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ANTITRUST DAMAGE THEORY

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ANTITRUST DAMAGE THEORY

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The law of judicial remedies deals with the nature and scope of relief afforded a plaintiff following appropriate court procedures and after establishment of a substantive right. These remedies usually fall in one of four categories: (1) damages, (2) restitution, (3) coercion and (4) declaration. This presentation will deal principally with the damages remedy, but a few thoughts regarding the use of a restitutionary remedy are introduced toward the end of these remarks.

I will divide my presentation into six headings, beginning with some general comments related to the damages remedy.

I. INTRODUCTION

Damages is a money remedy aimed at making good the plaintiff's losses. It is compensatory in character, measuring the loss sustained by the injured party in monitary terms. In many instances this measurement is made by comparing profits or prices during the violation period with what would have been achieved absent the violation, or by measuring a loss of value or by cost of repair or replacement. Within this framework there are a number of fundamental legal principles that pertain.

General v. Special Damages

Courts traditionally attack the problem of assessing damages in a two-step process. First, they lay down and apply a rule of general damages. Second, they add special (consequential) damages that are adequately proved and not regarded as too remote. General damage theories vary by the nature of the legal injury and tend to be accepted using generalized standards and variables. Courts are more willing to award general damages than to provide special damages.

Special damages must have been caused in fact by the defendant's actionable conduct, must be proved to a reasonable certainty, and must not be too remote. These basic limitations apply whether we are speaking of tort, contract, property, or antitrust injuries.

The first of these principles demonstrates the close kinship between liability and damages. Even when we speak of general damages we are reminded that the damages awarded should be custom-tailored to the substantive issues involved. This is particularly important in selecting of the appropriate antitrust damage theory where violations may range from price discrimination to bid-rigging to blockaded entry to price-fixing. In each of several situations, statutory and common law provides some guidelines, but the theory selected is quite dependant upon the structure of the market, pricing methods employed, trade practices, and the economic logic that interrelates these considerations.

The amount of damages recovered must be proved with reasonable certainty. While this is particularly true for special damages it also bears serious consideration in the choice and measurement of particular general damage models. Occasionally statistical measures of significance may be employed as a guide to what constitutes "reasonable certainty" but courts tend to look beyond quantitative guidelines, relying upon historical experience and business potential that goes to the heart of practical entreprenuership.

Certainly for any special damage recovery and for most recoveries based upon more general theories, the contract principle of foreseeability or the tort concept of proximate cause pertains. In most antitrust damage situations of my knowledge and experience this principle is used not violated but one could envision the development of a chain of cause-effect relationships that could lead to the violation of this rule.

Analytical Standards

To measure a loss it is necessary to develop a standard to which actual profits, prices, costs, and values can be related. The statement of the standards used in antitrust situations is less definitive in comparison with damage problems involving property, torts, and contracts. Frequently a standard employed in antitrust situations involves asking the question "what price (profit) would prevail in a freely (purely) competitive situation?" Many times this is an inappropriate question simply because a purely competitive market situation could not be reasonably be expected to ever exist. Unfortunately many economic models used that permit the development of a competitive standard to assume pure competition rather than mere "competitive activity."

The selection of an analytical standard for purposes of measuring antitrust damages is both fundamental and of extreme importance in any antitrust problem. Because there are a wide range of possible logical pitfalls in the use of one standard versus another it is important that an economist be involved in this aspect of the damage analysis. Another important concern is the availability of data for the measurement of the damages prior to selection of the theory used. Since the data needed for the measurement may have to be obtained during the discovery period it is important that the economist involved be contacted prior to the issuance of interrogatories.

Courts have used, with some regularity, three basic methods in computing damages suffered by antitrust plaintiffs: (1) the before and after approach, (2) the yardstick theory and (3) the market share theory. There do exist other theories, depending upon the antitrust violation involved.

II. THE BEFORE AND AFTER APPROACH

The "before and after" approach compares a plaintiff's profit situation in two distinct time periods, and uses his own business and its performance to make the calculations of lost profits. Generally, the plaintiff's profit position prior to the impact of the antitrust violation is compared with his position during the impact. There are, however, three possible variations to this approach, based on the time spans for which given sets of data are available.

