

PRICE FIXING UNDER THE SHERMAN ACT:
CASE STUDIES IN CONSPIRACY

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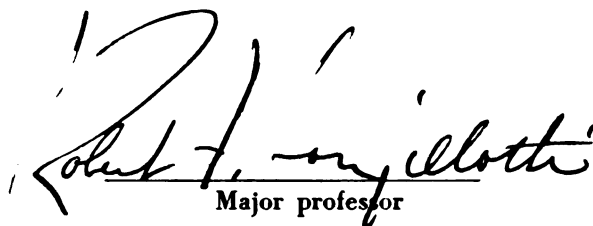
PRICE FIXING UNDER THE SHERMAN ACT:
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ABSTRACT

PRICE FIXING UNDER THE SHERMAN ACT: CASE STUDIES IN CONSPIRACY

by W. Bruce Erickson

Perhaps no other aspect of antitrust has given rise to more numerous activities than have price-fixing conspiracies. Paradoxically, however, both economic and legal literature treat this area cavalierly, if at all. Consequently, analytical information about formal conspiracy exists only in fragmentary form.

In view of the prevalence of conspiracy it would seem that the economist, at the very minimum, should be able to provide answers to the following questions. What structural conditions allow conspiracy to exist and simultaneously induce independent firms to collude? What patterns of conduct are typical of such conspiracies? What are the economic consequences of price fixing? Yet these questions remain largely unrecognized and unanswered.

To achieve answers, a comprehensive five-part investigation of price fixing is undertaken as follows:

- (1) A statement of the problem;

- (2) A summary of economic and legal literature on price fixing;
- (3) An intensive case study of the price-fixing conspiracy in the bleacher industry;
- (4) A synthesis of material from the case study (and, less importantly, from the summary of the literature on price fixing) into a tentative theoretical framework for analyzing conspiracy;
- (5) Based on the theoretical framework, an evaluation of public policy toward conspiracy.

Most of the material, however, came from the analysis of two conspiracies -- one the well-known series of conspiracies in the electrical equipment industries, and the other less well-known (but perhaps more significant in terms of the availability of adequate data) bleacher conspiracy-- which are examined as follows:

- (1) The nature of the product and the market is investigated. Particular emphasis is placed on the homogeneity or heterogeneity of the product, the econometric measuring of the elasticity of demand for the product, and the types of buyers for the product.
- (2) The structure of the industry is evaluated, with special reference to the number of firms in the industry, the number and types of products made by each individual firm, the absolute size of each producer, and conditions of entry into the industry.
- (3) The patterns of conspiratorial conduct are described with particular emphasis placed on the price formulae that evolved and the problems of enforcement they presented.
- (4) The performance of the industry, in terms of prices, profits, costs, consumer satisfaction, and innovation, is assessed, with most stress placed on comparing these variables during conspiratorial and non-conspiratorial periods.

Some of the most important tentative conclusions that emerged are: (1) Prices tend to be at least 35% higher during conspiracy periods; (2) Profits during conspiracy periods are substantially greater than those found during non-conspiracy periods for the same product; (3) Costs are artificially raised on price-fixed products, and the magnitude of the increase is extensive enough to invalidate studies of concentration that base their conclusions on comparisons of concentrated and unconcentrated industry profit data; (4) Price-fixing conspiracy invariably involves price discrimination; (5) Price of price-fixed products advance or decline with no apparent relationship to alterations in the level of aggregate demand, shifts in the demand curve for the commodity, or changes in costs; (6) Entry-preventive pricing, although not always present, exerts a considerable influence where entry is possible; (7) Such structural variables as imperfect knowledge and product differentiation, contrary to economic theory, actually tend to undermine the conspiracy; (8) The patterns of conspiratorial conduct (particularly the price formulae) are largely determined by the political interactions of the conspirators, and serve as a substitute for the discipline normally associated with the market-place; (9) Structural forces (particularly the number of firms) are of overriding importance in making conspiracy possible; and (10) Legal sanctions against conspiracy have not only been less severe than the profits derived from conspiracy but they have

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also failed to attack the industry structures that make conspiracy possible.

One caveat must, of course, be noted: the foregoing conclusions are relevant only if these two conspiracies are representative of the entire spectrum of price-fixing agreements.

PRICE FIXING UNDER THE SHERMAN ACT:
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By

W. Bruce Erickson

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CHAPTER I

INTRODUCTION

Perhaps no other aspect of antitrust has produced more abundant judicial activity than has price fixing. Certainly the prohibition against this form of restraint of trade as embodied by Congress in the Sherman and Federal Trade Commission Acts and by the Courts in the per se doctrine has been one of the most vigorously enforced of American antitrust laws.

Yet, possibly because of the conviction that the strong stand of Congress and the Courts had effectively stifled it, awareness of price fixing had been confined largely to a few businessmen, lawyers, and economists professionally involved in industrial pricing policies. The dramatic revelations in a Philadelphia courtroom that most of the nation's major electrical equipment producers had for many years been illegally conspiring to set prices, as well as the unprecedented jail sentences meted out to their executives, altered all this.

The consequences of the electrical cases were striking. Suddenly there was a flood of books and articles on these conspiracies.¹ A spate of denunciatory popular articles, even in such conservative pro-business publications as the Wall Street Journal and Fortune, appeared.²

But the temporary blaze of publicity soon subsided, and reports of subsequent court actions are now regularly relegated to the back pages.³ Public concern about price fixing, although perhaps never very great, has diminished to a whisper of its former self. Even scholarly investigation has been mainly discontinued.⁴

This would be understandable, and even logical, if price fixing were endemic only to an isolated segment of the economy. But, unfortunately, if court cases are at all representative, this is not the case. What both the public and the professionals overlooked amid

¹See Chapter 2, Section 4, for a discussion of the electrical equipment cases.

²See, for example, Richard Austin Smith, "The Incredible Electrical Conspiracy," Parts I and II, Fortune, 63, April and May, 1961.

³See the Detroit News, "Jury Finds Electrical Firms Guilty of Price Fixing," June 3, 1964, p. 18.

⁴Except for a few legal discussions there has been nothing published since 1962 on the electrical cases.

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the furor of the trials was the attempt of several defendants to justify their conduct by claiming that "conspiracy is just as much 'a way of life' in other fields as it was in electrical equipment."⁵

The empirical evidence in this connection indicates that this statement was more than a mere self-serving declaration designed to rationalize past behavior. For example, in an exhaustive survey of all antitrust cases filed since shortly after the Second World War, the Northwestern Law Review concluded (after deducting for duplications associated with simultaneous civil and criminal trials of the same cases) that over 55% of all antitrust actions involve price fixing.⁶ And in state antitrust cases, according to the same study, the proportion is even higher.⁷

Furthermore, the absolute number of price fixing cases is impressive. From 1954 to 1959 the Department of Justice alone filed an annual average of ten cases.⁸ In 1961, for example, taking only one aspect of collusive price actions, there were 711 private treble-damage suits filed, of which less than 37 involved the electrical

⁵Article editor, "Frequency of Price Fixing," Northwestern Law Review, 57, May-June, 1962, p. 157.

⁶Ibid., p. 155.

⁷Ibid., p. 151.

⁸Ibid., p. 151.

equipment industry.⁹ By 1962 the figure had risen to 2,460, reflecting 1,771 suits filed in connection with claims in electric equipment cases.¹⁰

In view of this evidence, it would be difficult to disagree with the following characterization of collusive price setting:

. . . price fixing conspiracy is the antitrust violation most frequently prosecuted and perhaps more important . . . price fixing is a very common business practice.¹¹

In short, this area deserves a high priority in studies of business practices and policies.

1. THE SCOPE OF THE PRESENT STUDY

It is against this background that the present study is undertaken. For, given the prevalence of price fixing and the promptness with which it is often prosecuted, it is somewhat paradoxical that both economic and legal literature should treat this area cavalierly, if at all.

⁹Earl E. Pollock, "The 'Injury' and 'Causation' Elements of a Treble Damage Antitrust Action," Northwestern Law Review, 57, January-February, 1963, p. 691.

¹⁰Ibid.

¹¹Article editor, "Frequency of Price Fixing," op.cit., pp. 151-52.

As a result, analytical information about formal conspiracy exists only in fragmentary form. And, worse yet, economists are unable to assess with assurance the causes, consequences, and implications for public policy of price fixing agreements. Edward S. Mason put the situation neatly.

It would be useful if at this point, economists could step forward with the assurance that exhaustive study of price agreements and their consequences had demonstrated that. . . such agreements limited competition and thus increased market power without compensating advantages on the side of efficiency. . . I doubt whether any such assurance can be given.¹²

The contrast between the prominence of price fixing in the antitrust panorama and the superficiality of our knowledge about it is striking. This thesis is an attempt to redress this imbalance.

The first requisite in such a study, at the very minimum, is the development of some sort of theoretical framework or model to deal with the following questions:

- (1) What are the origins and causes of price fixing conspiracies? How, if at all, are structural conditions within the industry related to the development of price fixing?
- (2) What patterns of conduct characterize conspiracy? How are these patterns related to structural variables? What factors account for conspiratorial stability and instability?

¹²Edward S. Mason, "Market Power and Business Conduct," American Economic Review, 46, May, 1956, pp. 478. Mason subsequently argues that there is no need for economists to engage in such a demonstration since the Courts should use a rule of reason in price fixing cases.

- (3) What are the economic and social consequences of conspiracy?

In other words, what is needed is an intensive study of the causes, conduct, and consequences of conspiracy in terms of the three commonly-accepted categories for the examination of individual industries -- structure, conduct, and performance. Preferably in light of the widespread proliferation of price fixing throughout the economy, its results should permit economists to base their conclusions about conspiracy on an "exhaustive study of price fixing agreements" -- a goal which can perhaps only be attained by means of some sort of framework or model by which conspiracy can be systematically examined.

But even this is not sufficient. A theoretical model would be of limited usefulness if it did not provide an effective framework for evaluating public policy toward conspiracy. The second requisite, then, is to provide adequate responses to the following important policy questions:

- (1) Have antitrust authorities attempted to identify types of industries that might be particularly susceptible to price fixing? Can a theoretical model of conspiracy help in this regard?
- (2) Have statutes and subsequent court interpretations adequately dealt with price fixing?
- (3) What changes, if any, need to be made in present procedures relative to price fixing? What new means for dealing with conspiracy need be devised?

Thus, to restore the imbalance between the prevalence of price fixing and the poverty of our knowledge about it, any systematic study should be conducted at two basic levels: one the empirical examination of the origins and operations of conspiracy, the other the development of a framework for describing and evaluating conspiracy and the subsequent use of the model to appraise public policies toward it.

To be specific, then, this study has two primary purposes -- the presentation for the first time of a fully documented case study of an individual conspiracy and from it the development of a model that describes and is helpful in analyzing conspiracy. This model, it is hoped, will prove useful in evaluating public policy toward conspiracy.

This procedure may seem somewhat odd. But the detailed documentation of an individual conspiracy is essential because one of the great voids in this area is the absence of empirical investigations of price fixing. In addition, the literature on collusion is so scattered and fragmentary as to be virtually useless. Consequently, even with the case study, this thesis can do little more than generate plausible hypotheses about price fixing.

The hypotheses on both the theoretical and public policy levels are, of course, no more certain than the quality of the

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underlying data. Ultimately their validity depends on the representativeness of the detailed documentation of the origins and operations of the individual conspiracy. They should, however, provide a much more secure base for appraising public policy than have previous unsupported and unsystematic generalizations. Especially in this sense, this study breaks new ground.

2. THE ORGANIZATION OF THE STUDY

To meet both the theoretical and policy goals this study is organized into three main divisions. The first division, containing Chapter I and Chapter 2, is essentially introductory. Chapter I defines the purposes of the study and delineates the areas that it encompasses. Chapter 2 is a summary of price fixing literature on both a theoretical and empirical level. It not only indicates how far prior analysis in this area has proceeded, but demonstrates what theoretical and empirical conclusions might be hazarded on the basis of present knowledge.

The bulk of the study, however, is contained in the second division, Chapters 3 through 6. It is concerned with an intensive examination of a single industry -- folding gymnasium seating, an industry that has a minimal impact on the economy but is significant because of the availability of satisfactory data on the several

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conspiracies to which this industry was subject. The second division, then, is a comprehensive industry study, and contains four chapters. Chapter 3 discusses the nature of bleachers as a product -- particularly their heterogeneity; and the market in which they are sold -- especially in terms of the econometric measurement of the elasticity of demand. Chapter 4 describes the structure of the seating industry: the number of firms, their absolute size, the number and types of products they manufacture, and the conditions of entry. Chapter 5 delineates the patterns of conspiratorial conduct, especially with reference to the formulae evolved for determining prices and the subsequent problems that their enforcement presented. Finally, Chapter 6 attempts to assess the performance of the industry with particular attention to prices, costs, profits, consumer satisfaction, social costs, and innovation.

This second division is unique, then, in presenting a case study which, at least as far as diligent search of the literature reveals, is the most complete and comprehensive examination of an individual price fixing conspiracy ever undertaken. This division can, therefore, make a marked contribution to the development of a framework for analyzing both the theoretical and public policy implications of conspiracy.

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Availability of data is not the only reason for the selection of the seating conspiracy for this purpose. The industry is characterized by two periods of conspiratorial breakdown, and by accompanying evidence on costs that demonstrates that during these periods the industry was approaching competitive equilibrium, and not participating in a price war.¹³ As an added bonus, the competitive years are juxtaposed closely with the conspiratorial periods; consequently direct comparisons of the two situations can be made, which would not have been possible if the periods had been widely separated. This property is, of course, invaluable when evaluating the performance of the industry under price fixing.

Thus, the second major division of this study -- the case study of the bleacher conspiracies -- provides the core of empirical information without which meaningful generalization is suspect, if not impossible.

The third major division of this study, Chapters 7 and 8, is based on the prior intensive examination of the literature and the comprehensive empirical evidence accumulated on the bleacher industry. It is an attempt to develop a theoretical model for

¹³Thus the danger that these periods represent below-cost pricing (here equated with "price wars") is avoided. In this study the terms conspiracy and collusion are used to designate price fixing agreements; other forms of conspiracy (except as related to price fixing) are neglected.

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analyzing conspiracy and from this model to evaluate public policy toward price fixing. Chapter 7 contains the theoretical model of conspiracy; in it special emphasis is placed on the origins, behavior, stability, and consequences of price fixing. Chapter 8 includes an examination of public policy toward conspiracy in terms of its history, adequacy, and possible improvement.

It cannot be too strongly emphasized that, despite the apparent neatness of the design of the study, the hypotheses generated by this procedure must be regarded as tentative and preliminary, since they are based on an examination of the scanty and unsystematic literature currently available and on an intensive investigation of only one conspiracy; a conspiracy which may or may not be representative of the broad spectrum of price-fixing agreements.

On the other hand, as a comparison of the currently available information about price fixing and the study's results indicates, this procedure yields some striking and potentially significant hypotheses about price fixing -- hypotheses which, if true, would require substantial modifications in public policy.

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CHAPTER 2

THE LITERATURE ON PRICE-FIXING CONSPIRACIES

Perhaps the most accurate characterization of the state of theory relative to price fixing was made in 1948 by E. G. Dowdell:

The foregoing paragraphs obviously do not constitute an exhaustive account of the influences which concerted action may exercise upon price and output policy. It is submitted, however, that they remove any possibility of doubt regarding the importance of such action. It is therefore surprising and regrettable that the theorists of imperfect competition have given this matter so little attention.¹

Dowdell also adds that "The voluminous discussions to be found in more descriptive works are on the whole conducted on lines which do not make it easy to add useful conclusions to the body of theoretical analysis."² The only conclusion which can, according to him, be made with a high degree of confidence is that there is a tendency for combined action to lower output and raise prices.³

¹E. G. Dowdell, "The Concerted Regulation of Prices and Output," Economic Journal, 58, 1958, p. 226.

²Ibid.

³Ibid. Dowdell concludes that precise and realistic theories of imperfect competition cannot be achieved because of the indeterminacy of the several possible outcomes.

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In the same vein, but using cartel as a substitute for price-fixing conspiracy, Fog in 1956 reached the same conclusion:

Cartels play an important role in modern industry. Yet we know little about how cartel prices are determined. In most textbooks the formation of cartel prices is disposed of with the remark that cartels can be regarded as a special form of monopoly. . . or cartel prices are regarded as the result of a compromise, but without any analysis of how the compromise is reached. Few authors have tried to develop a theory of cartel price formation and they have not had any empirical evidence available to them.⁴

A similar opinion was voiced by Fritz Machlup:

The theories of the cartel member's conduct in the light of existing agreements and of prospective negotiations should be supplemented by the theory of cartel negotiations. Not only is such a theory not available in well developed form, but unfortunately we do not even have any descriptive accounts.⁵

To add to the confusion, some economists have recently indicated that under certain conditions conspiracy may be economically beneficial.⁶

How accurate are these characterizations of the literature on conspiracy? How adequate have past discussions been? Before these questions can be answered, a rather careful definition of price-fixing conspiracy must be provided.

⁴Bjarke Fog, "How Are Cartel Prices Determined?", Journal of Industrial Economics, 5, 1956, p. 16.

⁵Fritz Machlup, The Economics of Sellers' Competition, (Baltimore: John Hopkins University Press, 1952) p. 489.

⁶A. Phillips, Market Structure, Organization, and Performance, (Cambridge: Harvard University Press, 1962) p. 37. See also Edward S. Mason, "Market Power and Business Conduct," op. cit.

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1. A DEFINITION OF PRICE FIXING

Price fixing is not an unambiguous concept, since the type of collusion characteristic of oligopolistic markets "does not require direct contacts between rival firms."⁷ Thus price fixing is not necessarily synonymous with either conspiracy or collusion, since the latter two terms may include agreements and covenants among producers which are tacit, covert, or understood. And even if only formal agreements between producers of a commodity are considered, they may or may not involve prices.

Illustrative of the wide divergency in collusive arrangements are three common forms: the formal written or verbal agreement to establish prices which are systematically arrived at over a long period of time by representatives of producers of a common commodity; the informal, tacit "understandings" reached orally at trade association meetings which are not considered binding on participants; and the phenomenon of price leadership with all its associated paraphernalia. Recently special attention has been devoted to the possibility that independent price setting in industries characterized by oligopolistic interdependence would result in the same sort of behavior that

⁷William Fellner, "Collusion and Its Limits Under Oligopoly," American Economic Review, 40, 1950, p. 54.

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would ensue if the industry determined prices by means of a formal conspiracy.

This study is concerned with only one of these forms of collusion -- the formal written or oral agreement among competitors to fix prices. This restriction has two important implications: first, such agreements must be reached in the presence of representatives of more than one producer of the commodity. Second, such agreements must be concerned with attempts to fix prices. Agreements designed to restrict entry, to fix standards for the industry, and so forth, except as they reflect or make possible price fixing, are beyond the scope of this study.

