Shapiro (1990) for a recent and elegant contribution which emphasises the role of efficiency gains.

the most profitable cannot be said a priori, but the higher the efficiency gains the more likely the second effect dominates. If efficiency gains are large enough then the insiders to the merger will decrease sales price and both consumer and total welfare will increase.

It should be noted that the impact of merger on the distribution of firms' profits might be very different when there are efficiency gains. Indeed, outsiders might lose from the merger, and thus oppose to it, when the merger allows insiders to cut their costs: intuitively, this is because the merger changes the competitivity of the firms in the industry, to the detriment of the outsiders.

<u>The Nature of Efficiency Gains, and their Assessment</u>.
Sofar, we have been rather vague about the sources of possible efficiency gains. There are several reasons why firms which combine their assets might decrease their costs. The most obvious are the existence of economies of scale and economies of scope. Due to a merger, firms might be able to reorganise their production so as to improve division of labour and attain economies of scale; or they might benefit from lower costs due to joint production. Other possible gains might come from synergies in research and development, rationalisation of distribution and marketing activities, cost savings in administration[20].

From the theoretical point of view, one would like to draw a distinction between cost savings that will directly affect variable production costs, such as economies of scale and economies of scope, and cost savings that mainly affect fixed costs. The former type of efficiency gains is likely to have a direct impact on prices, while the latter type would affect fixed (i.e. independent of the volume of production) costs and thus would not modify the price decisions of the firms (which only depend on variable costs). Efficiency gains might still lead to a positive welfare effect of the merger, but this would only come from an increase in profits due to lower duplication of fixed costs, since consumer surplus would not change. If competition agencies attach a higher weight to

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[20] Another possible efficiency argument is that takeovers might improve efficiency via the substitution of less able managers with more successful ones. However, empirical works do not seem to give strong support this "managerial discipline" theory. See McGuckin, Robert and Sang Nguyen, 1995, "On the productivity and plant ownership change: new evidence from the longitudinal research database", Rand Journal of Economics, 26 (2), 257-76, Matsusaka, John G., 1993, "Takeover motives during conglomerate merger wave", Rand Journal of Economics, 24 (3), 357-79, and Kim, Han and Vijay Singal, 1993, "Mergers and Market Power: Evidence from the Airline Industry", American Economic Review, 83 (3), 549-69.

consumer welfare, or competition laws require that some of the firms' gains should pass on to consumers, then efficiency gains which are mainly due to savings on fixed costs should be looked at less favourably.

The US Merger Guidelines come to a similar conclusion, although for different reasons, that is, because efficiencies derived from technical rationalisation are easier to demonstrate than efficiencies obtained in the reduction of administrative costs, personnel savings and other fixed outlays[21].

Next, efficiency arguments should be accepted only as long as costs savings achieved by the merger could not be achieved otherwise. If, for instance, the firms claimed that the merger would create efficiency gains because it would reduce personnel cost, one should really wonder if such cuts in personnel could not be done even without a merger. If not, efficiency gains are not merger specific and they should not be accepted as an efficiency defence of the merger, as they could be obtained without allowing a potentially anticompetitive operation like the merger.

Finally, a crucial issue in the discussion of efficiency gains is the assessment of the likelihood of the gains from a merger. There is in general asymmetric information between a competition agency and the merging partners: the latter are clearly more informed about the structure of production and the functioning of the market than the former. When efficiency gains are a crucial determinant in an agency's decision on the prohibition or acceptance of the merger, it is clear that the merging partners have an incentive to overstate efficiency claims[22]. On the other hand, and for opposite reasons, the rival firms which fear the merger could jeopardise their competitive positions might have an incentive to understate the efficiency gains of a merger[23]. Agencies will therefore want to rely on independent studies to try and evaluate efficiency considerations[24].

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[21] U.S. DoJ and FTC, Horizontal Merger Guidelines, revised April 8, 1997, section 4.

[22] Merging partners often have a genuine tendency to overstate the benefits from combining their activities and assets. Agencies should be aware that even strictly internal and confidential documents might report too optimistic an assessment of the merger efficiency gains.

[23] Reading the decisions taken by the Commission, I have the - admittedly subjective - impression that it is often sympathetic to the views expressed by outsiders. Yet, rivals are likely to complain when the merger gives efficiency gains to the merging parties, and this is precisely the only situation where the merger might have positive welfare effects.

[24] Neven, Damien, Robin Nuttall and Paul Seabright, 1993, "Merger in daylight: The economics and politics of European merger control", London: Centre for Economics

2.2 Horizontal Mergers: Pro-collusive Effects

Sofar we have considered just one of the possible mechanisms through which a merger can negatively affect welfare, namely the case of unilateral market power. A second important mechanism is given by pro-collusive effects, where the merger does not pose a threat of market power by a single firm, but can create changes in the industry which increase the scope for collusion. 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 explicitly) attain a collusive outcome. The concept of *joint dominance* in the EU refers to this situation.