First, profits (or sales) during the period of the impact may be compared with the same data for the period immediately following the impact. Judge Friendly outlined this approach in Herman Schwabe, Inc. v. United Shoe Machinery Corp.:

> "Although, because of defendant's long domination of the market, plaintiff could not show how sales and profits once realized in a free market had diminished, no reason is seen why it could not have proceeded in the opposite direction, by showing how its sales and profits had waxed as United's unlawful practices had waned."[1/]

Neither of the other two variations has been formally adopted by a court, but they are both logical outgrowths of the basic approach. First, profits earned prior to the period of impact of the antitrust violation and profits earned after the period of impact may, by interpolation, be used to calculate the profits that a plaintiff would have earned during the impact period absent the violation. Second, profits earned between the periods of impact of two distinct antitrust violations may be extrapolated to calculate the profits that a plaintiff would have earned absent the violations during the two distinct impact periods.

Prior to Central Coal and Coke Co. v. Hartman, most courts took the position that profits earned by a business were so dependent on numerous

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1/ 297F.2d 906 (2d Gr. 1962)

and uncertain contingencies that they could not be proved with any reasonable degree of certainty.[2] Thus, profits were not recoverable as damages. The court in Hartman, however, stated that

> "proof of the expenses and of the income of the business for a reasonable time anterior to and during the interruption charged, or of facts of equivalent import, is indispensable to a lawful judgment for damages for the loss of the...profits of an established business."

Because the rule laid down in Hartman requires a plaintiff's business to be operating prior to the violation, it necessarily excludes calculation of profits from a new business, and profits to be earned in the future by a business. The language "facts of equivalent import," however, seems sufficiently open-ended to include at least some of the variations to the theory.[3]

The United States Supreme Court in two subsequent cases relaxed the plaintiff's burden of proof under the before and after theory, but these developments did little to overcome the inherent drawbacks of the approach itself. In Eastman Kodak Co. v. Southern Photo Co., the Court made it clear that since the defendant's wrongful conduct had made ascertainment of plaintiff's damages difficult, the defendant could not complain that the damage calculation was imprecise.[4] Moreover, the Court permitted the plaintiff to calculate net profits by subtracting an estimated expense of doing business from an established pattern of gross profits. This meant that antitrust plaintiffs no longer had to prove their actual cost of doing business in order to recover damages.

In Story Parchment Co. v. Paterson Parchment Paper Co., the Court upheld the jury's finding that the measure of damages was the difference between what the plaintiff actually realized and what he would have received from sales at reasonable prices except for the unlawful acts of the defendant.[5] The effect was that a plaintiff no longer had to prove the actual price at which the product would have sold, but could base his damages calculation on a reasonable price for the product.

Despite the Supreme Court's relaxation of the before and after theory to ease the plaintiff's burden of proof on the issue of lost profits, use of the theory is strictly limited. First, the plaintiff's business must be one that is established and operating prior to the impact of the

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2/ 111 F.96 (8th Gr. 1901)

3/ Some fresh insight is presented in Frank L. Williamson, "Lost Profits as Contract Damages for an Unestablished Business: The New Business Rule Becomes Outdated," 693 No. Car. L. Rev. 56 (1978)

4/ 273 U.S. 359 (1927)

5/ 282 U.S. 555 (1931)

conspiracy to restrain trade. Thus, the theory is unavailable to a plaintiff who is prevented from entering a market because of the defendant's actions. Second, in order to compare earning before and after the violation, but those earnings must have been reasonably uniform over time. Otherwise, a court applying the theory would not know which earnings to use for the "before" period, and the damage calculations would be too speculative.

III. THE YARDSTICK THEORY

The second theory for proving lost profits in antitrust cases is the "yardstick" method. While the before-and-after theory compares profit data for the plaintiff's business over two or more time periods, the yardstick theory compares the plaintiff's sales or profits during the period of impact of the antitrust violation to those of a similar company that was not adversely affected by the defendant's anticompetitive practices. The first attempt to use the yardstick theory was made in Bigelow v. RKO Radio Pictures, Inc.[6/] In addition to showing lost profits under the before and after theory, the plaintiff introduced evidence comparing the earnings of his theater with those of a competing theater that had benefited from the defendant's actions. The evidence established that the net receipts of the competitor for the period of impact exceeded the plaintiff's net receipts by $116,000. The plaintiff's showing under the before and after theory was that its receipts fell off by $125,000 during the same period. The Supreme Court did not find the two theories mutually exclusive. Affirming a verdict for the plaintiff based on the before and after theory, the Court stated that it did "not imply that the verdict could not be supported on some other theory."

