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PRODUCT COMPETITION IN THE RELEVANT MARKET UNDER THE SHERMAN ACT

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One of the most vexatious problems in antitrust law today is the measurement of monopoly power in connection with section 2 of the Sherman Act.¹ The federal courts have simultaneously used two methods of accomplishing this purpose.² The first, called the "behavior" or "public injury" test, consists of analyzing the behavior of the putative monopolist and comparing it to behavior thought to be typical of monopolies. Under this approach the presence of some of these behavior patterns is considered proof that monopoly power exists. The second method, upon which more emphasis has been placed in recent years, emphasizes the measurement of the control over the "market" which the monopolist exerts.³ One of the prime factors by which control is calculated is the percentage of the market occupied by the monopolist.⁴ The larger the percentage, the more likely that monopoly power exists. Underlying the "market control" test, however, is the assumption that there has been a correct delimitation of that market insofar as products, geographic area, time element and type of customer are involved. If the defined market includes too many products or too large an area, the power of the defendant will seem to be less than it really is. On the other hand, if the market is delimited so as to exclude close substitutes available to customers of the defendant, the occupation and power of the defendant over the market will be exaggerated. A recent illustration of this is found in the du Pont cellophane case, where monopolization of moistureproof cellophane was charged.⁵ Du Pont claimed that the relevant market should include not only moisture-}

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¹ Section 2 of the Sherman Act provides: "Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several states ... shall be deemed guilty of a misdemeanor...." 15 U.S.C. (1952) §2.


⁴ United States v. Aluminum Co. of America, (2d Cir. 1945) 148 F. (2d) 416; Times-Picayune Pub. Co. v. United States, 345 U.S. 594, 73 S.Ct. 872 (1953). Other factors, according to Mason, note 2 supra, are (1) the number of firms in the market; (2) evidence of collusion; (3) conditions of entry.

proof cellophane, but all flexible wrappings. Of course, du Pont's percentage share of the former was much larger than that of the latter. From this it can be seen that "a delimitation of the market, in and of itself, may sometimes determine the outcome of antitrust litigation." This is so even though the "relative effect of percentage command of a market varies with the setting in which that factor is placed." It should be noted that the du Pont example included only the product market. The same problem may arise with geographic, time and consumer factors. Market determination is also a problem in section 1 proceedings, especially those involving mergers. The percentage of the market foreclosed is important in order to determine whether the merger constitutes an unreasonable restraint of trade.

The correct delimitation of the relevant market is the problem to be examined here. First the legal development of market concepts will be traced. Then, with the objective of coalescing the legal and economic concepts of the market, a test will be proposed with which to measure the correct market in any given case.

I. History and Development of Market Concepts in the Federal Courts

The Supreme Court, in early cases involving market delimitation, seized upon the phrase "any part of trade or commerce" in section 2 of the Sherman Act and equated it to the concept of the relevant market. This notion stemmed from the famous Standard Oil case of 1911, where the Court said:

"The commerce referred to by the words 'any part' construed in the light of the manifest purpose of the statute has both a geographical and a distributive significance, that is it includes any portion of the United States and any of the classes of things forming a part of interstate or foreign commerce."
A possible, if not probable, construction of this quotation in the light of its context is that the Supreme Court, as it regarded the statute of that time, was outlining only one of the two requirements before the offense of monopolization could be found. The first requirement was a showing of the exercise of monopoly power, or monopoly behavior. Thus the Court, in the succeeding paragraph, went on to say, “Undoubtedly, the words ‘to monopolize’ and ‘monopolize’ as used in the section reach every act bringing about the prohibited results.” (Emphasis supplied.)

The results to which the Court referred were the power to fix prices, to limit production, and to deteriorate the product. The second requirement of the act was that these results must occur in a “part of trade or commerce.” If this conduct was purely local, Congress would have no power to deal with it, since the Sherman Act is based on the interstate commerce power. On the other hand, it is conceivable that the defendant might have complete control over a “part of trade or commerce” as construed by the Supreme Court, and yet be unable to wield monopoly power because of the existence of other products in trade or commerce which are close substitutes for that of the defendant. In effect, this was the claim of du Pont.

Later opinions by the federal courts, however, construed the Standard Oil quotation to sanction a finding of monopoly power wherever the percentage share of the defendant over the relevant “part of trade or commerce” was considered sufficiently large. In other words, the Standard Oil case serves as a basis for the “market control” test of monopoly power. This alone might not be undesirable; but, as will be pointed out presently, the courts have tended until very recently to use this phrase, originally intended for interstate commerce, in order to delimit the market for purposes of establishing monopoly power.

