
Sherman Act cases, especially under section 2, are involved, expensive and time-consuming, requiring the resolution of issues in which law and economics have become inseparably interrelated. When assigned to the United Shoe Machinery case Judge Wyzanski, recognizing the relationship of economic criteria to the public policy embodied in the antitrust laws and the necessarily "economic" judgment that he would render, sought the assistance of a trained economist. Thus, Carl Kaysen, Harvard economist, became a "law clerk." His analysis of the principal issues of the case forms the subject matter of this book, Volume 99 in the Harvard Economic Studies.

Kaysen's economic study (based on the record of the case) indicates that United occupies some 85 per cent of the shoe machinery market. The market share for major machines is estimated at 91 per cent, for minor machines at 74 per cent. This, according to Kaysen, is not evidence that the company has "in any economic sense relevant to a Sherman Act case, a monopoly position in that market." Search for economic power must look beyond the bare percentages (however high), according to Kaysen. Two methods are used in attempting to probe the extent of United's power: first, past behavior in the market—the record of performance; and second, the possible obstacles to competitive behavior in the industry—structural tests. Primary emphasis is placed on the second method, structural aspects, in the organization of Kaysen's analysis, but performance criteria are not limited to the chapters concerned with United's performance in the market (Chapters 4 and 5). In fact the preceding chapters on market power (Chapters 2 and 3), especially the parts dealing with the evaluation of potential competition and the probability of new entry, place heavy weight on United's selling system, which involves restrictive leasing practices, full-line selling and price discrimination. Moreover, Kaysen's conclusion resolves itself into a recommendation of control over United's performance in the hope that this will eventually make for a better structure by making new entry more attractive.

2. P. 50.
3. Pp. 50-51. The author is being extremely careful here. The presumption of monopoly with these kinds of percentages of control, especially over long periods of time, is so strong as to suggest that there is very little likelihood that it can be anything but monopoly. And Kaysen's own analysis is not suggestive of what could be found to make such a conclusion reversible.
Examination of United's position in the machinery market led to Kaysen's conclusion that "United has substantial power in that market, based chiefly on acquisitions, leasing, and full-line selling." An additional factor which buttresses this conclusion is the lack of strength of the competition—of twenty-two known competitors the largest are Compo, with some 3.4 per cent of the major machines installed in shoe factories, and the International Shoe Machinery Corporation, with 0.6 per cent. None of the competing machinery manufacturers produces anything approaching the full line of machinery handled by United. In addition, potential competition from new entry is unlikely. Long term leasing as opposed to sale, a machinery return system, full capacity clauses in United's leases and the nonseparability of charges for United's machinery servicing are all found to present serious impediments to the entry of new firms as well as to the expansion of existing firms. Impediments to entry are also found to exist because of United's full line; United can not only tie the use of one machine to the use of another complementary machine to the disadvantage of the short-line supplier, but it also has and exercises the power to discriminate among users when potential competition threatens in a particular field. Also restrictive of new entry are a strong patent position and long-accumulated technical know-how, especially significant here because of the unique technical characteristics of shoe machinery. In addition, stable demand conditions make for less entry than in an expanding market. The entry of new firms under these circumstances, it is stressed, requires the replacement of existing firms.

Acquisition of competing companies or competing patents was not found to contribute greatly to United's overall market position. Over the last twenty-two years expenditure for acquisitions by United amounted to approximately $3.4 million. One acquisition, however, the Littleway Process Company, completed in two steps between 1924 and 1927, aggregated $2.7 million, almost two-thirds of the total.

After discussing the foregoing aspects of United's power Kaysen is still left with the essential question of whether or not United's dominant position can be explained by economies of scale. Is this a "natural monopoly," a declining cost industry? Can the market support more than one efficient pro-
The discussion here is highly speculative and the tentative uneasy conclusions are carefully stated in "lawyerlike" terms. The existence of the small competitor Compo, for example, "suggests strongly that it is not necessary to achieve United's size to operate efficiently in the shoe machinery industry." This statement is almost immediately qualified: "The inconclusiveness of the comparison arises, of course, from the fact that Compo manufactures a much smaller variety of machines than does United and, in particular, it manufactures machines which are, by and large, less complicated from the design, production and service points of view than some of United's major machines." The demand for shoe machinery is such that production is essentially a "job shop" business with a wide variety of products and small orders. A typical lot size, about 75 pieces, is small relative to the scale of the shop and involves a great deal of setting-up time. In any given year some 40,000 different parts are manufactured. "All this evidence indicates that there are no significant economies of scale in Beverly [the manufacturing plant in Massachusetts] manufacturing operations compared to even a fairly small shop. . . ." On the other hand, Kaysen is faced with the stubborn fact that United's shoe machinery manufacture is concentrated in one plant.