Following the decision in Bigelow, courts adopted and developed the yardstick theory in a number of other cases. In William Goldman Theaters v. Loew's, Inc., the trial court arrived at an estimate of damages by attributing the earnings of one of the defendant's nearby theaters to the plaintiff's theater and then subjectively adjusting that amount to account for the differences between the two theaters.[7/] In addition to considering the average gross income of the various theaters, the court admitted and considered evidence of the average profits of the theaters in question, although it stated that such evidence was not controlling.

Later courts modified the Goldman approach by refining the factor by which the two or more businesses are to be compared, making the damage computation more certain and thus easier to prove. In Homewood Theatre, Inc. v. Loew's, Inc. the Court focused on "net gross receipts," calculated by subtacting film rental costs from gross receipts.[8/] In that case, the

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6/ 327 U.S. 251 (1946)

7/ 69 F. Supp. 103 (E.D. Pa. 1946), aff'd, 164 F 2d 1021 (3d Cir), cert. denied, 334 U.S. 811 (1948).

8/ 110 F. Supp. 398 (D. Minn. 1952).

defendant's conduct limited the plaintiff to showing second-run movies. Despite the apparent loss of revenue from this change of status, the court recognized that a second-run theater would suffer no economic loss if the reduction in its gross receipts caused by the antitrust violation was less than the reduction in its film rental costs. And, reasoning that a second-run theater might have lower advertising costs than a first-run theater, the Court in Milwaukee Towne Corp. v. Loew's, Inc. calculated net gross receipts by subtracting advertising costs of each theater, as well as film cost, from gross receipts.[9/]

Although most of the cases in which the yardstick theory has been applied involved the motion picture industry, the same approach may be applicable in other areas. There are, however, four serious limitations to the use of this theory in other than the motion picture industry. First, the plaintiff's firm and the yardstick firm must be engaged in the same line of business. The law as applied in the theater cases, especially in Homewood, suggests a very strict adherence to this criterion. But, while the two businesses must be in the same line of commerce, they need not be identical. The Court in Loew's, Inc. v. Cinema Amusements, Inc. stated that the differences between the base theater and the plaintiff's theater went to the weight to be accorded the evidence and not to the admissibility of the evidence.[10/]

Second, not only must the two firms be engaged in the same business, but the yardstick firm must be operating within a market structure and under cost and demand conditions similar to those that the plaintiff would have faced absent the violation. The means that the yardstick theory cannot be used successfully if there is a wide disparity in the sizes of the firms in a market or if there is widespread product differentiation in the market, since these facts would be reflected in disparate cost and demand characteristics of the plaintiff and any potential yardstick firm. This limitation is illustrated by the refusal of the court to grant damages to the plaintiff in Fargo Glass and Paint Co. v. Globe American Corp.[11/] In that case, the plaintiff was a wholesaler of gas ranges (in addition to other home appliances). Defendant Globe, a manufacturer of gas ranges, entered into a contract to sell its entire output to defendant Maytag, another wholesaler. The plaintiff claimed that the arrangement between Globe and Maytag violated the antitrust laws and tried to prove damages by comparing its profits with the profits

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9/ 190 F. 2d 561 (7th Gr. 1951), cert. denied, 342 U.S. 909 (1952).

10/ 210 F. 2d 86 (10th Cir.), cert. denied. 347 U.S. 976 (1954)

11/ 201 F. 2d 534 (7th Cir.), cert. denied, 345 U.S. 942 (1953) of Maytag. The Seventh Circuit Court of Appeals stated that it could not award damages to the plaintiff when there was no evidence that the plaintiff would have sold as much as Maytag, or that it would have realized the same profit. In addition, there was no evidence in the record as to the plaintiff's and Maytag's comparative costs of doing business.

Third, the yardstick firm should also occupy a market position similar to the position the plaintiff would have held absent the violation. If the plaintiff is among the dominant firms in the market, the yardstick firm must also be in that position. Similarly, if the plaintiff is a smaller, less dominant firm, so must the yardstick be. Even if the yardstick firm meets all the other criteria, the variance in profits attributable to market position suggests that an accurate damage calculation may not be possible absent a market position similar to that of the plaintiff.

