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Horizontal Mergers: Triage and Treatment

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Introduction: The "Incipiency" Doctrine

For some years now, antitrust policy towards horizontal mergers has been evolving. It is plain to me that some sort of change was badly needed; whether the changes that have taken place or those that are now proposed by the Reagan Administration are the appropriate ones is not quite so clear.

In the years following *Brown Shoe*[1] two views became perniciously intertwined. These were: first, the older view that Section 7 of the Clayton Act was designed to thwart monopoly power "in its incipiency;"[2] second, that the definition of markets or submarkets (whatever "submarkets" are) is readily accomplished, with the parlance of businessmen ("the Chicago drug-store market," "the high-fashion shoe market") substituting for serious economic analysis. The result was that mergers could be and often were successfully challenged if the merging firms overlapped in their product lines and had even a small fraction of some economic "market," even if it was obvious that the merger by itself could not materially affect competition. (Perhaps the

[1] *Brown Shoe Company v. United States*, 370 U.S. 294 (1962). The case involved a merger between Brown Shoe and Kinney Shoe, the third and eighth largest firms in the industry. In its decision blocking the merger, the Supreme Court took a very narrow view of product markets (or "submarkets").

[2] The "incipiency" doctrine goes back to Congressional discussion of the original Clayton Act. (See Senate Report No. 698, 63rd Cong., 2nd Sess. (1914), p. 1.) The same language was used when Section 7 was amended in 1950 (Senate Report No. 1775, 81st Cong., 2nd Sess. (1950), pp. 4–5), and by the *Brown Shoe* court (370 U.S. 294 at 317, 346), as well as in later opinions.

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ultimate case of the incipiency doctrine was *United States v. Von's Grocery Co.*, 384 U.S. 270 (1966). In that case a grocery store acquisition in Los Angeles was ruled illegal even though the merged firms had only 7.5 percent of retail grocery business, 150 grocery chains and 3800 stores were in operation, and entry could hardly be said to be difficult.) Since mergers can occur for pro-competitive efficiency reasons, an over-stringent policy will inflict clear social costs.

The language of Section 7 lends itself to the incipiency doctrine by speaking in terms of mergers the effect of which "may be substantially to lessen competition or to tend to create a monopoly." Presumably for this reason, the administration proposes to change the language to "substantially reduce competition" and thus at least partially negate the incipiency doctrine. But despite the excesses to which the incipiency doctrine has led, there are substantive reasons for not changing the language of Section 7.

The incipiency doctrine may be viewed as filling a void in the legal treatment of oligopoly. In the case of single-firm monopolies, the *ALCOA* case can be read as permitting noncompetitive market structures to be attacked even if the firm involved has done nothing wrongful in itself, provided the firm has deliberately acted to achieve the market structure in question.[3] There has never been a parallel structural doctrine in the law for the case of tight oligopoly.[4] Hence, even where the enforcement authorities are sure that the structure of the market is highly conducive to tacit collusion, no antitrust attack on that structure is likely to succeed (or even be attempted). With the exception of acts designed to exclude new entrants, only explicitly or implicitly collusive acts can be successfully attacked, and even a win by the government in a collusion case will leave in place the very structure that makes it likely that similar anticompetitive events will occur again.[5]

Of course, sometimes no structural remedy for tight oligopoly is possible. Just as there are natural monopolies, there are natural oligopolies, and just as the inevitability of a monopoly-like structure is (or ought to be) a defense to a structure case under Section 2 of the Sherman Act, so the inevitability of a tight oligopoly structure ought to be a defense to a structure case under any structurally-oriented anti-oligopoly act. But at present that defense is not an issue, because such an act does not exist.

In the case of monopoly, merger policy plays a natural role as part of a structural policy. If deliberately acquired monopoly power is to be considered a violation of the

[3] *United States v. Aluminum Company of America, et al.*, 148 F. 2d 416 (1945). Judge Learned Hand's opinion held that an alleged monopolist (in this case ALCOA) could be in violation of Section 2 of the Sherman Act (the anti-monopoly section) if it had monopoly power and had deliberately achieved that power by means other than "superior skill, foresight, and industry." Alcoa was held to have violated Section 2 largely by buying up inputs far in advance of any intention to use them. The *ALCOA* standard (which may now be defunct) has not always been wisely applied or well understood. See Fisher, McGowan, and Greenwood (1983).

[4] This may be the reason that the antitrust authorities have attempted to invent a doctrine of "shared monopoly." See *In the Matter of Kellogg Company, et al.*, FTC Docket No. 8883 (decided 1981).

[5] Consideration of the absence of any serious remedy in the second *American Tobacco* case (*United States v. American Tobacco Co.*, 328 U.S. 781 (1946)) or of the history of litigation and investigations in the cement industry will illustrate the problem. I take no position on whether structural remedies would have been effective in these industries.

antitrust laws, then it makes sense to prohibit such deliberate acquisition before it occurs. Banning mergers that "tend to create a monopoly" is far easier than ordering complex divestiture afterwards. On the other hand, the fact that deliberately acquired monopoly power is a violation does allow later antitrust attack if a particular merger proves part of a pattern that does lead to monopoly.

In the case of oligopoly, however, no such later attack is likely to be possible, and merger policy is the only existing way to prevent a permanent noncompetitive structure from arising. Where a merger or a series of mergers will result in tight oligopoly structure, Section 7 with its present language permits enforcement agencies to prevent it. What is more, the move to a tight oligopoly structure can be halted at a time when the "inevitability" of that structure can be most easily examined by weighing the pro- and anticompetitive effects of the merger before it occurs. In the absence of any other structurally-oriented oligopoly policy, dealing with tight oligopolies "in their incipiency" may be the only way of dealing with them at all.