Under the limits of this definition, there are four main sources of literature on price fixing:

- (1) Theoretical literature dealing with oligopolistic markets or industries;
- (2) Theoretical literature dealing with price fixing;
- (3) Theoretical literature dealing with international cartels;
- (4) Empirical investigations (conducted either by economists or, as a result of legal controversies, by the courts) on price fixing.⁸

⁸Empirical literature (usually in the form of case studies) on oligopoly, as indicated by the bibliography, was also considered. The same holds for empirical studies of international cartels. However, the implications for price fixing that could be inferred from these studies could be drawn more easily from direct studies of price fixing.

In order to provide a thorough coverage of the relevant literature, a comprehensive study of that available in these four areas had been conducted. Its extent can be gauged by the bibliography appended at the end of this study.

It is convenient to organize the discussion of the results of this examination under two main levels: the theoretical and the empirical.

2. THE THEORETICAL LITERATURE ON PRICE FIXING

Despite a few pioneering efforts, in general, before the publication of Joan Robinson's The Economics of Imperfect Competition⁹ and Edward Hastings Chamberlin's The Theory of Monopolistic Competition,¹⁰ economic theory was based on the assumption of pure competition. These two works not only made this assumption difficult to defend, but also provided a seemingly definitive framework for a more realistic analysis of oligopolistic behavior.

Subsequent modifications in oligopoly theory have shattered any early illusions about its simplicity. Fellner, for example, has argued that oligopolistic industries, depending more or less on their

⁹Joan Robinson, The Economics of Imperfect Competition, (London: Macmillan and Company, 1959).

¹⁰Edward H. Chamberlin, The Theory of Monopolistic Competition, 7th edition (Cambridge: Harvard University Press, 1956).



degree of organization, engage in limited joint profit maximization.¹¹ To Boulding, survival is the dominant oligopolistic motive.¹² Bain and Sylos-Labini have claimed that entry-preventative pricing is crucial.¹³ The Cyert-March-Simons hypothesis of the importance of organizational factors in limiting optimization and necessitating mere satisficing is noteworthy.¹⁴ Baumol has developed a limited sales-maximization hypothesis.¹⁵ And, within the last two years, Phillips has attempted to apply the results of sociological analyses of small-group behavior to oligopolistic industries.¹⁶ Game theory, with its emphasis on reactions predicated on the behavior of other producers, has also provided some important insights into oligopolistic activities.

Not only is there disagreement as to which of these approaches best describes oligopoly, but economists have also

¹¹William Fellner, Competition Among the Few, (New York: A. A. Knopf, 1960).

¹²Kenneth Boulding, A Reconstruction of Economics, (New York: John Wiley & Company, 1950).

¹³J. S. Bain, Barriers to New Competition, (Cambridge: Harvard University Press, 1956), and Sylos-Labini, Oligopoly and Technical Progress, (Cambridge: Harvard University Press, 1962).

¹⁴Herbert A. Simon, Models of Men, (New York: John Wiley and Company, 1957).

¹⁵William Baumol, Business Behavior, Value and Growth, (New York: Macmillan Company, 1959).

¹⁶Almarin Phillips, Market Structure, Organization and Performance, (Cambridge: Harvard University Press, 1962), especially Chapter 2.

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demonstrated on a theoretical level that each of these approaches may lead to indeterminate results or results which, if determinate, may take several forms depending on the original assumptions employed.

The situation with regard to price fixing is even worse. Since most of these theories were designed to deal with oligopoly in general, whatever relevance they have for the analysis of price fixing can only be established inferentially.

There is little improvement if theoretical analysis of price fixing itself is considered. In the first place, there have been only semi-systematic discussions of this topic by economists during the last two decades -- namely, the studies of Fog, Fellner, Dowdell, and Phillips.¹⁷ In the second place, as can be seen from the following summary of their work, the results of their theorizing, as they would hasten to admit, have been less than satisfactory.

Perhaps the most thorough attempt to examine conspiracy at the theoretical level was made by Bjarke Fog as a concomitant of his empirical investigations of Danish cartels. As a first step, Fog considers a three-firm industry selling a homogeneous product.¹⁸ Adopting the rather peculiar convention of placing profits on the

¹⁷Other studies consider this problem only in passing.

¹⁸Fog, op. cit., p. 18.

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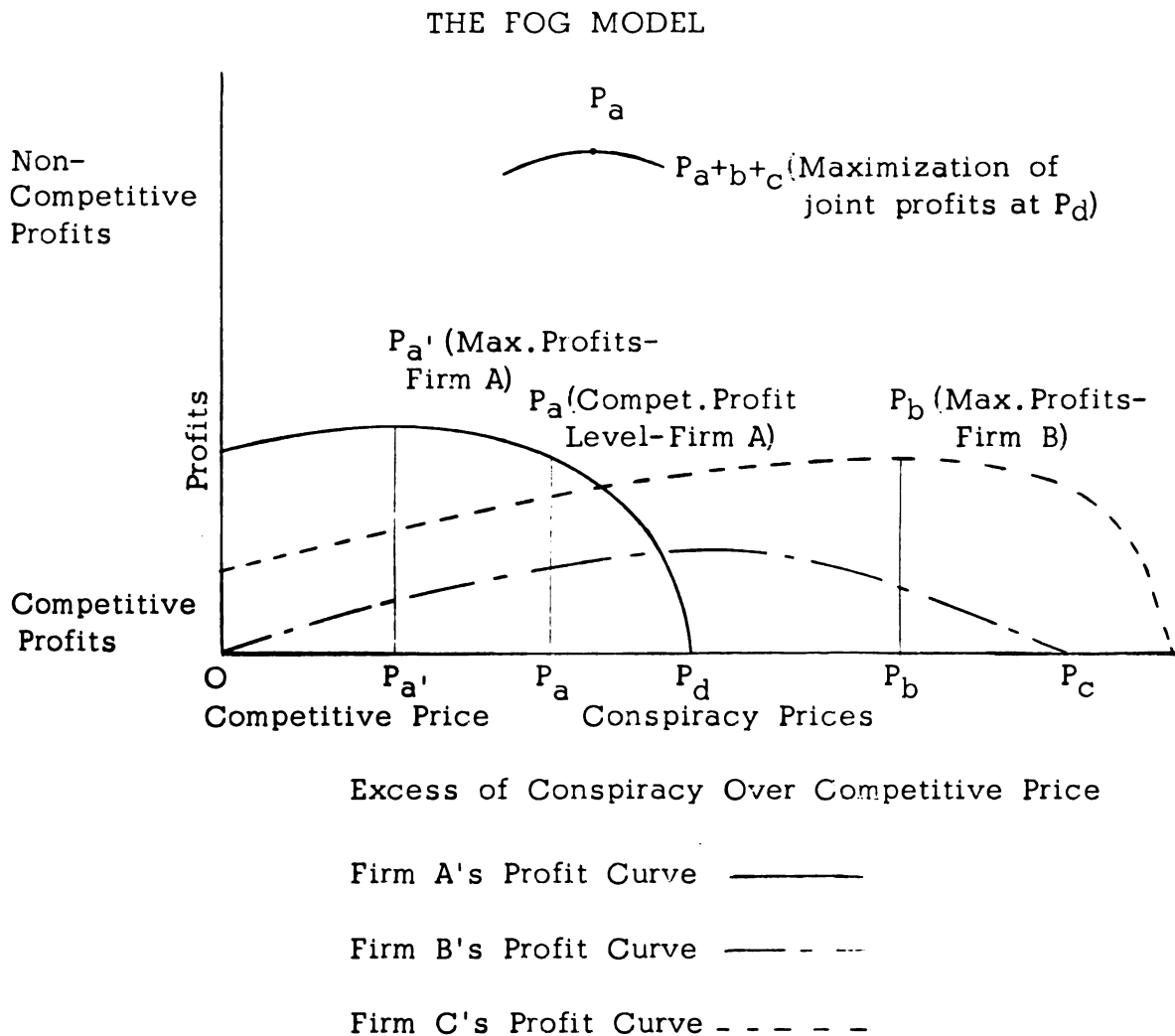
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vertical axis and the excess of conspiracy over competitive price on the horizontal axis, Fog produces a series of profit curves. Assuming differences in costs between the three firms, each firm can increase its profits, if the demand curve is of less than unitary elasticity, by increasing prices. Thus, at O, the competitive price



level, the two lower-cost firms are making excess profits and the

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marginal firm is breaking even.¹⁹ Because of different cost levels for the three firms, each will not only have a different curve relating prices to profits, but will also have a different point at which profits are maximized. In every case, regardless of how the curves are drawn, no firm will accept conspiratorial prices that yield profits below those that would be obtained under competitive conditions. Firm A, for example, would be unwilling to agree to a conspiratorial price above P_a' where conspiracy profits would be below competitive profits. Of course, since P_d , the point at which joint industry profits are maximized, is well beyond point P_a , this industry, in the absence of some form of profit pooling, will be unable to maximize industry profits even under the strongest conspiracy. Thus, as is clear from the illustration, in this industry conspiratorial prices and profits would be somewhat lower than monopolistic ones.

But the story does not end here. Unless the other two firms are willing to have A drop from the conspiracy, the price-fixing agreement cannot establish prices beyond P_a . Firm A will wish to price at the point where its profits are maximum (P_a'). But the other two firms will wish to go beyond P_a' as far as possible -- for, by so doing, they approach their points of maximum profit. The result is

¹⁹Ibid., p. 19. In Fog's presentation, the third firm is sustaining a loss; the analysis is unchanged by assuming the more normal competitive situation.

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that prices under conspiracy are indeterminate and are likely to rest somewhere between $P_{a'}$ and P_a , at a point somewhat above the competitive price and somewhat below the monopoly price.

As a result of the distance between P_a and $P_{a'}$, negotiations between the various producers become imperative.²⁰ This means, according to Fog, that the possibility of bluffing arises, which in turn can yield peculiar results not indicated by the model.²¹

This entire analysis may be less plausible than it seems superficially, for it not only requires that the various producers have different levels of costs and that they know their own cost levels, but also that costs reach their minimum point for the various firms at radically different levels of output. Thus, if firms with differing cost levels reached their minimum cost point simultaneously, profits at any given price would differ only by a constant (the difference in costs). Since cost differences between producers are unlikely to be great, knowledge of costs is usually imperfect, and nearly identical plant scale sizes are likely to lead to cost levels which differ by only a constant amount and follow a similar pattern. Fog's entire analysis is subject to some serious, and perhaps fatal, reservations.

But Fog's approach is instructive in two senses; it provides the raison d'être not only for conspiracy but also for one of the major

²⁰Fog, p. 19.

²¹Ibid., p. 19.

behavioral patterns endemic to conspiracy -- conflict between the would-be participants. Conspiracy, as the model indicates, probably exists in order to augment the profits of the participants. Cheating, as the model also indicates, is probably due in part to the different positions of the individual firms.

Beyond the model itself, Fog makes a number of modifications in his theory. Potential entry and the possible development of substitute products must be considered.²² The risk of government intervention, especially in countries with strict antitrust laws, must be taken into account.²³ The expectation that other firms will cheat must enter the calculations, especially "honest" producers who do not wish to be caught in a situation where they feel morally bound to adhere to agreements which are being violated by other participants.²⁴ The individual firm, regardless of its relative cost position, must consider the possibility that the conspiratorial agreement may break down and take this into account in evaluating its market position.²⁵ And finally, the industry often will not have adequate information about demand and cost conditions and will, therefore, be forced to price in terms of full-costs, in terms of prices high enough to cover

²²Ibid., p. 19.

²³Ibid., p. 19.

²⁴Ibid., p. 20.

²⁵Ibid., p. 23.

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costs plus a profit margin that the industry regards as fair.²⁶

Fellner considers conspiracy as merely one form of oligopolistic co-ordination, which is subject to two interrelated limitations.²⁷ The first is that future bargaining strength (and in some cases assessments of present strength) is subject to change:

The limits to co-ordination stem from the likelihood that the relative bargaining strength of the participants will change in an unpredictable manner.²⁸

Second, failure to pool profits, failure to achieve what Fellner believes to be the most desirable solution from the industry's viewpoint, is "always the consequence of the overconfidence of some member. . ."²⁹ Thus, the decisive factor in co-ordination, and hence price fixing, is the individual firm's need to protect its market position by maintaining or expanding its share of the market.

Fellner places great emphasis on the number of sellers in an industry. In general, the larger the number of sellers, the less effective the co-ordination:

Increasing the number of competitors is a different matter. The broadening of oligopolistic groups is likely to loosen the co-ordination of business policies. . .³⁰

²⁶Ibid. p. 22.

²⁷Fellner, op. cit., p. 55.

²⁸Ibid., p. 56.

²⁹Ibid., p. 57.

³⁰Ibid., p. 60.

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Fellner also feels that barriers to entry (especially selling techniques and capital requirements) and vertical relationships may be of decisive influence.³¹

Dowdell begins his analysis with a caveat which, if taken literally, would seem to preclude much progress in evaluating restrictive agreements:

Most of the announcements and justifications of the aims of restrictive agreements are vague and confused, whether because those in control are not clear themselves or because they fear publicity. That being so, the question naturally arises whether economic analysis can yield any definite conclusions as to the most appropriate policies for groups of firms acting together under various conditions.³²

This does not prevent him from proceeding to analyze restrictive agreements. Probably his most important conclusion may be summarized as follows:

. . . there must not be an important minority differing sharply from the accepted view, for then the association will be very likely to disintegrate. If highly restrictive agreements are not legally enforceable, this can happen at any moment.³³

Dowdell also calls attention to the improved position of a trade association that provides an essential service or secures an advantage by means of such restrictive practices as boycotting arrangements and

³¹Ibid., p. 61.

³²Dowdell, op. cit., p. 211.

³³Ibid.

deferred rebates.³⁴ Once again the impact of potential entry is stressed.³⁵

Phillips attempts to develop a theory of interfirm organization, and much of his proposed theory can be used to describe price fixing. He starts with the rather strange concept of rivalry as oligopolistic interdependence:

. . . the term "rivalry" will be used to denote behavior on the part of one firm which, because of cross-demand conditions, reduces the demand or profits of other firms.³⁶

Phillips then asserts that the belief that a large number of sellers in an industry leads to competition is largely a myth:

That is, it may be incorrect to assume that as the number of firms increases independence tends to disappear and that rivalry approaches the structural -- and the performance -- characteristics of pure competition or the large-number case of monopolistic competition. Low concentration ratios give little assurance that a more complex form of oligopoly does not prevail among the firms.³⁷

This conclusion needs, however, to be modified by a number of other influences on group behavior. Independent rivalry, for example, tends to decrease as the formality of the inter-firm group increases:

Given the values for other things which contribute in the determination of the degree of rivalry, rivalry tends to

³⁴Ibid., p. 215.

³⁵Ibid., p. 214.

³⁶Phillips, op. cit., p. 25.

³⁷Ibid., p. 23.

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decrease as the formality of the interfirm organization increases.³⁸

Another important factor is the attitude of the leadership elements in the industry:

Generally, as value systems tend to become more homogeneous, independent rivalry tends to become less pronounced.³⁹

The number of firms is also decisive:

Thus, again given the other factors, independent rivalry tends to increase as the number of firms in the market group increases.⁴⁰

A further variable is the distribution of power among the firms:

Hence, the more asymmetrical the distribution of power in the market group, given the other factors, the less intense will independent rivalry tend to be.⁴¹

In addition, entry-preventative pricing may also be practiced.⁴²

Thus, then, according to Phillips, are the internal factors underlying the behavior of oligopolistic industries. But there are a number of forces external to the industry that may be of equal importance -- especially the size and distribution of purchasers of the product. Phillips puts his "final generalization" in these words:

³⁸Ibid., p. 29.

³⁹Ibid., p. 32.

⁴⁰Ibid., p. 30. Note the "other things equal" assumption which prevents this statement from being directly contradictory with his earlier statement about structure not determining performance.

⁴¹Ibid., p. 31.

⁴²Ibid., p. 31-32.

. . . the better organized and more efficient are the other groups with which an interfirm organization has conflict relations, the greater the tendency for rivalry within the interfirm organization.⁴³

Where there are powerful sellers, then, it is much more difficult for an organization to maintain the integrity of its established prices.

Phillips' insistence that the existence of many sellers does not preclude the development of more complex forms of oligopoly and his assertion that the number of sellers is crucial in determining the effect of oligopoly cannot be easily reconciled. His presentation contains many such inconsistencies -- for example, he attempts to demonstrate that conspiratorial consequences are minimal because their activities are attenuated by the organizational difficulties implicit in collusion. To support his generalization he selects instances where the price-fixing agreement involved a large number of producers!

To recapitulate, there seem to be three outstanding features in the kaleidoscopic continuum of theoretical literature on conspiracy: First, despite the demonstrable importance of price fixing, the literature is extremely sparse. Second, the theorizing has not passed much beyond a small number of relatively obvious, and therefore not particularly helpful, generalizations. Especially astounding is the neglect of two particularly important areas: the causes and conditions

⁴³Ibid., pp. 34-35.

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which allow conspiracy to continue are hardly dealt with at all, and the practical economic consequences of conspiracy are totally ignored. Thus, economists have been so enamored of behavioral relationships and the theoretical bases of conspiracy pricing that they have not, even at a superficial level, examined more critical questions. Third, there has been little attempt to integrate the sometimes contradictory, sometimes complementary, analyses of conspiracy. In short, present studies provide at best only a fragmentary outline of a theory of conspiracy.

3. THE EMPIRICAL LITERATURE ON PRICE FIXING

Perhaps the most comprehensive single study of conspiracy was conducted by Fog.⁴⁴ He has also done extensive work on Danish industrial pricing. Some of this work is relevant to conspiratorial pricing.⁴⁵ Fog starts out with a warning against assuming that all industries exhibiting price agreements are less subject to competition than the other industries:

Above all, it is not possible to assume as a matter of course that competition is keener in an industry which is free from

⁴⁴Fog, "Cartel Prices," op. cit.

⁴⁵Bjarke Fog., Industrial Pricing Policies -- An Analysis of Pricing Policies of Danish Manufacturers, (Amsterdam: North Holland Publishing Company, 1960), pp. 154 ff.

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any kind of cartel agreement than in an industry which is studded with agreements.⁴⁶

Part of the explanation for this is found in the discussions about prices conducted during trade association meetings:

In practically all industries the individual firms discuss prices with each other but the importance of such discussions differ widely. Most price discussions are held at the trade association meetings.⁴⁷

In addition, some cartel agreements are rendered ineffective by the refusal of non-members to accept agreements,⁴⁸ by companies who believe it is more profitable to circumvent the agreements deliberately,⁴⁹ and by members whose position in the industry has changed by such expedients as the construction of a new plant.⁵⁰

In his study of eight Danish cartels, Fog was repeatedly told by the representatives he interviewed that cheating by participants was very common.⁵¹ In fact, Fog could summarize this fact as follows:

The cartel negotiations. . . have been characterized by reciprocal suspicion and distrust, not only as to what would have been the optimum level for the others, but also regarding their motives and sincerity. Each participant seemed to concentrate

⁴⁶Ibid.

⁴⁷Ibid.

⁴⁸Ibid.

⁴⁹Ibid.

⁵⁰Fog, "Cartel Prices," op. cit., p. 21.

⁵¹Ibid., p. 20 ff.