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 is possible to show (see below) that the lower the number of market participants the higher the scope for collusion in the industry, the merger makes it more likely for higher prices to arise. Secondly, a merger *might* give rise to a more symmetric distribution of assets. Both theorists and practitioners tend to agree that a more equal distribution of assets in the industry facilitates collusion. Therefore, whenever the effect of the merger is to increase symmetry among the firms, it will also increase the scope for collusion.

The extent to which collusion (that is, joint dominance) might occur after the merger depends on a series of factors (among others, transparency of prices, existence of exchange of information among firms, frequency of market interactions). The more an industry is already characterised by the co-existence of factors which favour a collusive outcome the more risky to allow for a merger, as it would further increase the likelihood of collusion.

The analysis of joint dominance will therefore have to take into account all such factors. It is clear that it is very difficult a priori to predict whether a merger might lead to joint dominance or not, but the more the industry contains elements which are likely to favour collusion the stricter the competition agencies should be towards the merger[25].

Policy Research, suggest that the Commission should create a unit of auditors within the Merger Task Force, specialising in assessing the likelihood of efficiency gains.

[25] What happens if collusion (or a strong suspicion of it) already exists in the industry? One might then argue that the merger would not change much and therefore should be allowed. But this would not take into account that a cartel, or tacit collusion, has always some probability to break down (because of sudden downturns

In what follows, I review the main features of collusion, and briefly summarise the main factors which affect it.

2.2.1 What are the main features of collusion?

An economist would define collusion as a situation where firms set prices which are close or equal to monopoly prices[26]. Notice that this defines collusion as an outcome (high price), and not as the specific form through which that outcome is attained (it could be through an organised cartel, or non-cooperative behaviour).

For collusion to arise, two elements must exist. Firstly, there must be the possibility to *detect* deviations from a certain collusive action[27] in a timely way. Secondly, there must be a credible *punishment* which follows a deviation. Note that a punishment should be thought of as a more aggressive market behaviour, and not as a direct monetary punishment. Note also that generally a punishment also hits the punishing firms, and not just the deviating firm, precisely because it has to rely on market mechanisms (a low price affects all the firms' profits).

For instance, imagine a cartel, that is a situation of explicit collusion, where firms agree on certain quotas of production. A *deviation* there would take the form of a firm producing more than the quota assigned to it, with consequent reduction in the market price and departure from the collusive outcome. It is crucial for the cartel to survive that its participants *detect* in a timely way that a deviation has occurred[28], and even better, which firm has actually deviated (so that the punishment might be made more costly for the deviant firm). But identifying the deviation is not enough: there must also be a *punishment*, which might take the form of producing much higher quantities (or selling at much lower prices) in the periods after the deviation. Only if a firm knows both that a deviation will be identified quickly and that immediately after the

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in demand, technological shocks or other changes). If a merger and the consequent reduction in the number of firms is allowed, then the probability that the cartel breaks down would be lower.

[26] Monopoly, or joint-maximisation prices, are the prices which would be set if all the firms in the industry were affiliates of the same company, or where managed by the same manager. An alternative definition is that prices are higher than some benchmark, such as the equilibrium prices of a game where firms meet only once in the marketplace (a situation where collusion would not arise).

[27] Examples of collusive actions are high price or low output; deviations take then the form of respectively price undercutting or larger quantity brought to the market.

[28] This is not necessarily easy: a fall in the quantity demanded to an individual firm might also be due to a negative shock in demand.

deviation it will have to forego enough profits because of the market reaction of the cartel members, will it refrain from deviating and will it continue to sell the agreed upon quota, so that the collusive outcome will arise.

A collusive outcome can arise, under precisely the same conditions, even if explicit collusion does not exist and firms behave non-cooperatively, that is they do not talk to each other to arrive at an agreement. Suppose for instance that there are two foodstalls in the market, they both sell pears of identical quality, and they are located in front of each other. Imagine that sellers pay 1$ per kilo to their suppliers. When seller A arrives in the morning at the market, he can see that the rival sells pears at, say, 2$ per kilo, which we can think of as the monopoly price. When deciding his own price, he can either set the same price (that would be the collusive strategy) or he could deviate from it and set a lower price. He certainly understands that if he sets the price at, say, 1.9$, he will get more customers than the rival, and that for the time the price difference will last, he will get higher profits than if he ``colluded'' (he will make a "gain from the deviation"). However, he also knows that detection of a deviation is immediate in this situation, and he knows that the rival will react to such a deviation by ``punishing'' him, setting a price lower or equal to 1.9. At best, both will charge 1.9$, so that both will end up by having lower profits than if they had both sold at 2$. But the rival might decide to give a harsher punishment, for instance setting a price close to 1$ to make it clear that she would not like ``deviations'', thus causing a much higher ``loss from the deviation''. Therefore, the expectation of the punishment (or of a price war) will make seller A quite willing to charge the monopoly price. Collusive prices will arise through non-cooperative behaviour of the sellers.

