Chapter 18

MERGER POLICY AND MARKET DEFINITION UNDER THE EC MERGER REGULATION

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I. INTRODUCTION

Merger policy in the European Community (EC) is still in its developing stages. Only fourteen cases have reached the Stage II level of analysis, where a thorough investigation is done and a report issued, and only one of those cases has been completely blocked. The importance and the sophistication of economic analysis employed in EC proceedings is not yet at the same level as in the United States, but it appears to be rapidly approaching that level. One striking distinction so far between EC and U.S. enforcement policy is the comparative leniency of EC policy.

It is not possible to evaluate merger policy—or the tool most frequently used in merger analysis, namely market definition—without first having some appreciation of how important mergers have been and why they occur. Section II of this chapter presents

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this background. Section III describes the economic principles of market definition and discusses how to use quantitative tests to apply these principles and define markets. Section III also contrasts some empirical techniques frequently used in the United States with those used in Europe. This comparison is based on Lexecon's experience in presenting cases to U.S. enforcement agencies, on its experience working on EC merger cases (such as Nestlé/Perrier), on its discussions with EC and U.S. antitrust enforcers and on Dennis Carlton's experience as a consultant to the U.S. Department of Justice on the 1992 Horizontal Merger Guidelines. Section IV summarizes some of the recent EC cases while Section V concludes that the greater leniency of EC enforcement policy compared to the U.S. policy is sensible.

II. EVIDENCE ON MERGERS

It is hard to discuss appropriate merger policy without having some idea why mergers occur. The best place to start is with the historical record of mergers. It is surprisingly difficult to obtain data reported in a consistent way for long time periods. Figures 1–3 report several different data series for the United States.

Figure 1 shows what everyone probably knew—that an enormous increase in merger activity occurred in the 1980s and that merger activity has now fallen back to lower levels. Figure 1 also shows that there were several previous booms in merger activity, including a large increase in merger activity around the late 1890s and early 1900s. Many well-known firms, such as General Electric and U.S. Steel, were created through mergers during this period. This boom ended in 1904, right about the time when the U.S. Supreme Court decided the Northern Securities case, which held that the antitrust laws were applicable to mergers. Figure 1 also shows booms in merger activity in the late 1920s and late 1960s. George Stigler has dubbed the merger wave around 1900 "the merger to monopoly" wave and the one in 1929 as the "merger to oligopoly" wave. The 1960 merger boom is commonly referred to as the conglomerate merger wave.

1. This chapter, and especially this section, draws heavily on material appearing in Dennis W. Carlton & Jeffery M. Perloff, Modern Industrial Organization (1990).
Figure 1 masks an important fact: The economy has been growing over time so one expects more merger activity in a larger economy. Figures 2 and 3 adjust the measures of merger activity for the size of the economy by expressing the amount of merger activity relative to a measure of the size of the U.S. economy. Both figures reveal a striking fact. Contrary to popular belief, the merger boom in the 1980s was not unprecedented. By far the largest boom in merger activity was the merger boom around 1900. We will return to this fact later.

A pattern roughly similar to that in the United States can be observed in the United Kingdom. There was no U.K. boom around 1900 but there were booms in the 1920s, late 1960s, through the early 1970s and in the late 1980s. In the last thirty years, the pattern is uncannily similar, both in timing and amplitude, to the U.S. (see Figures 4 and 5). Strikingly, no such pattern is observable in France or Germany. It is notable that the United Kingdom, like the United States but unlike the Continental European countries, had (and has) an open, relatively unregulated, highly developed capital market.

Have the merger waves been good or bad for the countries in which the mergers took place? The answer depends on what generates merger activity. The reasons explaining the timing of merger activities, especially their booms, are not well understood. Merger booms seem to coincide with stock market booms for reasons that no one really understands. Putting aside the timing of mergers, there are two basic reasons commonly given for mergers.