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on gaining advantage on the others, and to be unwilling to give any concession without due reward, and only paying slight attention to anything like maximizing joint profits.⁵²

Often participants seemed more interested in preventing others from gaining an advantage than in prospering themselves.⁵³

Fog discovered that one source of difficulty was a conflict over objectives between the small firms and the large ones. For one thing, the larger participants were more interested in the moderate long-run, while small firms tended to concentrate on short-run profit possibilities.⁵⁴ For another thing, the larger firms, which seemed to do less cheating on the cartel agreement than the smaller ones, were interested in maintaining lower prices in order to reduce the temptation to violate the agreement.⁵⁵

The final source of conspiratorial breakdown resulted from the inherent selfishness of participants. Many firms preferred to wait to see if the agreement would work before joining.⁵⁶ Penalties for violating the agreement, in the face of this adamant selfishness, were often not assessed.⁵⁷ In short, "when it is necessary that everybody

⁵²Ibid.

⁵³Ibid.

⁵⁴Ibid.

⁵⁵Ibid.

⁵⁶Ibid.

⁵⁷Ibid.

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or almost everybody joins an agreement to make it effective, this may spoil it."⁵⁸ Such a situation would require a strong initiating personality if a workable conspiracy was to be created -- and often such a personality was absent.⁵⁹ Conspiracies that lacked strong central direction often priced in terms of covering costs, and in some cases past prices became atrophied at such low levels that industries were making abnormally small profits.

This emphasis on the difficulties confronting conspiracies should not be interpreted as a finding that price fixing agreements have no effects on the economy. Quite the contrary:

It is undeniable that some cartels are so strongly organized that it seems justified to regard them as equivalent to monopolies. Also in cartels with looser organization it is possible to maintain a price level somewhat above the competitive price.⁶¹

In short, the stronger the conspiracy, the greater the similarity to monopoly pricing.

In addition to finding in them a tendency toward higher prices, Fog discovered that successful cartels, after arising out of

⁵⁸Ibid., p. 20.

⁵⁹Ibid., p. 21.

⁶⁰Fog, Industrial Pricing Policies, pp. 136 ff.

⁶¹Fog, "Cartel Prices," op. cit., p. 21.

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mutual antagonisms between firms, tend to evolve toward more sophisticated arrangements:

Cartel agreements are not always the expression of cordial cooperation among firms. In many cases it is rather a deeply rooted distrust that necessitates the signing of a binding agreement.

If the firms should gradually become confident that the agreement will be kept they may cancel it, and the firms will then be able to continue the same policy. The apparent tendency to abandon written agreements in favor of tacit agreements among other things can be explained by the aversion which is felt to recording agreements.⁶²

However, in Denmark, where most such conspiratorial agreements are legal, cartel agreements are an acceptable alternative; in the United States, where they are illegal, the same may not be the case.

The other major source of information on conspiracy is found in the records of the United States courts who have had to deal with

⁶²Fog, Industrial Pricing Policies, p. 155. In terms of empirical studies, there are a number of other references which are relevant. Scott Nearing, Anthracite -- An Instance of Natural Resource Monopoly, (Philadelphia: John C. Winston Company, 1915); and Eliot Jones, The Anthracite Coal Combination, (Cambridge: Harvard University Press, 1914) found that in this industry prices had been raised by the combination, wages lowered, profits raised, and independent operators forced out of business. They also discovered that the combination started for the first time in 1878 and the second time after 1892 -- in both cases immediately after periods of competition. Unfortunately for comparative purposes this example is marred by control of the combination by the railroads, secret rebates and exclusive contracts, exclusive ownership of a natural resource monopoly, and near monopolistic control by the Reading Railroad. It is interesting to note that the empirical literature on international cartels cited in the bibliography also supports the contention that agreements tend to raise prices.

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price fixing as a violation of the antitrust laws.⁶³

⁶³Another potential source of valuable data on conspiracy is represented by the Reports of the Restrictive Practices Court. Under the Restrictive Practices Act of 1956 in England, Scotland, and Northern Ireland, this court was given jurisdiction over cartel agreements. Broadly speaking, such agreements were legal if they could be demonstrated to be in the public interest. (See the Reports on Restrictive Practices Cases published by the Incorporated Council of Law Reporting for England and Wales, (London: various dates). Although many of the cases include matters other than price fixing, some of the cases are directly relevant for an understanding of conspiracy.

Of particular interest are two cases -- the Cement Makers' Federation Agreement and the Associated Transformer Manufacturers' Agreement -- reported in Volume 2, Part 6 of the series.

In the former case, the industry was dominated by four companies with 62%, 12%, 6.5%, and 4.5% of sales respectively (p. 248). The other 13 companies collectively enjoyed only 15% of the market. The association hired an independent chairman and accountant. The accountant made recommendations to the Independent Cost Committee, which was formed by representatives of the various producers (p. 249). The committee made price lists based on average costs (largely as determined by the accountant) plus a 10% profit (pp. 249, 252). Members were not required to follow the price list, a list which also contained certain geographic differentials.

The Court found in general that cement prices had risen less rapidly than general building material prices and that profits, because the firms were willing to accept a lower rate of return as the result of the elimination of risks associated with competition, were lower than those in most British industry (p. 256 ff.). The Court concluded that this agreement was in the public interest (p. 286).

In the latter case, ten major and over fifty minor companies were involved, with the larger firms producing virtually all the large transformers, the items involved in the case (p. 300). The Court found that profits were abnormally high on large transformers and were in fact used to subsidize efforts in the competitive area of small transformers, that the industry used between 67 and 75% of its capacity, and since there was little provision for efficient producers,

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The first such case was United States v. Addyston Pipe, which was also the first major price conspiracy to come before the courts under the provisions of the Sherman Act.⁶⁴ Involved was an agreement administered by the Southern Associated Pipe Works.⁶⁵ The companies produced cast-iron pipe that was largely sold to municipalities and utility companies. The conspiracy included four, and later six firms, all located in the South.⁶⁶ Association members represented some 30% of national capacity and over 90% of Southern capacity, although the largest producer (with no more than 16% of industry capacity) was located in the North and was not a member of the association.⁶⁷

In general, the industry was characterized by high fixed costs, high transportation charges for its product, widely fluctuating

quality was retarded (pp. 300 ff.). The Court decided that the price fixing was not in the public interest (p. 344).

How relevant such cases are is a matter of considerable conjecture. The British arrangement borders on quasi-governmental price regulation. The evidence in these cases may measure more effectively the desirability or undesirability of this policy than the effects of price fixing. Also, as will become clear in subsequent discussion, the Court may have made some serious analytical errors.

⁶⁴85 Fed. 271. See also the chapter in Almarin Phillips, Market Structure, Organization, and Performance, "U.S. v. Addyston Pipe and Steel Company," op. cit., pp. 98-118.

⁶⁵85 Fed. 271-272.

⁶⁶Ibid.

⁶⁷Phillips, op. cit., pp. 100-101.

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cyclical demand, and relatively free entry and exit of marginal producers.⁶⁸ In addition, an entire firm could be employed for several months on a single large contract.⁶⁹

The first agreement between four Southern producers occurred about 1890 and is clouded in obscurity.⁷⁰ It may have resulted from the traumatic experience of an industry which had at that time to sustain the entry of the largest pipe foundry in the world.⁷¹ More, however, is known about the second agreement between the six firms that were mentioned above. The agreement was signed on December 28, 1894.⁷² It included a number of provisions.

- (1) The territories of certain cities were "reserved" to each company. Other participants would submit only *prima forma* higher bids. The winning company was required to contribute \$2.00 per ton to a bonus fund administered by the association;
- (2) Other territories were known as "pay territories." Participants were required to pay into the bonus fund a variable amount depending on the location of the order. They were permitted to charge any price they wished for pipe. The bonuses were lower in those areas where competition from non-members was greatest;
- (3) Members were required to submit a list of shipments and, of course, to pay bonuses to the association;

⁶⁸Ibid., pp. 100-103.

⁶⁹Ibid., pp. 102-103.

⁷⁰Phillips, op. cit., pp. 105-106.

⁷¹Ibid., pp. 103-106.

⁷²85 Fed. 272-273.

- (4) The bonus funds were to be distributed to each member in accordance with a formula which included provisions relative to members' capacity and sales;
- (5) In order to make additional changes, five positive votes were required.⁷³

Although this agreement followed the severe recession experienced by the industry during 1892-94, the firms agreed that "the system. . . had not, in its operation, resulted in the advancement of the price of pipe, as was anticipated, except in reserved cities. . . ." ⁷⁴ Prices that reached as low as \$18.85 per ton in March, 1895, resulted in the creation of a new board which, as of May 27, 1895, was assigned supervisory responsibility over all orders.⁷⁵ As soon as a participant received solicitations for bids he was required to notify the board. The board would then fix the selling price for that order. Each member bid for the privilege of submitting the lowest bid, with the monies thus collected divided in much the same manner as the earlier bonuses.⁷⁶ The board apparently endeavored to set prices just low enough to prevent losses in orders to non-members.⁷⁷

⁷³Ibid., 272-274. See also Phillips, op.cit., pp. 105 ff.

⁷⁴85 Fed. 274.

⁷⁵Ibid.

⁷⁶Phillips, op. cit., pp. 108-109.

⁷⁷Ibid., p. 109.

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While the details of the conspiracy are clear, the results are not. Prices did rise during the conspiratorial periods, reaching, for example, as high as \$24.87 per ton.⁷⁸ Cost estimates vary from Judge Taft's \$13 to \$14 per ton and the court's \$17 to \$18, to Phillips \$20. Furthermore, even in the recovery year of 1896 the firms operated at only 45% of capacity.⁷⁹

How much of the price movements can be explained by the existence of an agreement is, unfortunately, a moot question. The price increases in late 1894 and mid-1895, which came immediately after new agreements were reached, as well as the price decline of March, 1895, may well reflect, not the power of conspiracy, but rather the altering of general business conditions. Thus, the recession of 1895 may have posed especially severe problems for an industry already suffering from overcapacity. In the face of these conditions, the maintenance of a price of \$18.85 per ton in March, 1895, may have been a remarkable achievement.

The case was significant from a legal viewpoint largely because of Judge Taft's enunciation of the principle that price fixing was illegal per se and that the reasonableness of prices was irrelevant:

⁷⁸85 Fed. 275, 277. Phillips, op. cit., p. 112.

⁷⁹Phillips, op. cit., p. 105.

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We can have no doubt that the association of the defendants, however reasonable the prices they fixed, however great the competition they had to encounter, and however great the necessity for curbing themselves by joint agreement from committing financial suicide by ill-advised competition, was void at common law, because in restraint of trade, and tending to a monopoly.⁸⁰

In this case, then, the origins of the per se rule are to be found.

The Trenton Potteries decision has been characterized by Phillips as "at once a well known and almost totally neglected case in the price-fixing area of antitrust policy."⁸¹ Involved were 23 firms that combined produced some 82% of all bathroom and lavatory fixtures sold in the United States.⁸² The largest firm -- the Trenton Potteries Company -- represented approximately 11% of national capacity.⁸³ According to the government, the companies, operating under the guise of the Sanitary Potters' Association, maintained uniform and arbitrary prices, refrained from competing with each other, and conspired to sell only to certain jobbers.⁸⁴

⁸⁰ 85 Fed. 291. Judge Taft also concluded that the prices charged were unreasonable.

⁸¹ Phillips, op. cit., p. 161.

⁸² United States v. Trenton Potteries Company, 273 U.S. 292-293.

⁸³ Phillips, op. cit., p. 163.

⁸⁴ Ibid., p. 164.

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While the government was able to demonstrate that in most years over 80% of bids reflected list prices and agreed-on discounts, the defendants managed to produce evidence that purported to prove that over 64% of orders were priced below announced prices.⁸⁵ According to Phillips, the evidence substantiated the view that the association was often not able to raise prices and profits to exorbitant levels.⁸⁶

The legal significance of the Trenton Potteries decision was its reaffirmation, in the face of such cases as Chicago Board of Trade v. United States⁸⁷ that could have been interpreted as abolishing the per se rule, of the principle that price agreements were in themselves illegal. The court stated its position bluntly:

The aim and result of every price-fixing agreement, if effective, is the elimination of one form of competition . . . The reasonable price fixed today may through economic and business change become the unreasonable price of tomorrow. . . Agreements which create such potential power may well be held to be themselves unreasonable or unlawful restraints, without the necessity of minute inquiry whether a particular price is reasonable or unreasonable. . .⁸⁸

As with the Addyston Pipe case, analysis of the agreement is marred

⁸⁵Ibid., p. 166.

⁸⁶Ibid., p. 166 ff.

⁸⁷246 U. S. 231.

⁸⁸273 U. S. 292, 397.

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by a lack of information about price fluctuations and by the possible impact of external events -- in this case World War I and the 1921 recession.

The Madison Oil case represented price fixing in a somewhat different form.⁸⁹ According to the government, 27 oil companies had agreed to fix prices on gasoline supplied from the East Texas and Mid-Continent fields at the wholesale level, to fix prices charged to independent gas station operators, and to increase the retail price of gasoline in the Midwest market.⁹⁰

The conspiracy worked in rather an odd way. From 1930 to 1936, except for a brief interim period under the NRA, prices of gasoline remained at very low levels, perhaps as a result of the discovery of new fields in East Texas.⁹¹ Under the NRA and Connally Acts, however, central petroleum boards had already been established. The conspiratorial organ (known as the Mechanical Subcommittee) developed by a tortuous route from these earlier boards. In any event, by March 7, 1935, the Subcommittee was fully operative.⁹² The

⁸⁹United States v. Socony-Vacuum Oil Company, 310 U.S. 150, 221-222, 225-326. The case received its name from Madison, Wisconsin, where it was tried.

⁹⁰310 U.S. 150 ff.

⁹¹310 U.S. 172 ff.

⁹²Ibid., pp. 178 ff.

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Subcommittee sought to have each producer purchase a share of the 600-800 tanker-loads of "distress" gasoline which flowed into the Midwest from Texas where producers had no means of storing excess gasoline.⁹³

For this purpose the Subcommittee held monthly meetings. As contact between individual Subcommittee members and the producers from whom they purchased gasoline became more firmly established, the system became nearly automatic -- so much so that the Subcommittee continued its work until February, 1936.⁹⁴

The whole purpose of this procedure is obvious: since the fourteen Subcommittee members represented 83% of sales in the Midwest region, by purchasing distress gasoline they hoped to be able to raise both the wholesale ("spot") and retail prices of gas.⁹⁵

Apparently the program enjoyed more than a small measure of success, for spot prices of third-grade gas rose from a low of 3 1/2¢ during March by ten successive steps to 4 3/4¢ during June, 1935.⁹⁶

⁹³Ibid.

⁹⁴Ibid., 163 ff. Eventually most business was accomplished by telephone.

⁹⁵310 U.S. 183 ff.

⁹⁶310 U.S. 195. Gas from East Texas ("hot" gas) required an ancillary program. Eventually the system became so standardized that the same purchaser would buy from the same producer -- and the two became known as "dancing partners."

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Except for a brief pause in late 1935, prices continued their uninterrupted climb to the point where they reached 5 1/2¢.⁹⁷ However, improving business conditions in 1936 may have accounted for this price increase, since there was an approximate 10% increase in demand for gas in the one-year period.⁹⁸ Retail prices followed a nearly identical pattern.⁹⁹ In the face of this evidence and of their past decisions, the courts had no other recourse than to hold that these arrangements were a violation of the law.

Although the discussion of these three cases has been necessarily brief and somewhat superficial, and although the selected cases by no means encompass all price-fixing decisions rendered by the courts, the discussion is representative of the types and qualities of analyses that can be based on court records.¹⁰⁰ There is, however, one case which has received so much analytical attention that it deserves placement in a special section -- the electrical equipment conspiracies.

⁹⁷310 U. S. 195 ff.

⁹⁸310 U. S. 283 ff.

⁹⁹310 U. S. 199 ff.

¹⁰⁰For a more extended discussion of these as well as other price fixing cases see Phillips. op. cit.

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4. THE EMPIRICAL LITERATURE ON PRICE FIXING -- THE ELECTRICAL EQUIPMENT CASE

On Saturday, May 9, 1959, Julian Granger of the Knoxville News-Sentinel received a routine news release from the Tennessee Valley Authority. He was barely able to sustain enough interest to leaf through the announcements of the dedication of a new building, the sale of six acres for a park, and the slight increase in rainfall that year. But suddenly an item caught his eye (Granger later wondered if it was a trail balloon sent up by TVA) which stated that a transformer contract had been awarded to Westinghouse for \$96,760, and that Allis-Chalmers, General Electric, and Pennsylvania Transformer had all submitted bids of \$112,712. Although Granger did not know it at the time, "he was on the threshold of the largest antitrust case in the history of the country."¹⁰¹

The story of the diligent, painstaking efforts of both the Justice Department and the Senate Antitrust Subcommittee who ultimately unearthed the conspiracy has been told in great detail elsewhere.¹⁰²

¹⁰¹John G. Fuller, The Gentlemen Conspirators -- The Story of the Price-Fixers in the Electrical Industry, (New York: Grove Press, 1962), p. 11.

¹⁰²See Fuller, op. cit., John Herling, The Great Price Conspiracy -- The Story of the Antitrust Violations in the Electrical Industry, (Washington: R. B. Luce, 1962), and Richard Austin Smith, "The Incredible Electrical Conspiracy," Parts I and II, Fortune, 63, April-May, 1961.

It need not be of concern here. But the data developed as the result of the investigations can be of value for an analysis of price-fixing agreements. It is voluminous enough to warrant an extended examination of this conspiracy,¹⁰³ an examination that can be conveniently organized under four headings: (1) the nature of the products and markets involved in the various conspiratorial forms; (2) the structure of the industry, particularly as it relates to such individual products; (3) the conduct of the industry during conspiratorial and competitive periods; and (4) the performance of the industry.

The Nature of the Product and Market

There were, as shown by Table 1, some twenty-three products in all involved in the electrical conspiracies. But because the Department of Commerce does not define product groups as they are defined by the electrical industry, it is not possible to compute precisely the relationship between sales of these 23 products and total industry sales. It is known, however, that electrical apparatus shipments (the category under which these products would be subsumed) amounted to \$5.2 billion in 1958, 30% of total industry shipments of

¹⁰³ Conspiracy designates here all the separate but connected price-fixing agreements in every individual product.