The modern analysis of collusion in industrial economics is all based on the concept that when firms decide price or output, they compare the immediate gain they make from a deviation with the future loss they will have as soon as the rivals react. This is a simple and powerful concept. Even if each firm behaves in a non-cooperative way, and just pursues its self-interest, collusion might arise. This is more likely to be so the lower the profit that a firm would obtain from deviating, the lower the expected profits it would make once the punishment starts, the less weight firms attach to the future (which is when the ``loss from deviation'' occurs).

Notice that the example above stresses the fact that sellers do not need to talk, let alone agree on complicated schemes, to attain a collusive outcome. All is needed is the awareness that a deviation will be identified, and that a ``punishment'' will follow.

A (good) economist, however, would not suggest that one should only look at market outcomes to decide whether there has been an infringement of antitrust law, for several reasons. First of all, it is often not clear what a monopoly price in an industry would be[29]. In the above example, sellers might have different views of what that price would be, and an outside observer even different perceptions. Similar divergences might arise when deciding which prices are high enough to be judged ``too high'' and therefore collusive. These judgments always imply a high degree of arbitrariness, and thus should be avoided. Not to add that if we started to convict firms only on the grounds that they charge higher prices, then we would open the way for antitrust interventions whenever a firm is successful enough to find consumers willing to pay high prices for its products.

Further, going back to our example, should we make seller A guilty of collusion just because he has acted in the pursuing of higher profits? After all, he has just tried to do what any honest enterpreneur would do, that is to have the highest possible gains from his activity, without coordinating his decisions with his rival.

Even the fact that sellers charge the same prices constantly over time (the so-called ``price parallelism'') is not enough to establish they are guilty of collusion. Common exogenous shocks such as the increase in intermediate prices of all the suppliers, or an increase in inflation, or an increase in property prices would probably lead all the sellers to increase prices proportionally, but one should not infer from this that they are colluding.

For all these reasons, inferring *illegal* collusive behaviour - i.e., inferring conspiracy in the US or infringement of article 81 in the EU - from market data (that is, only looking at the outcomes) would not be desirable, and the legal approach which requests some hard evidence as necessary to convict firms for collusion is certainly correct[30].

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[29] See the Microsoft case for interesting discussions about what a monopoly price would be in that industry.

[30] On these points, see Kai-Uwe Kühn (1998), "Collusion and exchange of information", mimeo, IAE, Barcelona.

To repeat, the main contribution of the modern industrial economics literature, based on game theory, is twofold: first, there are two essential features for (tacit or explicit) collusive outcomes to arise: detection and punishment of deviations. Second, there is no need for an explicit agreement
for the collusive outcome to arise: firms can set collusive prices even if they behave non-cooperatively, and just because they expect that by not doing so, rivals would react by ``punishing'' them, which would result in lower profits.

This literature, which focuses on the extent to which deviations can be observed and on the comparison between gains and losses from deviations, allows to identify the main factors which affect the likelihood of collusion, whose analysis we now turn to[31].

2.2.2 Factors which Facilitate Collusion

Concentration
Collusion is the more likely the smaller the number of firms in the industry[32],
or the higher the degree of concentration. The comparison between gains and losses from deviations illustrates why this the case[33]. Imagine that there are many firms of identical size which coexist in the industry. At a collusive situation, each of them will get a (small) share of the total profits. However, a deviation might allow them to get all the market for themselves. Even if the punishment was harsh, so that a very small stream of expected profits would follow after a deviation, the gains from deviating would be so extraordinarily large in the deviation period that they would outweigh the collusive profits foregone during the punishment period. Compare this situation with one where there are only two firms in the industry. At a collusive equilibrium, they would get half the market, so that the gains from deviating are smaller relative to the lower profits due to the punishment which follows.

Therefore, the more concentrated the market the easier for the firms to attain a (tacitly or explicitly) collusive outcome.

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[31] For a formal industrial organisation analysis of collusion, see the classical text by Tirole, Jean. 1988. The Theory of Industrial Organization. Cambridge, Mass: The MIT Press.

[32] We refer here to the firms which have a non-marginal market share.

[33] It is intuitive that the more agents there are the more difficult for them to reach a situation suitable to all of them.

Price Transparency

Detection of deviations is a crucial ingredient for collusion. If prices (or price discounts) are not observable, then collusion would be more difficult to sustain. Imagine for instance a situation where a seller could not observe the prices charged by rivals. Then, he would not know if a number of customers served lower than expected is due to a negative shock in demand (assume also that he cannot observe overall market demand levels with precision) or to a price reduction by a rival which has stolen some of his business. As a result, he might start a punishment phase even if nobody has deviated, making collusion less stable[34].

It is then clear that exchange of information on past prices and quantities (or verifiable information on prices and quantities set in the current period) of each individual firm facilitates collusion, as it allows firms to detect immediately deviations and to punish when needed. In the absence of disaggregate information on prices and quantities, availability of more precise estimates of aggregate (market) demand would also help, as it allows
firms to see whether a decrease in individual demand is due to cheating of rivals or to a negative shock in market demand. In turn, this implies that there is no need of punishment phases which are triggered not by deviations but by a general decrease of market demand[35].