Fourth, the defendant's firm can seldom be used as the yardstick firm. In addition to the problems recognized in Fargo Paint, the basic flaw in the use of the defendant's business as a yardstick during the period of the impact of the antitrust violation is that

> "[i]t seems obvious that if the conspiracy benefited the defendant's business, such business does not represent profits made in a free and open market. The teaching of Victor Talking Machine Co. v. Kemeny [271 F. 810 (3rd Cir. 1921)] is that in measuring damages it is improper to use as a base business resulting from a violation. If any such evidence were permitted, it would have the effect of giving to the plaintiff the fruits of the conspiracy and then the resulting judgment would treble such a verdict. Where the defendant business is the only available "yardstick," before such evidence is admitted there should be deducted an appropriate amount for any increase resulting from the violation."[12/]

Thus the yardstick theory, while useful in some situations, is of limited applicability in many others because to make the theory reliable, the above conditions must be met relating to firm size market structure and market position.

12/ E. Timberlake, Federal Treble Damage Antitrust Actions (1965), p. 332.

IV. MARKET SHARE THEORY

The market share theory is the newest of the existing lost profits theories. This approach involves a comparison of relative changes in market shares of the plaintiff and the defendant. Damages are computed by translating the plaintiff's lost market share into a dollar volume of goods that he would have sold, which is then multiplied by the plaintiff's historical profit margin.

The first courts to use this theory developed it as an outgrowth of the before and after and the yardstick approaches. Although courts and plaintiffs often dealt with damages in the context of the existing theories, their actual application more closely resembled the market share theory. In Richfield Oil Corp. v. Karseal Corp., the plaintiff tried to use the yardstick theory to show lost profits by comparing the sales of its firm with the sales of a base firm, the sales of which were traditionally one-third to one-seventh those of the plaintiff.[13] In addition, the plaintiff showed that it was staffed, equipped, and able to produce a sufficient amount of its product to meet the additional sales. The plaintiff also introduced evidence showing its net profit per case of its product. The Ninth Circuit Court of Appeals without elaborating ruled that the jury was entitled to infer from such evidence that in the absence of the defendant's illegal conduct, the plaintiff would have sold three times as much of its product as the base firm did during the same period. Citing Story Parchment, the Court compared the uncertainty of the damage computation in a personal injury case: "There are many cases in which damages are allowed the element of uncertainty is at least equal to that in the present case--as, for example, copyright and trade mark cases, cases of unfair competition, and many cases of personal injury...." The next major case in which this theroy was applied was Rangen, Inc. v. Sterling Nelson & Sons.[14] There, a contractor was accused of obtaining certain contracts by bribing a state official. The evidence established that four firms had bid on the contracts in question and that the plaintiff and the other three firms had bid with approximately equal success on similar contracts in the past. The Ninth Circuit Court of Appeals computed the plaintiff's damages by calculating gross revenue from the business of one-fourth of the contracts and then multiplying that amount by the plaintiff's historical profit margin.

A similar calculation was made by the court-appointed master in the case of Locklin v. Day-Glo Color Corp.[15] The master computed the

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13/ 271 F. 2d 709 (9th Cir. 1959), cert. denied, 361 U.S. 961 (1960).

14/ 351 F. 2d 851 (9th Cir. 1965), cert. denied, 383 U.S. 936 (1966).

15/ 429 F. 2d 873 (8th Cir. 1970), cert. denied, 400 U.S. 1020 (1971).

plaintiff's lost sales by multiplying the sales for the total market by the plaintiff's estimated share of the market absent the defendant's illegal activity and then by the plaintiff's profit margin. The plaintiff's profit rate was considered by the master to be between its actual rate for the impact period and the higher rate the plaintiff claimed it would have received absent the defendant's illegal action.