TABLE
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TABLE 1. -- Products and companies involved in the electrical equipment cases

Product	Companies
Power switchgear assemblies	General Electric, Westinghouse, Allis-Chalmers, Federal Pacific Electric, I-T-E Circuit Breakers
Oil and air circuit breakers	General Electric, Westinghouse, Allis-Chalmers, Federal Pacific Electric, I-T-E Circuit Breakers
Low-voltage power circuit breakers	<u>General Electric</u> , <u>Westinghouse</u> , <u>I-T-E Circuit Breakers</u>
Bushings	<u>General Electric</u> , <u>Westinghouse</u> , <u>Lapp Insulator</u> , <u>Ohio Brass</u>
Insulators	<u>General Electric</u> , <u>I-T-E Circuit Breakers</u> , <u>McGraw-Edison</u> , <u>Lapp Insulator</u> , <u>Ohio Brass</u> , <u>Porcelain Insulator</u> , <u>A. B. Chance</u> , <u>H. K. Porter</u>
Open fuse cutouts	<u>General Electric</u> , <u>Westinghouse</u> , <u>I-T-E Circuit Breakers</u> , <u>McGraw-Edison</u>
Lightning arrestors	General Electric, Westinghouse, Ohio Brass, McGraw-Edison, Porter, Hubbard, Joslyn
Distributors	<u>General Electric</u> , <u>Westinghouse</u> , <u>McGraw-Edison</u> , <u>Ohio Brass</u> , <u>Joslyn</u> , <u>Hubbard</u> , <u>Porter</u>
Distributors-intermediate and station	<u>General Electric</u> , <u>Westinghouse</u> , <u>Ohio Brass</u>
Arrestor-cutout combinations	<u>General Electric</u> , <u>Westinghouse</u> , <u>McGraw-Edison</u> , <u>Joslyn</u> , <u>Hubbard</u>
Distribution transformers	<u>General Electric</u> , <u>Westinghouse</u> , <u>Allis-Chalmers</u> , <u>McGraw-Edison</u> , <u>Moloney</u> , <u>Wagner</u> , <u>Kuhlman</u>
Power transformers	General Electric, Westinghouse, Allis-Chalmers, McGraw-Edison, Moloney, Wagner

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TABLE 1-(Continued)

Instrument trans- formers	<u>General Electric</u> , <u>Westinghouse</u> , Allis-Chalmers
Network transformers	<u>General Electric</u> , <u>Westinghouse</u> , Allis-Chalmers, <u>McGraw-Edison</u>
Power switching equipment	General Electric, Westinghouse, Federal Pacific, I-T-E Circuit Breakers, <u>Joslyn</u> , Southern States Equipment, Porter ¹
Navy and Marine switchgear	<u>General Electric</u> , <u>Westinghouse</u> , <u>I-T-E Circuit Breakers</u>
Isolated phase bus	<u>General Electric</u> , <u>Westinghouse</u> , <u>I-T-E Circuit Breakers</u> , <u>Southern States Equipment</u>
Industrial control equipment	General Electric, Westinghouse, Allen-Bradley, Clark Controller, Cutler-Hammer, Square D
Low voltage distri- bution equipment	<u>General Electric</u> , <u>Westinghouse</u> , <u>Federal Pacific</u> , <u>I-T-E Circuit Breakers</u> , <u>Cutler-Hammer</u> , <u>Square D</u>
Turbine-generators	General Electric, Westinghouse, Allis-Chalmers
Steam condensers	Westinghouse, Allis-Chalmers, Foster Wheeler, <u>Currier</u> , Ingersoll-Rand, C. H. Wheeler, Worthington
Power capacitors	<u>General Electric</u> , <u>Westinghouse</u> , <u>McGraw-Edison</u> , <u>Sanguamo Electric</u> , <u>Cornell-Dubiller</u>
Watt hour and demand meters	<u>General Electric</u> , <u>Westinghouse</u> , <u>Sanguamo Electric</u>

¹Also Schwager-Wood. This chart does not include companies that were named as co-conspirators; there were 21 such cases scattered among the 23 products.

Source: Compiled from Herling, op.cit., pp. unnumbered in appendices. Underlined companies pleaded nolo contendere, others (unless otherwise specified) guilty.

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all electrical equipment.¹⁰⁴ Electrical apparatus sales are significantly larger than those in any other group of electrical equipment.¹⁰⁵ Rough calculations indicate that these 23 products constitute a substantial portion -- probably at least as high as one-third -- of all shipments in the electrical apparatus category.

Electrical apparatus is, of course, a type of durable capital good, whose purchasers include both publicly and privately owned utilities.¹⁰⁶ Demand is somewhat eccentric, coming in periods of feast or famine. Often, for example, as in 1949, 1954, and 1958, when the national economy was in the throes of recession, the demand for electrical apparatus is high, and the converse also holds: when the economy is enjoying high prosperity, as in 1950, 1955, 1958, and 1959, the demand for apparatus is low.¹⁰⁷

Capacity in the electrical industry also behaves somewhat perversely: it follows an "irregular step-like pattern."¹⁰⁸ Thus, a regular pattern of demand year in and year out simply does not exist

¹⁰⁴Jules Backman, The Economics of the Electrical Machinery Industry, (New York: New York University Press, 1962), p. 2.

¹⁰⁵Ibid., p. 2.

¹⁰⁶Ibid., p. 4.

¹⁰⁷Ibid.

¹⁰⁸Ibid. p. 5.

in this industry. In addition, since technological considerations make the expansion of plants by continuous small increments impossible, the individual order may be of great importance. Finally, such variations in demand cannot be eliminated through inventories, for most jobs must be individually-tailored.¹⁰⁹

The result of all this is an industry which faces an inelastic demand curve that is constantly and rapidly shifting from year to year. Epstein has put it well:

. . . one most interesting characteristic of these electric utility buyers (is that) their total demand at any given time for a given product is what the economists call "relatively inelastic."

Such inelastic total demand means that competitive price changes may alter the way the market divides among competitors, but will not change the total market itself (except in the rare instance of "white sales" where prices are so low that utilities order far ahead of need and planning).¹¹⁰

That the utilities respond to extremely low prices is, however, probably an indication that demand is not completely inelastic.¹¹¹

Because of the particularized requirements of purchasers, orders are obtained through negotiations. Under these circumstances,

¹⁰⁹Ibid., p. 5.

¹¹⁰Joseph B. Epstein, "Electric Power Output and Investment," Survey of Current Business, May, 1949, p.12. Quoted in Backman, op.cit., p. 5.

¹¹¹From a theoretical viewpoint this would seem logical, since electric equipment purchases do constitute a rather large portion of the total order.

to some extent at least, future service, technical advances, and perhaps quality may be regarded by purchasers as important. Smith, however, points out that the electrical equipment manufacturers have been relatively unsuccessful in creating product differentiation and inducing customers to discount price differences.¹¹²

The Structure of the Electrical Equipment Industry

Concentration ratios, as Table 2 reveals, are very high in most of the products mentioned in the indictments. Comprehensive coverage of all 23 products is, unfortunately, not possible since data on some of them were unavailable. Because of difficulties with data, several conspiratorial agreements relative to market shares are reproduced so as to indicate actual relative market positions. This procedure is justified by Backman's evidence that agreed-on shares are largely a ratification of relative positions in the past.¹¹³

In nearly every instance where data could be obtained, then, a small number of producers dominated the market. Furthermore, in many of these categories one or two producers (often General Electric and Westinghouse) would control 20 to 40% of capacity -- far more than other producers.

¹¹²Smith, Part II, op. cit.

¹¹³Backman, op. cit., pp. 330-338.

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TABLE 2. -- Concentration ratios and agreed-on market shares by companies of selected electrical products

Product	Concentration ratio -- four largest firms	Four leading firms (alphabetically)	Market shares as agreed-on by conspirators
Transformer parts and supplies, power regulators, boosters, reactors	Over 69	AC, GE, WH, W	
Industrial electrical control equipment	Over 51	AB, GE, SD, WH	
Switchgear and switchboard apparatus	Over 50	GE, ITE, SD, WH	
Circuit breakers			GE 40.3%; WH 31.3%; FP 15.6%; AC 8.3%; ITE 4.0%
Power switchgear			GE 39%; WH 35%; ITE 11%; AC 8%; FP 7%
Power transformers			WH 30%; AC 15%; GE 30%; M 10%; ME 8%; W 5%
Navy switchgear			GE 20%; WH 30%; ITE 50%
Marine switchgear			GE 40%; WH 30%; ITE 30%
Isolated phase bars			P 10%; ITE 42% ^a

^a48% divided between GE (34%) and WH (14%).

Source: Compiled from the indictments and Backman, op.cit.

GE=General Electric; WH=Westinghouse; AB=Allen-Bradley; AC=Allis-Chalmers; SD=Square D; ITE=I-T-E Circuit Breakers; FP=Federal Pacific; M=Moloney Electric; ME=McGraw-Edison; W=Wagner Electric; P=H. K. Porter. For a more detailed breakdown of products see Backman, pp.328 ff.

But the story does not end here. Ten of the indicted electric equipment companies are found in the top 500 corporations. But the eight smaller ones -- Allis-Chalmers, McGraw-Edison, H. K. Porter, I-T-E Circuit Breakers, Square D, Cutler Hammer, Wagner Electric, and Federal Pacific Electric -- have a combined annual sales volume approximately equal to that of Westinghouse, which in turn is about 60% smaller than General Electric. And, of course, the activities of General Electric and Westinghouse are not confined to electrical apparatus; they derive a major portion of their revenues from products outside this category.¹¹⁴ In other words, the two giants dominate the industry not only in capacity but also in aggregate economic strength. General Electric and Westinghouse, fourth and sixteenth largest U. S. corporations by sales respectively, are economic Gargantuas.

By contrast, most of the buyers of electrical equipment, although large in their own right, are relatively unconcentrated and uncoordinated. They have not combined to form common purchasing associations. Thus, except in times of recession for the industry, they have not been able to exploit their potentially strong position as buyers of a product in which a single order looms large. In

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Ibid., p. 326.

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short, they have been unable to counteract a strong cartel.

Although no definitive evidence is available, it is probable that entry is severely restricted. Production of most electrical equipment is a specialized, capital-intensive operation. Not only would long experience be necessary, but large initial investments would be required of those wishing to enter the industry.¹¹⁵

Thus, what emerges from a consideration of its structure is an industry facing a relatively inelastic demand, an industry dominated by one or two large firms, an industry in which entry is limited -- an industry, in short, well-situated for profitable conspiracy.

Conduct in the Electrical Equipment Industry

With 23 products involved, each having its separate conspiracy, a comprehensive discussion of conduct would be inconvenient. Indeed, conduct has been examined elsewhere as thoroughly as publicly available evidence permits.¹¹⁶ For this reason in place of a detailed study of each agreement a more general summary has been attempted.

¹¹⁵At first glance such a generalization might seem reckless, for surely such products as circuit breakers would require only small firms. However, since such products often have to be integrated with the entire installation, a premium is placed on filling an entire order -- with all that that implies relative to resources and facilities.

¹¹⁶See especially Herling, op.cit., and Smith, op. cit.

The first conspiratorial activity had probably started even before 1946.¹¹⁷ One characteristic of collusive efforts that persisted through most of the years in a majority of the conspiracies was the development of two levels of administration. The highest level dealt with policy questions: the general level of prices, the formulae for rotating both sealed and negotiated orders, and the division of the market. The lower level had the responsibility for determining who would win specific jobs and for keeping cumulative records of market shares.¹¹⁸

Meetings were frequent; for example, the power switch-gear assembly group held no less than 25 separate discussions in the eleven months from November, 1958, to October, 1959.¹¹⁹ This, coupled with the relatively small numbers of orders involved for most products, made it unnecessary in most cases to maintain a general formula for allocating orders. Thus, in most products most orders were allocated on an individual basis. The prices to be bid by each company for each job were predetermined. On a few

¹¹⁷Herling, op. cit., p. 2.

¹¹⁸Smith, op. cit., p. 172.

¹¹⁹The following is based on a careful study of the indictments rendered by the Grand Jury in the U.S. District Court for the Eastern District of Pennsylvania. For a good summary of some of the material contained in them, see Herling, op. cit., pp. 94-106.

products -- isolated phase buses and power switchgear are notable examples -- in certain periods prices were determined by means of a formula that rotated low-bid position every two weeks and became known as the "phase of the moon" formula.

Regardless of the pricing procedure employed, most of the conspiracies followed a well-charted path. The first step was the accumulation of statistics on past sales, by company. The market was then divided among the participants on the basis of their historic market shares and possibly according to political exigencies. The second step was to establish common (or nearly identical) "book" or "list" prices and, in some cases, common discount structures. Major effort usually went to determining how much book prices should be raised and which company would lead the upward price adjustment. Simultaneous price increases were not welcomed, for they could direct suspicion toward the conspirators. The third step was to decide which company would be assigned the low position on each specific job and to determine the procedure for spreading the higher bids of the other participants.¹²⁰ Individual jobs were usually allocated in such a manner as to match past market shares. Sometimes,

¹²⁰In cases where a formula was employed, the meetings would usually worry only about establishing when the changeovers in "phases" were to occur; although even here often individual jobs that involved large contracts might be discussed separately.

however, agreement on who was to win the order could not be reached, and the low-bid position was determined by lot. In some of the conspiracies, once the low bidder had been agreed on, a rotating plan was used to establish other participants' bids. Typically the winner would bid at book less a small discount.¹²¹ Others would bid at book or at book plus a small amount. In other conspiracies, the non-winning bid positions were also determined by lot, with the luck of the draw indicating by what amount or what percentage the bids of the other participants would be above the price assigned the low bidder. The fourth step was to shroud in secrecy the proceedings of the meetings. First names were used. Code numbers were assigned each company. The list of participants was referred to as the "Christmas-card list." Meetings were called "choir practices." Letters in plain envelopes were sent to the homes of the membership.¹²²

¹²¹Actually there were two distinct concepts used. "Book" prices were identical with the prices that appeared on the price lists. "List" prices were those prices that were actually supposed to prevail -- in other words, book prices less any discounts that were in effect at the time. In cases where a discount was allowed, the winner would bid at list less a specified reduction; others would bid at list or list plus a specified amount.

¹²²In one instance the conspirators complained because certain participants were not careful to dispose of the waste-paper.

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There were a number of modifications to these general procedural rules in particular conspiracies. For one, most agreements differentiated between sealed bids, usually submitted to governmental or public bodies, and negotiated orders, on which prices were usually reduced. Distribution equipment had a unique set of additional rules: the conspirators agreed to charge extra for non-standard units. Terms and conditions of sale were made identical. If price increases occurred, participants were allowed to retain the old prices on orders shipped within six months (later 30 days) of the date of the agreed-on increase. Allis-Chalmers, acting on the basis of price information obtained from all participants, was permitted to recommend price levels. Common prices for accessories were established. On power switchgear Federal Pacific was permitted a special discount that other participants were not allowed to match. The pricing of new products was a major concern of the industrial control equipment group. The rule was even more stringent for power capacitors and isolated phase buses; new products were priced in common even before they were introduced. And on power switchgear equipment the nation was divided into four quadrants, with a different company in charge of each section.¹²³

¹²³For a brief discussion of some of these points see Herling, op. cit., pp. 94-106. Most of this material is, however, taken directly from the indictments.

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Amid all the activities perhaps the most productive from the viewpoint of the participants was the continuing effort to raise prices. In some ways, the indictments and the other reports of the meetings make repetitious reading -- for at every other meeting, according to the record, a price increase was the central theme. And the next most popular topic was the airing of complaints of cheating and dishonesty.

Smith described the tendency toward cheating and the pressures that caused it as follows:

"Everyone accused the others of not living up to the agreement," Clarence Burke recalled, "and the ones they complained about most tried to shift the blame onto someone else." The most constant source of irritation occurred in the sealed-bid business, where chiseling was difficult to detect. But breaks in book prices to the utilities in the open-bid business also generated ill will and vituperation. Indeed one of the many ironies of the whole affair is that the conspiracy couldn't entirely suppress the competitive instinct. Every so often some company would decide that cut-throat competition outside was preferable to the throat cutting that went on in the cartel; they would break contact and sit out the conspiracy for a couple of years.¹²⁴

Smith sums up this tendency more succinctly in the following words:

But things were not always smooth even inside this well-oiled machine, for the conspirators actually had no more

¹²⁴Smith, Part I, op. cit., p. 172. Burke was at that time a prominent General Electric executive.

compunction at breaking the rules of the conspiracy than of broaching the Sherman Act.¹²⁵

Cheating, however, was not always the most vexing problem. In circuit breakers, for example, recalcitrant Federal Pacific and I-T-E Circuit Breakers were able, as the price of concurring in the agreement, to force General Electric and Westinghouse to substantially reduce their market shares.

In summary, then, since 1951 in products like circuit breakers, and since 1958 in products like isolated phase buses, conspiracy is known to have taken place. It is, of course, highly probable that collusion actually began much earlier. The conspiratorial arrangements in the various products had common elements, but to some extent were independent of one another.

Performance in the Electrical Equipment Industry

Unfortunately, compared to the wealth of material available on conspiratorial conduct and that available on the Justice Department's modus operandi against the price fixers, information on the results of the conspiracy is extremely meager.

On one important item, the history of prices, the information is adequate. According to the indictments, the most popular dates during which the conspirators started (or at least resumed) their activities were 1956 and 1958. This was no

¹²⁵Ibid., p. 172.

accident. From November, 1954, to October, 1956, in most product lines the industry had to reduce prices drastically. From late 1957 to the final quarter of 1958 in most product lines the industry suffered an even more severe price decline. The lower prices that ensued during these periods became known as "white sales." In short, it would appear that the formation of the conspiracies was in part a response to the reverses that confronted the industry.

For this reason the price history of electrical equipment is particularly intriguing. For example, as the consequence of a conflict over an order for circuit breakers and transformers, General Electric and Westinghouse engaged in drastic price concessions.

A General Electric executive described what happened:

A week after that, Westinghouse gave Atlantic City Electric 20 percent off, and it went on down to much worse than the "white sale" -- in the winter of 1957-1958 prices were 60 percent off book.¹²⁶

There were also indications that the 1954-1955 white sales saw prices that were 40-45% off book.¹²⁷

Another set of price calculations, as computed by plaintiffs involved in private treble-damage suits, is presented in Table 5.

¹²⁶Smith, op. cit., p. 176.

¹²⁷Ibid.

TABLE 3. -- Conspiratorial and competitive prices for electrical equipment, selected products

Product	Competitive periods (qtr. and year) ^a	Percentage by which this years price exceed competitive prices					
		1955	1956	1957	1958	1959	1960
Steam turbine generators	1948-1,2,3,4 1949-1 1950-2,3 1955-1	1.6	12.3	22.9	28.1	22.7	n.a.
Circuit breakers	1948-1,2,3,4 1949-1,2,3,4 1955-1 1958-3	8.4	24.8	33.9	20.0	32.0	n.a.
Large power transformers	1955-1 ^b 1960-2 ^b	18.9	37.6	41.0	38.6	32.3	n.a.
Small power transformers	1955-1 ^c	25.6	40.5	44.6	41.7	34.4	n.a.
Power switching equipment	1948-1,2,3,4 1949-1,2,3,4 1950-1,2 1955-1 1960-2	1.9	5.8	15.6	14.5	5.0	n.a.
Power switching assemblies	1949-1,2,3,4 1950-1,2,3 1955-1	3.0	16.4	27.0	20.0	21.6	n.a.
Instrument transformers	1948-1,2,3,4 1949-1,2,3,4 1950-1,2 1955-2,3 ^d 1956-2	3.6	5.6	19.5	24.7	23.8	n.a.
Distribution transformers	1950-1	5.9	8.7	14.1	10.4	7.5	n.a.