As to economies of distribution, "there is practically no evidence in the record pointing one way or the other. . . ." With respect to service, as distinct from distribution, the data available are characterized as suggesting, but falling very short of confirming, that "branch office road service could be performed at the same, or only slightly less, efficiency by a much smaller organization than United." Also, "even substantial economies in the performance of these functions [specialized expert service from the Boston office] would lead to overall savings of very small proportions." The conclusion with respect to the relationship of research requirements and scale economies is equally equivocal. The general tenor of the defense argument on this point, according to Kaysen, was to emphasize the expense, complexity and riskiness of United's research, and the necessity of arrangements in the market which would pay for it—including particularly the leasing arrangements, and by implication price discrimination and monopoly. Kaysen recognizes the importance of cross-application of skills and the financial requirements of financing many failures to get one success, but finds no evidence that United's scale is the minimum scale at which the advantages could be secured.

8. P. 93.
9. Ibid.
10. P. 94.
11. Ibid.
12. Ibid.
14. Ibid.
15. Ibid.
16. P. 98.
In total the evidence does not support a finding that United is a “natural monopoly.” In terms of the legal criteria provided by Judge Learned Hand in the *Alcoa* case, United's monopoly was not “thrust upon it.”

**United's Performance**

Analysis of United's behavior in the market serves several purposes in this study. It serves as corroborative evidence of the conclusion that United has substantial market power; it is utilized to ascertain whether there was a specific intent to monopolize; but most important, irrespective of intent, it is important for determining whether the effect of United's business policy and marketing practice was such as to create or maintain the monopoly power which Kaysen concludes United possessed.

As to the problem of coercive practices as evidence of "evil" intent Kaysen, as an economist, finds it irrelevant, or at least unimportant, except to evidence the power behind the force which is exercised. The government's case against United gave a prominent position to coercive practices, probably because interpretation of the current legal doctrine (embodied in Hand's opinion in the *Alcoa* case) does not clearly rule out the necessity of showing an intent to exercise market power, as well as its mere existence, for a finding that section 2 of the Sherman Act has been violated. With the exception of United's practice of purchasing and scrapping second-hand machinery, Kaysen finds none of the practices detailed by the government to be unequivocally exclusionary. He finds the machinery scrapping policy "has no useful result other than the enhancement of United's market power." As to the diligence with which United kept track of competitors in minute detail, Kaysen says: "Fear of competition may not in law be relevant to intent to monopolize; but for whatever relevance it may have [perhaps a triumph of mind over what doesn't matter], the conclusion that United feared a competitor above all things is one which jumps out from the evidence."

After reviewing in some detail the evidence on price-cost relationships Kaysen concludes that it indicates poor market performance, in the sense of wide departure over long periods of time from the kind of results which would exist in a competitive market, in two respects:

"(a) the shoe manufacturer's and ultimately the shoe-wearer's choice among different shoe constructions is not made on terms which correspond to the real social costs of the alternatives; and (b) United's own knowl-

17. 148 F.2d 416 (2d Cir. 1945).
18. In economic terms Kaysen's economy of scale analysis is far from convincing. It was not strong enough to recommend dismembering the machinery manufacturing organization of United, for example. The legal burden of showing that monopoly is "thrust upon" a corporation, according to Judge Hand, rests on the defendant. Kaysen's conclusion in effect is that United did not overcome a presumption that its power did not rest on scale economies. Who bears the burden is crucial in a case of this kind.
20. P. 114.
edge of its costs in respect to individual machine types is so imprecise as to raise serious doubts as to the purely internal efficiency of its operations."

Such is Kaysen's conclusion as to the over-all results of United's price policy. As to specific instances of discrimination, Kaysen, as many other economic analysts before him, is unable to distinguish clearly an intent to make higher profits from an intent to exclude.