Subsequent to Rangen, a variation on the market share theory of proving damages was approved by the Eighth Circuit Court of Appeals in Arthur Murray, Inc. v. Reserve Plan, Inc.[16/] In that case, the plaintiff, Reserve Plan, sold dance lessons, some of which were franchised by defendant Arthur Murray, Inc. Arthur Murray withdrew its franchise when the plaintiff refused to accept its financing plan. After finding the defendant in violation of the antitrust laws, the Court appointed a special master to compute damages caused by the loss of the Arthur Murray franchise. The master first calculated from the evidence in the plaintiff's records that one-half of the plaintiff's business was attributable to the defendant. He then multiplied the plaintiff's total annual income by one-half, reflecting the fact that half of the plaintiff's business consisted of Arthur Murray accounts. Finally, the master subtracted from that figure the expenses attributable to the Arthur Murray portion of plaintiff's business (one-half of total expenses).

The United States Supreme Court first approved the market share theory in Zenith Radio Corp. v. Hazeltine Research, Inc.[17/] Zenith, sued by Hazeltine for patent infringement, counterclaimed under the antitrust laws, alleging that it was unlawfully excluded from competing with the plaintiff in Canada. The trial Court awarded damages to Zenith, reasoning that Zenith had introduced evidence that indicated that but for the defendant's illegal conduct it would have achieved sixteen percent of the Canadian television market at the outset of and throughout the damage period. The Court computed the award by subtracting from the sixteen percent figure the three percent share of the Canadian television market actually obtained by Zenith. A similar determination was made for the Canadian radio market. On appeal the Seventh Circuit Court of Appeals reversed the award to Zenith, holding that the fact that Zenith was able to show damages under the market share theory did not prove that damages were in fact suffered.

The Supreme Court affirmed the trial court, and, on remand, the Seventh Circuit stated that the measure of damages was the "difference between percentage share that defendant actually enjoyed during the

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16/ 406 F. 2d 1138 (8th Cir. 1969).

17/ 401 U.S. 321, rehearing denied, 401 U.S. 1015 (1971).

damage period and the percentage it would have had as a free competitor." The Court, citing Bigelow, noted that Zenith's testimony as to the similarities between the Canadian and American markets was competent evidence by which the amount of damages could be reasonably approximated. The Court stated, however, that some of the damages awarded by the trial Court were based on actions of the plaintiff which occurred prior to 1959, the earliest date for which damages could be claimed under the four year statute of limitations and remanded the case to the trial Court for a recomputation of Zenith's damages.

Zenith again appealed to the Supreme Court, which reversed the holding as to pre-1959 damages and set out certain standards to be used in determining whether damages should be awarded for lost future profits. The Court stated that losses occurring in the future are unrecoverable if the fact of their accrual is speculative or their amount and nature are unprovable. Further, it held that the refusal by a court to award future damages on grounds that they are too speculative is equivalent to holding that no cause of action has arisen as to those damages. If and when they are suffered they may then be sued upon within four years after the date on which they were inflicted. The Court thus reasoned that had Zenith sued for pre-1959 damages in 1954, determined by the appeals court as the time at which the cause of action on such damages had arisen, it would not have been able to show future injury with such reasonable certainty as to be awarded damages for the period of 1954-1959.

Although the market share theory has recently achieved acceptance as a method for proving lost profits, it suffers from several limitations. Extensive and complicated data are required to compute the actual damages suffered, as well as to lend support to the use of the theory at all. In order to make the calculations, at least four types of information are required: (1) a clear definition of the relevant market; (2) historical sales data on that market and on related markets; (3) economic history and trends of the relevant market; and (4) evidence of the plaintiff's ability to enter the relevant market.[18/] If all the data needed for the calculations are not available, the plaintiff will be forced to assert many assumptions about the markets and firms involved. If these assumptions are unsupported by evidence, recovery can be precluded under the theory.

18/ See Gibbons, The "Market Share" Theory of Damages in Private Enforcement Cases, 18 Antitrust Bull. 743 (1973).

V. OTHER APPROACHES

Two other antitrust damage theories deserve discussion: (1) the cost approach and (2) a restitutionary theory.

The Cost Approach

A seemingly obvious yardstick standard that can be employed is to compare prices with costs. It is deceptively straightforward that a comparison of costs and prices will reveal a profit picture which can be employed, with some modification, as a measure of profits that may suggest the existance of "excess profits" or as a measure of lost profits to an injured plaintiff.

In practice the use of cost data in proving damages in antitrust situations has been limited. This may partially reflect a judicial reluctance to address several difficult economic and accounting problems associated with the concept of cost.