TABLE 3. -- (Continued)

Watt-hour meters	1950-1,2 ^e	5.7	9.6	12.2	14.6	16.4	n.a.
Pin type insulators	1954-4 ^f 1955-1 ^f	7.5	14.3	18.3	17.5	19.1	n.a.
Supsension type insulators	1955-1 ^g	5.4	11.8	17.9	17.6	16.2	n.a.
Steam surface condensors	1948-1,2,3,4 1949-1,2,3,4 1950-1,2,3 1955-2,3 1960-1,2,3,4 1961-1,2,3,4	1.1	14.9	22.6	27.2	24.5	0.0

^aThe competitive periods do not exactly correspond to the "reference periods" used in calculating the competitive norm. All that has been done here is to take those periods where prices approached or equaled the prices that would have prevailed under the competitive norm as computed by the plaintiffs.

^b1955 price 3.2% above competitive; 1960 was 0.3%

^c1955 price 6.0% above competitive.

^d1956 price 2.5% above competitive; 1956 was 1.4%.

^e1953-1 price 0.3% above competitive; 1953-2 was 0.4%.

^f1954 price was 2.4% above competitive; 1955 was 4.0%.

^g1955 price was 3.3% above competitive.

Source: Compiled from Webster, Sheffield, Fleischmann, Hitchcock & Chrystie and Kaye, Scholer, Fierman, Hays, & Handler, "Procedures for Calculating Overcharges in Eleven Product Lines," (n.p. : n.d.)

The calculations are based on a complicated set of criteria that are too involved to go into detail here.¹²⁸

These calculations reveal an interesting story. It is clear that prices of electrical apparatus in all categories were substantially higher during some years than in others; and for every product, other than distribution transformers, a low point was reached during the 1955 "white sale" period. Apparently, however, even the 1958 white sales did not lower prices sufficiently to bring them near competitive levels.

The generalization that prices increased as the direct result of conspiracy is also confirmed by Table 4. During the 1947-1960 period, prices of electrical machinery and equipment rose far more rapidly than the wholesale-price index for all commodities. Furthermore, with the exceptions of transformers, power regulators, and watt-hour meters, the prices of items subject to price-fixing agreements rose even more rapidly than those in the category of "electrical equipment."

It is also interesting to note that a precipitous drop in prices occurred from 1960 to April, 1961 -- after the conspiracies

¹²⁸The procedure involved several "reference periods" when conspiracy was allegedly absent. A trend line, reflecting changes in costs, connected the reference periods. Prices during non-competitive periods could then be compared to reference period prices as modified by expected increases in costs.

TABLE 4. -- Wholesale price indexes, all commodities, and electrical machinery and equipment, 1947-61

Year	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1947	96.4	96.1	98.9	97.2	95.2	98.6	92.6	96.7	94.1	100.9
1948	104.4	100.7	100.5	100.3	100.3	100.6	100.0	101.7	100.8	101.8
1949	199.2	103.2	100.6	102.5	104.6	100.8	107.4	101.7	105.1	97.2
1950	103.1	106.4	105.4	104.0	112.7	103.8	117.4	103.7	103.7	101.8
1951	114.8	121.9	121.8	116.8	131.6	120.2	140.4	112.2	114.9	117.4
1952	111.6	120.3	120.9	117.1	127.4	119.7	141.6	118.6	115.0	117.4
1953	110.1	123.7	122.8	124.2	130.2	121.2	148.8	125.7	121.6	124.6
1954	110.3	126.2	123.3	128.1	135.1	121.5	152.0	129.7	125.0	129.6
1955	110.7	128.2	122.7	128.2	139.4	114.7	154.7	134.5	126.8	132.9
1956	114.3	138.4	132.9	139.2	154.1	106.2	183.0	160.8	146.4	165.4
1957	117.6	149.0	141.9	148.9	167.6	112.1	204.5	191.9	156.0	197.0
1958	119.2	152.2	145.7	148.2	172.8	117.2	216.9	201.2	160.0	205.0
1959	119.5	154.6	145.7	149.0	176.6	120.8	223.9	203.5	159.5	210.4
1960 ^a	119.6	154.2	142.8	143.0	175.5	120.9	220.8	203.5	142.2	176.0
1961	-	-	-	-	-	-	-	-	-	-
Apr. 1961 ^a	119.4	151.6	141.5	130.0	173.7	118.6	176.8	203.5	128.8	155.3

(1) All commodities; (2) electrical machinery and equipment; (3) motors, generators, and motor generators; (4) transformers and power regulators; (5) switchgear, etc. equipment; (6) watt-hour meter; (7) electric motor, alternating current, 250 horsepower; (8) generator, steam turbine; (9) power transformer, 5,000 kilovoltamperes; (10) circuit breaker, oil, outdoor.

^aPreliminary.

Source: Compiled from Subcommittee on Antitrust and Monopoly, United States Senate, Administered Prices -- Price Fixing and Bid Rigging in the Electrical Manufacturing Industry, Part 28, (Washington: 1961), p. 17667.

had been publicly exposed and the courts had prohibited further collusion. This decline continued into 1964, and there was an approximate 4% decline in the prices of electrical equipment from 1960 to 1964.¹²⁹ Thus it cannot be argued that comparisons of low 1960 competitive prices with high conspiracy prices in earlier years reflect a selection of an abnormal year. The evidence seems to substantiate the existence of a strong positive correlation between conspiracy and high prices.

Furthermore, this relationship cannot be explained by shifts in demand. The dollar volume of sales in 1964 was actually higher in 1964 than in 1960 despite the declining prices. And it was higher in 1960 than in either 1958 or 1959. Thus, if prices were competitive or even at near competitive levels, they should have increased throughout the 1960-64 period. That they did the opposite is a clear indication that the earlier prices were artificially raised.¹³⁰ Smith makes the same point somewhat obliquely:

¹²⁹Industries Column, "Climbing Toll for the Price-Fixers," Business Week, August 29, 1964, p. 98.

¹³⁰Ibid. Business Week based its series on Department of Commerce data. This analysis requires three assumptions -- all of which seem realistic: (1) there were no differential changes in the shapes of the demand curves; (2) there was no substantial entry into the industry; and (3) costs did not substantially decrease between 1960 and 1964.

That was the end of that cartel. It did not, of course, mean the end of the other conspiracies G.E. was involved in. Far from it. Each general manager of a division or department took a strictly personal view of his participation in any cartel. Thus while circuit breakers was at daggers drawn, industrial controls was enjoying an amiable conspiracy.¹³¹

If the realistic assumption that the demands for circuit breakers and industrial controls are interrelated, then it would be impossible to explain how shifts in demand can simultaneously account for the demise of one conspiracy and the continuation of another.

Data on the performance of the electrical equipment industry with regard to costs and profits are almost completely nonexistent. There is only a single bit of evidence on costs.

During February, 1959, the Tennessee Valley Authority accepted a bid on a hydroelectric turbine generator from a British firm, C. A. Parsons & Co., Ltd.¹³² The British bid, if provisions for escalation clauses are included, was more than 34% lower than the bids of General Electric and Westinghouse. The TVA estimated that tariffs and transportation charges more than offset any favorable advantages to the British firm of lower labor costs.¹³³

¹³¹Smith, op. cit., p. 176 ff.

¹³²Fuller, op. cit., pp. 22-24.

¹³³Herling, op. cit., p. 4.

Yet during that quarter in 1959, according to the estimates of plaintiff companies, conspiratorial prices on this item were only 26.5% above competitive prices on that product.¹³⁴ This difference could, of course, be due to a number of factors: it could be a particularly flagrant example of conspiratorial price gouging; it could be evidence that non-labor costs were also higher in the United States;¹³⁵ or it could mean that American producers were less efficient than their British counterparts. Certainly the ability of the British to undercut American producers so dramatically does not lead to a feeling of confidence in the ability of the latter to reduce costs under conspiracy conditions.

The evidence of profits is even less reliable since there are no series available that separate profits on specific products where conspiracy was present.¹³⁶

5. CONCLUSIONS

The empirical literature, as is clear from the preceding discussion, leaves as many questions unanswered as does the theoretical literature. There appears to be a pronounced

¹³⁴Webster Sheffield, Fleischmann, op.cit., p. 4.

¹³⁵Usually raw material, overhead, and capital costs are assumed to be higher in Europe.

¹³⁶For the best data available, see Backman, op.cit., pp.358-60.

connection between conspiracy and high prices in the electrical cases, but the correlation is not so clear in some of the other cases where the data were less satisfactory.

But any other economic effects of conspiracy cannot be discerned from the analyses that have been made up to now. And even in the case of prices the magnitude of the relationship is open to question. Surely knowledge of the economic consequences of conspiracy should be placed near the top of the economists' list of questions that need to be answered -- for the pervasiveness of price fixing requires that judgments be made as to whether it should be allowed to continue or not.

The theoretical literature suffers from a maze of contradictory assumptions and from failure to integrate the various theories into a comprehensive and consistent general framework. The lack of such a model can in large part be explained by the paucity of empirical material on the behavior of conspirators. Unless such evidence is forthcoming the theorist will continue to be unable to segregate the valid from the invalid assumptions and will, therefore, be unable to construct a definitive theory of conspiracy.

Thus, both the immediate requirements of the policy maker and the less pressing needs of the theorist combine to make

essential more complete empirical studies of price fixing. With such studies it may be possible to make significant progress. Without such studies it would appear that economists will be at a dead end in a very short period -- that they will never be able to make more than mere speculations about the probable consequences of conspiracy.

Thus, in the next four chapters, attention is devoted to a case study of a single conspiracy. Then, in Chapter 7, attention is returned toward the development of a theory of conspiracy.

CHAPTER 3

THE PRODUCT AND THE MARKET

Spectators at a football or basketball game sit on bleachers, or, as producers prefer to call them more formally, folding athletic seating.¹ Such seating, as the reference to these two sports might suggest, can be either of the outdoor or indoor variety.

Outdoor Bleachers

Outdoor bleachers are typically used in stadiums and other similar structures. They are almost invariably attached permanently to the understructure of the stadium and, for this reason, must be able to withstand considerable exposure to the weather.²

¹Terminology in this industry is confused: bleachers, folding athletic seating, folding gymnasium seating, and a variety of other terms are often used interchangeably. Technically the first two terms can refer to both the outdoor and indoor variety and to both the fixed and folding types. Folding gymnasium seating should refer to indoor bleachers. Here, unless otherwise noted, the terms will be used synonymously in reference to indoor bleachers.

²Fixed outdoor bleachers are known as grandstands. Not all outdoor bleachers, however, are attached to the stadium. Such portables can be somewhat less weather-resistant than grandstands, since they are stored inside during the winter months.

Spectator seating at football games is, of course, by far the most common use for this type of seating.

Despite its distinctive non-folding and weather-resistant qualities, such seating is made by many of the same companies producing the indoor variety. It does not seem strange, therefore, that successful price fixing among indoor manufacturers would tend to encourage outdoor producers to attempt a conspiracy of their own.³

Thus, by 1955 the outdoor manufacturers had formed the Grandstand Research Council, which maintained the same organizational structure that the indoor conspirators had already developed. Not only did the Council hire an independent consultant who, like his indoor counterpart, was supposed to arbitrate internal Council conflicts,⁴ but Council meetings were held in the same city as, and immediately after indoor meetings.⁵ Apparently, like their indoor brethren, the outdoor conspirators were intent on excluding

³See a statement made by J. E. "Doc" Van Sistine, sales manager for Berlin-Chapman, a bleacher producer, made at Berlin, Wisconsin, on February 28, 1961, pp. 1-11, 92, for an overview of the outdoor conspiracy. (Henceforth this document will be called the Van Sistine statement.)

⁴Van Sistine statement, p. 10. W. W. Kemper was the consultant's name.

⁵Ibid., p. 9.

competition and fixing prices.⁶ Council activities are known to have continued as late as 1960.⁷

The Council seems to have been somewhat unsuccessful (especially when judged by the prosperity enjoyed by the indoor conspirators) in achieving its aims, partly because one major outdoor producer refused to join the group, but perhaps mainly because of the existence of numerous small local producers who were difficult to bring into the conspiracy.⁸

Indoor Bleachers

Indoor bleachers perform a different function than the outdoor variety. Indoor seating is used in primary, secondary, and college gymnasiums, in arenas, in veterans' halls, in auditoriums, and in other similar structures. Since plans for such structures normally attempt to make maximum use of all available area, indoor bleachers usually fold, although on rare occasions one or more extra fixed rows may be attached to either the wall or the

⁶Ibid., p. 4

⁷Ibid., p. 9.

⁸Ibid., p. 8. The existence and potential entry of small, local producers would seem, a priori, to make effective conspiracy difficult. The existence of small competitors is probably in part a reflection of technology, for it requires even less technical competence to build a simple fixed bleacher than to construct folding bleachers, with their somewhat complicated understructures.

floor of the gymnasium.⁹ In any event, whether or not fixed rows are present, the area vacated by the folded portion of the bleacher constitutes valuable additional usable floor space. Also, since indoor seating is an intrinsic part of the room in which it is found, the wooden parts of the indoor bleacher must be more attractively finished than those of the outdoor type.

Although the two varieties have different characteristics, conspiracy has been confined to neither. As the brief synopsis of the history of indoor seating presented by Table 5 indicates, the first known group of indoor producers was formed as early as 1944 and lasted until 1953. This group, known as the Gymnasium Seating Council (GSC), was probably antedated by incipient agreements among individual producers as early as 1934.

From 1944 to 1953 the GSC maintained a central office and employed a consultant who assisted in the allocation of markets and the fixing of prices. Because of Brunswick's purchase of Horn Brothers, a GSC member, and the temporary intransigence of Brunswick, during early 1953 the Council was dissolved and its chairman dismissed.

⁹For convenience, in subsequent discussion installation of a wall-mounted bleacher in a gymnasium will be assumed.

¹⁰The GSC and FGS Council are described more extensively and intensively in Chapter 5.

TABLE 5. -- Important events in the indoor bleacher industry

Date	Event
1944 ^a	Gymnasium Seating Council, a group of four bleacher producers was formed. This group subsequently fixed prices and allocated markets.
1952	Brunswick ^b purchased Horn Brothers, a major producer and member of the Council.
1953	Gymnasium Seating Council dissolved when Brunswick refused to participate.
1954	Brunswick joined other companies in a new conspiracy which became known as the Folding Gymnasium Seating Council.
1956	FGS Council hired an independent consultant, Fred Corray, to help maintain price-fixing conspiracy.
1958	Justice Department began an investigation of the industry. Grand Jury formed and issued subpoenas for industry records.
1959	Grand Jury indicted bleacher producers.
1960	Almost all bleacher makers pled guilty and were fined.
1961	Five states, acting on behalf of local school districts, launched treble-damage suits.

^aThe Council collected price data at least as early as 1944 and price fixing was probably started during that year. Rex Dryer was the consultant, and he was in charge of the price-fixing arrangements.

^bThen known as the Brunswick-Balke-Collender Company.

Source: Compiled from Van Sistine statement and State of California et al. vs. Brunswick Company et al., Affidavits, Motions, Orders, Civil Action 39352, various dates, 1961-1963. (Henceforth called the "California documents.")

A period of vigorous competition ensued, which was abruptly checked by the formation of a new conspiracy in April, 1954. The new group, operating like its predecessor under the guise of a trade association, held monthly meetings at which markets were allocated and prices fixed. The Folding Gymnasium Seating Council (FGS Council) -- for the new stand had a new name -- in 1956 appointed an independent and supposedly impartial consultant. Conspiratorial activity, despite subsequent events, continued until at least 1960.¹⁰

Yet it was not until 1958 that the federal government caught on to the conspiracy and launched an investigation which eventually culminated in indictments against the conspirators. Subsequent guilty pleas were entered by most of the industry. Coincident with the investigation and indictments, the FGS Council suffered a serious breakdown in its pricing, from which it never fully recovered. To add insult to injury, by 1960 individual states, acting on behalf of local school districts, filed private treble-damage suits.

Reasons for Concentrating on Indoor Bleachers

Both federal and state actions provide a unique storehouse

¹⁰The GSC and FGS Council are described more extensively and intensively in Chapter 5.

of information on the indoor conspiracies; such data are conspicuously lacking for the outdoor group. In addition, the two indoor conspiratorial cycles, with their alternate periods of boom and breakdown, inevitably hold much more intrinsic interest than the single abortive outdoor conspiracy. For both these reasons, attention will be devoted exclusively to indoor bleachers. Bleachers, seating, folding gymnasium seating, and like terms will refer exclusively to indoor bleachers.

Before delineating structure, conduct, or performance in the industry and before describing the conspiracy, the character of bleachers as a product and the nature of the demand for them must be discussed.

1. THE NATURE OF THE PRODUCT

The character of a product may be analyzed under three main categories: First, who are its ultimate purchasers? Are there classes of purchasers? Must the product be tailored to meet the requirements of each class? Second, do purchasers within a given class have different specifications for the product? Third, are there alternative methods for meeting a given set of requirements? Do the various firms actually employ such different production techniques?

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Who Buys Bleachers?

As previously indicated, seating is predominantly used for accommodating spectators at basketball and other indoor athletic events. This is clearly revealed by Table 6 which shows the sources of bleacher purchases. Most sales (at least 80%) are made to public junior and senior high schools, with an additional 5-10% going to private schools of the same types.¹¹ Public elementary schools and both public and private colleges constitute the next most important source of demand. Minor quantities are sold to other types of users. Exports, interestingly, take up less than one percent of total domestic production, and most of these are to Canada or to overseas American military bases.¹² Thus, exports can hardly be characterized as a major factor influencing the American industry.

Although seating is largely sold to a single class of purchasers (school districts) it does not follow that bleachers are a standardized product. Quite the contrary: schools require bleachers

¹¹ Most of the sales to private primary and secondary schools are for private junior high and high schools and not for elementary schools.

¹² Although these statements are based on the Brunswick sample, described in the opposite Table, as far as can be ascertained this company exports a larger portion of its production than other producers. Thus, if anything, this figure overstates the extent of exports.

TABLE 6. -- Sources of bleacher purchases

Source Buying Bleachers	Approximate Percentage of Total Orders ^a
Public high schools (including public junior high schools)	80-85
Private elementary and secondary schools (including private junior high schools)	5-10
Public elementary schools	2-4
Public or private colleges and universities ^b	1-3
Arenas, auditoriums, halls, swimming pools and others	1-2
Exports ^c	

^aIt is possible to designate only approximate percentages because: (1) some bids and sales are made directly to the general contractor (of the entire building) or to Brunswick's agents; hence, on a few occasions the ultimate purchaser is not specified; and (2) some bids and sales are entered as made to "unknown" purchasers.

^bSuch sales, especially in states with an extensive junior college system, tend to be of greater dollar value than sales to elementary and secondary schools. They might represent as much as 2-3% of total dollar volume.

^cAlmost all exports were to Canada or to American military units stationed abroad.

Source: Compiled and computed from Brunswick bid and sales records. These records include the years 1950-1960 and contain data for all states. The sample contains 4700 bids and sales. Since Brunswick bid on over 90% of the outstanding jobs, data would be representative for the entire industry.