The first one is the achievement of economic efficiency. Two firms combine operations if they can operate more efficiently (at lower cost) together rather than separately. Many possible efficiencies can be achieved through mergers. For example, around 1900 the cost of transportation and communication fell rapidly with the development of railroads and telegraph and telephone. Moreover, financial markets (stocks and bonds) were becoming more sophisticated. These revolutionary developments generated large econo-


4. Other reasons for mergers include tax considerations, attempts to remove implicit contracts and satisfaction of managers' egos. For a detailed discussion of mergers, see Carlson and Perloff (1990), supra note 1, at ch. 7.
mies of scale and, thereby, caused the optimal size of firms to increase. These developments were largely responsible for the unprecedented level of merger activity around 1900.

Other examples of efficiency include the takeover of a poorly performing firm by another with better managers. Once in control, the better managers can deploy the assets of the poorly performing firm more productively. Some of the hostile takeover battles of the 1980s can be characterized as managers trying to protect their own positions and thwart a takeover to the detriment of the shareholders of the poorly performing company, who are deprived of receiving a high price for their shares.

The second reason for mergers is the creation or enhancement of market power—the ability to profitably charge a price above the competitive level, which is usually marginal cost. The merged firm operates either as a dominant firm with unilateral market power or in an oligopolistic industry where it can collude more easily with its rivals after the merger. After the merger, the merged firm raises prices.

As a practical matter, a particular merger can occur for both reasons. To see how the trade-off between an increased price and lower cost can be compared, we proceed in two steps: first analyzing a case where price rises, and then analyzing a case where price rises and costs fall. Let us suppose that a competitive industry with constant marginal cost of $P_0$ is suddenly monopolized causing the price to rise from $P_0$ to $P_1$. Figure 6 illustrates the demand curve facing the industry and the fact that as price rises from $P_0$ to $P_1$, quantity falls from $Q_0$ to $Q_1$. At $Q_1$, consumers are willing to pay $P_1$, which exceeds the cost $P_0$, yet no additional output is forthcoming. This output restriction from $Q_0$ to $Q_1$ represents a loss to society shown in Figure 6 as the triangle ABC. Some may ask why the additional area BCDE, which represents the consumer overcharge, is not also a loss to society. The answer is that BCDE is a transfer of wealth—a loss to consumers but a gain to producers. In contrast, the triangle ABC is a complete loss. (There is a debate as to whether the antitrust laws should promote society’s welfare or consumer welfare. Society’s welfare is the standard used in other branches of applied welfare economics.)

5. See Carlton & Perloff, supra note 1, at ch. 22, for more discussion of this topic.
Now let us complicate the example and assume that the merger generates some cost savings and see how to calculate the costs and benefits of the merger. To be concrete, suppose that, as a result of a merger and the resulting elimination of competition, a firm raises its price from $1 to $1.10. The price rise causes a reduction in output and results in a loss to society represented by the triangular area (EBF) shown in Figure 7. Roughly speaking, this area represents the amount of value that society loses from the merger. Suppose that the merger also enables the firm to operate more efficiently and lower its constant marginal cost from $1 to $0.90, which results in lower total production costs (the rectangular area, ABCD, in Figure 7). This area represents a gain to society.

If the triangular area representing the deadweight loss from the price increase is smaller than the rectangular area of efficiency gain, the merger is, on balance, good for society. The relative size of these two areas depends on the particular circumstances. The larger the quantity sold in the marketplace, the more important the efficiency gains and the larger the area of the rectangle compared to the triangle. Even small reductions in costs per unit can result in efficiency gains that swamp deadweight loss in importance.6

For example, suppose that the initial quantity is 100 units (initial equilibrium point E in Figure 7) and the postmerger quantity is 90 (equilibrium point E in Figure 7). Because the cost savings are 10¢ per unit, the efficiency gain is $9. The deadweight loss from the price increase is only about 50¢. Thus, the efficiency gains outweigh the deadweight loss.