This evaluation of price-cost relationships leaves unanswered troublesome questions. Irrespective of the great departure of United's performance from the competitive ideal, given the single dominant company, would performance be better or worse in economic terms if there were no price discrimination (making for less profit maximization with either higher or lower prices); and would it be better or worse if sale rather than lease of machines actually make for greater efficiency and higher profits as Kaysen has implied? Kaysen's conclusion here, interestingly enough, is not only that United's practice departs widely from the competitive ideal, but also that it departs widely from the economist's notion of the monopoly ideal—profit maximization. Kaysen stresses the benevolent paternalism of United. It would be ironical indeed if the result of an antitrust case brought about a more perfect realization of the latter over the objection of a defendant who is accused of being too benevolent.

Most of the next part of Kaysen's analysis, Chapter 5, is an attempt to evaluate the opposing contentions of the parties with respect to research and patent policy. The volume of the testimony and other evidence here, Kaysen says, contrasts sharply with the paucity of conclusions it is made to support. A central question, which bulks large in Kaysen's evaluation and the answer to which is embodied in his recommended relief, relates to the leasing system and its alleged (by United) importance to successful research.

United spends large amounts on research. In 1950 the total was $4.3 million, with approximately six hundred persons engaged in research. Research and improvement of important major machines is broadly correlated with their revenue producing importance. Kaysen indicates that United does "engage actively, continuously, and on a large scale in a well-organized and technically efficient research program." In no specific sense does he find it being used to eliminate competition. On the result side, however, he finds no record of spectacular achievement. He characterizes progress as glacial in its character.

Moreover, he finds that a small competitor, Compo, for its size (and on simple machinery) has progressed rapidly with a research staff of twenty-seven people.

22. P. 206.
23. P. 150.
24. P. 175.
25. P. 183.
Kaysen is not impressed with United’s argument that

“the leasing system as it now operates serves to maintain a delicate balance in the complicated interrelationships among various shoe construction processes, the machines needed in making them, the service and training requirements involved in continuous functioning of the factory, the stimuli and rewards of the shoe manufacturer and the shoe machinery manufacturer.”

His analysis of these contentions is that they distill to the proposition that the research is dependent upon large revenues (monopoly return) and that the leasing system is the means by which these returns are assured. This, understandably, is not an acceptable form for a conclusion on the propriety of the machine rental system. Kaysen’s own conclusions on particular aspects of the leasing system, however, raise almost as many questions as they answer. Some of Kaysen’s conclusions on United’s performance in this respect are listed below, along with questions and comments designed to point up these unresolved (at least for this reviewer) difficulties:

1. **The leasing system provides significant support to United’s market power by:**

   (a) **Running for 10 years:** Shorter terms, it is assumed, would make switching from United to alternative machines more likely. In the long run this would make the entry of new shoe machinery firms easier. The long term lease, Kaysen points out, means that the cost of “untying” the lease (i.e., getting out from under its terms) may be substantial. But the relevance of this untying cost to the prospects for new entry depends on Kaysen’s inference that the cost cannot be levied in an alternative form with a similar effect upon entry. A shorter term lease, however, if it is potentially less restrictive on the activity of the shoe manufacturer, is worth paying for, and United can be expected to take this into account in setting the short term rental fee. If this is so, then in the longer run as much income (in real terms) is produced by lower rentals for longer terms as by higher rentals for shorter terms. Kaysen’s “rational calculation” is different:

   “[D]eferred payments and termination charges are not primarily for the purpose of producing income and do not in fact produce income . . . . [T]he incidence of these payments involves something more than the payment over time under a lease system of the equivalent to what is paid in one lump under a sales system . . . .”

   (b) **The existence of a full capacity clause:** Kaysen indicates that forbidding the use of a competing machine unless the United machine is fully utilized acts as a deterrent to the use of competing machines. Analytically the problem is similar to that of long term leases. Here again the question can be raised as to why absent the restrictive full capacity clause the rental price or the sale

27. P. 191.
price of a shoe machine would not be higher. Kaysen's preference for sale over lease seems to assume that the sales price would not or could not give substantial effect to the cost of this restriction on the buyer. Lower prices, as desirable as they may be, are not usually found to create more favorable conditions for entry. Entry can be expected to be accomplished when the total cost of adopting a new machine is less than the incremental cost of continuing to use the old. Long term leases or full capacity clauses increase the costs of adopting the new, but converting these into sunk costs—i.e., including them in the sales price when the machine is sold—has the same long term effect upon the buyer.