There are problems here, however. Consider the case in which a tight oligopoly structure will be attained through a series of mergers if they are not stopped. In such a situation, dealing with the problem through merger policy encounters possible difficulties. On the one hand, if antitrust attack begins with an early merger in the series (as in *Brown Shoe* and *Von's Grocery*), it may stop an innocent or even pro-competitive merger simply because the Court or the Department of Justice envisages it as the forerunner of a line of mergers that may never happen. On the other hand, suppose that antitrust attack waits for later mergers when anticompetitive effect seems certain. Then, at least when a series of mergers occurs in a relatively short time period, one can regard the participants in later mergers as being treated unfairly (unless the first firms to perceive the possibility of later noncompetitive profits are regarded as innovators).[6] Further, such a policy can provide an incentive to merge while the merging is good, providing an artificial incentive to get in under the antitrust wire.

While something can be said on both sides of this issue, actual merger policy as applied by the courts has not been particularly ambivalent about it. Instead, merger policy has tended to err in the direction of the first problem—attacking particular mergers because the Kantian categorical imperative shows that many mergers like them would together be anticompetitive. Such a policy carries the incipiency doctrine too far. On the other hand, the attempt of the administration to change the language of Section 7 to require a "substantial reduction in competition" is likely to lead to the second problem—attacking only later mergers in an otherwise symmetric series.

This latter problem may not seem particularly troublesome. After all, why not deal with the problems created by each merger as they arise? Why prohibit early

[6] It may be considered an objection to any purely structural policy towards oligopoly that, unlike the case of monopoly, where the pattern of conduct that leads to the noncompetitive structure consists of acts all done by a single firm, the acts that lead to a tight oligopoly are the acts of several firms. This means that an *ALCOA*-like standard applied to oligopoly can penalize individual firms because of actions taken by others, even if no one firm's action would be illegal in itself. There is no escape from this problem. Attacking it in terms of merger policy either does not solve it at all or else makes it worse in the sense of penalizing the two merging firms for acts that only *might* later be taken by others.

mergers in a series just because later ones may create a noncompetitive structure? Presumably the early mergers are undertaken without (or with relatively little) anticompetitive intent, while the proponents of later mergers must realize what they are doing.

The problem with this argument is that it supposes that we really know how to draw the line, that the place at which the next merger makes the industry noncompetitive is easy to spot, perhaps with the aid of some quantitative measure. As I shall repeatedly emphasize, this is simply not the case. Early mergers can contribute to some departure from competition, and a policy of asymmetric treatment can encourage such mergers to occur, rewarding anticompetitive foresight while penalizing late arrivals.

A Two-Stage Procedure

Indeed, the pursuit of any sort of structural policy towards oligopoly—whether through merger policy or otherwise—presupposes that we can recognize anticompetitive structures when we see them. That requirement is especially crucial for the necessarily indirect approach embodied in merger policy. Unfortunately, that requisite is not easy to meet, and there is a temptation to avoid difficult analysis in favor of standards that are apparently precise but in fact very approximate. This problem pervades all aspects of merger policy.

For this reason, when considering merger standards, it is important to bear in mind that policy takes place in stages. In particular, there is a difference between deciding on guidelines for triage—guidelines as to what cases to investigate or oppose —and for treatment, the judicial standard to be used. Arbitrary rules are inevitable and may even be appropriate in the first context. They are a menace in the second. The Department of Justice has not always recognized the difference, particularly when it comes to the use of concentration measures.

I believe merger policy should be explicitly conducted as a two-stage process. In the first stage, fairly simple tests should be used to decide what cases should be further investigated. I would use concentration measures heavily (but not exclusively) here and would consider a variety of reasonable market definitions.

In the second stage, prospective mergers that fail such tests would be investigated in considerably more detail. This investigation will require a more sophisticated approach to market definition and concentration than is needed at the first stage. Such an investigation should begin by examining barriers to entry. If entry is found to be easy, then the merger should be permitted. If not, then the investigation should go on to consider the actual likelihood of tacit collusion (assuming that the merger does not result in a single-firm monopoly). At this stage, such matters as the complexity of the product and the ease with which cheating can be detected should come into play. I would put the burden of proof as to increased concentration and lack of entry barriers on the opponents of the merger, but tentatively would treat both sides equally when considering other factors that make tacit collusion easy or difficult. The proponents of

the merger should certainly have the burden of proving that the merger will create efficiencies to offset any increased risk of anticompetitive behavior.

Such a two-stage procedure would be unnecessary, of course, if the tests of the first stage could really pick out anticompetitive mergers from harmless or pro-competitive ones. Accordingly, I would have courts put little weight on the fact that a prospective merger has failed the first-stage tests (although the extent of such failure —the level of concentration above the threshold, for example—would continue to be relevant). After all, in such a system, *any* merger that gets as far as trial *must* have failed the first-stage tests.

On the other hand, partly because of the importance of providing a clear guide to firms and partly for reasons given later, I would have the antitrust authorities at least loosely committed not to attack mergers that pass the first-stage tests. Further, I would have courts put more weight on such passage in considering private suits than the small weight to be put on first-stage failure. Because the first-stage tests are mechanistic and rough, however, I would not make them dispositive either way. I shall exemplify and expand on the workings of such a two-stage procedure as I consider various aspects of merger policy.