Announcement of future prices might also help collusion, but here we should distinguish two different situations: (1) announcements directed to competitors only; (2) announcements with commitment value to consumers. The first case deals with exchange between firms of intentions about which prices to charge. This might help them to coordinate on the particular collusive price which is most convenient to all of them, and therefore helps collusion[36]. In the second case, price announcements are public but are mainly addressed to consumers. On the one hand, transparency of prices still helps collusion, for the reasons indicated above. On the other hand, though, market transparency is good for consumers, as it allows them to ``shop around'' for the best offer. The

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[34] Green, E.J. and Porter, R.H. 1984. "Noncooperative Collusion Under Imperfect Competition". Econometrica, Vol. 52, pp. 87-100, show that, in these circumstances, to cut his price would indeed be optimal: If rivals knew he does not cut prices after observing lower demand they would not refrain from deviating.

[35] On collusion and exchange of information between competitors, see Kai-Uwe Kühn and Xavier Vives (1995).

[36] Unilateral announcements help players to select a jointly optimal price, which otherwise it would be difficult to coordinate on if a focal price (that is, an obvious price to be chosen) does not exist.

latter positive effect is generally considered of a first-order magnitude with respect to the collusive effects of the announcements. There exists consensus - based both on theoretical arguments and empirical evidence - that price advertising in this sense is generally beneficial and brings prices down[37]. Therefore, when prices are ``transparent'' for both consumers and firms, this should not be considered as a factor facilitating collusion.

Characteristics of Demand, and its Evolution
First, it is easy to see that small, regular orders facilitate collusion. Indeed, an unusually large order would give a very strong temptation to deviate: by deviating, a firm would make unusually large profit, and the perspective of losing collusive profits obtained under the typically small expected demand is not enough to deter the deviation. The frequency of the orders also helps collusion because it allows for a timely punishment. If orders arrive only at very large distance between them, one can have a higher incentive to deviate because the punishment period will be started only much later in the future.

The impact of demand evolution over time upon collusion is a more difficult subject, as it depends on whether changes are expected or not and which types of shocks demand has. Suppose for instance that firms know they are in a period of boom which is unlikely to continue in the future[38]. Then, everything is as if a very large order suddenly arrived, and the analysis would be as above: firms would break from collusion to capture the profit of unusually large demand.

Collusion is less likely to arise also when firms face a future of declining market demand, for similar reasons. They would find it better to deviate and get high profits today (and being punished tomorrow when the market is smaller) than to have their collusive share of profits which are declining over time.

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[37] For a survey of both the theoretical and the empirical literature on price advertising, see Chiara Fumagalli and Massimo Motta (1999), "Advertising restrictions in professional services", presented at the Conference on "Anticompetitive effects of regulation", EUI, Florence, September 1999; a slightly different version has been published in Italian: "Restrizioni alla pubblicità nelle libere professioni", *Mercato Concorrenza Regole*, n.3, December 1999, pp. 421-445.
[38] This is the case dealt with formally by Rotemberg, J.J. and Saloner, G. 1986. "A Supergame-Theoretic Model of Price Wars During Booms." American Economic Review, Vol. 76, pp. 390-407.

Imagine instead that firms expect that demand would increase steadily and considerably in the future. In this case, collusion is more likely: Why should a firm give up the prospect of large future collusive profits for a small gain today, when the market is still small?

Against this background, we can conclude that a stagnant demand is neither facilitating nor aggravating the possibility of collusion.

Product Homogeneity
The Commission and the ECJ (as well as practitioners) have always attached a high importance to the features of the goods sold by the firms in Art. 81 or joint dominance cases. It is maintained that it is easier to reach collusion with homogenous than differentiated products. Theory is less clear about this point. Suppose that products are differentiated[39]. In this case, it is harder to punish a deviant firm, since even a considerable reduction in prices by rivals would leave the deviant firm with a positive demand. This effect tends to favour collusion, as only the fear of punishment makes firms refrain from deviating. However, for precisely the same reasons, under differentiated products, a deviation is less profitable too: a deviant firm cannot expect to gain very large market shares from rivals unless it makes a very considerable cut in prices. Therefore, product homogeneity does not unambiguously raise the scope for collusion[40]. A priori, it is not clear that - other things being equal - collusion should be more likely in products like cement and gasoline than, say, cigarettes, colas or mineral waters, which are all consumer goods characterised by a high degree of consumer loyalty[41].

Possibly, however, what the Commission really thinks of when suggesting that homogeneity helps collusion is that if firms sold not a single well-defined product but very many different product variants, then it would be more difficult for them to attain a collusive outcome. This makes sense, insofar as it reduces the visibility of deviations, and would thus diminish the

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[39] One can think of this situation as one where each firm has a proportion of customers who are very loyal and therefore will continue to buy despite price reductions in competing products.