A review of the decisions involving market determination suggests four factors which the courts have found to be important in making up the relevant market: product, area, time and type of customer. The first category, that relating to products, may in turn be

11 Id. at 68-69, and the cases there cited. It should be noted that a spate of litigation ensued involving the interpretation of “any part of trade or commerce” solely in connection with the question whether the defendant was in interstate commerce. See, for example, Peto v. Howell, (7th Cir. 1939) 101 F. (2d) 353.

subdivided into two parts: (1) those products which are physically identical with the product of the defendant; (2) those which, although having a function similar to that of the defendant's product, are physically distinguishable. In the first type, two precedent conditions have been placed upon other products before they are considered in the same market as the product of the defendant. The alleged substitute product must have a cost basis per unit which is the same as or less than the defendant's, and there must be no reason for customers to prefer the product of the defendant over the substitute even though it is indistinguishable. The first condition is illustrated by the Corn Products and the first Alcoa cases. The defendant in the Corn Products case was charged with monopolizing pearl starch. The company contended that pearl starch was used by millers to make maltose and that, since other companies produced a similar article of commerce, "brewers grits," to be used for maltose, the latter product should be considered to be in the same market. Judge Learned Hand rejected this contention, reasoning that since the percentage yield of maltose was greater from pearl starch than from brewers grits, Corn Products could raise the price of pearl starch to the point where the cost of the two articles per unit of maltose was the same. Thus the producer of pearl starch had a monopoly, limited, however, by the amount of the cost differential. Again in the first Alcoa case, Judge Hand excluded imported virgin aluminum ingot from the market with domestic virgin ingot since, to the extent of the tariff on imported aluminum, Alcoa wielded monopoly power over domestic aluminum.

This finding is somewhat clouded by Judge Knox's market discussion in the Alcoa Remedy case, a proceeding to determine the remedy to be applied against Alcoa after the finding of a violation of section 2 by Judge Hand. The court there found that the relevant market was no longer virgin aluminum ingot sold in the United States, but fabricated aluminum sales, which includes sales of fabrications from imported ingot. The exclusion of identical products which have a higher cost differential has not been specifically challenged, however.

The other condition before physically indistinguishable products

15 United States v. Aluminum Co. of America, (2d Cir. 1945) 148 F. (2d) 416.
may be included in the same market is that there be no basis for preferring one over the other. This problem is exemplified by the *Motion Picture Cases*.17 There the defendants were charged with monopolizing first run pictures. First run films are those shown for the first time in a given area. By agreement, the same film cannot be shown in the same area for a limited time after the initial showing. Then it is released again as a second run picture. There is no physical distinction between first and second run motion pictures, but the Court found that the former were the "cream of the exhibition business" and thus a separate market, or a separate "part of trade or commerce."18

The second type of product substitution, involving physically distinguishable products, has been the subject of more litigation than the first. In general, products which are physically distinguishable from the product of the defendant have been excluded from the market.19 A possible change in attitude has recently been indicated by the *Times-Picayune*20 and the *du Pont* cellophane cases.21 These decisions have exhibited more of a tendency to look at actual market conditions in determining the relevant market. The traditional analysis, however, turned on an interpretation of the "any part" clause. In one case,22 farm paper advertisements in the Midwest were held to be the salient market and the subject of a combination to monopolize. The ratiocination of the Supreme Court was merely that section 2 applies to any part of the class of things forming a part of interstate commerce, as opposed to the whole. No economic analysis of substitute products, such as other newspapers, was considered. While

18 United States v. Paramount Pictures, 334 U.S. 131 at 172-173, 68 S.Ct. 915 (1948). In a sense the products were not identical, since the monopoly power could be said to exist in the contract rights which first run theatres enjoyed over others, and not the product itself.
the Court may have happened on the correct geographic and product markets, its reasoning gives support to the idea that the part of commerce intended by the *Standard Oil* case to satisfy the interstate commerce requirements was also being used as a basis for measuring the alleged monopolist's percentage occupation of the market. In another proceeding, each dress pattern controlled by the Fashion Originator's Guild was held to be the subject of a monopoly "however trifling the basis for preferring it may be."  

A slight basis for preference supported the encompassment of each dress design in a different market.

The courts have made some reference to possible criteria by which products may be included or excluded from a market. The amount of handicap which the monopolist can impose on customers was deemed a measure of monopoly power in the *Associated Press* case, although there was no indication of how much of a handicap would be allowable before the act was violated. 

A market was delimited in that case to include only the Associated Press, even though the handicap imposed by that newsgathering association over non-members may have been small. Another indication of a touchstone which has been suggested is found in the *Paramount Pictures* case. There, the defendants controlled the "cream" of the exhibition business, that is, first run motion pictures, and this was held to exclude other film exhibitions from the relevant market. The criteria as elaborated by the Supreme Court in these two cases seem to indicate only that the Court was still following the rule under which any physical difference between products, giving one a modicum of customer preference, serves to separate the products into two markets.

In 1953, however, the Supreme Court, in the *Times-Picayune* case, exhibited a willingness to recognize that two products, while physically distinguishable, may be considered by their customers for

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23 Fashion Originators Guild v. Federal Trade Commission, (2d Cir. 1950) 114 F. (2d) 80 at 85. The court also states in this connection: "Although all dresses made after one design are fungibles, the different designs themselves are not fungibles."