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of different types, numbers of rows, length, depths, and rises. Furthermore, schools often ask producers to incorporate special features, known in the industry as extras. And, thus, although bleachers are sold to a common class of purchasers, buyers within that class require a host of variations in design. These differences may be conveniently placed in the following categories:

Variations in the Demand for Bleachers

Type of Use. -- Because gymnasium designs, functions, and sizes are not standard, seating must often be of different types. To reduce somewhat the chaos that such a large number of different designs could entail, producers have concentrated on four basic variations:

The wall-mounted type is by far the most common, constituting over 90% of U.S. sales.¹³ This bleacher is attached directly to the back wall of the gymnasium in such a way that, when closed, the seating is flush with the back wall. It stands permanently in the gymnasium and when not in use remains folded against the wall. Its individual rows¹⁴ are attached to rubber tired wheels

¹³Estimated from the Brunswick Bid and Sales Data (hereafter called the Brunswick sample), as described in detail in Table 6.

¹⁴A row (or tier) of a bleacher is a level on which spectators sit. A three row bleacher means there are three levels, the first row being closest to the floor, the second next nearest to the floor, and the third row being highest from the floor. In the wall-mounted type, in this example, the third row would be attached to the wall.

that move along the gymnasium floor as the position of the bleacher is altered. Usually the wheels are staggered so as not to damage the floor's finish.

The next most common bleacher is the mobile type. Such a variety is essential in many gymnasiums since the placement of aisles, posts, stage seating, or other factors requires the bleachers to be removed from the room when not needed.¹⁵ Since these special problems are often confined to a specific location, mobile seating in most cases is used in conjunction with other types of bleachers.¹⁶

Mobility is secured in two alternate ways: The truck system, on the one hand, permits the bleacher to be moved by placing the truck or moving device under the seating. The bleacher is then rolled to its new location. But this system has a major disadvantage; the trucks must be removed from storage whenever a change in the position of the seating is desired. The operator system, on the other hand, consists of mechanical or hydraulic units built into the bleacher. The seating, therefore, can be moved in the same manner as under the truck system, but without the irritation and expense of using

¹⁵In the discussion of mobile, reverse fold, and recessed bleachers, the assumption of a wall-mounted installation is dropped.

¹⁶In addition, there are mobile reverse fold and mobile recessed bleachers.

devices that must be stored.¹⁷

The least common types are the reverse fold and recessed which combined represent perhaps no more than 2-3% of total sales.¹⁸

Reverse-fold bleachers are used in locations where the balcony is to be separated from the main part of the gymnasium in order to be used for a different activity than the ground floor. Academic classes might, for example, be held in the upper level while the main floor was being used for physical education activities. The reverse-fold bleachers would be placed in the balcony and would fold forward so as to form, when closed, a barrier between the balcony and the rest of the gymnasium. Rather than folding by moving the first (lowest) row toward the position of the last (highest) row as is normal, reverse-fold bleachers, as the name suggests, have the last row moving toward the first row.

Recessed bleachers are designed to fold under a balcony, nestling in the area bounded by the wall of the main portion of the gymnasium and the underside of the balcony. When closed, the front of the bleachers in an ideal installation would be flush with the front of the balcony, and would occupy no usable floor space.

¹⁷ Operators are also used to designate power operators or mechanical operators whose sole purpose is to automatically open and close the bleacher. These operators are described below.

¹⁸ Estimated from the Brunswick sample.

Operators, in addition to being used with mobile bleachers, may be employed merely to open and close the bleacher. The tractor type of operator consists of a garden-tractor-like device that is jacked under the first row of the bleacher; the seating opens or closes as the tractor is driven forward or in reverse. The automatic type consists of a system of pulleys that make it possible to open or close the bleachers from a single remote station by pushing the appropriate button. Operators are expensive and, until recent years, were rare.¹⁹

Number of Rows. -- A second significant variation is the number of rows the purchaser needs. Bleachers traditionally accommodate as few as two or as many as thirty tiers of spectators, although the vast majority (over 95%) seat between three and sixteen rows.²⁰ It is not uncommon, therefore, to find a gymnasium with seating of a greater number of rows on one side and fewer rows on the other; thus, a single order may include several tier sizes. Variations in the number of rows are significant to the producer, as

¹⁹See "The ABC's of Gym Seating," (n.p: n.d.), a manual prepared by Safway (a bleacher producer) for its salesmen, for a more detailed description of these types of bleachers.

²⁰Estimated from the Brunswick sample. The 95% figure is based on number of orders; weighted by dollar volume of sales it might be slightly smaller.

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well as to the purchaser, because the understructure must be appreciably stronger under the twentieth than under the tenth tier. Therefore, the more numerous the rows, the larger the cost of seating per spectator.²¹

Length of Bleacher. -- A third variation is the length of the seating. Length is not an unambiguous term for there are three distinct ways in which the industry has defined it. A lineal foot is measured in terms of frontage. For example, a five-row bleacher along a basketball court might be 80 feet in length, or 80 lineal feet. Were it a seven-row bleacher, its length would still be 80 lineal feet. A foot is defined differently, since the total number of feet is the length (in lineal feet) multiplied by the number of rows. In the above example, the five-row bleacher has a total of 400 feet, the seven-row 560 feet. A section of bleachers is a specified number of lineal feet--usually sixteen. For this reason, both the five- and the seven-row bleachers contain five 16-foot sections. Sectional lengths are important, since individual orders often specify lengths that are distasteful to the producer, who prefers the economy of manufacturing seating in standardized sections.

The Depth of the Bleachers. -- A fourth important variation is depth, which is measured as the horizontal distance between adjacent rows. In the standard 22" bleacher, the width of the

²¹Except for 3-5 rows which are somewhat more expensive than the 6-10 row sizes.

seatboard plus the width of the footboard are approximately equal to twenty-two inches.²² When the width of the seat and the footboard taken together is greater, the depth is wider, allowing for more foot and leg room but, at the same time, increasing cost and reducing spectator capacity. Over 90% of all bleachers are of the standard 22" depth. The 22" and 24" varieties combined probably represent all seating sold in the United States.²³

The Rise of the Bleacher. -- A fifth significant variation is rise, which is defined as the vertical distance between any two adjacent rows. The higher the rise, the more steeply inclined the bleacher, hence, higher rises enable spectators to see more easily over the heads of those below them, while simultaneously raising the spectator further above the gymnasium floor. Standard rise varies between 8" and 10 1/2"; rises of less than 8" or more than 10 1/2" cost more.²⁴

²²This is only approximately true, since there is often a horizontal distance between seat and footboards. The above description assumes that the bleacher is open. Seat and footboards are defined in note 28 below.

²³Estimated from the Brunswick sample.

²⁴According to the Brunswick sample, at times the 10 1/2" rise was treated as standard and no extra charge for it was made; on rare occasions it was treated as special and an extra amount was charged. The latter procedure appears to have been unique to Brunswick, and 10 1/2" rise can here be regarded, therefore, as standard.

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The Existence of Extras. -- The final source of variation is a result of the distinctive designs of some gymnasiums, which require special features known in the trade as extras. One of the most common extras, for example, is built-in aisles. Such aisles permit the spectator ingress and egress from the bleacher without the inconvenience and danger of walking over the seatboards.

There are a number of such special features; twelve categories of them are shown in Table 7, which attempts to summarize the most important variations in bleachers. Each type of extra is found in several installations, although perhaps less than 10% of all orders would include requests for one or more of these special features.²⁵

It has been rather firmly established that, although bleachers are largely purchased by a single class -- school districts -- there are significant variations in requirements within that class. Fred Corray, Chairman of the FGS Council, put it succinctly:

Due to the unlimited number of different architectural designs of buildings, each installation of bleachers must be practically tailor-made for that job. . .²⁶

²⁵Estimated from the Brunswick sample. If all aisles are regarded as extras, the percentage would be greater than 10%. If only those aisles for which an additional charge was levied are counted, the figure would be less than 10%. Indeed, aisles became so common that sometime in late 1955 or early 1956 they lost their status as an extra. In subsequent years, only special types of aisles should, therefore, be regarded as extras.

²⁶Fred Corray, "Proposed Standards for the Bleacher Industry,"

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TABLE 7. -- Summary of important bleacher variations

Bleacher variation	Explanation of variation
(1) Type of bleacher: (wall-mounted, mobile reverse fold, recessed, operators)	Each type has advantages for particular installations. Each producer is forced, therefore, to make several different types.
(2) Number of rows and number of feet	Each order specifies the number of rows of spectators to be accommodated. ^a
(3) Depth	The horizontal distance between adjacent rows of an opened bleacher; usually 22", sometimes 24".
(4) Rise	The vertical distance between adjacent rows of an opened bleacher; 9-10 1/2" is standard; others cost more. ^b
(5) Extras a. Aisles b. Back panels c. Back rests d. Bracket arms e. Extra coats of finish or paint f. Filler boards g. Fixed seating h. Guard rails i. Removable seat and footboards j. Seat numbering k. Special paints or finishes l. Steel seat and footboards m. Others--grills, kickboards, and so forth	For these special items an additional charge is usually made. End panels, end rails, and scorers' tables are not considered extras. ^c

^aUnless the producer is the one specified. See Chapter 4.

^bBut see note 25.

^cFor some companies, especially during and after 1958, these items were viewed as extras.

To recapitulate, seating varies in terms of type, number of rows, length, depth, rise, and extras. It cannot be regarded as a homogeneous product; to some extent at least, each installation is unique.

Alternative Methods of Folding Bleachers

The establishing of the heterogeneity of seating leaves a single set of unresolved questions about bleachers as a product. Can different methods be used in the design and production of seating that must meet the same set of specifications? Are such different techniques actually employed by the various producers? Do the techniques have any substantial effects on the industry?

In order to answer these questions, an analysis of the ways in which bleachers fold is essential. There are four such methods, only the latter three of which are found in modern installations:

The first, oldest, and most obsolete, is the hanging or beam method in which a bleacher contains a structural beam, one end of which is attached to the wall adjacent to the bleacher, and the other end of which rests on wheeled trucks placed on the gymnasium floor. The beam is hinged at the wall, the seat and footboards are attached to it in such a way that when the bleacher is closed, the beam remains upright, parallel with the gymnasium wall:

(n.p., 1956) p.1. "California Documents" Affidavit of William J. Cohen, June 21, 1962, (Exhibit 91, document 1-195-18.)

and when the bleacher is open, the beam forms the hypotenuse of a right triangle, whose sides are the floor and the wall.²⁷

The second is the simple folding method; it was used extensively in bleachers constructed during and after the Second World War. Two major producers employ this system today. Pivotal levers fold the seat and footboards upward as the bleacher is closed, allowing the support column for each row to move into a position immediately in front of the column folded behind it. Thus, when closed, the bleacher has a sloping front with its first row protruding farthest from the wall.²⁸

The third is the telescoping method; this was developed around 1940 and represents the largest portion of current production. The bleachers fold in much the manner of a series of file drawers -- the seat and footboards move horizontally toward the wall when the bleacher is being folded. In closed position, then, the seat and footboards for each individual row are placed at exactly the same height from the floor they have when the bleacher is open. When folded, the front of the bleacher forms a vertical plane parallel with the wall.

²⁷See "The ABC's of Gym Seating," op. cit., for an illustrated discussion of these methods of folding.

²⁸Seatboards are usually the wooden part on which the spectator sits; footboards are the part on which he places his feet.

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The fourth is the combination method, which refers to a bleacher that includes elements of the telescoping and folding methods. As with the telescoping method, the seat and footboards move horizontally at exactly the same height above the floor when the bleacher is being closed. The columns of the bleacher, however, fold in precisely the same way as the columns of a simple folding bleacher.²⁹

Table 8 shows sales for the period 1958-1960, measured in dollar volume and footage, of bleachers utilizing different folding methods. Telescoping bleachers are the most common, followed rather closely by the simple folding type, with combination bleachers a distant third. The table also indicates that five of the eight largest producers use the telescoping method. two employ the simple folding system, and one uses the combination method.

As the table demonstrates, telescoping bleachers sold for an average price of \$7.37 per foot during this period, while the figure for the simple folding bleachers was \$7.52.³⁰ The combination bleachers, however, obtained a substantially higher price -- \$9.83 per foot. This price is suspect, since Berlin-Chapman refused to

²⁹ Thus, telescoping bleachers require somewhat less space than do simple folding ones, with their sloping fronts.

³⁰ Some of the difference in price between the two types may be due to varying proportions of sales in 1958 (a high-price period) and 1959 (a low-price year). Year-by-year analysis of the data reveals that under these conditions this factor is a minor one.

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TABLE 8. -- Methods of folding bleachers. (Sales by company, dollar volume, footage, and price per foot, 1958-1960.)

Folding	Company making this type	Sales (dollars)	Sales (footage)	Average selling price per foot
Tele-scoping	Hussey Medart Narragansett Safway Wayne	\$16,941,301	2,297,235	\$7.37
Simple folding	Brunswick	12,120,962	1,611,271	7.52
Combination	Berlin-Chapman	2,261,605	230,048	9.83

Source: Compiled and computed from "The ABC's of Gym Seating," op. cit., and from "Sales Analysis Reports," collected by the FGS Council, reproduced in part in the exhibits (numbers 7 and 8) attached to the Van Sistine statement. See Appendix A for further details.

participate in the conspiracy during 1960, and as a result the FGS Council was forced to estimate its prices.³¹ In any case, it would appear that for the bulk of bleacher sales, the different folding methods did not result in substantial price differences. The variety of methods did, however, allow the producers to attempt to differentiate

³¹Berlin-Chapman refused to follow industry prices in their downward spiral in 1959 and, hence, lost sales volume that year. Its average price, therefore, reflects the heavy weight of the high 1958 prices.

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their product -- a factor which had an important bearing on the conspiracy.

Bleachers, then, are a highly heterogeneous product -- a product that varies not only in the uses for which it must be designed, but which can be made in several ways.

2. THE MARKET

Although the characteristics of the product can have a profound effect on a conspiracy, the nature of the market is equally important. Has demand for the product increased or decreased over time? Is the demand curve elastic or inelastic? Given the heterogeneity of bleachers, has there been a significant tendency for the composition of demand to change?

The Growth of Demand since World War II.

Enrollments and capital outlays have grown apace for United States elementary and secondary schools. Table 9 shows enrollments and capital outlays for selected years from 1940 to 1960, together with projections for 1970. Enrollments in public schools, for example, have grown from 25 million in 1950 to 36 million in 1960. There were 5.7 million students in junior and senior high schools in 1950 as compared to 8.5 million pupils in 1960. Expenditures for capital

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TABLE 9. -- U. S. public school enrollments and capital outlays.
(1940-1960, with projections to 1970)

Year	Enrollments in the public schools (thousands) ^a	Enrollments in junior-Capital expenditures senior high schools (thousands)	of public schools (millions dollars) ^b
1940	25,434	6,601	258
1946	23,300	5,622	111
1950	25,111	5,725	1,014
1952	26,563	5,882	1,477
1954	28,836	6,290	2,055
1956	31,163	6,873	2,387
1957	32,334	7,318	n.a.
1958	33,695	7,895	2,857
1959 ^c	34,974	8,290	n.a.
1960	36,087	8,455	2,602
1970	44,366 to 46,716	12,126 to 14,443	5,861

^aIncludes only students who finish the entire school year. Up to 1956 figures were available only during even-numbered years. This series is probably more accurate in reflecting actual school enrollments than the more typical ones which use September enrollments.

^bIn current dollars.

^cIncludes Alaska and Hawaii.

Source: Compiled from Statistical Abstract of the United States, 1950-1963 editions. 1970 projections from National Education Association, Financing the Public Schools, 1960-1970 (n.p.: 1962), p. 146.

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outlay grew from a post-war low of 111 million dollars in 1946 to one billion dollars in 1950 and 2.6 billion dollars in 1960 -- an extraordinarily rapid rise even after discounting for changing building costs. Thus, since the main sources of the demand for bleachers are public schools, it would appear that the basic element of demand has expanded rapidly.

This conclusion is confirmed by Table 10. In the 1940-1946 period there was a net decline in total enrollments, junior and senior high school enrollments, and capital expenditures. From 1946-1950 the picture was altered radically: all three items increased. Junior and senior high school enrollments in particular and total enrollments in general grew at an accelerating rate from 1950 to 1960. A hefty annual increase in capital expenditures also took place. Projections indicate that total enrollments will grow by about 2% annually until 1970, junior and senior high school enrollments by about 3.5%, and capital expenditures by 5.6%.

Unfortunately, however, increased enrollments or even growing capital expenditures are not automatically correlated with rising bleacher sales. School districts can either anticipate enrollment increases in their building programs or lag behind them. In addition, the consolidation movement among schools may have a dampening effect on bleacher sales, for larger districts probably require fewer feet of

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TABLE 10. -- Increases in enrollments and capital expenditures by period, 1940-1970

Years	Average Annual Percentage Increase: Total Enrollments	Average Annual Percentage Increase: Total Senior High School Enrollments	Average Annual Percentage Increase: Capital Expenditures
1940-46	-1.4	-2.9	-20.3
1946-50	1.8	0.4	22.3 ^b
1950-56	3.2	2.8	9.6
1956-57	3.6	6.5	
1957-58	4.2	7.9	
1958-59	3.7	5.0	
1959-60	3.1	2.0	
1956-60	3.6	4.7	2.1
1960-70 ^a	1.9 to 3.3	3.0 to 4.1	5.6

^aTwo-thirds of enrollment increases are expected to occur between 1960 and 1965.

^bAbnormally high because of (1) unusually low expenditures during and immediately after World War II; and (2) rapid rises in building costs during this period.

Source: Computed from Table 9.

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bleachers per pupil.³² Even more important, such government programs as the National Defense Education Act, with its provisions for matching funds for certain types of classroom construction, may have diverted resources toward academic facilities and away from athletic structures.

Thus, while it can be said that the basic constituent of demand for bleachers (the number of pupils) has risen substantially and will continue to increase until at least 1970, it does not follow that these enrollment increases have been or will be directly translated into bleacher purchases. There are also other factors.

This is clearly seen in Table 11, which shows bleacher sales from 1944 to 1960, measured in terms of footage and dollar volume. Footage purchases have increased from an annual average of 255,769 feet in 1944-1947 to 1,362,753 feet in 1960, a growth of more than 400%. Dollar volume has risen from \$903,938 to \$9,543,300 in the same period, a gain of over 900%.

If a more relevant time span is taken -- say from 1950 to 1960 -- dollar sales of bleachers rose 92%, while capital outlays of schools were increasing by 156%. The same relationship holds if

³²In small towns basketball is often the most important activity of the year -- an event for the entire community. As districts consolidate and the school becomes more removed from the community, there is a tendency for such nearly universal interest to decline.

TABLE 11. -- Bleacher sales by footage and dollar volume, 1944-1960

Year	Footage sales	Dollar sales
1944-1947 ^a	255,769	\$ 903,938
1947-1949 ^b	270,660	1,392,668
1949-1951 ^c	789,061	4,917,208
1952	609,581	4,410,798
1953	939,306 ^d	6,500,000 ^d
1954	1,092,203 ^d	7,000,000 ^d
1955	1,303,298 ^d	10,999,343
1956	1,313,894	12,512,160
1957	1,360,627	12,913,321
1958	1,439,437	12,948,198
1959	1,470,897	10,391,140
1960	1,362,753	9,543,300

^aAnnual average March, 1944 to March, 1947.