These types of calculations can be complicated, and it is a matter of debate whether enforcement agencies should be charged with making such calculations in deciding the legality of a merger.7 The current policy statement of the U.S. Department of Justice and the Federal Trade Commission, the 1992 Horizontal Merger Guidelines, explicitly recognizes the importance of efficiency gains in evaluating mergers. However, these guidelines suggest that, in general, a merger would be challenged if it has an anticompetitive

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6. If the output restriction is a small percent of the total quantity produced, the efficiency gain, which depends on the total quantity produced, will tend to swamp the deadweight loss.

effect (a price increase) even if there is an offsetting efficiency gain. Similarly, the EC Merger Regulation simply prohibits mergers that "create or strengthen a dominant position," apparently regardless of how large the efficiency savings might be. Whether or not explicit calculations are done to measure efficiencies, the presence of efficiency gain should influence the vigor of antitrust enforcement. Certainly in Europe most observers think that efficiency savings are an important determinant of actual decisions—regardless of the statute.8

Because economic theory suggests two possible reasons for mergers (efficiency vs. market power), we must turn to the data to determine which is a better general explanation for merger activity. The efficiency rationale appears to explain most mergers better than the anticompetitive or market power rationale. First, most U.S. mergers have recently not been purely horizontal. For example, McGuckin, Nguyen and Andrews (1991) report that only 15 percent of mergers in manufacturing were purely horizontal in the late 1970s and early 1980s. Second, even if purely horizontal mergers do occur, most U.S. industries are not highly concentrated. For example, according to the 1987 Census of Manufactures, the share of the top four firms—the four-firm concentration ratio—is above 40 percent in only about 60 percent of U.S. industry and above 70 percent in only about 10 percent of U.S. industry. (In 1935 the relevant number was 16 percent.) Of course, these numbers are based on industry definitions that may not correspond with economic principles of market definition, the topic of Section III.

Third, direct evidence on the operating efficiency of firms after merger indicates an increase in efficiency, although this view is not unanimous. (Contrast Lichtenberg and Siegel (1987) to Ravenscraft and Scherer (1987)). Stock market evidence indicates that the typical merger raises the combined equity value of the merged firm by about 7.5 percent (Bradley, Desai and Kim (1988)).

Finally, Stillman (1983) and Eckbo (1983) examine horizontal mergers and test whether there is evidence that market power was involved. They reason that if a merger is anticompetitive, it will lead

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8 For example, it is widely believed that the large gains through eventual rationalization of European telecommunications equipment supply placed a crucial role in the Alcatel/Telesis case.
to higher prices that will benefit the other (nonmerging) firms in the industry. They find no such evidence.

Turning to evidence other than the effect of mergers, there is at best only weak support for the proposition that higher concentration generally raises prices significantly. A powerful alternative explanation for which there is empirical support is that efficient firms prosper and increase their market share by passing on at least some of their lower costs to consumers.

Despite the weak evidence of the link between price and concentration, no economist we know has ever advocated the position that competition does not benefit consumers. There is indisputable evidence that prices fall as entrants enter a previously monopolized market. The real debate is how fast price falls with entry. Studies of individual industries seem to indicate that competition often works very quickly, with large price effects caused by entry of a second or third firm, but much lower (and sometimes zero) effects for subsequent entry. This complicated area is beyond the scope of this chapter but the interested reader is referred to Chapter 12 of Carlton and Perloff (1990).

Given the weakness of the evidence that mergers raise price and, more generally, that concentration is bad for either consumers alone or society, one should be cautious in stopping mergers. The cost of wrongly stopping an efficient merger is often the large rectangle in Figure 7. This loss of efficiency may be difficult to offset if internal expansion is the only alternative to the foreclosed merger. Although the cost of wrongly allowing an anticompetitive merger may also be large, such a mistake can be offset provided entry is possible. That is why an analysis of entry barriers plays such a large role in proper merger enforcement.

III. MARKET DEFINITION

Enforcement agencies in both the United State and the EC begin their merger analysis by first defining a relevant market and then examining the shares of the merging firms. It is well recognized that market definition is a useful first step in an analysis, but that an analysis which fails to consider other factors, such as ease of entry

and likelihood of collusion, is woefully incomplete. Nevertheless, market definition remains an important first step. In this section we first discuss the economic principles of market definition and then discuss the differing methods that have been used before U.S. and EC enforcement authorities.