25 The Supreme Court excluded other newsgathering associations, such as the United Press and International News Service. It cited with approval the district court opinion, which had said: "Most monopolies, like most patents, give control over only some means of production for which there is a substitute; the possessor enjoys an advantage over his competitors, but he can seldom shut them out altogether; his monopoly is measured by the handicap he can impose." United States v. Associated Press, (D.C. N.Y. 1943) 52 F. Supp. 362 at 371, cited in 326 U.S. 1 at 17, note 17. Another, and seemingly better ground for the decision was based on exclusion of non-member newspapers by members.


all practical purposes to be substitutes for each other, and thus be included in the same market. The case involved three newspapers, the morning *Times-Picayune*, the afternoon *States* and the afternoon *Item*. The *States* and *Times-Picayune* were published by the same company. The complaint alleged that the publisher of these two papers instituted a unit plan whereby an advertiser, in order to obtain an advertisement in one newspaper, had to pay for advertisements in both issues as a unit, and by this means the publishing company was using the dominant position of the morning *Times-Picayune* to squeeze out the *Item* in the afternoon advertisement market, or, more specifically, the afternoon "want ad" and national advertising markets. The Court reasoned that since the government charged a tying arrangement, "the whole and not a part of a relevant market must be assigned controlling weight." The Court then found that since there was no proof that advertisers distinguished between the morning and afternoon papers, although readers might, the relevant market contained all three newspapers. The *Times-Picayune* controlled 40 percent of this market, a percentage held not to be violative of the act. The important part of the opinion for the purposes of this paper is a footnote in which the Court indicated a new trend of thought in market delimitation:

"For every product, substitutes exist. But a relevant market cannot meaningfully encompass that infinite range. The circle must be drawn narrowly to exclude any other product to which, within reasonable variations in price, only a limited number of buyers will turn; in technical terms, products whose 'cross-elasticities of demand' are small. Useful to that determination is, among other things, the trade's own characterization of the products involved."

This statement of course indicates that the Supreme Court is willing to include in the same market products which are physically distinguishable as long as customers find them highly interchangeable in use. The Supreme Court also implied, however, that this is not necessarily the test to be used outside of alleged tying clause cases. Whether this liberal definition of the relevant market is to

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28 Id. at 611.
29 Furthermore, since the two products were not distinguishable to advertisers, the contracts were held not to be tying agreements at all. Id. at 613-614.
30 Id. at 612, note 31. Cross-elasticity of demand is defined as the response of one firm's sales to the price variations of another firm. SITOVSKY, WELFARE AND COMPETITION 396 (1951). See also the definition by Joe Bain, infra, note 63.
31 "But the essence of illegality in tying agreements is the wielding of monopolistic leverage; a seller exploits his dominant position in one market to expand his empire into
be followed in other section 2 litigations remains an open question at the Supreme Court level. One lower court has, however, indicated a willingness to follow the *Times-Picayune* reasoning in a monopolization case not involving a tying clause. This is *United States v. E. I. du Pont de Nemours*.32 The government in this case brought a civil action under section 4 of the Sherman Act charging du Pont with violating section 2, and alleging monopolization of the moisture-proof cellophane market. Among other defenses, du Pont claimed that moistureproof cellophane was not a "part of trade or commerce" within the meaning of section 2, and that all flexible wrappings should be the basis from which monopoly power and occupation of the market should be determined. If the government's contention were found to be correct, du Pont controlled 68 percent of the market, a strong indication of monopoly power. On the other hand, if du Pont's own definition of the market was accepted, the percentage of occupation would be less than 20 percent.

The government employed a two-pronged attack. First, it claimed that moistureproof cellophane was distinguishable from other types of flexible wrappings and, therefore, in the light of past Supreme Court decisions, constituted as a matter of law a separate part of commerce.33 This contention was rejected by the court. Second, the government contended that, as a question of fact, there was such a strong consumer preference for moistureproof cellophane that a monopoly existed. Preference was claimed to be based on a superior combination of the characteristics of absolute transparency, greater eye appeal, moistureproofness, durability and printability, machine running qualities, coated adhesion and excellent all around protection.34 To this contention, du Pont took the position that market control was a question of fact and could be determined only by extensive analysis of the market.35 They minimized the value of comparing physical qualities of the flexible wrapping products and emphasized actual consumer behavior. Three approaches were used by du Pont to prove that flexible wrapping materials should be considered as parts of one market. First, after analyzing the uses to which purchasers put cellophane, du Pont determined the other prod-

33 Brief for the United States, pp. 44-53, 77-147.
ucts which were being put to the same uses.\textsuperscript{36} For example, moistureproof cellophane is used as a candy wrapper. Candy manufacturers, however, also use glassine, waxed paper, plain cellophane, aluminum foil, ploofilm, cellulose acetate and polyethylene. It was contended, therefore, that these products were in the same market or part of commerce as moistureproof cellophane. This technique was followed for all eighteen uses of moistureproof cellophane. Other evidence was introduced showing that business had actually changed hands many times between moistureproof cellophane and its substitutes.

Second, du Pont introduced evidence indicating that it had been forced to price its product according to the competitive effect of these substitutes and develop its product through research to bring moistureproof cellophane into a position to compete with other wrappings.

The third method by which du Pont proved its case was by comparing the physical properties of these wrappings. Heat sealability, printability, clarity, tear strength, moisture permeability and other characteristics were compared which were considered by the consumers of cellophane to be important. The advantageous characteristics were well spread out among the various types of flexible wrappings. This reinforced the defendant's contention that flexible wrappings were substitutes for one another.