^bAnnual average March, 1947 to March, 1949.

^cAnnual average March, 1949 to December, 1951.

^dIncludes minor, estimated amounts for Berlin-Chapman and Leavitt (which was bought later by Safway). Without estimates sales were \$6,234,793 (1953) and \$6,511,861 (1954). 1953-1955 footage data estimated by using prices derived in Table 32, below.

Source: Compiled from Gymnasium Seating Council 1944-1952 data (Exhibit 20, State of California et al. vs. Brunswick et al., op. cit.), from informal interchanges of data by various producers during 1953 and data collected by the conspirators during 1954-1955 (document 7-17-2), and from FGS Council data 1956-1960. (See Appendix for sources.)

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other base years are used. Thus, the demand for bleachers has risen rapidly, although not as fast as other capital expenditures by school districts.³³

This does not mean, however, that the demand for bleachers has grown slowly in relationship to the demand for other items. If bleacher sales are compared with sales of manufactured durables, as Table 12 shows, it is clear that bleacher sales, and hence demand, have grown more rapidly than the sales and demand for other manufactured durables. If all manufacturing sales were taken, the same conclusion would hold.

Thus the demand for bleachers has grown more rapidly than the demand for other manufactured goods and less rapidly than the capital outlays of school districts. And, in general, the growth of the demand for seating has been spectacular.

The Shape of the Demand Curve

The shape of the demand curve for bleachers may be of even more consequence than its growth, for if the shape is inelastic,

³³Since sales are determined by the intersection of both supply and demand, sales and demand cannot be equated. If supply increases and demand has any elasticity, it is theoretically possible that sales can increase without any change whatsoever in the demand curve. As will be shown below, however, the demand curve for bleachers is inelastic, so that this possibility is not relevant.

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TABLE 12. -- Bleacher sales as percentage of sales of manufactured durables, selected years, 1944-1960

Year	Bleacher sales (millions dollars)	Sales of Manu- factured durables (millions dollars)	Percent (in hundred thousands)
1944-47 avg.	.9	73,364	109
1950	4.9	105,648	465
1952	4.4	131,100	336
1953	6.5	148,500	438
1954	7.0	135,924	515
1955	11.0	156,948	701
1956	12.5	165,660	755
1957	12.9	169,908	760
1958	12.6	148,596	850
1959	10.4	174,084	597
1960	9.5	176,160	542

Source: Compiled and computed from U.S. Department of Commerce, Business Statistics, 1961 Biennial Edition, (Washington: 1961), p. 21, and bleacher sales as shown in Table 11. The choice of manufactured durables was dictated by the durability characteristic of bleachers. If all manufactured goods are included, the rise in the figures in the last column would be slightly less perceptible.

conspiracy will be far more profitable than if it is not.³⁴

Even on first examination bleachers would seem to fulfill, a priori, the usual textbook requirements for a product with an inelastic demand. They are a necessity in that they are essential if revenue is to be realized from the schools' indoor athletic program. They constitute a diminutive portion of the cost of a gymnasium, for a typical bleacher installation requires an outlay of from \$2,000 to \$30,000, while the bill for the gymnasium usually ranges in the hundreds of thousands of dollars.³⁵ In addition, they are a product virtually without substitutes and one for which foreign competition is minuscule.³⁶ In theory, then, the demand curve for bleachers should be inelastic. Is this conclusion substantiated by the statistical evidence?

Several factors, indigenous to the industry, complicate the task of answering this question. Bleacher sales are subject to seasonal variations, since school finances are often dependent on public approval of bond issues, and are also based on fiscal years --

³⁴If the demand curve is elastic, total revenue will decline as prices are raised, and conspiratorial attempts to augment prices will be unprofitable.

³⁵Compiled and computed from the Brunswick sample.

³⁶In all the documents reviewed there was not a single instance of foreign producers invading U.S. markets.

factors that could lead to a rhythmic clustering of outlays. There may be similar distortions due to the seasonal use of bleachers -- a factor that may tend to concentrate construction and installation during certain months. Failure to compensate for such cyclical factors could, therefore, seriously pervert any results derived from the data.

To make the task even more complicated, backlogs are another potentially distorting influence which have been at times prevalent in the industry; they permit producers, according to their appraisal of market conditions, either to compress or to extend their period of production, thereby reducing or expanding their backlogs. This being so, it is theoretically possible for sales to reflect the market strategies of producers rather than the demand of purchasers. A series based on new orders placed by school districts would eliminate this difficulty.

Thus, along with a series of per-foot prices and sales from May, 1956, to March, 1961, data on new orders placed for the years 1958-1961 have been collected.³⁷ Furthermore, possible seasonal variations have been taken into account. As a result, four series emerged: two sales series, one seasonally adjusted, one not; and two new-order series, one seasonally adjusted, one not.

³⁷The data on new orders are based on the series described in Appendix B.

Three separate computations were then made on each series:

(1) Correlation coefficients between per-foot prices and either sales or new orders were calculated; (2) regression lines for the same variables were found; and (3) elasticities were derived from the regression lines. Table 13 summarizes the results.

Especially striking are the low correlation coefficients -- all less than $\pm .005$. This suggests that price and quantity are unrelated, exactly what would be expected of a highly inelastic demand curve.³⁸ The positive correlation coefficients between price and new orders, if it were not for their low level and the sketchiness of the underlying data, would be noteworthy.

The probable inelasticity of the demand curve is reflected in the elasticities computed from the regression line. An elasticity of .0006, or even .002, is small enough so that the demand curve can be said to be approaching perfect inelasticity.

That the demand curve is inelastic has been widely recognized throughout the industry, as this comment made by Fred Corray, Chairman of the FGS Council, indicates:

³⁸See Appendix A for a discussion of the statistical and mathematical tools employed in the above calculations. An elastic demand curve would yield a positive correlation coefficient unless high conspiracy prices were found in periods of peak demand. Even in this case the association between high prices and periods of high demand would have to be strong enough to overcome the elasticity effects. Only in this case would an elastic demand curve yield such low correlations.

TABLE 13. -- Elasticity of demand for bleachers

Type of series	Number of observations	Variables correlated	Correlation $r =$	Equation of least-squares approximation to demand curve	Price Elasticity ^a
<u>Sales</u>					
No seasonal adjustment (May, 1956 to March, 1961)	59	Per foot prices sales, in feet	-0.002	$q = 116.5$.00006p	.0005
Seasonally adjusted (May, 1956 to March, 1961)	59	Per foot prices sales, in feet, seasonally adjusted	-0.001	$q = 113.2 -$.003p	.002
<u>New Orders Placed</u>					
No seasonal adjustment (Jan., 1958 to March, 1961)	39	Per foot prices new orders, in feet	+0.003	$q = 155.2 +$.00003p	
Seasonally adjusted (Jan., 1958 to March, 1961)	39	Per foot prices new orders, in feet, seasonally	+0.005	$q = 153.8 +$.0002p	

^aPoint elasticity at $p=800$. No measurement of elasticity is possible when there is a positive correlation between price and quantity. The positive correlations are open to considerable doubt because of the nature of the data on which they are based. See Appendix A.

Source: Computed from sources listed in Appendix A. q = quantity (thousands of feet), p = price (in cents).

The amount of bleacher seating that can be sold each year is rigidly fixed by the number of school buildings built or by the small changeover of old buildings.³⁹

In regard to the nature of the demand curve for seating, then, economic theory, econometric evidence, and industry statements coincide.

The Composition of Demand

Since bleachers are a heterogeneous product, prices can be directly affected by a differential growth in the various segments of demand. A more rapid increase in expensive types of bleachers or in costly extras than in standard styles would cause price series to show apparent rises while none occurred in reality.

Unfortunately, the available data do not readily permit definitive measurements of relative shifts within the demand curve. Sales data, although generally indicating what special features are included, fail to segregate the price of the extra (or even the amount of seating for which the special feature must be provided) from that of the standard seating. Bid data, on the other hand, while differentiating between the standard and special feature, are suspect because of changes in the forms on which bids were reported.⁴⁰

³⁹Fred Corray communication of pricing practices sent to bleacher producers, op. cit.

⁴⁰The later forms included a specific place for the estimator to show what extras were to be included in the bid; the earlier forms did not incorporate this feature.

Table 14 is an attempt to rectify the situation. It is based on a comparison of potentially important segments of the demand curve between 1954 and 1959. Prices for each special segment are based on those that were most often in force during the relevant conspiracy period.⁴¹ Such items as 24" spacing, 11" or more rise, powered units, recessed and reverse-fold bleachers, and remote-control units have increased in importance, which would support the contention that relative shifts in demand have tended to enhance bleacher prices. This conclusion is to be expected, for the emphasis on design flexibility that has become popular with school architects would seem inevitably to entail stressing special features in seating orders.⁴²

The table also reveals, however, that despite this growth, the net effect on prices has been nominal both because these features are such a small proportion of total sales and because in many cases their inclusion would not substantially augment the total value of the

⁴¹This is another reason to believe that the table overstates the importance of relative shifts in the demand curve, for the conspirators tended to exaggerate in their prices the actual cost of these features. As a result, during the relatively more competitive period in 1959, price differentials for these declined. In a competitive industry, then, price increases due to relative shifts in demand would probably have been less than 2%

⁴²Special features as used above refer not only to extras but also to reverse-fold and recessed bleachers, special rises, and special depths.

TABLE 14. -- Potential effects of the growth in sales of selected variables on bleacher prices

Variable	Approximate per- centage of 1954 orders including this variable	Percentage of 1959 orders in- cluding this variable	Approximate in- crease in price this variable adds to a normal order	Net effect of change in sales of this vari- able on bleacher prices (percent)
24" spacing	4.0	11.7	7 1/2	.60
11" or more rise	1.0	3.1	10	.20
Powered units	0.0	0.5	20	.10
Recessed units	0.5	1.0	15	.15
Reverse-fold units	0.5	1.0	15	.15
Remote control	0.0	0.1	15	.02
Mobile units	2.0	1.5	20	-.10
Aisles	n.a.	n.a.	n.a.	slight increase
Others ^a	3.0	5.0	2 ^b	.04
Bleachers having 13 or more rows	10.0	10.0	20	
Elimination of end rails and panels; timers tables as standard equipment	n.a.	n.a.	1	slight increase
TOTAL MAXIMUM PERCENTAGE INCREASE				2.0

n.a.- not available

^aSee Table 7 for a complete list^bAverage for these items

Source: Compiled and computed from Brunswick sample and Brunswick "Industry Variable Analysis," document number 4-4137. Estimates had to be made, since often only a portion of the order included the variable. In each case, maximum percentages were taken for 1959 and minimum percentages for 1954. Thus, if anything, the figures overstate the effect of the shift in demand.

order. In fact, the maximum increase due to relative shifts in the demand curve is estimated to be in the neighborhood of 2%.

It would appear, then, that conclusions about the growth and shape of the demand curve are not invalidated by relative shifts in the demand curve for bleachers, and that price series can be constructed without further consideration of such shifts.⁴³

3. CONCLUSION

To recapitulate, bleacher manufacturers have been particularly fortunate; they have not only been able to take advantage of the spectacular post-war jump in demand, but they have also been presented with the opportunity of exploiting an inelastic demand curve. In this setting conspiracy is not only possible but potentially highly profitable.

⁴³This is important for the price series discussions in Chapter 6.

CHAPTER 4

BLEACHER INDUSTRY STRUCTURE

So far it would appear that the characteristics of bleachers as a product provide no major hindrance to a remunerative conspiracy.¹ Furthermore, the nature of the market -- particularly as shown both by the growth and the inelasticity of demand -- would, to say the least, foster conspiracy.

Fortunately, however, the possibility of a profitable conspiracy is no guarantee of its attainment. If there are many sellers in an industry, effective agreements, even when profits can be realized thereby, may be impossible because of the problems of coordinating such a group. And as a result, conspiratorial effects may be minimal. The structure of an industry, then, may be a pivotal factor either promoting or retarding conspiracy. How many firms sell bleachers? How are bleachers sold? Are the purchasers of bleachers concentrated? Are there intermediaries impinging on buyer-seller relationships? Is

¹In subsequent chapters, evidence that this statement cannot stand examination will be presented.

entry restricted? How prevalent is product differentiation? Such structural questions may be the key to the influences that have made conspiracy in this industry a fait accompli.

1. NUMBER OF SELLERS

The seating industry during the period 1950-1960, as indicated by Table 15, was dominated by six major firms: Berlin-Chapman (which now forms a part of the Prefex Corporation), Brunswick-Horn, Medart (now a subsidiary of Jackes-Evens), Safway, Universal and Wayne, the informal names by which these companies are designated throughout the industry; Wayne and Universal are the oldest of the bleacher producers, entering the industry around 1910. Medart and Horn Brothers (acquired by Brunswick in 1952) started producing bleachers somewhat later. The latter four firms formed the GSC and were its only members. And currently these firms remain the core of the industry, controlling in 1960 a combined total of 74% of bleacher sales.

Berlin-Chapman invaded the industry in a small way about 1950, but had neither the size nor, apparently, the desire to join the GSC, although by 1955 the company exhibited both by seeking and obtaining membership in the FGS Council. Safway entered both the industry and the Council by purchasing Leavitt, which had previously

TABLE 15.-- Historical and statistical data on major bleacher producers

Name of company during FGS period (1954-1959)	History of company	Date and place of incorporation
Berlin-Chapman	Entered industry in 1950, but not significant producer until about 1954. In 1958 joined Crosby-Miller and later became part of Consolidated Manufacturing Corporation. Now part of Prefex Corporation (by merger: 1963).	n.a.
Brunswick-Horn	Entered industry in 1952 by acquiring Horn Brothers, a major producer and member of the GSC. Brunswick-Horn is a part of the Brunswick Corporation, originally the Brunswick-Balke-Collender Co. This corporation is famous for its bowling equipment line.	1907 Del.
Fred Medart Products, Inc.	Acquired by Medart Company in 1947. Fred Medart Products incorporated in 1908 and operated as subsidiary of Medart. Member of GSC. In 1961 Medart was sold to the Jackes-Evens Company.	Medart Co. organized 1873, incorporated in Mo., 1913
Safway Steel Products, Inc.	Originally known as Uecker Equipment Company. Became Safway Scaffolding Company in 1937. Present name adopted in 1942. Entered bleacher industry by purchase of Leavitt, a minor producer, in 1956.	1936 Wisc.
Universal Bleacher Company	Incorporated in 1958, succeeding a limited partnership established in 1955, which in turn succeeded a general partnership established in 1953. Stock still largely owned by the Vance family. With Wayne, among earliest bleacher producers, having entered business around 1910. Member of GSC.	1958 Del.
Wayne Iron Works	With Universal, oldest bleacher producer. Member GSC.	1893 Pa.

Source: Compiled from Moodys' and Standard and Poors', various editions, 1936-1964. Some information from California documents.

joined in 1955, even though its market share was only about 5% that year.² By 1960 Berlin-Chapman and Safway together accounted for almost 18% of industry sales.

In the interim between the GSC and FGS Council periods two new firms, Hussey and Nar ragansett, started seating production but did not become major forces in the industry until 1957. By 1960 these two entrants had obtained a sales penetration of approximately 7%.

It would appear, then, that at least in 1960 bleachers were an industry in which four firms accounted for 74% of sales, six companies controlled over 90%, and 99% of sales were made by the eight largest firms.

This concentration, as Table 16 reveals, was not confined to 1960. for, if anything, the industry was dominated in earlier years to an even greater extent by Brunswick, Medart, Universal, and Wayne. For example, during the 1944-1952 GSC period, these four companies held virtually complete sway over the industry, collectively representing over 95% of sales. Even though their control was slightly weakened by the emergence in 1955 of Berlin-Chapman and the later

²Based on document 5-8530. Safway, through an associated company, Beatty-Safway, had built bleachers as early as 1950, but only in a relatively minor way. See below for further discussion of this point.

TABLE 16. -- Market shares by sales, major producers, 1944-1960 (in per cent)

Company	1944	1947	1949	1951 ^a	1952	1953	1954	1955	1956	1957	1958	1959	1960
	1947 ^a	1949 ^a	1951 ^a		1952	1953	1954	1955	1956	1957	1958	1959	1960
Berlin- Chapman								10%	9%	9%	8%	6%	6%
Brunswick- Horn	18%	34%	29%	29%	25%	29%	26%	24 (28)	24 (28)	23 (32)	21 (30)	23 (29)	12 (16)
Medart	35	45	30	30	33	25	30	21 (25)	21 (25)	16 (23)	17 (24)	16 (21)	20 (27)
Safway ^c								5	5	10	7	8	12
Universal	20	12	17	17	18	16	16	16 (19)	21 (25)	14 (20)	15 (21)	18 (23)	21 (28)
Wayne	27	9	24	24	24	20	29	24 (28)	18 (22)	18 (25)	18 (25)	21 (27)	21 (28)
Hussey								n.a.	3	5	8	4	5
Narragansett								n.a.	n.a.	4	4	1	3

n.a.- not available ^aSee Table 7 for an explanation of figures prior to 1953.

^bHorn Brothers before 1952.

^cLeavitt before 1956.

Source: Computed and compiled from sources listed in Table 11. Data prior to 1955 include information for Brunswick-Horn, Medart, Universal, and Wayne only. Figures in parentheses after 1954 are for the same four companies.

growth of Safway, Hussey, and Narragansett, nevertheless the share of the four firms during most of the FGS Council years remained well above 75%.

Aside from the persistently high concentration prevalent in the industry, two other characteristics of the companies are significant: the absolute size of the various firms and the number of products they make. On both scores, as Table 17 demonstrates, Brunswick has a clear advantage. Aside from Medart and Wayne, Brunswick is the only company manufacturing significant amounts of school equipment other than bleachers. And, in comparison, Medart and Wayne make a limited line of products. In terms of goods not sold to schools, Brunswick also has a sizeable advantage over Berlin-Chapman, Medart, and Safway, the only other major producers of such goods.

The preponderance of products made by Brunswick as contrasted with those manufactured by other companies is reflected in the absolute size of Brunswick. For in 1960 total sales of Brunswick were \$403,343,000; bleachers represented an infinitesimal .3% of sales.³ So great is Brunswick's absolute size that while their revenues run in the hundreds of millions, the combined sales of all

³Brunswick Corporation, 1962 Annual Report, p. 7.

TABLE 17. -- Products produced, percentage of sales derived from bleachers, and absolute amount of seating sales in 1960

Company	Products produced by company		Percentage of total sales revenue derived from bleachers	Absolute Amount of bleacher sales (1960)
	Not related to school equipment	Related to school equipment		
Berlin-Chapman	Foundry, machine shop and fabrication work	n.a. Only minor products, if any.	25% ^a	\$ 614,000
Brunswick-Horn	Bowling and billiard equipment, sporting goods, marine products, medical equipment, defense products	Folding partitions, doors, and stages, school furniture, lockers, wardrobes, cabinets, basketball backstops, chalk boards	.5	1,138,933 ^b
Medart	Transmission equipment, shelving, lockers, speed machinery	Gymnasium apparatus, basketball backstops, scoreboards	40	1,879,023
Safway	Scaffolding, hoists, chair risers, tubular steel products	Outdoor bleachers, no other major products	22	1,107,171
Universal	No major products	Outdoor bleachers, no other major products	over 50	1,966,842
Wayne	Fencing and gates	Folding partitions and doors	76	1,959,601

^a2% after 1958 when merged with Consolidated Foundries and Manufacturing Corporation.
^b1960 atypical. During most of conspiracy periods first in sales of bleachers.