A. Economic Principles

Alfred Marshall defined a market as an area in which “prices of the same goods tend to equality with due allowance for transportation costs.” Since Marshall’s time, economists and lawyers have refined the definition of a market. A market definition specifies the competing products and the geographic area in which competition occurs that set the price for the product under analysis.

In a merger case, the precise question of interest is usually whether price will rise after the merger. If there are many constraints on the current price that prevent it from rising, then the merger does not create additional market power.

A proper definition of the product dimension of a market should include all those products that are close demand or supply substitutes. Product B is a demand substitute for Product A if an increase in the price of A causes consumers to use more B instead. Product B is a supply substitute for A if, in response to an increase in the price of A, firms that are producing B switch some of their production facilities to the production of A. In both cases the presence of B significantly constrains the pricing of A if an increase in the price of A would result in either a significant decline in the quantity of A consumed as consumers switch from A to B or in a significant increase in the supply of A as firms switch production from B to A.

10. We leave to others the legal question of whether oligopoly behavior is covered by the EC Merger Regulation. See Nestlé/Perrier, O. J. L. 356/24 (1992), at ¶¶ 110 to 116.
12. “Does the merger keep price higher than it would otherwise be in the absence of the merger?” is the most precise way to formulate the relevant question in a merger. Because it is typically the case that current price is the best near-term price prediction, the current question in the text is the same as the slightly more precise one.
13. The relevant economic market is not necessarily the same as the market to which a salesperson might refer to. Substantial confusion has sometimes resulted when market definition is based on memos written by marketing personnel. For that reason, some antitrust lawyers advise companies to instruct marketing personnel to avoid the use of the word “market” in memoranda.
The degree of substitution between products depends upon the current prices of the two products. For example, A and B may be highly substitutable at a high price for A but not at a low price for A. Even a monopolist may raise its price sufficiently above competitive levels so that it faces some competition from other products. Simply because a monopolized product faces close demand substitutes at the monopoly price, it does not follow that the firm producing the product has no market power, although it may not be able to raise its price further by merger. In a merger case, the focus is on additional market power, and for that reason current prices should generally be used in deciding on market definition.

The Cellophane case illustrates the difficulties in defining a market. The U.S. Supreme Court investigated whether DuPont had market power in the pricing of cellophane. The Court reasoned that DuPont lacked market power because, at the current market prices, a user of cellophane had many substitutes, such as paper bags, and DuPont's share of the market (including these substitutes) was not large. However, the Court should have placed greater weight on the evidence that showed that price substantially exceeded marginal cost—the hallmark of market power. It was, therefore, an error to include other wrapping materials in the market definition because they did not prevent the exercise of market power and constrain the price of cellophane to competitive levels. If, instead of asking whether DuPont had market power, the Court had investigated whether a proposed merger would raise the cellophane price, its market definition might have been appropriate.

In the Brown Shoe case, the U.S. Supreme Court articulated a laundry list of criteria that can be used to define markets. It said: “The boundaries of such a submarket may be determined by examining such practical indicia as industry or public recognition of the submarket as a separate economic entity, the product's peculiar characteristics and uses, unique production facilities, distinct customers, distinct prices, sensitivity to price changes, and specialized vendors.” The application of this list of criteria has not led to precision in defining a market for antitrust purposes.

16. The U.S. courts, in addition to defining economic markets, have occasionally attempted to define economic submarkets that are contained within an economic market.
Numerous methods are used to identify the good substitutes for a particular product. One method is to interview producers and customers. The disadvantage of this method is that it can produce unreliable results because the producer or customer may have little experience dealing with the hypothetical situation posed in the question: "If price rose by 5 percent, what would you do?"

Another method is an examination of price movements of two products. If Products A and B are in the same economic market, then their prices should tend to move closely together. Therefore, a reasonable first step in defining economic markets is to examine the price correlations (a statistical measure of how closely prices move together) among different products that are under consideration for inclusion in the same product market.