Market Definition

Market definition is an artificial construction created by antitrust litigation. For any other purpose of economic analysis, the binary question of whether particular firms or products are "in" or "out" of a given market is a meaningless one. Even in antitrust cases, that question is not a useful one if substantive results turn on the answer. What matters are the constraints that other firms and products put on the power of those whose actions are being examined. The proposition that flexible wrapping papers substitute for cellophane at a high cellophane price but not at lower ones already contains a good deal of information concerning the ability of a sole supplier of cellophane to charge monopoly prices. There is nothing to gain and much to lose by the Procrustean device of summarizing that information either in the statement that flexible wrapping papers and cellophane are "in" the same market (the Supreme Court's position in the cellophane case) or in the statement that they are "out" (the position of many commentators).[7]

Such activity, however, has historically been of overwhelming importance in antitrust cases. Instead of market definition being used as a device for summarizing and organizing information, it has often become the principal issue. Worse, the deservedly central but complex issue of constraints on the exercise of market power has often been ignored altogether. To return to merger cases, one need know little about the facts of Nestlé's acquisition of Stouffer's in the mid-1970s to know that

[7] *United States v. E.I. DuPont de Nemours and Company*, 353 U.S. 377 (1956). See also Stocking and Mueller (1955), Kaysen and Turner (1959, p. 102), and Posner (1976, pp. 127–128).

analysis in that case was not helped by a debate over whether there is a "market" consisting of high-priced, frozen, nonethnic entrées.[8]

If market definition is to be at all useful in antitrust cases, the "market" must include those firms and services that act to constrain the activities of the firm or firms that are the object of attention. That such constraints may not all be equally powerful merely points to the fact that analysis does not end when the market has been defined and that simple-minded measures of power or concentration, like simple-minded binary treatments of market definition, are unlikely to be adequate substitutes for a full analysis.[9]

The Department of Justice Merger Guidelines (U.S. Department of Justice, 1984) are a major step in the direction of sanity here. In the 1982 version (slightly modified in 1984) the Department of Justice defined a "market" as the minimum collection of firms that could, if they colluded, profitably raise prices 5 percent above current levels for a year. Putting the details aside for a moment, this approach is plainly the right one. If prices cannot be so raised, then supply or demand substitutability puts important constraints on the power of those already included. To leave those constraints out of the "market" would be to have much of the action take place off stage. The implicit focus of the Guidelines on constraints as the principal question to be asked in market definition is absolutely right.

It is less clear that the specific details of the Guidelines' approach are correct. Is 5 percent the correct threshold amount to use for price rises? Is one year the correct amount of time? Should the 5 percent be applied to current price levels or to something else?

I begin with the third of these questions, since the answer to it has implications for the answers to the first two. As Lawrence White emphasizes in his paper, the use of current levels as the base for the test is consistent with the view that merger policy is preventive, designed to keep matters from getting worse. On the other hand, as Richard Schmalensee states in his contribution, "it makes sense to define a market as something that could profitably be monopolized, not as something for which price could be profitably increased over current (possibly monopolistic) levels."

I agree with Schmalensee here, but more than a semantic point is involved. If one takes the view that merger policy is a substitute for a structural policy towards oligopoly, then there is a strong case for using competitive rather than current price levels. Consider a fairly tight duopoly in which prices have already been raised to the level at which a competitively produced substitute product (like flexible wrapping papers) can compete. The present Guidelines would let the duopoly merge, since the market would have to include the producers of the substitute. Since tacit collusion may not always be easy to maintain, permitting such a merger may make permanent

[8]It may or may not have been a coincidence that, after the acquisition was challenged by the Federal Trade Commission, Stouffer's (which of course favored a wide market definition) began a series of television commercials that featured someone tasting a Stouffer's product and saying something like: "What is it? It tastes like lasagna, but it isn't lasagna." The case was eventually settled.

[9]For a more detailed discussion of these issues in the context of Sherman Act, Section 2 cases, see Chapter 3 of Fisher, McGowan, and Greenwood (1983).

a situation that otherwise might not last. Further, since the merger of the two duopolists is not "economically inevitable" or solely the result of "superior skill, foresight, and industry,"[10] there is the possible anomaly that the Guidelines used in the administration of the supposedly more stringent Clayton Act would permit a merger leading to a monopoly that might then be successfully challenged under Section 2 of the Sherman Act.

This example suggests that using a competitive price level produces a more stringent standard than using the current level. White argues that this conclusion may not always follow, because fewer firms will be attracted to compete by 5 percent increases over lower prices than over higher (noncompetitive) ones. He gives the example of a cellophane monopolist who wishes to acquire a manufacturer of aluminum foil. In such a circumstance, the use of the competitive price level as the standard might permit the merger, since it would place the two companies in different markets (assuming that aluminum foil does not begin to compete with cellophane until the price of the latter is more than 5 percent above its competitive level). The use of the current level, on the other hand, would force consideration of the substitution possibilities (assuming that the cellophane company is already exercising its monopoly power and pricing at the point where aluminum foil begins to become a realistic substitute for cellophane).

This argument is an excellent example of the difficulty that can arise when one tries to squeeze a complex set of facts into the binary choice of "in" or "out" and then decide what to do solely on the basis of mechanical tests. Obviously, any detailed analysis would uncover and deal with White's problem. One can (and should) ensure that such an analysis will take place by requiring that any serious discrepancy between competitive and current price levels should trigger further (stage two) investigation. There is no need to become a prisoner of one's own Guidelines if one is willing to treat them as merely first-stage thresholds.