2. *A full line supports market power by giving an ability to discriminate in price.*

Does this not come close to an equivalent of the "recoupment fallacy"?\(^{29}\) Where competition exists there are low markups over cost, but of what relevance is it that there are high markups elsewhere? Of course, the higher the price the more likely is entry. Is this to imply that United, without discrimination, would keep all prices high so entry is more likely, or that all prices would be lower so entry is less likely? Should United, because it has substantial market power, be denied the right to meet competition in good faith on particular products?

3. *Price discrimination may enable United to drive out a single-line competitor even if the two are equally efficient.*\(^{30}\)

How would this be done—by selling below marginal cost and exhausting the competitor's bank-roll? And how will United prevent exhausting as much or more of its own funds than those of its competitors; or is United's power in this respect assumed to be based on imperfections in the credit market?

4. *"Given a sales [as opposed to leasing] system and the existence of more than one supplier for most machines, the tie-up of credit and machine which now exists would be broken."*\(^{31}\)

Is not this a bit like saying incantations and a glass of cold water will quench thirst?

5. *"United's monopoly position may tend to promote caution rather than boldness in exploiting new developments."*\(^{32}\)

This assumes: (1) there will be less monopoly without leasing; and (2) monopoly rewards retard rather than promote new development. How can one

\(^{29}\) When a company has a monopoly in one line or in one area it will attempt to maximize its revenue from this line or in this area. The revenue so provided may be used to cut prices elsewhere, but similar use could also be made of a generous bequest from one's grandmother. Price cutters can recoup from other areas only on the improbable assumption that cut prices in the area of competition somehow teach them what they should have known before concerning their area of monopoly.

\(^{30}\) P. 78.

\(^{31}\) P. 205. (Emphasis added.)

\(^{32}\) P. 196.
be sure that the leasing system (including tie-ins, price discrimination, long-terms, etc.) is any more than a means of maximizing the return from power possessed? Wouldn't as much monopoly power exist absent the lease?

6. United bears the risks of obsolescence.

Buyers of machines, by paying for risks directly rather than indirectly as a part of rent, must, if they would buy newer and different machines than they rent, find these more worth paying for directly than indirectly. Assuming rationality by the supplier equal to the rationality of the buyers, is not a new machine that is worth buying or selling a new machine worth borrowing or lending? Of course, if more competition among sellers is assumed we revert to the assumption in point 1 above—that the elimination of leasing will decrease the monopoly of the seller.

7. The leasing system is a benevolence to shoe manufacturers.

Why is a policy which lowers the capital requirements in shoe manufacture by making it unnecessary for entrants in that industry to make large outlays for the purchase of shoe machinery any more benevolent than the Hertz automobile rental service? The implication of the “benevolence” of leasing is that absent leasing United would exact more monopoly revenue and that it does not know or will not maximize its own interests even in the long-run. What that is useful can an economist derive from a “nonrationality” hypothesis?

The Supplies Markets

In Chapter VI Kaysen indicates that United has substantial market power in many of the supply fields. This strength in part rests on close technical relations between machines and some supplies, and in part on the economies of providing a full line, especially as a complement to machinery. Also there is the important question of the relevance of tie-ins (Chapter VII).

One of the government’s contentions is that low machine rates were considered desirable to promote the sale of United supplies. Joel Dean, economic consultant for the defendant, argued that this kind of evidence was of no significance. If United is dominant in the machine market, he contended, it can make all the monopoly profit possible out of the combination of the machine and the supply for that machine by charging high prices on its machines, even if the prices on supply are at competitive levels. Thus, there is no incentive to gain control over supplies. Kaysen never meets this argument about profit maximization head on. Rather, he talks about the uneasiness of the assumptions.