Faced with this evidence, the court accepted substantially all of the defendant's proposed findings of fact, including a finding that the relevant market included all flexible packaging materials.\textsuperscript{37}

Furthermore, the court refused to connect the phrase "any part of trade or commerce" with a finding of monopoly power. Rather it seemed to revert back to the reasoning of the Standard Oil case that a finding of monopoly power was divorced from the phrase "any part of commerce." Judge Leahy summed up by stating: \textsuperscript{38}

"Whether cellophane itself, or plain cellophane, or moisture-proof cellophane, or colored cellophane, be 'parts' or merely some of several products constituting a 'part', the controlling question is whether du Pont possesses the requisite monopoly powers over price and competition. . . .

" 'Market control' or lack of 'market control' are ultimate facts. They are determined by fact-finding processes, and on the basis of knowledge and analysis of all competitive factors which bear on a seller's power to raise prices, or to exclude competition. Ex-

\textsuperscript{36} Proposed Findings of Fact Submitted on Behalf of the Defendant, pp. 111-220.
\textsuperscript{38} Id. at 196-197.
istence of monopoly powers is not made on the basis of assumptions as to competitive markets. If the price, quantity of production and sale, and the quality of a seller's product are determined by pressures exerted on him by buyers and sellers of another's product, the products and the sellers must, for purposes of any realistic analysis, be in the same 'market' and must be in competition with each other."

In summary, from the du Pont and Times-Picayune cases, there are indications that: (1) a realistic economic definition of the market as including some product heterogeneity will be accepted by the federal courts, and (2) actual market conditions, including customer behavior and habits, will be analyzed to determine the relevant market, treating the question as one of fact and not law.  

The second factor making up the relevant market is the geographic area which should be included. Here again, the courts have been somewhat arbitrary in their delimitation of the correct area, usually defining it in terms of the scope of the defendant's operations. Thus, in the Yellow Cab case, the Supreme Court ruled that to have monopolized the taxi-cab markets in Chicago, Minneapolis, New York and Pittsburgh through a subsidiary corporation, and to have excluded competition from those cities would constitute a violation of the Sherman Act. No consideration was given to the possibility that other cab manufacturers may have had equally good outlets in Cincinnati, Detroit, or Cleveland, for example, and that these areas were substitutes for the cities in which Yellow Cab was operating.

The third limitation which has been considered by the courts is that of time. In Peto v. Howell, which is the only case recognizing this limitation, the Court of Appeals for the Seventh Circuit found

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39 This is also the conclusion of Judge Knox in United States v. Aluminum Co. of America, (D.C. N.Y. 1950) 91 F. Supp. 333 at 358. A similar change in attitude is likely concerning §1 violations. In United States v. Columbia Steel Co., 334 U.S. 495, 68 S.Ct. 1107 (1948), the Court delved into an extensive analysis of various steel product markets to determine whether a merger of Columbia Steel and U.S. Steel unreasonably restrained competition in those markets.


41 The Court's rationalization of the relevant market area was briefly stated: "The Sherman Act is concerned with more than the large, nation-wide obstacles in the channels of interstate trade. It is designed to sweep away all appreciable obstructions so that the statutory policy of free trade might be effectively achieved." Id. at 226. Similarly in United States v. National City Lines, (7th Cir. 1951) 186 F. (2d) 562, the 45 cities in which the defendant had bought public bus companies to supply them with busses were found to be the relevant market. See also United States v. Columbia Steel Co., 334 U.S. 495, 68 S.Ct. 1107 (1948), where the arguments were presented as to whether various steel products competed in a national or an eleven state area. The Court accepted the latter solely for purposes of the decision. Id. at 520.

42 (7th Cir. 1939) 101 F. (2d) 353.
a monopoly in the supply of corn moving in interstate commerce through Chicago. Corn stored in granaries and on farms was excluded because it could not be shuttled into the Chicago market in time to avoid the disastrous effects of the defendant's control. Thus the fact that the monopoly power was limited in time did not prevent the court from finding a violation. However, the court did look to the effects of the limited time monopoly on the market, so that in this field factual market analysis is likely to play an important part.

Finally control by a producer of one type of customer has been held to violate the act although there were apparently other customers in the same area for the same product at the same time. There is only one court of appeals decision recognizing this limitation thus far. Respondents were charged in that case with monopolizing busses, petroleum products, tires and tubes used by local transportation systems in the cities in which defendants controlled the transportation systems. The defendant National City Lines had bought up transportation companies in 45 cities and had contracted to supply them exclusively with busses, tires and tubes, and petroleum products. One of the defenses was that the limitation of the market to one type of customer (local transportation systems) was too restrictive. Rejecting this defense, the court relied heavily on the Yellow Cab case, where control over taxi-cab companies was considered a basis for monopoly power. In the Yellow Cab case, however, the taxi-cab companies were undoubtedly the only customers for taxi-cabs in the four city area. Thus the Yellow Cab case is not authority for limiting the market to one type of customer, since there happened to be only one type of customer in the delimited geographic area. This was not necessarily true in the National City Lines case, at least insofar as petroleum products are concerned. If there were other potential buyers of petroleum products, the National City Lines case is clearly distinguishable from the Yellow Cab case. The question remains open whether this limitation will gain acceptance.

To summarize, the federal courts have encompassed the relevant market with the above indicated four limitations in their quest for

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43 The court interpreted "any part of trade or commerce" to include the time element. "If 'any part' has both a geographical and a distributive significance, it is equally true that it may have a significance of limitation in time." Id. at 358.
44 United States v. National City Lines, (7th Cir. 1951) 186 F. (2d) 562.
45 Id. at 564.
a determination of monopoly power. The next section of this paper is concerned with the formulation of a test with which to delimit the market.