Of course, some of this discussion has an apparent precision that is not real. It is not easy to know in practice just what competitive prices would be. Fortunately, this problem is unlikely to matter if the job is done sensibly.[11] The kind of qualitative analysis required to decide whether market participants can raise prices above competitive levels is precisely the kind of analysis required to do a sensible job of market definition by considering the constraints on the behavior of the prospective merged company. It is not particularly different in kind from the qualitative analysis now required by the use of current price levels as the base. Only if detailed quantitative analysis were to be performed would the exact location of competitive price levels matter, and such analysis (typically not practical anyway) does not belong

[10] *United States v. United Shoe Machinery Corporation*, 110 F. Supp. 295 (1953) at 341; *United States v. Aluminum Company of America, et al.*, 148 F. 2d 416 (1945) at 430.

[11] There is a serious danger that the job would not be done sensibly and that the antitrust authorities would simply look at profits or profits-sales ratios in a mechanical attempt to compute competitive prices. To do this would be a mistake, both because profits play an important role in competitive industries and are not absent save in long-run equilibrium, and because accounting measures of profits or the profits-sales ratio do not tell one whether firms are exercising market power. See Chapter 7 of Fisher, McGowan, and Greenwood (1983), Fisher and McGowan (1983), and Fisher (1987a).

in the first stage of merger analysis. One need not locate competitive price levels with any precision to realize that some apparent substitutes may only reflect existing supra-competitive pricing.

As this discussion suggests, the question of whether 5 percent is the correct figure for the test may not be very important. The 5 percent figure does serve to focus attention on the sort of effects that will be considered important, but beyond that it serves only to give a spurious impression of precision to an analysis that is generally imprecise.

Is 5 percent roughly right? The answer here depends on the costs and benefits involved. By using a high figure, one allows mergers to slip by that may lead to elevated prices and welfare loss. On the other hand, by using a low figure, one runs the risk of prohibiting mergers that are relatively harmless or may promote economic efficiency. Further, society must bear the cost of administrative or judicial proceedings to stop a fairly small harm. Since it is impossible to decide where to draw the line without a detailed analysis of the likely welfare losses and gains in each case, 5 percent seems to me to be a sensible administrative rule. (One year for the time period seems a little short.) As indicated, however, I would apply it to competitive rather than to current price levels and would investigate further whenever current prices are substantially above competitive ones. This implies a more stringent rule for already noncompetitive industries than the Department of Justice now uses. This seems appropriate for the first stage of merger analysis.

The second stage of merger analysis, however, requires a more sophisticated approach. Here I would move away from the simplistic, binary notion that things are either "in" or "out" of a "market" and explicitly consider the fact that different firms and products provide differing degrees of constraints on the success of post-merger anticompetitive arrangements. Serious analysis need not become bogged down in deciding such bogus issues as whether cellophane and other flexible wrapping papers are in or out of the same market; it can come to grips with the real questions such as whether cellophane producers are constrained to price competitively.

Concentration Measures

Painful though it may be to economists to admit, the analysis of oligopoly does not yield precise, useful results relating structure to conduct and performance. Economists know in a general way what factors make conscious parallelism more or less likely: number and size distribution of firms, complexity of the product, and so on. Unfortunately, such knowledge is nowhere nearly precise enough to substitute for the study of specific situations. In particular, while conscious parallelism clearly seems to be more likely the smaller the number of firms (other things equal), economic analysis has no serious idea as to whether the danger point is reached at four firms rather than five or, indeed, what the function in question looks like. Similarly, while conscious parallelism clearly seems to be more likely the more concentrated is the market

(other things equal), no sound reason exists for picking out particular levels of the Herfindahl-Hirschman Index (HHI) as danger points.

Indeed, while the HHI seems a reasonable way to measure concentration, neither theory nor reliable econometric evidence shows that the HHI is a sufficient statistic for determining the effects of concentration on noncompetitive behavior. Studies attempting to relate profit levels or markups to HHI values are not reliable guides in this regard (see footnote 11). Even on their own terms, such studies are not so successful as to warrant basing merger policy on them. It would therefore be a great mistake if the courts (or Congress) were to adopt the practice of judging mergers by looking only or even primarily at pre- and post-merger HHI levels. As with market shares in monopoly cases, the HHI provides only the crudest of indications as to what we want to know. Any serious merger case must ask specifically about the likelihood of tacit collusion, and this question requires considerably more than the computation of the HHI.

Such strictures, however, do not apply to the use of the HHI for first-stage, administrative purposes. With limited resources and finite time, the antitrust authorities must decide somehow what cases to investigate and then pursue. If that decision is not itself to require a full-dress investigation, then some rules must be used that can be applied fairly readily. In that circumstance, the use of the HHI to trigger or turn off investigation appears warranted.

Since I would principally use the HHI in this way, such questions as how to treat foreign competition recede in importance. If quotas exist or are likely, for example, then the availability of foreign capacity does not put the same constraint on post-merger anticompetitive behavior as would the same capacity in independent domestic hands. I would calculate the HHI both including foreign production beyond the quota level and excluding it. If the treatment of foreign production makes a difference, then the issue should be analyzed and investigated further.

There is no point in wasting time arguing which one is the "right" computation. As in all aspects of market definition, it is a mistake to suppress information. In this case, it is a mistake to suppress the fact that foreign competition may matter in a different way from domestic competition by forcing a decision that foreign competition is either the same as domestic or not present at all. Calculating the HHI ought not to be the point of a merger analysis, but only a signal for further investigation.