33. P. 251.

34. The additional point is also made that entry into supplies is easier than into machines. Consequently a policy of low profits on machines and high profits on supplies, as alleged, will actually encourage rather than impede entry into supplies. This, of course, assumes that there are no effective tie-ins, which is the point under consideration. See p. 252.
involved in another argument. In admitting the logical correctness of Dean's theoretical argument, Kaysen is not at his best. The Dean argument is sound as a theory of profit maximization only if the "tied" and the "tying" products are demanded in fixed proportions—for example, a fixed number of eyelets for each machine rental dollar. If variable proportions are involved, the sale of the tied product might be essential (absent a counting device on the machine) to measure how intensively a particular machine was used. This would make it possible, by low rental on the machine and high supply prices, to charge intensive users more and extensive users less in order to maximize return on the machine. Even in cases where maximization does not call for the biggest user paying the highest price, as in the previous example, a tie-in can be a necessary means of maximization when price discrimination among classes of users is impossible—either because of law or because of the ability of low price buyers to resell to high price buyers. In such a case maximization is only possible at a unique price for each of the complements, the tying and the tied. If absent the tie-in the tied product would sell for a price less than that price at which it would maximize profit in combination with the proper price of its complement, here again profit maximization calls for a tie-in. Query, is it clear that in the shoe machinery industry the "facts" fit neither of these cases? It seems at least possible that the case for or against tie-in sales, if in fact there are tie-ins, is different from what Kaysen has shown.

In concluding the section on supplies Kaysen says, "In itself, integration of supply and machine businesses, and of different types of supply businesses, is not 'monopolistic,' and should not be illegal." He goes on to say, however, that United's practices—quantity discrimination, non-price competition, tie-in attempts—all tell against a performance justification of United's market position. Remedy, here, Kaysen says, should look primarily to relief designed to lessen dominance in the machine market, since United's power over supplies rests thereon.

Remedies

Kaysen discusses four major lines of remedial action: dissolution of United; forbidding leasing and certain associated injunctive provisions; divorcement of certain United subsidiaries and lines; and special injunctive provisions directed to supply markets.

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35. As in note 34 supra.
36. See p. 252.
38. If the market price of the tied product is above its maximizing price, no tie-in would be required. The product (to be tied) could be bought by the seller of the "monopoly" product and resold at the lower price along with its complement.
39. P. 265.
40. P. 266.
Corporate dissolution

The major and deciding obstacle against the dissolution of United is the existence of but a single machinery manufacturing plant with a single trained labor force. The difficulty of dissolution, according to Kaysen, would be less if leasing were to continue. But as the preceding analysis indicates, Kaysen has a strong belief (much stronger than this reviewer, at least) that United’s monopoly power rests heavily on leasing. This makes possible his belief in the ultimate efficacy of achieving new entry by temporary control of performance without the necessity of recommending the more drastic remedy. In any event, dissolution of a single plant operation would call for a recommendation going well beyond that called for by available precedent.

An end to leasing

Kaysen’s recommendation here is simple and unequivocal. United should be enjoined from any other method of marketing machines than by sale, and all existing machines on lease should be sold. His reasons for this recommendation derive from his analysis of the leasing method as a source of United’s power and as a major obstacle to new entry. He would allow service to be sold by the job or by yearly contract, but it could not be tied to a sale or extended by contract beyond one year. Repair parts would be sold in a nondiscriminatory manner whether or not service is provided by United.

Kaysen’s recommendation of compulsory sale rather than an optional lease or sale equivalent, asked for by the government and decreed by Judge Wyzanski, is based in part on a judgment as to its practicality: it would not require close and continuous supervision by the court. Moreover, he predicts that if United were deprived of the lease-service bundle, United would move straight away to sale. If this prediction is accurate, it involves action by United against the wishes of most of its customers—if their testimony can be believed. Moreover, assuming the accuracy of Kaysen’s prediction about United moving straight away to sale if deprived of the lease-service bundle, it is difficult to understand why the option is objectionable. Kaysen’s compulsory sale recommendation was not followed. Whether this was because the government did not request it, the customers did not want it, or the judge had reservations about its efficacy is a matter for pure speculation.

Additional restraints recommended for remedial action include injunction against acquisition of shoe-machinery business for ten years (an absolute prohibition); injunction against acquisition of patents or patent application from persons not in United’s employ for ten years; prohibition against acquisition of second-hand machinery (except repossession) for ten years; and finally, compulsory licensing of patents at reasonable royalties for five years.