II. A PROPOSED TEST FOR MARKET DETERMINATION

A. The Assumptions of the Proposed Test

The first assumption in formulating a test for market delimitation is that real substitute products should be included in the market although not standardized with the product of the defendant. Economists have long rejected the concept of pure competition as a practical or even desirable objective. Despite this, as we have seen above, the Supreme Court until very recently has hung on to this simple yet unattainable standard and excluded substitute products wherever there was any consumer preference because of physical properties or for any other reason. Something less than pure competition is now indicated as an objective by both economist and court, however. Various names and definitions have been placed on it. J. M. Clark conceives of adequate competition as

"... rivalry in selling goods, in which each selling unit normally seeks maximum net revenue, under conditions such that the price or prices each seller can charge are effectively limited by the free option of the buyer to buy from a rival seller or sellers of what we think of as 'the same' product, necessitating an effort by each seller to equal or exceed the attractiveness of the others' offerings to a sufficient number of sellers [buyers] to accomplish the end in view.""
George J. Stigler offers three criteria for "workable competition":

"An industry is workably competitive when (1) there are a considerable number of firms selling closely related products in each important market area, (2) these firms are not in collusion, and (3) the long run average cost curve for a new firm is not materially higher than for an established firm." 51

One criterion most important for the purposes of defining a product market is found in the key words "closely related products." 52 Edward H. Chamberlin, in his book on monopolistic competition, 53 points out that the American economy is one of both competitive and monopolistic elements, and that limited monopolies are everywhere in competition with each other. 54 In a later paper, Mr. Chamberlin clarified his position as to the desirability of monopolistic competition, pointing out that monopolistic competition is not a defect in the competitive ideal, but a norm from which the ideal may be derived. 55

In summary, then, what is deemed the only feasible, if not a desirable, objective is the limitation of the amount of product differentiation some degree short of the uniformity of products found in pure competition. 56 It should be noted that the sole concern of this paper is to determine the products which make up the relevant market, not the number of competitors required for "workable" competition.

The second assumption to be made is that the touchstone used to determine which products are "substitute" products is primarily concerned with price fixing considerations as determinants of monopoly power. The idea behind the proposed test is that where the customer has a real alternative to turn to, this weakens the power of the defendants over prices. Another power commonly considered indicative of monopolies is that of excluding competition. Power to exclude, however, can be based on other factors, such as control of

52 Stigler criticizes another definition of workable competition by Clair Wilcox as being too vague. That definition is "the availability to buyers of genuine alternatives in policy among their sources of supply." Wilcox, Competition and Monopoly in American Industry 8, TNEC Monograph No. 21 (1940).
54 Id. at 56-70.
56 Other definitions and discussions of workable or effective competition are found in the extensive collection of authorities set out in Oppenheim, "Federal Antitrust Legislation: Guideposts to a Revised National Antitrust Policy," 50 Mich. L. Rev. 1139 (1952) notes 1, 16, 18; and "Divestiture as a Remedy under the Federal Antitrust Laws: Economic Background," 19 Geo. Wash. L. Rev. 119 at 123 (1950) note 5.
raw materials, patents, or stock holdings of customers. A competitor might be excluded from a part of trade although the excluder would not be able substantially to control prices over the market. An example of this is the Fashion Originators Guild case. Although competitors were excluded from using each dress pattern, ownership of only one pattern would hardly give the owner appreciable power to set the pattern's price. Thus, the products from which a company can exclude competitors may not themselves constitute a relevant market, although the Supreme Court has on occasion considered them as such.

Finally, it is assumed that market delimitation can be accomplished through an analysis of the structure and behavior of the relevant market.

B. The Proposed Test

The test which the writer proposes, therefore, may be stated thus: can the average customer change without substantial difficulty from the product of the defendant to the product claimed to be in the same market with that of the defendant?

It should be noted that the word "product" is used in its larger sense and is interchangeable with "service."

An attempt is made here to equate "large cross-elasticity of demand," a test suggested by Chamberlin and the Supreme Court with "change . . . without substantial difficulty." Cross-elasticity


59 The fact that the court was primarily concerned with exclusion of competition may be a valid basis for distinguishing the different market determinations in such cases as the Fashion Originators Guild case, from cases where price fixing or monopoly power over customers was the foremost point of contention, as in the du Pont cellophone case.


61 Chamberlin, "Product Heterogeneity and Public Policy," 40 Am. Econ. Rev. 85 at 101 (Papers and Proceedings, May 1950). Although Professor Chamberlin stated that "only when [cross-elasticities of demand] are negligibly small is oligopoly absent," he must have inadvertently substituted "negligibly small" for "extremely large." See note 63 infra.