Although no standard levels of correlation have been established to determine whether two products are in the same market, the available data may often be used to develop such standards. For example, suppose that everyone agrees that two different types of plastic materials are in the same economic market. One could compute the correlation between their prices and use it as a benchmark to determine whether some third plastic material belongs in the same economic market with the other two products.

The direct price elasticity of demand is the percentage change in quantity demanded in response to a 1 percent change in price. The cross-elasticity of demand is the percentage change in quantity demanded in response to a 1 percent change in another product's price. The ability of a firm (or group of firms acting together) to set price above competitive levels depends on the direct price elasticity of demand—not on the cross-elasticity of demand. There is a lot of discussion in court decisions as to the importance of cross-elasticity of demand in defining markets. Courts often use the term loosely to

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(The EC has adopted the same distinction in Form CO, the form in which firms must supply information on mergers to the commission.) Presumably, competition between two products in the same economic market is more intense if the two products also belong to the same submarket. The distinction between market and submarket is not very useful, and we will not refer to it or even attempt to give an economic definition of the term submarket.

17. Price correlations are a useful first step in defining markets; however, high correlations need not always indicate that two products are in the same market. For example, dissimilar products made from similar inputs may have high price correlations. Similarly, low correlations need not always indicate that products are not in the same market, provided large quantity shifts accompany the relative price shifts. If the price of one product rises but the price of a good substitute does not, the quantity demanded of the first product will sharply decline.
indicate that products are substitutes. A close relationship exists between cross-elasticity and direct elasticity. All else being the same, the larger a cross-elasticity of demand, the larger in absolute value is the direct elasticity of demand, and the lower is the market power. But even if every particular cross-elasticity for its product is low, a firm may still have little market power because the cumulative effect of many competing products, each a weak substitute, is large. For this reason, cross-elasticity with any other products can be no more than a rough guide to market power.

To discuss a cross-elasticity intelligently, one must specify whether it is the cross-elasticity of Product A with respect to the price of Product B or vice versa. Although these two different cross-elasticities are usually not distinguished in court decisions, they are not equal in general. When the question is whether the market for Product A should include Product B, the relevant cross-elasticity of demand is the cross-elasticity of demand for Product A with respect to the price of Product B.

One way to determine the price effect of a proposed merger is to estimate a variety of equations and determine econometrically all relevant demand and supply elasticities and cross-elasticities. For example, sometimes it is possible to estimate the relevant demand curve for firm 1 and the relevant demand curve for firm 2 when each firm produces slightly different but competing products. From these estimates, one can estimate how the combined firm will set prices when one firm controls the price of each of the two separate products. This procedure leapfrogs the step of market definition and goes directly to the ultimate question of whether the merger will cause prices to increase. For further details of this and other econometric procedures, see Rosenfield, Sider and Bishop (1991).

The other dimension of a relevant market definition is geographic. The geographic limit of a market is determined by answering the question of whether an increase in price in one location substantially affects the price in another. If so, then both locations are in the same market. The process of determining these limits proceeds

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18. This result follows because the sum of the direct elasticities plus all cross-elasticities of demand equals zero. The cross-elasticity of demand is positive for substitutes, and the direct price elasticity is negative. As discussed above, the direct elasticity can be large even if no individual cross-elasticity is large.

along the same lines as discussed for product market definition and involves similar reasoning. For example, consider the consumption of apples in Chicago. Apples are shipped to Chicago from outside the city limits. The geographic areas that ship apples to Chicago (or could profitably do so if price rose slightly) are in the same economic market as Chicago because they contain apple producers whose output significantly influences the price of apples in Chicago. Notice that these same apple producers could also significantly affect the price of apples in Milwaukee. Thus, Milwaukee and Chicago would be in the same economic market, and the price of apples in Chicago would generally be closely related to the price of apples in Milwaukee. Just as in the case of product market, it is possible to estimate econometrically demand and supply relationships among products produced at different locations to answer questions about market definition and market power.20