One of the problems is practical. Whose cost is to be used? The low-cost producers, the firm making the sale, or the average for the industry? Which costs are to be included? Average costs, marginal costs, production costs? A second set of problems are conceptual in nature. Conspiratorally influenced cost levels may be only tenuously linked to cost levels produced by free unfettered competition. Costs that are actually reported may reflect in accurate allocation of overhead costs in multi-product firms. Costs also may not represent what would prevail under competition considering the various forms of nonprice competition that could or would prevail.

Costs are an ambiguous concept, particularly with regard to the allocation of overhead expenses, the apportioning of costs among various products, the measurement of investment and required rates of return, the adjustments for depreciation and inventories,and changes in accounting practices over time.

A number of conclusions are drawn by Erickson that should be heeded by those considering this approach:

"(1) A primary theory of damages based solely on cost data is often of limited validity;
(2) Unadjusted cost data gathered during conspiratorial periods are unreliable guides to hypothetical competitive costs;
(3) Any damage theory largely based on conspiratorially influenced cost levels is questionable;
(4) Costs are more likely to be reliable indicators of damages if they are collected during non-conspiratorial periods and if they are adjusted to compensate for the potential sources of

error described above;

(5) However imperfect they may be, costs can produce viable damage estimates which may or may not be as adequate as other approaches; and

(6) If used, full and comprehensive pre-trial access and examination of cost data should be granted all litigants."[19]

Restitution in Antitrust

Recently I was involved in a bid-rigging problem where false bids were submitted so as to insure a winning bidder a contract. The awarded contract allegedly permitted the price fixer only "normal" profits, suggesting that no injury was sustained.

It is my thesis that a restitutionary theory can and should be employed in this type of situation. To me it is analogous to a conversion where a chattel is used to obtain profits for the benefit of the convertor. In the law of restitution these ill-gotten gains would be used as a measure of damages and would be awarded to the owner of the chattel.

In a similar fashion I believe it could be persuasively argued that an ill-gotten contract, obtained through bid-rigging, should have as its measure of damages the profits realized, but these should be punitively trebled.

VI. CONCLUSION

The attempt here has not been to be exhaustive in the review of alternative antitrust damage theories. Rather principle approaches have been outlined in an effort to illustrate theories that have received acceptance by the courts and which have a basis in economic logic and business experience.

Occasionally commentators on antitrust damage law state that another approach is the use of expert opinion. But, in the words of Weinberg,

> "This is hardly a meaningful distinction however, since experts are often called upon in developing evidence under the (several damage theory) tests...Employing these relatively recently developed techniques, experts can present models designed to show a variety of factors which might influence a firm in a specific marketplace. These projections and models have become increasingly sophisticated, and have often been found persuasive by the courts, provided that the premises from which the expert develops his conclusions have

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[19] W. Bruce Erickson, "Costs and Conspiracy: The Uses of Cost Data in Private Antitrust Litigation," 14 The Antitrust Bulletin 347 (1969).

An appendix to this paper presents a comparison of damage theories from the Erickson article.

been established in the evidence."[20]

While I was unable to be present during what I am sure was a series of stimulating sessions this morning on the use of the expert, permit me to offer a few suggestions in closing. First, identify a group of possible experts shortly after you have filed your complaint and it appears that a battle is going to ensue. The gains involved in bringing several experts in at an early state are several: you will have the opportunity to evaluate the qualifications of the several experts first-hand, you will be provided with a number of useful ideas by them that can be used in both the substantive and damage aspects of the case and you will be able to gain some guidance as to information and data needs as your case and investigation proceeds. Further, these experts may be able to provide you with some judgments regarding the length of time that is necessary to conduct supportive economic studies and the costs that might be anticipated in relation to them.

Increasingly the use of the expert, especially in complex litigation, has become commonplace. In selecting your expert be sure that you provide him access to all aspects of the proceedings and data, keep him regularly updated as to developments that affect his work, and use him as you would a colleague in the discussion of liability arguments and anticipated counter arguments.

20/ David B. Weinberg, "Recent Trends in Antitrust Civil Action Damage Determinations," 1976:3 Duke L. J. 485 (1976).

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Appendix Table 1.