62 Times-Picayune Pub. Co. v. United States, 345 U.S. 594 at 612, 73 S.Ct. 872 (1953): "The circle must be drawn narrowly to exclude any other product to which, within reasonable variations in price, only a limited number of buyers will turn; in technical terms, products whose 'cross-elasticities of demand' are small."
of demand is defined as the response of one firm's volume of sales to the price variations of another firm. If the sales of one firm are only slightly affected by the price variations of another firm, its cross-elasticity is small. If the sales of the first firm fluctuate greatly when price changes occur in the product of the second firm, its cross-elasticity is large. This elasticity is, of course, caused by the readiness of the consumer to change products, so that if the consumer can change products "without substantial difficulty," the cross-elasticities of demand of the two products must be large. The reasons why the consumer has been used as the center of the proposed test, and not merely the words "large cross-elasticity of demand" are threefold. In the first place, cross-elasticity of demand is usually concerned only with price competition (although it could be adapted to non-price competition as well) whereas the proposed test would include all the factors which go to make up the consumer's choice of products (e.g., quality, warranties on the product, service accompanying the product). Second, a test intended for use in the law should avoid technical economic terms. Finally, placing the emphasis on the consumer more clearly indicates the exact nature of the market, as the following remarks may indicate.

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63 Scitovsky, Welfare and Competition 396 (1951). Bain, in his book Pricing, Distribution, and Employment, rev. ed., 51 (1953), defines cross-elasticity of demand as follows: "Precisely defined, it should be noted that cross-elasticity measures simply the tendency of buyers to shift from one good to another when the price of the latter changes, regardless of the ability or disposition of the sellers of the latter to supply them." And on page 52, Mr. Bain notes: "A low cross-elasticity indicates poor substitutes; a high cross-elasticity indicates close substitutes." One caveat should be set out—the cross elasticity of demand for product B should be measured in relation to a price decrease of product A, not a price increase. Otherwise, whenever there are many close substitutes, a price increase in product A would benefit each rival only slightly, although product A might lose almost all its customers. This would show up deceptively as a small cross-elasticity of demand between product A and each of its substitutes. The whole problem of product demand is considered extensively in Bain, at pp. 17-82.

64 The exact measurement of cross-elasticity of demand curves has rarely been accomplished and is not required in applying the test. All that is required of the defendant is evidence showing that consumers have not considered it difficult to change back and forth among the products claimed to be in the same market.

65 Substitutability of production as well as substitutability in consumption must be taken into account if the circumstances require. For example, it may be that the alleged competitors of the defendant are producing at 100% capacity while the defendant is producing at 50% capacity. Thus the competitors cannot expand production in order to force the defendant out of the market. This, however, is one of the factors entering into a determination of the power of the defendant in a given market, after the market itself has been determined.


67 The "market" as here defined centers on an individual firm and not a group of similar firms. In other words the market may be different for each individual firm, due to differences in type of product and geographical area in which the product is produced.
The proposed test, following the definitions of the economists cited, also uses the consumer as the turning point. The “average consumer” is treated as a standard similar to the “reasonable man” standard in negligence law.\textsuperscript{68}

On the practical side, the test is meant to endorse and preserve the method of fact accumulation used in the \textit{du Pont} cellophane case.

It should be noted that determining what is meant by “substantial difficulty” is primarily a question of degree and is subject to all the criticisms for vagueness of any degree question. However, the criterion is no more vague than other provisions of the antitrust laws (e.g., section 3 of the Clayton Act)\textsuperscript{69} and seems to be necessary as a general standard involved in a problem of this kind.

\textbf{C. The Proposed Test in Operation}

1. \textit{Problems Not Covered by the Proposed Test.} Monopoly power cannot be determined by percentage of market occupation alone. After the delimitation of the market is completed, the forces within the market which contribute to or detract from the strength of the defendant are taken together with the percentage of the market controlled to determine this power. The factors making up the relevant market should be distinguished from those which determine monopoly power. A problem involving the latter is found in the \textit{Corn Products} case\textsuperscript{70} discussed above, in which “brewers grits” was excluded from the market because its cost basis was higher than pearl starch. This seems to mistake determinants of power in the relevant market for

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\textsuperscript{68} Professor Clare E. Griffin has proposed a test which on its face does not mention the consumer. He suggests that where a manufacturer “has to take into account” the price and terms of sale of another manufacturer, the two are in the same competitive market. Griffin, “Economic Objectives and Antitrust Policy,” Address before Univ. of Michigan Law School Summer Institute on International and Comparative Law, June 17-19, 1953, \textit{Federal Antitrust Laws} 30 (1953). Ignoring the difficulty in measuring the degree to which the competing manufacturer’s price policy must be taken into account in order to be in competition, this test still turns on the ability and propensity of the consumer to change products.

\textsuperscript{69} “Where the effect . . . may be to substantially lessen competition or tend to create a monopoly . . .” 15 U.S.C. (1952) §14.