Divestiture of certain activities

Kaysen’s proposed relief is designed to ease or eliminate the barriers to entry in the shoe machinery business. He recognizes that this is likely to be a slow and uncertain process, especially for firms starting from scratch. United’s sub-
sidiary B.B. Chemical Corporation, United's Cement Shoe Department, two eyelet manufacturing branches, and United's Eyeletting Department, even though they are engaged in complementary rather than competing operations with the rest of United, provide a nucleus of personnel, experience and know-how which, Kaysen believes, if operated independently, is likely to expand into lines competitive with United. Consequently their divestiture is recommended, even though it was not urged by the government. Here again, Kaysen's recommendation was not followed in the decree.

**Additional remedies in the supply field**

Even if the preceding recommendations were followed, United would still continue to dominate the markets for many categories of supplies; further limitations on United's performance in the supply field are therefore recommended. These include: prohibiting United from distributing supplies it does not manufacture, a ban on acquisition in the supply field, and an injunction against volume discounts as opposed to quantity discounts that can be cost justified.

**The Decree**

The substantive provisions of the final decree can be grouped into seven categories:

1. United must offer for sale any machine it offers for lease on substantively equal terms.

2. Lease terms (principal provisions):
   a. May not exceed 5 years.
   b. Return charges can not differ depending upon whose machine displaces an existing machine.
   c. Service must be charged for separately, on an operation-by-operation basis or by contract not to exceed one year, and must be available to buyers and to renters.
   d. Parts must be available to all customers on equal terms.
   e. Change in substance of lease terms, except for nondiscriminatory price provisions, must obtain court approval.

3. Settlement of outstanding leases must involve consultation by United with the government, with representatives of the National Shoe Manufacturers Association and any lessees as intervenors. They must prepare a nondiscriminatory termination plan that will be accomplished within a reasonable time.

4. United must dispose of its business (including subsidiary business) in manufacture and distribution of tacks, nails and eyelets, and must not distribute supplies of companies in which its stock interest is less than 20 percent.

5. Acquisitions: United may not acquire any shoe machinery or factory supply business if the transaction exceeds $10,000. It may not acquire patents except from employees unless it agrees to license them on a rea-
sonable royalty basis. United may not acquire second-hand machinery (except to $25,000 per annum for experimental purposes).

(6) United must license its patents on a nonexclusive, nondiscriminatory, reasonable royalty basis, also providing technical information at a reasonable charge.

(7) Discounts on supplies must comply with provisions of the Robinson-Patman Act.

The court decree adopts, or is consistent with, Kaysen's analysis of the case, giving primary emphasis to temporary control over United's performance as a means of overcoming the results of a finding of market power and of easing conditions of potential entry. The court, however, does not follow the Kaysen specific recommendation with respect to compulsory leasing or the disposal of the B.B. Chemical subsidiary. The court decree thus does not differ from the results of similar court interpretations as Kaysen would have wished. Kaysen, understandably, as an economist is able to exercise somewhat more leeway in this respect than is consistent with the proper role of a district court judge.

It is much too early to evaluate the effects of the decree and the "potential competition" thesis which it implies. In economic terms, prior cases apart, there were alternative possibilities for resolving the case. First, dismemberment of United would have involved a judgment that the loss in economies of operation from the existing structure with one manufacturing plant would have been more than compensated for by the creation of "real" as against "potential" entrants. Evidence available to Kaysen on economies of scale was, however, admittedly inconclusive (except to show that the defense could not bear its burden of proof).

At the other extreme it would have been possible to find that the practices and the performance, recited in detail in the record and analyzed as crucial entry inhibiting factors by Kaysen, were economically largely irrelevant. It could have been emphasized that the potential competition afforded by large shoe manufacturers with knowledge of the use and operations of the machines, kept United from exercising anything but temporary power. The post decree experience of rising machine costs to shoe manufacturers is not inconsistent with such a conclusion.

Kaysen followed a middle position. This is perhaps to be expected, for his task was to provide helpful guidance to a judge whose analysis can not be solely economic and whose decision can not depart widely from previous decisions in which analogous problems have been raised. But the prescribed solution to the problem of economic power in the shoe machinery industry has independent merit that should not be minimized—the decree provisions establish an experiment by which the conclusions concerning easier entry may be tested. Seldom before has such an opportunity for observation been available to students of monopoly problems.

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