Are the HHI levels currently used in the Guidelines the right ones to use as such signals? How can one know? Plainly, a very low post-merger HHI makes it most unlikely that anticompetitive behavior will (or can) result from the merger. Plainly also, a merger that raises the HHI by a very large amount and leaves it very high is one that requires investigation. But what do "very low" and "very high" mean? Is the 1800 cut-off the right one? To know this with much certainly would be to know what we emphatically do not know—exactly how the HHI relates to noncompetitive behavior. Further, to know the answer with certainty would be to know what cannot be known, for the relation of the likelihood of noncompetitive behavior to market structure is too complex to be well-summarized in a single measure.

One can get a little farther, however. The danger of setting the trigger levels of the HHI too high is that anticompetitive mergers will slip through. One of the dangers of setting them too low is that the antitrust authorities will be beset with many cases of HHIs above the threshold with claims of offsetting effects (and may lose such cases if they go to trial). This is particularly likely where the Department of Justice defines the market too narrowly, as it sometimes still does.[12] Analysis of actual experience under the Guidelines might be revealing here. A low trigger level may not necessarily be a bad thing. If the purpose of setting such levels is to trigger investigation, it may well be better to waste resources on an investigation of a merger that is shown to be harmless than to fail to investigate a merger that will turn out to be harmful.

Unfortunately, low trigger levels have other costs. Mergers are sometimes delicate creatures, and antitrust litigation can be extremely expensive. The HHI levels set in the Guidelines can therefore act to deter mergers that involve such levels. Setting the levels low can deter socially useful mergers. This outcome is particularly likely if a two-stage procedure is not followed and the trigger levels are used by the authorities not as signals to investigate but as signals to oppose.[13]

Partly to offset the costs of deterring socially useful mergers by too low a trigger level, I would have the antitrust authorities committed not to oppose mergers that fail the first stage tests save in unusual circumstances. I would also have courts give some weight to such passage in deciding private suits (although I would not make passage of such tests dispositive).

Barriers to Entry

After the decision to investigate a proposed merger has been taken on the basis of the HHI, ease of entry is the phenomenon that should be investigated first. That is so, first because of the intrinsic importance of the role of potential entry (or the lack thereof) and second, because a finding that entry is easy should be dispositive. Unfortunately, while the importance of analyzing entry is generally recognized in principle, there is mass confusion over what it involves in practice.

[12]To take a recent example, in the Northwest-Republic airline merger (*NWA-Republic Acquisition Case*, Department of Transportation Docket 43754 (1986)), the Department of Justice insisted that one-stop or connecting airline service was not in the same market as nonstop service. In so doing, it based its arguments on the undeniable fact that all travelers prefer nonstop service to one-stop or connecting service if the flights leave at the same time and have the same price. Such an argument takes a very limited view of substitution and market definition. In fact, people take one-stop or connecting flights in preference to nonstop flights if they get something thereby. That something can be time-of-day convenience or it can be a lower price. A large box of a particular breakfast cereal typically sells for a higher price than does a small box. That does not put them in different markets, and, in fact, the prices of the different types of flights tend to move together. (I appeared as a witness for Northwest.)

[13]Alas, the Antitrust Division has a natural, if distressing tendency to become fascinated with its own Guidelines and to focus on the HHI levels mentioned therein as though failure to pass the tests of the Guidelines were proof that a merger was anticompetitive rather than merely being a signal for further analysis.

The analytic use of the term "barriers to entry" comes as part of the proposition: "Barriers to entry prevent the competitive process from working." Or similarly: "Where entry is easy, there can only be a competitive result." Accordingly, a barrier to entry must be something that interferes with competition. It must be something that allows incumbent firms, if they collude, to charge noncompetitive prices and earn supra-normal profits.

It follows that not everything that makes entry appear difficult or uninviting is necessarily a barrier to entry. The mere necessity of building a plant when incumbents have already built theirs is not such a barrier (although associated economies of scale with sunk costs can be). Neither is the necessity of advertising or creating a reputation automatically a barrier. To be a barrier, the phenomenon involved must permit incumbents to earn supra-normal profits on the whole process of getting into the market and continuing to act, without inducing others to enter and bid those profits away.[14]

Two issues deserve special discussion here, because they involve phenomena that may permit incumbents to earn supra-normal profits without their having any special long-run advantage. These are the issues of economies of scale and of the time it takes to enter.

As already indicated, I take the position that economies of scale with sunk costs can be a barrier to entry. If the cost structure requires a new entrant to come in at so large a size that post-entry prices will mean losses, then such a potential entrant will not become an actual one. In such a circumstance, incumbents—provided they can tacitly (or explicitly) collude—can earn supra-normal profits. They can do so without inducing entry because it is the expected post-entry profits of the entrant rather than the pre-entry profits of the incumbents that matter in the entry decision.

The case in which entry simply takes a long time presents a different problem. Suppose that incumbents and potential entrants have no differences in this regard. Then it can be said that entry-time is not a barrier and that the profits earned by the incumbents are merely the rewards of foresight. While I would take this view in dealing with a single-firm monopoly case, I do not do so in the case of a prospective merger. Consider, for example, a market that takes a long time to enter and that now contains only two firms of equal size. Those firms may, by their foresight, be entitled to what they can get with the current market structure, but that is no reason to allow them to change that structure and become a (short-run) monopoly. More generally, the foresight that has led firms to enter an industry does not require reward by allowing them to merge and thus increase the likelihood of noncompetitive outcomes. If it did, the same argument would permit any merger as a reward to foreseeing the supra-competitive profits to be gained thereby.