\textsuperscript{70} United States v. Corn Products Refining Co., (D.C. N.Y. 1916) 234 F. 964. The case of United States v. Aluminum Co. of America, (2d Cir. 1945) 148 F. (2d) 416, also illustrates this problem insofar as imported aluminum ingot was excluded because a tariff restricted the extent to which it could compete with domestic ingot.
determinants of the market itself. Cost basis should no more be used to delimit the relevant market than a comparison of financial resources of the producers. The comparative prices of two products are a facet of the products themselves, and as such, they are one element to be considered in applying the proposed test to a given product.\footnote{Joe Bain, in measuring cross-elasticities of demand assumes that the price of both products are given as they exist at any one time. BAIN, PRICING, DISTRIBUTION, AND EMPLOYMENT, rev. ed., 51 (1953).}

Another problem which is not subsumed under the measuring of the market is that of determining which market should be measured in order to find monopoly power. Judge Knox faced this problem in the \textit{Alcoa Remedy} case.\footnote{United States v. Aluminum Co. of America, (D.C. N.Y. 1950) 91 F. Supp. 333 at 355-364.} He there decided that the market for virgin aluminum ingot sold in the United States did not truly reflect the amount of competition in the industry and chose to analyze the fabrications market instead. Thus, the market from which monopoly power is to be determined is a problem precedent to delimiting that market.\footnote{Still another problem facing the market analyst is that of the "irrational" consumer. Should there be a distinction between the "rational" reasons for buying a product and the "irrational" ones? The proposed test could be used to fit either conclusion, but it is suggested that, since the actual market situation is the basis of analysis, no distinction should be attempted. Difficulty might also be encountered in determining which buying habits are "rational" or "irrational." See Chamberlin, "Product Heterogeneity and Public Policy," 40 AM. ECON. REV. 85 (Papers and Proceedings, May 1950).}

2. \textit{Application of the Proposed Test.} As a starting point, a simple example of product differentiation will be given in order to show how two different products may be in the same market.

Example 1. Company \textit{A}, prosecuted for a section 2 violation, sells cheap alarm clocks. Company \textit{B} also sells alarm clocks which are far more expensive, but have been proved to be of better quality, and are accompanied by a six month warranty and faster repair service. These factors compensate each other in the mind of the average consumer, such that it would not be substantially difficult for him to change from either product to the other. Both are in the same market.

It should be noted here that both price and non-price factors are considered in deciding which products are encompassed in the same market.

The same type of case arises in a problem involving only a geographic delimitation. It may be substantially difficult for a buyer of steel in California to order from a Pittsburgh producer as opposed
to one in Los Angeles. Both product and geographic factors may be present in one case:

Example 2. Two stores sell ice cream. Store One is four blocks closer to householder A than Store Two, but the quality of ice cream sold by Store Two is far superior to that of Store One. All other factors are equal. Householder A considers these two factors to balance each other, so that it is not substantially difficult to change from one to the other. Both are in the same market.

In the simple example above, traditional Supreme Court analysis would consider the product market (quality) and the geographic market (distance from consumer) separately. It can easily be seen, however, that both "markets" are in reality interdependent aspects of one "market" from which the consumer chooses.

The time factor may also be accounted for by the proposed test.

Example 3. X has control over virtually all the grain moving in interstate commerce through Chicago. There are, however, many neighboring granaries in which grain is stored and can be transported to Chicago. The buyers of grain in Chicago cannot afford to wait, however, but must buy from X before this grain arrives in Chicago. The grain stored in granaries is not in the relevant market with that controlled by X.

From this example it can be seen that the proposed test might also be applied to include and exclude "potential" competition. The question is still, "Can the consumer afford to wait for the product to be available without substantial difficulty?" Potential competition has never been adequately defined, however, and other factors might be necessary before a potential competitor can be included in the market. One of these is that the potential competitor must be willing and able to enter. It can be argued that this test draws the line too narrowly in excluding potential competitors for whom the customer cannot wait, but whom the producer would probably take into account. Furthermore, some products come onto the market and build their own customer demand, such as dress designs. However valid these contentions may be, it is possible to define potential competition in terms of the proposed test.

Of course, the time element is also interdependent with the other factors. If the quality of a product to be produced at a new plant is recognized to be superior, or will cost less, a longer time may be

74 This argument ignores the fact that monopoly power is still present, however foolish it may be to exert it.
allowed before it is “substantially difficult” for the customer to wait for it.

Finally, monopoly power has been held to be attainable over one type of consumer. In the *National City Lines* case,\(^7\) the defendants were charged with monopolizing, among other things, oil products to bus customers. Other customers were held to be outside the market. Admittedly, there may be a monopoly with respect to one type of customer only, if that customer has no available alternatives. There is the further condition, however, that the monopolist be able to discriminate against the particular customer.

Example 4. Du Pont manufactures 80% of all moisture-proof cellophane. For many end uses, this cellophane comes into close competition with other flexible wrappings, but let us say that for some candy manufacturers, moistureproof cellophane is a necessity, and no other product can be substituted. Du Pont can exercise monopoly power (to fix prices) over these candy manufacturers as a separate market only if it can discriminate against them.

This ability to discriminate seems in turn to depend on two conditions. First, du Pont must know when it is selling moistureproof cellophane to these customers, so that it will be able to discriminate. This would obviously be impossible, for example, with a marketable stock which is sold on an exchange where the seller has no knowledge of the identity of the buyer. Second, there must be no public law against price discrimination in the particular situation. With these limitations it seems doubtful that control over one type of customer would often give monopoly power.

It must be remembered that all of the products of one manufacturer do not necessarily fall in the same market with each other.

Example 5. United Shoe Machinery Company leases shoe making machines to shoe manufacturers. United’s percentage of the total shoe machinery leases is high, but the machines are built for different steps in the shoe making process, although some are interchangeable. There is no “market” for all shoe machinery.