Whether either geographic or product markets are at issue, it is sometimes possible to avoid nearly all issues associated with market definition and elasticity estimates and cut straight through to the core policy question. Suppose the issue is whether a merger of two of the four existing circuits of theaters/cinemas in City X will lead to higher prices. Then a study of carefully paired cities, one with three circuits and one with four, can resolve the issue. If prices do not differ then the merger should be allowed. More generally, a statistical study can measure the effect of changes in number of circuits in a city on price, after adjusting for differences in other economic variables. If there is no effect, it suggests that either the market is broader than a city, the product is broader than movies or that entry is easy. In any case, a merger in such circumstances is unlikely to lead to a price increase and the merger should be allowed.21

20. Geographic markets of the EC vary along more dimensions than in the United States such as language, laws, trade customs and distance. For this reason, EC merger control faces geographic market definition issues more difficult than those in the United States.
MERGER POLICY AND MARKET DEFINITION

B. Application in the U.S. and Europe

The market definition as stated in the U.S. Merger Guidelines is often impossible to implement practically.22 Instead, the question that is usually posed and answered is: "If price rose 5 percent, what other products could demanders turn to or suppliers supply?" (We ignore the semantic distinction in the Guidelines between being an entrant and providing a supply substitute. The distinction has no effect on any analysis.) If there are many constraints that prevent the current price from rising, then the merger does not create additional market power.23 We find that although U.S. enforcement agencies do rely heavily on customer and supplier interviews, they also are quite willing to examine detailed statistical studies. Price correlations are routine. Econometric estimation of demand and supply relations, when possible, are closely analyzed, as are econometric studies relating price to concentration in the industry under analysis. We have found that U.S. enforcement agencies are more likely to perform interviews and price correlations than perform an econometric study, but that they will pay careful attention when such a study is done. Moreover, the U.S. agencies are keenly aware of subtleties, such as the constraining effect of used goods in a market for durable goods, and are receptive to econometric analyses that estimate those constraining effects.24 We would be surprised if, an appropriate case arising, the same were not true in Europe as well.

Although the EC has had much less experience with mergers, and the role of economists in Europe is not as pronounced as in the United States, the EC has rapidly embraced quantitative methods of determining market definition and evaluating mergers. The Nestlé decision probably contains the most detailed discussion of principles of market definition.25 It is a good example of the use of detailed calculations of numerous price correlations among different prod-

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22. The implicit hypothetical question is: "What products and locations comprise the smallest set such that a monopoly of this set of products and locations could raise price by a significant amount (such as 5 percent)?"

23. The 5 percent standard was also adopted in the EC proceedings involving Nestlé/Perrier. O.J. L 356/1 (1992).

24. See supra note 12.


ucts to define the product and geographic market. Indeed, the Nestlé decision shows a sophisticated understanding of the link between price discrimination and market definition, just as articulated in the U.S. Merger Guidelines. What is still undecided is how complex statistical estimation of supply and demand relations will be assessed by the EC. It is known that the EC is currently considering the value of such methods. Given the sophistication exhibited so far by the EC, we would predict that any method of merger analysis that has proven valuable to U.S. enforcement agencies will probably also eventually be used by the EC.

Although we have not seen it matter yet, there is one possible difference in market definition between the United States and the EC and that difference has to do with entry. As a practical matter, it is irrelevant from the viewpoint of economic performance which of the following analyses prevails. First, the market is narrowly defined with high market shares for the merging firms, but, because it is recognized that the possibility of rapid entry precludes a price increase, the merger goes unchallenged. Second, the market is broadly defined to include potential entrants and, therefore, is so broad that market shares are low and hence the merger goes unchallenged. Unlike the U.S. Merger Guidelines, the EC Merger Regulation and cases leave unclear how rapid entry must be for firms to be considered part of the market rather than as a separate factor used to judge the significance of market shares. EC officials emphasize that in assessing changes in market structure they must use a longer time horizon than would be appropriate in assessing abusive behavior under Article 86 of the Treaty of Rome. Merger advisers frequently argue that entry occurring up to five years later is relevant—although EC officials are inclined to say that five years is too much. In any case, the time horizon for entry to matter appears longer than the one to two years allowed in the U.S. Merger Guidelines.