The proposition that an entry barrier is only something that permits incumbent firms to earn supra-normal profits is not an easy one, and the Antitrust Division does

[14] For an extended discussion of these matters, see von Weizsäcker (1980), Chapter 6 of Fisher, McGowan, and Greenwood (1983), and Salop (1986b).

not have a good track record in applying it in practice. A recent example will serve to illustrate the point.[15]

In the recent Northwest-Republic airline merger (in which I was a witness for Northwest), the Department of Justice took quite a narrow view of the market. In addition to the position discussed in footnote 12, the Department argued that only another airline also having a hub at Minneapolis would be able to compete effectively for air passenger traffic on routes out of the merged airline's Minneapolis hub. For purposes of the present discussion, I assume that position to be correct.[16]

There were no obvious barriers to another airline constructing such a hub. Landing slots were not a problem, nor were gate facilities. Further, while the fact of the merger of two airlines with hubs at Minneapolis might be taken to imply that economies of scale made hubbing in that city a natural monopoly, the Department of Justice did not contend that this was so, explicitly assuming that economies of scale required no more than the number of flights flown in and out of Minneapolis by Republic (the airline with the smaller of the two pre-merger hubs there).

Why then did the Department of Justice claim that barriers to entry existed and go on to oppose the merger as likely to create a monopoly? Because, said the Antitrust Division, Minneapolis is not an attractive place to have a hub. It is too far north to be an efficient connecting point between major east and west coast cities, and other airlines will not find it attractive to build a hub there in the presence of the large number of flights "controlled" by the post-merger Northwest.

This position misunderstands the proper analysis of barriers to entry. The issue should have been whether other airlines would find hubbing at Minneapolis attractive *if the post-merger Northwest sought to raise prices and reduce output*. Whether or not other airlines would find Minneapolis attractive with the post-merger Northwest aggressively competing by offering the service previously flown by the two merger partners and doing so at pre-merger prices was irrelevant. Even more obviously irrelevant was the issue of whether Minneapolis is inherently an attractive hub. The geographical position of Minneapolis is not something that gives incumbents an advantage over entrants.[17]

Such a misunderstanding of the analysis of entry barriers is an important failing in the antitrust authorities. Particularly if markets are to be narrowly defined and

[15] For an older example, see Chapter 6 of Fisher, McGowan, and Greenwood (1983).

[16] That view is not correct. What keeps an airline with a hub at Denver from competing on equal terms with one at Minneapolis for traffic between the two cities? Why cannot an airline with a hub at Dallas, say, and already serving cities between Dallas and Minneapolis simply extend its flights to compete for traffic between Minneapolis and those other cities?

[17] I cannot forbear adding that the Department of Justice was factually wrong about the attractiveness of Minneapolis as a hub. In fact, because the earth is a sphere, the usual Mercator projection of North America gives a quite misleading picture. The great circle routes from east to west coast cities pass quite close to Minneapolis, and that, together with prevailing winds and traffic patterns, makes it the second most attractive hub for such flights, a few minutes worse than Chicago. Nevertheless, the Department of Justice's position on this indisputable matter persisted into post-hearing discussions when the higher-ups in the Division made the same argument about Minneapolis's position and were quite surprised to learn that they were wrong. The symbolism is clear. I fear that, at least as regards the analysis of barriers to entry, the Department of Justice believes that the earth is flat.

HHI levels that trigger further investigation set relatively low, the analysis of entry is absolutely crucial. I would put great weight on it in considering a prospective merger.

Having said this, I must go on to caution against attempts to avoid what ought to be a thoughtful and detailed analysis of this important question by the creation of a single summary measure of ease of entry. Just as the state of our knowledge does not permit the HHI to serve as more than a rough signal of the need for further investigation, so also economists know too little to be able to produce a useful quantitative index of ease of entry. While this gap may be filled as the science progresses, and while quantitative or potentially quantitative measures (the degree of how sunk any sunk costs are, for example) can inform and assist the analysis of entry barriers, it is well to avoid the appearance of great precision where little exists in reality. There is a great temptation for the antitrust authorities (and perhaps the courts) to focus on quantitative standards as a substitute for real analysis. Economists ought not to offer such temptation unless the delivery soundly backs up the promise.

Another example drawn from the Northwest-Republic case is illustrative here. Correctly observing that airlines are more likely to enter a given city-pair route if they have traffic that feeds into that route (more likely to enter Kansas City-Minneapolis service, for example, if they can collect passengers from other origins at Kansas City), the Department of Justice introduced a measure of likelihood of entry called the "feed ratio." That measure was constructed as follows for a given city pair, A and B. Assume for simplicity that a pair of cities served by only one incumbent airline has only one potential entrant. The "feed ratio" is the ratio of the sum of the potential entrant's total enplanements at A and B to the sum of the incumbent's total enplanements at the two cities. In both cases, enplanements are measured without regard for the destinations of the passengers involved.[18] The Department of Justice argued (at least at first) that the fact that the "feed ratio" was relatively low for a number of routes involved in the merger showed that entry was difficult.

This argument is nonsense. Consider the Boston-Minneapolis city pair, for example. Passengers wishing to fly between those cities must, by definition, be flying on an incumbent airline. Other passengers enplaning at those cities are certainly going somewhere else. Of what possible relevance to a decision by Delta to enter Boston-Minneapolis service is the fact that my wife, who has no reason to travel to Minneapolis, sometimes flies from Boston to Cincinnati on Delta to visit her parents?