In a fact situation somewhat similar to that of example 5, the United States district court lumped all shoemaking machines together\(^8\) and found monopoly power in United Shoe based upon

\(^7\) *United States v. National City Lines*, (7th Cir. 1951) 186 F. (2d) 562.
\(^8\) The court excluded some of a type not manufactured by United, a position for which there was no apparent economic justification.
its percentage of all shoe machinery leased. The procedure which should be followed under the proposed test is to list the essential steps in the shoe manufacturing process. Shoe machines should then be divided according to their functions in the shoe manufacturing process and the defendant's control over each function measured through his percentage of the machines leased for that function. Thus, the machines for each shoemaking step are in one market. The rationale behind this analysis is simply that a shoe manufacturer as a customer cannot substitute all his machines interchangeably, and therefore the machines must be divided into groups that can be substituted among themselves. It has been implicitly assumed here that it is not substantially difficult for a shoe manufacturer to change to other lessors of the machines serving the same function.

Another problem should be mentioned here if only to be left unanswered. Suppose that United Shoe Machinery had complete control over the machines which performed a unique function. Shoe manufacturers could find no other machine to use as a substitute for that function. The function, however, was unimportant and good shoes could easily be manufactured without the machines in question. Should monopoly power be ascribed to United over these machines? Another way of stating this problem in economic terms is that the machine has a large elasticity of demand. The proposed test would frame the question thus: "Can the customer do without the defendant's product altogether without substantial difficulty?" Since the Supreme Court has indicated that large cross-elasticities of demand between two products brings them both into the same market, and reduces monopoly power of both, it would seem to follow that the producer of a product with a large elasticity of demand does not have enough monopoly power to come within the confines of the Sherman Act.

The most complex analysis of a market situation, and probably the most common, is that concerning the market for a product where there is no "average customer" but a number of different types of customers using the product for different purposes. This problem has already been mentioned in the discussion of monopoly over a single type of customer as in example 4.

Example 6. Du Pont Company manufactures moistureproof cellophane. It is used mainly for wrapping products and by

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“converters” who process it for resale as a wrap. In this example, substitute products for moistureproof cellophane are pliofilm, wax-paper, aluminum foil, and some other flexible wrappers. We will assume, however, that only 60% of aluminum foil is used as a wrap for products in substitution for moistureproof cellophane. Therefore, only that percentage of aluminum foil which is used as a flexible wrap may be included in the same market. Aluminum foil produced for non-substitutional uses (40%) is not included in the relevant market.

Where there are multi-consumer uses for the product, each use should be analyzed separately in order to discover what substitutes are available for it. This was the procedure followed in the *du Pont* cellophane case. The fact that another product may be substituted for one use of the defendant’s product does not mean that the total production of the other product should be included in the market. Aluminum may compete with copper as far as some electrical products are concerned, but not all copper should be counted in the same market with aluminum. Only that portion of copper produced for electrical products should be included. In example 6, only 60 percent of aluminum foil should be included in the same market with moistureproof cellophane. This limitation was not recognized in the cellophane case, although it is not certain that any of the flexible wrappings there included in the market had other non-substitutional uses with moistureproof cellophane.

Possibly a larger percentage of the substitute product may be included in the market as potential competition if it is shown that more of the product was available for the same uses as the defendant’s product, e.g., more than 60 percent of aluminum foil may be capable and ready to be supplied to the flexible wrappings market should the market situation change. This does not fit into the proposed test, however, and the same problem is involved where a producer of the same product as the defendant (i.e., of moistureproof cellophane in example 6) is producing at less than capacity.

Another problem which may arise involving the heterogeneity of the customers themselves is exemplified as follows:

Example 7. X Theatre Chain is charged with monopolizing the exhibition of first run films. An analysis of individuals shows

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79 This would seem to be another problem not of delimiting the market, but of determining monopoly power after the correct market has been delimited. See Part II-C-1 above.
that 10% see a movie on its first run, 5% on the second run, and 3% on later runs. When determining whether second and other runs are "substitutes" for first run showings, should the fact that 10% of the potential customers have already seen the average second run movie segregate them for purposes of analysis, as different consumers were in example 6?

Again this is a problem of finding the "average" customer in order to apply the proposed test. Each customer is in a different position. The ones who have seen a movie on the first run are unlikely to consider the same movie, now a second run, as a substitute for another first run movie which they have not seen. On the other hand, the difference is not nearly as great to the moviegoer who has seen neither the first nor the second run movie. If the customers are segregated into separate classes on the basis of their peculiar positions, however, there is no logical end to the trouble, since each customer has his individual whims and fancies and also is in a different posture economically from every other. Therefore, the writer suggests that no division along these lines be undertaken, but that the best solution possible is a fact analysis of consumer trends and habits, so that an attempt can be made to determine a mean among all consumers, e.g., between the moviegoer who has seen the second run movie and the one who has not.

3. Conclusion—Method. It is hoped that the proposed test preserves the extensive methods of fact analysis such as those used in the du Pont case, while at the same time adapting legal standards to economic principles capable of being translated into admissible evidence in antitrust proceedings. In order to prove the existence of substitute products as an ultimate fact and not an abstract concept of law, it is necessary that a careful examination be made of market structures and behavior, emphasis being placed upon consumer preferences. Only through such careful examination can there be effected a merger of the economic and legal concepts of the market.