IV. DIFFERENCES IN STRINGENCY OF ENFORCEMENT

It is commonly thought that the EC enforcers are more accommodating to mergers with high market shares than are the U.S. enforcers. Under the 1992 U.S. Merger Guidelines, a postmerger HHI of under 1,000 is considered safe, whereas mergers with a
change in the HHI of 50 when the post-merger HHI is above 1,800, raise significant competitive concerns that would have to be offset by other factors such as entry if the merger is to be approved. Krattenmaker and Pitofsky (1988) have examined actual U.S. enforcement and conclude that the true lower HHI threshold is near 1,800 and the true upper threshold is about 2,800. The EC has no official HHI guidelines, but its decisions are to some extent open to examination.

The EC Commission has so far prohibited only one merger, Aerospatiale/Alenia/De Havilland, where the postmerger HHI would have been around 4,700 and the change around 1,700. On the other hand, it permitted the Alcatel/Telefónica transaction where the postmerger HHI in the microwave equipment market was around 7,000 and in the transmission equipment market around 6,800. In each case, the change in the HHI was high, around 2,400 and 3,500. The postmerger HHI in Courtaulds/SNIA was about 4,200 with a change of around 2,600. However, in both these cases market definitions were too narrow. There were many actual and potential competitors in both industries and in the Alcatel/Telefónica case the geographic market was artificially narrow (Spain only). In common with European practice generally, the EC merger authorities tend to define markets too narrowly from the economic point of view, but then offset the effect of their narrow market definitions by approving mergers where competitors can be expected to enter from outside those narrow markets.

Equally interesting are the cases in which the Commission has insisted on remedies—amendments to the merger—as a condition of not prohibiting it. The examples are shown in the accompanying table.

<table>
<thead>
<tr>
<th>Case</th>
<th>Original Postmerger HHI</th>
<th>Change in HHI</th>
<th>Eventual Postmerger HHI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magneti/Marelli</td>
<td>4,000</td>
<td>1,600</td>
<td>2,400</td>
</tr>
<tr>
<td>Nestlé/Perrier</td>
<td>3,500</td>
<td>800</td>
<td>3,100</td>
</tr>
<tr>
<td>DuPont/ICI</td>
<td>2,600</td>
<td>1,000</td>
<td>2,600</td>
</tr>
<tr>
<td>Accor/Wagoner-Lits</td>
<td>4,900</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>KNP/BT/VRG</td>
<td>3,600</td>
<td>1,600</td>
<td>2,700</td>
</tr>
</tbody>
</table>
On the other hand, no remedy was imposed in several cases, reported in the following table, where HHIs were very large and the market definition not obviously defective.

**Cases Involving No Remedies**

<table>
<thead>
<tr>
<th>Case</th>
<th>Original HHI (Approximately)</th>
<th>Postmerger HHI (Approximately)</th>
<th>Change in HHI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Renault/Volvo</td>
<td>2,500+</td>
<td>750</td>
<td></td>
</tr>
<tr>
<td>ABB/BREL</td>
<td>3,400</td>
<td>733</td>
<td></td>
</tr>
<tr>
<td>Varta/Bosch</td>
<td>2,200</td>
<td>968</td>
<td></td>
</tr>
</tbody>
</table>

We believe a very rough but fair summary is as follows. In the absence of specific factors such as ease of entry, the EC Commission will likely demand remedies (if available) if the postmerger HHI exceeds 2,500. However, if no obvious remedies present themselves the Commission is unlikely to block a merger unless the postmerger HHI significantly exceeds 3000.27 No de minimis threshold (equivalent to the 100 and 50 change in the HHI in the U.S. Merger Guidelines) can be discerned. Note however that EC merger control is still in its early phase—policy could easily change and change rapidly.

Obviously, EC policy up to now has been more permissive than that in the United States. We now turn to the question of whether this is appropriate.