It is thus not surprising that the "feed ratio" fails to predict actual entry and not surprising that the chief witness for the Department of Justice eventually admitted that it was not an entry predictor.[19] What is disturbing is that the Department made a fair production of putting it forward. I believe this was because of the powerful lure of apparent measurability. That lure should always be resisted lest the measurability prove spurious.

[18] Where there is more than one incumbent-entrant pair, the "feed ratio" is taken to be the maximum over all such pairs of this ratio of enplanements.

[19] *NWA-Republic Acquisition Case*, Department of Transportation Docket 43754 (1986), testimony of Gloria Hurdle, tr. 1429.

Efficiencies and Other Matters

Having gone beyond an analysis of entry to an analysis of other factors bearing on effects on competition, I would not merely use those other factors as tiebreakers. Enforcement agencies should first analyze concentration as a threshold matter. They should then analyze entry because it may dispose of the question if the answer comes out a particular way. If concentration is high and entry not easy, analysts ought properly to be quite suspicious. But they must not forget that the theory of oligopoly is not good enough for them to be able to infer anticompetitive results from structure in any precise way. Instead, merger analysts should always bear in mind that the question at issue is the likelihood, or at least the ease, of anticompetitive behavior. The complexity of the product, the extent to which an effective tacit agreement would require implicit collusion on many negotiated transaction prices instead of a single list price, the ease with which cheating on a tacit agreement can be detected, these and similar matters are properly subjects for analysis once it appears that concentration will be high and entry difficult. It tentatively seems appropriate that, once the opponents of a merger have carried the burden of proof as to concentration and entry, the parties should be on an equal footing as to the actual likelihood of tacit collusion, but that is not to say that such matters should only come into play in otherwise doubtful cases.

The burden of proof as to cost savings or other offsetting efficiencies, however, should rest squarely on the proponents of a merger, and here I would require a very high standard. Such claims are easily made and, I think, often too easily believed. Two examples will illustrate this.

When General Motors and Toyota proposed a joint venture to assemble a small car in California, one would have thought that antitrust considerations would have prevented it. Here two of the largest automobile manufacturers in the world were combining to produce a vehicle. The price of that vehicle was likely to provide an obvious reference point for the setting of other prices. Even though GM and Toyota proposed to set the price in question by reference to a particular average of other car prices, the very use of a particular average seemed likely to facilitate tacit collusion (Salop, 1986a). Yet the Federal Trade Commission approved the joint venture. It did so principally because of the argument that the venture would realize efficiencies, since GM would learn from Toyota the secrets that made Japanese automobile manufacture more efficient than American. Presumably, GM would then be able to use those secrets in other plants.[20]

It is far from clear that the efficiency argument accepted by the Federal Trade Commission was more than superficial. The so-called Japanese "secrets" may very well not have been secrets at all. The Japanese system of labor relations and inventory management were the likely source of efficiencies. A joint venture was hardly needed to learn about those. Moreover, to the extent that production "secrets" could be

[20]*General Motors Corp. et al.*, 48 Federal Register 57246 (1983). I was retained by counsel for Ford, which eventually decided not to bring suit to oppose the joint venture.

learned, it seemed unlikely that GM would learn very much from an assembly plant when the engines were produced in Japan. Finally, GM already had relations with other Japanese automobile manufacturers.

All in all, the Federal Trade Commission appears to have been too easily swayed by the difficulties of the American automobile industry and the success of the Japanese. One need only contemplate the likely result of a similar application for a joint venture by GM and Ford, for example, to realize the tremendous weight that the efficiency argument was given.

My second example relates again to airlines. Here, the Department of Transportation has approved a whole series of mergers. On the whole, I regard those approvals as warranted. The entire process of airline deregulation rests on the view that city-pair "markets" (which are usually not really economic markets at all) are contestable. So long as landing slots and other facilities are available (or can be purchased from a large number of airlines), there is a presumption that mergers of domestic airlines cannot result in much market power.

That presumption, however, does not extend to situations where entry is in fact difficult, and it does not automatically extend to acquisitions involving foreign routes. In particular, the Department of Transportation's approval of United Airlines' acquisition of Pan American's Pacific Division is open to very serious question.[21]

Entry into air transportation between the United States and Asia is far from easy, and entry into the vital service between Japan and the United States is especially difficult. Deregulation does not apply to that service; indeed, the Japanese have been historically reluctant to permit expanded service. Further, the use of Tokyo's Narita airport is considerably restricted.

Before the acquisition, service between Japan and the U.S. mainland was quite concentrated (an HHI of 2542 in 1984). The acquisition permitted the number four carrier (United), with about 7 percent of the market to combine with the number three carrier (Pan American) which had about 19 percent. Numbers one and two (Japan Air Lines and Northwest) each had a bit more than 30 percent market share. The acquisition (in terms of 1984 figures) caused an increase in the HHI from 2542 to 2812, well beyond the trigger levels set in the Guidelines.[22] Before the acquisition, price competition of various kinds was substantial. United, in particular, had actively sought to increase traffic through its Seattle gateway. On the other hand, it seemed likely that the post-acquisition United would be able to attract traffic without competing on price, first by manipulating its Apollo computer reservation system, and second, because it would be the only airline providing both a really extensive route

[21]*Pacific Division Transfer Case*, Department of Transportation Docket 43065 (1985). I was a witness for Northwest Airlines which opposed the acquisition. My views on the matter are set forth at length in Fisher (1987b).