VARIOUS DAMAGE THEORIES
(from Erickson, Op.Cit., pp. 354-6)

(A) Theories Based Largely on Data Collected from Defendants	Theories Primarily Based on: PRICE DATA	COST DATA	PROFIT DATA
(1) "Before-and-after" theories	Prices before and after the conspiracy are compared with those prevailing during the conspiracy, the difference representing a minimum estimate of per unit single damages.	Pre- and post-conspiracy per unit costs (including provision for normal profit) are contrasted with conspiratorial prices, the difference being taken as a minimum estimate of per unit damages.	Pre- and post-conspiracy profit margins are compared with conspiratorial ones, calculated either on a per unit or percentage basis as return on investment, the difference being a minimum estimate of damages.
(2) Intraconspiracy Theories	Prices during periods of temporary conspiratorial breakdown serve as norms for estimating minimum single damages.	Costs, including normal return on investment, during the conspiracy are compared with transaction prices, the difference representing a minimum approximation to single damages.	No damage theory.
(3) Discrimination Theories[b]	If price differentials inaccurately reflect genuine cost differentials(a) to different customers (so-called geographic discrimination;(b) to various classes of customers, regardless of their geographic location (so-called personal discrimination);(c) to various classes of customers on identical or closely related products with different end	No cost theories.[b] Costs, of course, are essential information for all discrimination theories, since cost characteristics must be known before discrimination can be said to exist.	Differential profit rates, calculated as a return on investment may be compared for sales (a) among commodities produced by the conspirators subject and not subject to the conspiracy;(b) on sales made to different customers (geographically) or to different classes of customers (personally); (c) for

Appendix Table 1 continued	PRICE DATA	COST DATA	PROFIT DATA
	uses (so-called product discrimination), then the price variations to customers (after appropriate adjustments for cost differences if any) are taken as a minimum approximation to single damages.		heterogeneous products on various "extras," special services provided, and so forth. The differential returns, then, may serve as a minimum estimate of single damages.
(B) Theories Based Largely on Comparisons With Non-Conspirators or With Other Industries			
(4) Intraconspiracy Theories[c]	Prices of participants in the conspiracy are compared with prices for the same or similar products of non-conspirators (including, on occasion, foreign producers), the difference comprising an estimate[d] of minimum single damages.	Cost levels established by non-participants in the conspiracy or in other, competitive industries selling related products may be compared with defendants' prices in order to form a basis for estimating minimum single damages. In addition, such data may serve as a check on the validity of defendents'[d] reported costs.	Profit levels among non-participants or firms in related industries may be contrasted with conspiratorial profits, measured as a rate of return on investments of similar risk, the difference representing a minimum estimate of single damages. (In some cases, norms for all industry may be useful in the profit comparisons.)
(C) Theories Based Largely on Plaintiffs' Data[e]			

Appendix Table 1 continued

Notes:

[a]This table assumes that these damage theories are to be applied to treble-damage suits arising out of a price-fixing suit; with some modifications these theories may also be applied to other types of private cases.

[b]Most discrimination theories are of an intraconspiracy type, although other formulations are conceivable. A key difficulty with approximations to damages based on alleged discrimination is that the lower, discriminatory price is unlikely to represent any sort of competitive norm, since it is formulated under the protection of the pricing umbrella provided by the conspirators.

There are several methods for overcoming these difficulties. By comparing price differentials at various times, one may examine "differentials of the differentials," thereby converting an interconspiracy discrimination theory to a before and after one. In practice such formulations are rare. Nonetheless a before and after discrimination approach is feasible and at time useful.

[c]The comments in b apply here. Behavioral differences among participants during the life of the conspiracy may be contrasted with those found before and after the collusion. Results so obtained may constitute a primary damage theory or serve as a supplement to some other approach.

[d]Less plausibly the behavior of prices, costs, and profits can be compared with general industry norms. A tacit assumption underlying this approach is that the industry under consideration is "typical." To the extent that it is not, appropriate adjustments in the data must be undertaken.

[e]Each of the theories described above may be modified for application to plaintiffs' data. A before and after profit theory might compare plaintiffs' actual profits during the conspiracy with those obtained after it was over.

The use of data from plaintiffs may be particularly desirable when (a) defendants have conspired successfully to exclude plaintiffs from the market; (b) through various predatory practices, defendants have curtailed the growth of plaintiffs, but not eliminated them from the market; and (c) adequate data from defendants are unavailable.