[40] See for instance Ross (1992), International Journal of Industrial Organization, for a formal analysis.

[41] The large advertising expenditures sustained in these markets explain why these products are perceived by consumers as very differentiated from each other. See the pathbreaking work of Sutton, John, 1991, "Sunk costs and market structure: Price competition, advertising, and the evolution of concentration", Cambridge, Mass. and London: MIT Press.

possibility to resort to quick punishments[42].

<u>Symmetry</u>
Competition authorities and courts regard symmetry among firms as a factor which facilitates collusion. Symmetry can concern different dimensions (such as market shares, number of varieties in the product portfolio, costs and technological knowledge, capacities), whose importance will clearly differ across industries. Many informal arguments exist which support the idea that symmetry helps collusion: for instance, it is intuitive that people who are in a similar position would find it easier to arrive at an agreement which suits all of them. Recently, there have been some formal contributions to the literature which give further support to this idea[43]. Consider the following example. There exist two firms, one with 70% and the other with 30% market share. The larger firm will find it less interesting to deviate: to capture a (relatively) small additional market share, it would have to reduce its price, but by doing so it would decrease its margins on all the large market share it has already. Therefore, deviating from a collusive outcome would certainly be less attractive than for its rival, which can hope to attract a relatively much larger share of the market by decreasing its prices. The large firm is less keen on punishing after a deviation, too. This is because when both firms set low prices the large firm will be more hit than the small one, as it foregoes larger profits. The small firm knows that after a deviation the punishment will not be as harsh as it could be, and will be less deterred from deviating[44].

Therefore, asymmetry introduces some difficulties for collusion. If firms' positions were more similar, their incentives to deviate and to

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[42] In Airtours/First Choice, for instance, the fact that each agency sells package tours which are extremely differentiated (by destination, category of hotel, number of days of stay, accessory services and so on) is not *by itself* preventing the collusive outcome to arise. After all, catalogues containing the offers of rivals are easily accessible, and prices quoted can be compared. However, it is crucial for this reasoning that agencies are not able to make selective secret discounts, which would lower visibility of deviations much reduced.

[43] See Compte, Olivier, Frederic Jenny and Patrick Rey, 1996, "Capacity Constraints, Mergers and Collusion", mimeo, Universite de Toulouse, and Kühn, Kai-Uwe and Motta, Massimo, 1999, "The Economics of Joint Dominance", mimeo, University of Michigan.

[44] This example is inspired to Kühn and Motta (1999) (*cit.*). In Compte et al. (1997) (*cit.*), where firms differ in capacities, it is the largest firm which has more incentive to deviate and the smallest firm whose punishment threat is less credible. Despite the different mechanism, though, the result that symmetry helps collusion still holds.

punish would be more aligned and collusion could be more easily sustained.

Analysis of Collusion: Conclusions.
The above analysis has identified the main factors which affect the likelihood of collusion. In a merger case which raises doubts of coordinated effects (joint dominance), it is important to assess correctly the role played by each variable in the determining the likelihood of future collusion in the industry. The analysis will often be very complex. Apart from the cases where all factors point towards the same direction, in general we should expect that the analysis of these factors will leave some space for discretion, as is difficult to understand how such factors interact and whether collusion is likely to arise from the merger or not[45].

2.2.3 Pro-collusive Effects: Other Variables to Consider

In what follows, we briefly look at how other considerations, such as efficiency gains, potential entry and the existence of buyers' power affect the analysis of mergers when coordinated effects are to be dealt with.

Efficiency Gains
The effect of efficiency gains in joint dominance analysis is slightly less clearcut than in single firm dominance. In general, an improvement of the efficiency of operations should be looked at very positively as it should decrease prices, other things being equal. This is more so when the merger results in a firm which has lower costs, or a larger capacity, than the rivals, as these elements might disrupt collusion since they create a stronger incentive to deviate. It might be conceivable, however, that the merger and its efficiency gains create symmetric conditions in the industry. Think for instance of a situation where the second and third largest firm merge and reach the same product range and technological level as the industry's leader. It is possible that this might 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, by not allowing such a merger, there is the risk that the gap with respect to the leading (more competitive) firm would worsen and in the long-run this could result in single-firm dominance. In general, therefore, efficiency gains should be seen as an effect of a larger order of magnitude.

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[45] A similar point is also made by Simon B. Bishop, "Power and Responsibility: The ECJ's Kali-Salz Judgment", [1999], ECLR, Issue 1, pp.38-39.

<u>Entry</u>
As in the case of unilateral market power, the existence of potential entrants affects negatively the capacity of the incumbent firms to raise prices through coordinated effects. The likelihood that the merger creates joint dominance is lower when there are firms which are ready to commit resources and enter the industry in response of an increase in prices.