[22]It is worth remarking that the testimony offered by the Department of Justice in opposition to the acquisition was focussed very heavily on the HHI and the Guidelines. United and Pan American were ready for this. They had previously prepared a study for use in rebuttal purporting to show the not very surprising fact that city-pair HHIs had little effect on fares. The result was largely to divert argument from the more substantial questions at issue.

structure in the United States (acquired during regulation) and a large system of routes connecting at the Tokyo hub—the latter being Pan American's legacy from regulation.

Such integrated service meant a real benefit to passengers. The Department of Transportation very properly regarded this as an efficiency. What is not so clear is whether that efficiency should have justified the acquisition.

Pan American's Pacific Division was profitable; indeed, before the acquisition, it had announced plans for expanded Pacific service for the summer of 1985. Had the acquisition not been approved, Pan American would have either sold its Pacific Division to a different domestic airline not already serving Japan or else would have continued to operate it. In the latter case, Pan American would certainly have continued its program to expand its domestic route structure. Further, Northwest, which had gradually developed its own Tokyo hub, was striving to develop its own domestic route system.[23] Most important of all, United itself could have expanded.[24]

In short, absent the acquisition, three companies might well have been competing to provide integrated service. The acquisition reduced that number to no more than two. In this connection, the Department of Transportation took a very limited view of its responsibilities, refusing, for example, to connect the award of new routes to Japan with the outcome of the case. It appears mostly to have been impressed with the argument that the post-acquisition United would be a stronger competitor than the pre-acquisition Pan American.

As this discussion suggests, I would not approve mergers because of efficiency considerations if the efficiencies involved could be obtained in a less restrictive way. Further, I would hesitate to use such efficiencies as an excuse for permitting a merger if those efficiencies are unlikely to be passed on to customers. In the *Pacific Division Transfer Case*, for example, the benefits of integrated service could have been achieved while maintaining competition. That result would have ensured that the travelling public would benefit from those efficiencies without paying more for them in the form of increased prices. The approval of the acquisition created the efficiencies but also made it very likely that all benefits would be captured by United itself.

I am, of course, sensible of the argument that transfer payments ought not to matter to economists, so that analysts should only be concerned with the question of whether efficiencies obtained outweigh deadweight loss and not with the question of who captures the savings. In practice, however, I would be very reluctant to approve mergers for efficiency reasons if they seem likely to lead to a restriction of competition. Efficiency arguments are easy to make, but hard to evaluate. The same efficiencies will often be achievable in less restrictive ways; technology has a way of changing.

[23]After the transfer of the Pacific Division, largely because of the need to catch up with the post-acquisition United, Northwest strove to expand quickly by acquiring Republic.

[24]United was already creating a rival hub at Seoul. Further, while entry into Japan was difficult, it was not impossible, and the United States government could have made expansion by United a primary object of negotiations with Japan. This possibility was very real, because spring 1985 saw an agreement between the two countries to open as many as three new routes. United could have been given those routes.

Mergers, on the other hand, have a way of being permanent. Finally, a policy of approving anticompetitive mergers for efficiency reasons is likely to promote a dissipation of resources into rent seeking.

This view of efficiency arguments, however, supposes that a proper merger analysis has been carried out and the proposed merger found to be anticompetitive. I would certainly accept evidence of efficiencies as showing that the merged enterprise will be a tougher competitor. If merger analysis continues to be dominated by the measurement of concentration, I would put considerable weight on such a showing as offsetting the really crude presumption resulting from market definition and the HHI.

Conclusion

To sum up then, except for their use of current rather than competitive price levels in market definition, I think the Department of Justice Guidelines generally take a sensible approach if properly interpreted and used primarily in the first stage of merger analysis—the decision whether to investigate further. If that is done, then pre-merger screening can serve an important useful purpose, preventing lengthy litigation to force the disgorgement of already digested assets.

On the other hand, the Guidelines are not a substitute for serious analysis, and the Department of Justice staff has tended to focus narrowly on issues of market definition and concentration measures as though such issues were dispositive. That is a mistake. In the present (and likely future) state of our knowledge, serious analysis of market power and oligopoly cannot be subsumed in a few spuriously precise measurements.

I would use the approach of the Guidelines (including an analysis of entry) as a threshold test, committing the enforcement authorities not to oppose mergers that pass that test save in unusual circumstances. Mergers that fail such a test can (and often should) be opposed, but the imprecision of our knowledge means that such failure should not be given much weight in court. The burden of proof as to concentration and entry belongs on the opponents of a merger. Both sides should share that burden as to the other factors (product complexity, ease of detection of cheating, and so on) that make tacit collusion more or less likely. The burden of showing that efficiencies will outweigh anticompetitive consequences belongs on the proponents of the merger.

The Reagan administration has generally been very permissive in its merger policies. To an extent, that permissiveness may be viewed as offsetting at high levels the tendency of the Department of Justice staff to substitute HHI measurement for economics, but only if one thinks of different mergers as substitutes for each other. In fact, mergers have sometimes been wrongly blocked (or at least opposed by the Department of Justice) because of unthinking application of Guidelines standards, and sometimes wrongly approved because of a wish to find efficiency excuses (a wish that may be greatest where competition with foreigners is involved as in GM-Toyota

or United-Pan American). The two mistakes do not compensate for each other, and neither approach is a substitute for sound analysis.

One final word. I have deliberately only commented here on mergers that I have studied and have not expressed an opinion about other mergers that I would or would not have permitted. Experience suggests that economists are often too ready to offer opinions about complex situations which they have not studied and which require detailed analysis. A principal point of this paper is that this proposition applies to mergers.

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