V. SHOULD THERE BE ANY DIFFERENCES BETWEEN THE U.S. AND THE EC IN MERGER POLICY?

Let us answer the question posed in the title of this section in two parts, first for the methods used to analyze mergers and second for the leniency used to judge increased concentration. When analyzing mergers, the same economic principles of market definition should apply, no matter where a merger is occurring. However, the importance attached to the historical record may differ depending on whether the merger is occurring in the United States or in the European Community. For example, after one has defined a

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market, the enforcement agency must decide whether the resulting increase in concentration is so high as to make it unlikely that market power could be exercised. Although the U.S. Merger Guidelines do give specific cutoffs, U.S. enforcement agencies do not woodenly apply these cutoffs independent of the experience of the industry. So, for example, if an industry has shown no effects from past sizable increases in concentration, or if markets where the industry is concentrated behave as competitively as markets where it is not, those facts should and do affect the ultimate enforcement decisions.

The EC is still in a phase of development in which economic integration is occurring. Certain costs of transaction and communicating are likely to continue to fall as laws are made more standardized and communication and data networks continue to develop. Although the United States and the EC certainly differ in important respects, the integrated structure that the EC has moved to is similar to that of the United States. This suggests that the historical United States experience in a particular industry could be of use in evaluating the likely effect of an EC merger, and perhaps be of greater relevance than the European experience.

Let us now turn to the second part of the question: Should the EC be more lenient than the United States in tolerating increases in concentration? Yes, for two simple reasons. The lowering of communication costs and the standardization of laws will likely lead to an increase in the optimal size of European firms for much the same reasons as occurred in the United States around 1900. Therefore, there may be large efficiency gains from a merger. Second, when new firms are being formed, and as new consolidated markets are being developed, market shares are likely to be unstable. Entry is often easier in such markets compared tounchanging markets with firms with large and stable market shares. In such circumstances, the consequences of approving an anticompetitive merger are reduced. Therefore, because the gains from a merger are likely higher while the costs of an anticompetitive merger are likely to be lower in the EC compared to the United

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28. These factors should also lead to broader geographic markets in Europe—an effect that Lexicon has already seen. We find that the relevant geographic markets are wider today than five or ten years ago. Thus, in Nestlé/Pernod the relevant market was France in 1986; France, Benelux, and the four westernmost Länder of Germany in 1991; and, on current projections, France, Benelux, all of Germany, U.K., and Northern Italy in 1996.
States, it follows that the EC is correct to be following a more lenient policy than allowed in the United States.

BIBLIOGRAPHY

Bradley, Michael, Amand Desai, and E. Han Kim, Synergistic Gains from Corporate Acquisitions and Their Division Between the Stockholders of Target and Acquiring Firms. 21 J. of Fin. Econ. 3–40 (1988).

Carlton, Dennis W., and Jeffrey M. Perloff, Modern Industrial Organization (1990).


Figure 1
Annual Number of Mergers and Acquisitions (U.S.)

Source: Adapted from Solnick and White (1988), Figure 9.6 in Alan J. Auerbach, ed. Corporate Takeovers. Copyright 1998 by the National Bureau of Economic Research. All rights reserved.
Figure 2
Annual Number of Mergers and Acquisitions
Per Billion Dollars of Real GNP
(U.S.)

Note: Annual number of mergers and acquisitions per billion dollars of real GNP (in 1992 dollars): Nelson Series, FTC "Broad" series and Mergers and Acquisitions domestic series.
Source: Adapted from Colle and White (1992) Figure 8.7, in Alan J. Auerbach, ed., Corporate Taxation. Copyright 1992 by the National Bureau of Economic Research. All rights reserved.
Figure 5: Number of Mergers and Their Value as a Percentage of GDP (U.K.)

Source: U.K. Government Statistics
Figure 7
Efficiencies vs. Competitive Harm

[Diagram showing a graph with axes for price and output, labeled with points A, B, C, D, E, and F, illustrating demand and marginal cost curves, with shaded areas representing efficiency gains and deadweight losses.]