<u>Buyers' Power</u>
Most of the considerations we made about the role of buyer power in the unilateral effects case still hold when coordinated effects are considered. An additional element we have not considered above and which affects the extent to which collusion is possible after a merger is the frequency and the reduced size of the orders. By concentrating its orders, a powerful buyer can extract better conditions from suppliers which would be more willing to offer price reductions (and therefore deviate from a collusive strategy) if the size of the contract is large enough. If instead buyers are small, each order would be small and the sellers would be less likely to undercut each other[46].

3 EC MERGER POLICY

In this section we briefly review the EC merger policy in the light of the economic analysis carried out in the previous sections.

3.1 Single-firm Dominance

Economic analysis suggests a distinction should be made between cases where the merger raises concerns of unilateral price increase and cases where the merger raises concerns of (tacit or explicit) collusive behaviour. In the latter cases, if concerns are justified the merger is said to create joint dominance. However, the former cases do not correspond closely with the concept of single firm dominance. To understand this, consider a situation where two or more firms with relevant market shares would be left in the industry after a merger, but none of them has enough market power to be considered dominant, and it is also very unlikely that they would collude (i.e., they are not jointly dominant). In such a situation, economic theory clearly indicates that the merger might be detrimental even in the absence of dominance[47]. Yet, the EC policy of merger control would not prohibit such a merger. Indeed, the EC Merger

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[46] See Snyder, Christofer M., 1996, "A Dynamic Theory of Countervailing Power", Rand Journal of Economics, 27(4), 747-769.
[47] More precisely, welfare will decrease in the absence of efficiency gains from the merger. See section 2.1 above.

Regulation 4064/89 (art. 2(3)) establishes that ``A concentration which creates or strengthens a dominant position as a result of which effective competition would be significantly impeded in the Common Market or in a substantial part of it shall be declared incompatible with the Common Market". Therefore, it is not enough to show that a merger has adverse consequences on competition or that it would increase prices, to block it: under the Merger Regulation, the finding of a dominant position[48] is a necessary condition for prohibiting a merger.

There exists therefore a large distortion in the EC merger control: all mergers which allow firms to raise prices but do not create or reinforce dominant positions cannot be prohibited[49].

However, there is another distortion in the EC merger policy which might go in the opposite direction, that is to prohibit mergers which might be welfare enhancing. This distorsion comes from the lack of efficiency gains considerations. To this issue we turn next.

3.1.1 The Commission's Approach to Efficiency Gains

Economic analysis suggests that competition agencies which scrutinise mergers should carefully assess the likely efficiency gains of a merger. However difficult a task, they should try and estimate whether these efficiency gains are likely or not to offset the higher market power enjoyed by the merging firms. This is precisely the approach indicated by the US Department of Justice, which

> "[...] will not challenge a merger if cognizable efficiencies are of a character and magnitude such that the merger is not likely to be anticompetitive in any relevant market. To make the requisite determination, the Agency considers whether cognizable efficiencies likely would be sufficient to reverse the merger's potential to harm consumers in the relevant market, e.g. by preventing price increases in that market. In conducting this analysis, the Agency will not simply compare the magnitude of the cognizable efficiencies with the magnitude of the likely harm to competition absent the efficiencies. The greater the potential adverse competitive effect of a merger [...] the greater must be cognizable efficiencies in order for the Agency to conclude

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[48] A dominant firm has been defined by the ECJ has a firm which "can determine its policies substantially free from competitive restraint, that is, is free to act without taking into account, to any substantial extent, its competitors, purchasers or suppliers" 237-8, United Brands v. Commission, ECR [1978-2], Decision of the Court: 14.02.1978. In economic terms, this would be a firm which is not necessarily a monopolist, but has very large market power.

[49] See also Valentine Korah, "Gencor v. Commission: Collective Dominance", [1999] ECLR, Issue 6, p.337.

that the merger will not have an anticompetitive effect in any relevant market. When the potential adverse competitive effect of a merger is likely to be particularly large, extraordinarily great cognizable efficiencies would be necessary to prevent the merger from being anticompetitive" (US Merger Guidelines, revised April 8, 1997, section 4).

The EC Commission has a more ambiguous approach towards efficiency gains. By looking at the wording of the Merger Regulation No. 4064/89 one cannot say that an efficiency defence is explicitly allowed, but neither that this is ruled out. Art 1.1(b) says that in its appraisal of the merger, the Commission shall take into account, among other things "[...] the interests of the intermediate and ultimate consumers, and the development of technical and economic progress provided that it is to consumers' advantage and does not form an obstacle to competition".

Jacquemin[50] argues that the phrasing means that efficiency gains can be taken into account *only in so far as the merger does not form an obstacle to competition.* In other words, he excludes that an efficiency defence can be used in EC merger control.

The legislative history of the Merger Regulation has sometimes been mentioned as supporting the view that there exists no efficiency defence in the EC competition law. This is because in a previous draft of the Regulation a sentence which would have allowed for some efficiency defence has been suppressed from the final text, allegedly showing explicit intention of the legislators not to allow for such a defence. However, the legislators wanted in our opinion to exclude not an efficiency defence argument in general, but rather the possibility that it could be used to support industrial policy arguments. Some countries, such as France, wanted to allow mergers which could have created ``national champions''. This view was successfully opposed by countries such as the UK and Germany, which wanted to rule out the possibility that anticompetitive mergers could have been approved on the grounds that they could have strengthened European firms in the international marketplace[51]. Therefore, what the "travaux préparatoirs" of the Merger Regulation show is that social, political and industrial policy arguments may not be used in the assessment of mergers. Since efficiency gains are a key aspect in determining the *economic welfare* impact of mergers, we

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[50] Jacquemin, Alexis, 1990, "Mergers and European Policy", in Admiraal, P.H. (ed.) 1990, Merger and Competition Policy in the European Community, Basil Blackwell, Oxford, p.36.

[51] See Noël, Pierre-Emanuele,1997, "Efficiency considerations in the assessment of mergers", 8, European Competition Law Review, 498-519 (see p. 503) and Goyder, D.G. 1993, "EC Competition Law", Second Edition, Oxford, Clarendon Press.

can see no contradiction between the spirit of the legislators and the use of an efficiency defence.

Sofar, the EC Commission in its decisions has not explicitly ruled out the possibility of using an efficiency defence, but nor has it showed much sympathy for such an argument[52]. Whenever cost reductions have been claimed by the merging parties, the Commission has dismissed those claims on various grounds[53]. The most interesting decision in this respect is Aérospatiale-Alenia/DeHavilland, where the Commission argued that the cost savings would have been negligible, had not been properly quantified, were not merger-specific (they could have been attained without the need of a concentration) and would have not gone in any case to consumers' advantage[54].

Economic analysis therefore strongly recommends that the EC Commission analyse efficiency gains in depth, and recognise explicitly the key role played by cost reductions in determining the net welfare effect of mergers. Otherwise, all the merger policy would be distorted and would not respond to the objective of increasing either consumer welfare or overall economic efficiency. Consider the hypotethical case where two firms wanted to merge. They do not have any rival in the market and they are going to be a monopolist. For the sake of the argument, suppose also that the merger would entail so large and verifiable efficiency gains that, however cautious the estimates of the pricing behaviour of the firms, consumers would benefit from lower post-merger prices. This is a merger which would benefit consumers, but the failure to consider efficiency considerations, and the fact that it would create a dominant firm, will imply that this operation should be prohibited by the EU authorities[55].

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[52] The Commission used possible cost reductions as an argument *against* the merger in at least one case. See AT&T/NCR, Case IV/M.050 (18 January 1991). See also Noël (1997, p. 512) and Neven, Nuttall and Seabright (1993, p.62). However, this was one of the early cases in the EC merger control, and it is extremely unlikely that the Commission would use the same argument today. An efficiency offence argument is compatible with the objective of "protecting competitors" rather than of "protecting competition" and therefore should be dismissed from merger control.

[53] See Noël (1997, pp 512-514) (*cit.*). Among the cases where the defendants have raised efficiency considerations are: Aérospatiale-Alenia/De Havilland, Accor/ Wagon-Lits, MSG/Media Services, Mercedes-Benz/Kassbohrer.

[54] Case IV/M.053 (October 2, 1991), OJ L334/42, 1991, at 65.

[55] To make our argument stronger and clearer, we are condidering in this example a very extreme case of merger, which increases total welfare because it increases both consumer surplus and producer surplus. But a merger might increase total welfare even in the case where consumer surplus decreases, provided that the increase in producer surplus outweighs the negative effect on consumers. The latter case would

It has been observed that the Commission is aware of the importance of efficiency gains and that it takes them into account in an implicit manner, for instance by defining the market in a broader way so that dominance would not be found[56]. However, for the sake of transparency, it would be desirable to deal *explicitly* with efficiency gains. As we have argued above, the Commission could consider efficiency gains in merger control within the current Merger Regulation.

3.1.2 Unilateral Effects: Conclusions

To sum up, the EC Merger Regulation is a source of rather inefficient biases in the treatment of unilateral effects of mergers. On the one hand, restricting attention to mergers which create dominance implies that some welfare detrimental mergers might be approved. On the other hand, failure to account for efficiency considerations will result in beneficial mergers being blocked by the EU authorities.

3.2. Joint Dominance

The concept of joint dominance matches closely the concept of coordinated effects. It has been disputed for a long period whether the Commission could have extended the concept of dominance to deal with a situation where dominance was jointly held by two (or more) firms. The first case where the Commission used joint dominance was in *Nestlè/Perrier*, in the French mineral water industry. The merger project was authorised with conditions, but the issue of joint dominance in the Nestlè-Perrier case was never brought to Court. This opened a period of uncertainty with respect to the possibility of applying the Merger Regulation to collective dominance.

It has been only in *France v. Commission*[57] that the European Court of Justice (ECJ) ruled that the case of joint dominance was covered by the Merger Regulation, despite the contrary opinion of the Advocate General. The Court then quashed the Commission's decision on the merit. Indeed, this judgment seemed to set a high standard of proof for the Commission

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be however less straightforward if one takes into account that some regulators tend to give a larger weight to consumers than firms (profits) in antitrust enforcement.

[56] See Peter Camesasca, "The explicit efficiency defence in merger control: Does it make the difference?", [1999], ECLR, Issue 1, pp.25-27. He suggests the Commission might do so in order to avoid being accused of using industrial policy arguments if it explicitly recognised efficiency gains.

[57] C-68/94 and C-30/95, 31 March, [1998] ECR I-1375, appeal from Kali und Salz/MdK/Treuhand, 14.12.93, IV-M.308 [1994], OJ L186/38.

to establish joint dominance, the Court having ruled that joint dominance would arise when firms "in particular because of correlative factors which exist between them, are able to adopt a common policy on the market and act to a considerable extent independently of their competitors, their customers, and also of consumers"[58]. The reference to "correlative factors" seemed to indicate that the existence of some sort of structural links among firms was needed to prove joint dominance.

In *Gencor v. Commission*[59] the Court of First Instance (CFI) has reaffirmed the principle that the European Commission can block mergers if they create joint dominance. The CFI has also clarified that there is no need for oligopolists to be interrelated by some specific links in order to prove that collective dominance exists. This ruling offers a broader interpretation of joint dominance, whereas the previous *France v. Commission* judgment had been interpreted by some commentators as requiring much higher standards of proof[60].

The Commission has been ready to use the higher degree of freedom left by the CFI judgment. In the recent *Airtours/First Choice* case[61], the Commission has applied the concept of joint dominance to an industry whose features are considerably different than those which characterised industries involved in previous cases of collective dominance. In particular, the industry is characterised by a large amount of product heterogeneity and by a high variability of market shares over time. It is also unclear whether there are serious barriers to entry in the industry. Further, it has argued that collusion after the merger would take the form of reduction in capacities, rather than the usual reduction in prices (the Commission recognised that full collusion on prices was hardly sustainable in the industry). This argument can be supported by economic analysis but it witnesses of a step forward by the Commission, which departed from the standard arguments made sofar in joint dominant analysis[62].

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[58] See France v. Commission, para. 221.

[59] T-102/96, 25 March, [1999] 4 CMLR 971, appeal from Gencor/Lonhro, 24.06.96, IV/M.619, [1997], OJ L11/30.

[60] See Johan Ysewyn and Cristina Caffarra, "Two's Company, Three's a Crowd: The Future of Collective Dominance After the Kali&Salz Judgment", [1998], ECLR, Issue 7, p.470.

[61] 22.09.99, IV-M.1524.

[62] For a detailed discussion of the Airtours case, see Massimo Motta, "EC Merger Policy and the Airtours case", mimeo, European University Institute, December 1999.

Overall, the features of the industry are not such that joint dominance is uncontroversial. Both the arguments made by the Commission and by the defence counsel make sense, the industry presenting some features favourable to collusion and others less favourable to it. This is a borderline case for joint dominance, and it will be interesting to see whether the Court will uphold the Commission's decision.

This decision is interesting because it shows that the Commission might try to rely on joint dominance to prohibit mergers which otherwise could not be blocked. In the Airtours case, for instance, economic analysis suggests that blocking the merger has probably been the right decision because of unilateral effects. The merger occurs in an industry which shows very high concentration[63] and entry is unlikely to be so strong that it would discipline the market power of the major operators. Only considerable efficiency gains might outweigh the negative impact of a merger in such a concentrated sector, but large efficiency gains do not seem likely to occur from this merger[64]. Hence, whether the merger does or not give rise to joint dominance might be discussed, but it would most likely decrease economic efficiency.

However, the EC Merger Regulation requires the Commission to prove dominance, and showing that the merger would be likely to increase prices and reduce welfare is not enough to prohibit it. We feel that, whether consciously or not, by extending the use of the concept of joint dominance the Commission is trying to cope with a distortion of the Merger Regulation, which does not prohibit welfare detrimental mergers unless they create or reinforce dominance. In other words, it is possible that the Commission is using the concept of joint dominance as to cover not only the case of collusion after a merger, but also the case of unilateral effects of mergers which do not give rise to single firm dominance. For the sake of transparency and legal certainty, it would be better if the Commission pushed for a modification of the Merger Regulation so as to cover unilateral effects, that is, to prohibit mergers

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[63] The post-merger HHI index of concentration estimates is of 2150 and the increase in concentration of more than 450 (see para 139). We are well beyond the region where the US authorities would think the merger raises competitive concerns.

[64] This can be inferred in various points of the Decision. See for instance para. 146. At para.99, the Commission reports Airtours' estimates of the minimum efficient scale at such a level that they are already exhausted by the size of both Airtours and First Choice before the merger. Scale economies would not accordingly result from the merger. A disclaimer follows: my knowledge of the case is based only on the text of the Commission Decision. I do not know whether the views of Airtours' experts on efficiency are correctly represented in that text.

which are welfare detrimental without creating or strengthening dominance.

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