Source: Compiled and computed from Moodys' and Standard and Poors', California documents, annual reports of the various companies, and other industry sources.

other bleacher producers are calculated in the tens of millions. So great is Brunswick's absolute size that its after-tax profits have traditionally been greater than the combined sales of all other producers. As J. E. Van Sistine put it:

So if Brunswick decided to give every school district in the United States a set of bleachers for nothing, it wouldn't affect the value of the stock two dollars a share.⁴

Not only, then, is the bleacher industry overwhelmingly composed of eight firms and dominated by four, but one of the major producers possesses such absolute size that it dwarfs its competitors.

In addition to Brunswick's Gargantuan girth, the multiproduct characteristics of some of the other firms are striking. Medart, which produces transmission equipment, shelving, lockers, and speed machinery, as well as gymnasium apparatus, basketball backstops, and scoreboards, can hardly be characterized as completely dependent on bleachers for its revenue. The same holds for Safway, which produces outdoor bleachers, scaffolding, hoists, chair risers, and tubular steel products; for Wayne, which produces folding partitions and doors; and for Berlin-Chapman, with its foundry outlets. In other words, these four firms possess some staying power were Brunswick to engage in a campaign of deliberate destruction of competition.

To summarize, then, the Brobdignagian strength of Brunswick,

⁴Van Sistine statement, pp. 46-47.

even though mitigated slightly by the conglomerate character of other producers, makes more dramatic the industry's already high concentration. Not only did the possibility of a profitable conspiracy exist, but in addition an easy path to conspiracy was provided by the high level of concentration extant in the industry. And the ability of several firms in this industry to withstand severe pressure made the selection of the conspiracy path almost inevitable.

2. NUMBER OF BUYERS

As has been previously pointed out, seating sales are made mostly to public and private schools. Since there are thousands of independent school districts in the United States, it follows that there are numerous purchasers of bleachers and that they would tend to be uncoordinated and unstructured, especially in the absence of viable common purchasing agencies.⁵

The case is not as simple as this information would imply, since in addition to the producer and the purchaser, in nearly every sale there are two important additional participants: the agent (local representative) of the manufacturer and the general contractor, who is involved in 70% of bleacher transactions.

⁵In all the documents studied, references were found to only two common purchasing agents; both were too small to affect the industry and both were quickly disbanded.

Before turning specifically to the role of the agent and the general contractor, it is necessary to describe the usual steps which must transpire before a sale is completed. The anatomy of a typical transaction, except for the absence of a general contractor, would include the following:

- (1) Since 85% of purchases are made by high schools, the sale usually starts with plans for a new gymnasium or alterations in an old one. Such plans will be announced publicly, and the school may even directly alert the agents of various producers.
- (2) The agent, acting on this information, will request that the school supply blueprints showing the general design and dimensions of the gymnasium and will, in turn, transmit the prints to the parent company.
- (3) The manufacturer will show what types and quantities best fit the gymnasium. In this process, he will attempt to use features unique to his seating and potentially detrimental to competitors should they desire the order. The manufacturer will return the prints, along with indications of how he would fill the order, to the school.
- (4) The school will determine which designs it prefers, and the companies whose designs are so specified are known as the companies (or in some cases company) specified. The school will incorporate the design(s) of companies specified into its contract, and announce that bids are to be let on the seating.
- (5) The agent will convey the date of the bid opening, the specifications of the seating, the date the seating should be installed, and other pertinent information to the parent company.
- (6) The manufacturers will determine their installed prices and will notify their agents, who will submit the bids. The school, then, may select a successful bidder or reject all of the bids, in which case the process may have to be started all over again.

- (7) The agent of the successful bidder will invariably be assigned the responsibility for installing the bleacher.

Although this procedure is not followed rigidly (even in the 30% of the cases where a general contractor is not involved), it is probably the most common way in which a sale is consummated.⁶

The role of the agent.--Each producer maintains a number of local representatives (agents) in every section of the country. The agent has a wide variety of duties. He must be well-enough acquainted with school personnel to know where bleacher installations are planned. He must be prompt in securing specifications from the school (or from the general contractor) and in transmitting them to the parent company. He must be persuasive in attempting to convince the purchaser of the superiority of his company's specifications and, ultimately, the pre-eminence of his product. He must be able to gauge the market accurately, usually in terms of what the customer wants, but often during periods of conspiratorial cheating or competitive activity in terms of the price concession the parent company must make in order to obtain the business. Finally, he must be able to install and service the bleachers.

⁶In some cases, for example, the school will know exactly which design it wishes and will therefore not go through the procedure of specifying a design. In California the process is modified because of the need of state approval before most sales can be completed.

The representative is usually a school-equipment supplier and as such provides school districts with a number of products, only one of which is seating. He might sell chairs, tables, office furniture, and scientific equipment, none of which are made by the bleacher producer he represents. For his services in selling seating, as with other products, he is compensated by means of a commission, which usually ranges from 10 to 15% of the selling price of the bleacher.

In one respect, however, the relationship between seller and agent in this industry is unique: the agent is largely controlled by the producer. Not only is he required to submit a delivered and installed price, but producers strenuously endeavor to see that in the process of transmission agents don't compromise their bids. For example, one dealer who attempted to cut a Brunswick bid without authorization found himself in quite a spot. The following colloquy describes what happened:

Q. The agent was told that. . . (he) must submit this identical bid.

A. That is correct.

Q. He could not cut his commission. . .

A. And if he cut, as was done by a company up in Minnesota. . . They cut the price three thousand dollars, and they promptly received a telegram from Brunswick, notifying them that

their Horn franchise had been cancelled.⁷

Under these conditions, agents became wary about cutting prices, and parent firms, by using such drastic methods, were able to exercise at times an almost autocratic dominance over their dealers.

This is not to say, even from the producer's viewpoint, that the agent had a negligible impact. On the contrary, the quality of the firm's representatives in some measure determines how well the company can perform when bidding is close on a particular job, and also how many premium-priced orders are obtained.

TABLE 18. -- Number of agents of various producers (1956)

Company	Number of agents
Berlin-Chapman	30
Brunswick-Horn	63
Medart	30
Safway	n.a.
Universal	50
Wayne	50

n.a. - not available

Source: Compiled from Brunswick estimates, document 4-4060. These data are consistent with material found elsewhere.

⁷Statement, Dr. Russell Wilson, owner of Equip Company,

The number of a firm's agents is highly correlated with the market coverage achieved, and with, therefore, the percentage of sales opportunities that become known to the producer.

In this connection, at least as measured by number of agents, Brunswick had an advantage. As Table 18 demonstrates, in 1956, for example, Brunswick had considerably more franchised agents than any other producer, while Medart, Universal, and Wayne, the other largest firms, also had many dealers.

The role of the general contractor.--The process of making a sale is altered and made more complex if a general contractor is involved. In some cases, the general contractor is merely left free by the school board to choose among several bids, all of which must meet the specifications previously selected by the board; in other instances, the contractor is allowed to determine both the specifications and the bid which best meets them.⁸ In either event, the contractor often has a decisive impact on the sale: if he is allowed to influence

one-time Brunswick, Wisconsin agent, made February 20, 1961, at Ann Arbor, Michigan, pp. 8-9. The questioner is William Cohen, Deputy Attorney General of California. (Henceforth called the Wilson statement.)

⁸Under these circumstances, the school board usually will include in the general contract only such vague specifications as the number of rows and length of the bleachers; the specifics (such as where to place the aisles, the amount of room allowed for the bleachers) will be left to the discretion of the contractor.

the board in deciding on the original specifications, he can exert his prestige so as to obtain specifications favorable to the producer of his choice; if he is completely free to select the seating, he can determine the successful bidder directly. He is also important for another reason: he almost invariably selects the low bidder, while a board tends to be more impressed with quality considerations.

Other forces tending to limit the power of the sellers. --

Schools, despite their lack of organization, are not without weapons in their struggle with producers, for there are three modifications to the sales procedure which have not yet been discussed. Each is of some help to purchasers. First, the period from the announcement of a potential order to the date of sale is a long one, varying from as little as two months to as much as two years.⁹ This interim is often a period of feverish activity: schools playing bidder against bidder, changing their specifications, rejecting bids, and using other devices to wring price cuts from producers. Second, schools often ask sellers to bid on alternate specifications. For example, a board may ask for bids on 100 feet of both ten- and eleven-row bleachers.

⁹ Calculated from the Brunswick sample. These lags were estimated by comparing the bid data with the sales data for the same job. This procedure does not, of course, take into account lags between the date when the bleachers are first planned and when bids are first opened.

Undoubtedly many such requests are motivated solely by a desire to make intelligent choices among different seating arrangements, but a by-product of this process is a tendency for manufacturers to have a more difficult time maintaining successful bid-rigging. For an anxious seller is often sorely tempted to obtain additional business by "mistakenly" providing the quantity required by the higher-cost alternative at the price arrived at for the lower-cost one. Third, bids are sometimes made on a combination basis. A bid for bleachers, for example, may be coupled with one for backstops. Either the purchaser, seeking to obtain price concessions, or the producer (or his agent), desiring to gain business, may initiate combination bids. And often the temptation to cut prices has proven well-nigh irresistible, for the agent (sometimes with the covert encouragement of its parent company) can lower prices on non-bleacher items without violating industry norms.¹⁰

Even a cursory examination reveals, then, that producers, on the one hand, are a highly concentrated group, and they face purchasers who are, on the other hand, diffuse, unstructured, and uncoordinated. But there are also several factors -- agents, general

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These factors will be discussed more thoroughly in the following three chapters; detailed evidence will be adduced to justify the above statement.

contractors, time lags between bid and sale, alternate bids, and combination bids -- which may mitigate and tend to redress this imbalance.

3. ENTRY

Entry into the industry has been the rule rather than the exception. For example, as indicated above, a number of firms led by Berlin-Chapman, Leavitt-Safway, Hussey, and Narragansett have successfully invaded the bleacher industry. And these four firms, although by no means dominating the industry, nevertheless managed to attain in 1960 a combined total of about 25% of industry sales.

In addition, during these years several other firms, as shown by Table 19, came into production, albeit without attaining the market penetration of their more prosperous counterparts. Among this group the most prominent and flourishing is Leavitt which, after selling its bleacher business to Safway in 1956, reentered the industry three years later, and in the first quarter of 1961 managed to garner approximately 5% of industry sales.¹¹

Attempts to infiltrate the industry have not always met with such success. As a case in point, about 1950 Safway formed an

¹¹Based on "Sales Analysis Reports," described in Appendix A.

TABLE 19. -- Entries and exits from bleacher production

Company	Year maximum percentage of Sales attended	Maximum percentage of industry sales attended
<u>Successful entrants</u>		
Berlin-Chapman	1957	8
Hussey	1959	8
Leavitt-Safway	1960	11
Leavitt (re-entry)	1961 ^a	5
Narragansett	1959	5
<u>Unsuccessful entrants^b</u>		
American Welding	1954	n.a.
Barber-Colman	1960	1
Beatty-Safway	1958	1
Blackman	1960	0.6
Ederer	1959	1
Hydro-Kinetics	n.a.	n.a.
LaSalle Engineering	1959	0.1
Snyder Tank	n.a.	n.a.
Williams	n.a.	n.a.

n.a. - not available

^aFirst three months.

^bCompanies which entered the industry and subsequently left it.

Source: Compiled from "Sales Analysis Sheets," described in Appendix A, and in a few instances from other industry information. In some cases, the figures for a given year from Tables 16 and 19 may add to slightly more than 100%; two factors account for this: rounding errors and cancelled contracts which may appear as negative numbers on the "Sales Analysis Reports."

associated company which manufactured and sold seating. Under the name of "Beatty Bleachers" this company began to threaten the four established members of the GSC by stressing the advantages of 24" spacing, a property at that time exclusive to the Beatty product. Despite this initial asset, Beatty never became an important influence in the market and was eliminated when the existing bleacher companies took turns cutting prices on the West Coast where Beatty was located. Beatty was ultimately forced to sell out to Safway.¹² And as the table demonstrates, such incipient attempts to enter the industry were not isolated phenomena. There were fourteen separate entries in the post-war years, of which no less than nine were subsequent exits.

Economic theory would indicate that the sporadic and sometimes successful attempts at entry that took place would be normal for such an industry as bleachers. The technology, as compared to producing, say, an automobile, is relatively uncomplicated. There are but few patents in the industry, and sufficiently varied methods of making bleachers to overcome them.¹³ The market is small, so

¹²See the Van Sistine statement, pp. 55-57, for a discussion of Beatty-Safway.

¹³Berlin-Chapman had to pay a minor fee for the use of one of Medart's patents, the only known case in which patents were at all significant. This patent ran out in 1956.

that initial expenditures for advertising, maintenance and development of a dealer system, and provisions for management need not be great. Initial outlays for plant and equipment also need not be large, for it cost Brunswick less than \$100,000 to redesign its bleachers completely.¹⁴ In the case of potential entry, empirical evidence and economic theory jibe -- both lead to the conclusion that entry into the seating industry is relatively easy, and it would seem logical that this fact might have important effects on the form conspiracy would take.

4. PRODUCT DIFFERENTIATION

As described in Chapter 3, bleachers are a heterogeneous product, a characteristic that enables manufacturers to attempt to differentiate their product. Table 20 partially reproduces a chart prepared by California and shows some of the more important grounds on which claims for product superiority can be based. An examination of the table reveals that depth, rise, seatboard height, sectional lengths, individual locking on rows, how the weight of the bleacher rests on the floor, heel space, and sloping seatboards, each design has some desirable features and some which are less

¹⁴Based on calculations made by Brunswick. See document 4-2736.

TABLE 20. --- Sources of product differentiation for bleachers

Name of Manu- facturer	Rise	Depth	Vertical dis- tance from		Position of front when closed	Do rows lock inde- pend- ently?	How loads rest on floor	Sloping seat- boards
			foot to seatboard	Length of Sections				
Berlin- Chapman	22" and 24"	10"	16 1/2"	8', 12' and 16'	Sloping 10°	No	Wheels	7 1/2" Yes
Brunswick- Horn	22" and 24"	9" and 11 1/2"	18"	8' and	Sloping 16° or 21°	Yes	Wheels	7 1/2" to 8 1/2" No
Hussey	22" and 24"	9 5/8"	16"	16' and special	Vertical	Yes	Plastic Wheels	1 5/16" No
Medart	22" and 24"	10 1/2" 11 1/2"	17" and 18"	8' and	Vertical	No	Column base plate	6 3/8" Yes
Safway	22"	9 1/2"	16"	16'	Vertical	Yes	"	7" Yes
Universal	22" and 24"	8 1/2"	18 1/2"	8' and 16'	Sloping 30°	Yes	Part on wheels; part on column	6" to No
Wayne	22" and 24"	10 1/2" and 11 3/8"	17" and 17 3/8"	16'	Vertical	No	Column base plate	None Yes

Source: Compiled from document 4-2976, a California listing of various producers and the characteristics of their products.

desirable. And, of course, the producer will attempt to use this to convince the customer of the superiority of his bleachers.

Take, for example, one characteristic: the slope of the front when the seating is closed. The face of Brunswick's simple-folding model slopes away from the wall, while the front of a bleacher is vertical in Hussey, Wayne, Medart, and Safway telescoping models. Brunswick tried to exploit this feature of its design by claiming that it would reduce or prevent injuries to athletes. Simultaneous contact of foot, knee, shoulder, and head would be permitted since players instinctively look downward when forced off the court. Thus, Brunswick argued, the player was automatically protected, since he would have time to cover himself after striking his lead foot against the protruding bottom of the bleacher. Brunswick's sales manager coined the term "safety zone" to describe this concept.

The companies who produced the telescoping bleacher responded by extolling the virtues of the vertical front. The running player, they claimed, does not see the bleacher at floor level but at eye level; he will be tripped by the sloping front and possibly hurt his knees and legs. Furthermore, the vertical front saves valuable floor space.¹⁵

¹⁵ For a typical discussion about sloping fronts see document 1-22074.



The opportunity for such disagreements enabled producers to try to persuade buyers of the superiority of their product, and sometimes allowed them to secure a contract even though their bid was not low, a situation that presented the conspirators with some serious problems.

5. CONCLUSION

Chapter 3 demonstrated that conspiracy was, given the nature of the demand curve, potentially profitable. Chapter 4 attempted to delineate the structure of the bleacher business and to determine whether this structure would contribute to or retard successful conspiracy.

In general, it would appear that the structure would contribute to conspiracy, since the industry is dominated by a few sellers, one of which is a large conglomerate firm. In addition, some of the other firms were sufficiently strong to be relatively difficult to eliminate by deliberate price cutting, thus removing one of the conglomerate firms alternative courses of action.

On the other hand, sellers are completely unconcentrated. However, on occasion they do have some weak allies: the agent of the producer who will sometimes secretly cut prices to obtain the business; the general contractor who is highly price-conscious; the

time span from initial bid to final sale which gives the purchaser some latitude in playing off seller against seller; and the existence of alternate and combination bids that increase the opportunity for "accidental" and deliberate errors.

Entry into the industry is relatively easy, which could potentially give purchasers protection against exorbitant price levels. It is not possible, however, to say a priori what impact the existing high level of product differentiation would have on conspiratorial activity.

How actually did these factors influence the form and character of the conspiracies that took place? Which were of significance and which were not? This is the task of the chapters that follow.

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CHAPTER 5

BLEACHER INDUSTRY CONDUCT

Up to now, the growth of the demand curve for bleachers and its inelasticity, as well as the structure of the industry itself, would seem to make conspiracy a logical concomitant of the forces that were prevalent during the post-war years.

What actually occurred then, should be no surprise: conspiracy was in the ascendancy from 1944-1952 and from April, 1954, to at least 1960, except for a few hectic months in the spring of 1959 when there was a severe breakdown in conspiratorial discipline. In other words, in fifteen of the seventeen years for which recorded information is available, the expected result held: the industry displayed some form of interfirm collusion. But the two periods of deviation are unexpected. Why should the industry have failed to conspire effectively during these brief periods when presumably a full-blown conspiracy would continue to be profitable? And a number of other questions about the conspiratorial years need to be answered: What structural forms did the conspirators utilize? How were prices

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established? According to what formulae? What other difficulties faced the conspirators?

1. 1944-1952: THE GSC YEARS

Apparently the first association of bleacher producers started in 1934 when representatives of Horn Brothers and Wayne established regular contact with each other.¹ The first known formal group started with the General Meeting of the Gymnasium Seating Council (GSC), held at the University Club in Chicago, Illinois, April 2, 1944.² At this meeting the constitution and the by-laws of the Council were approved, retroactive to March 1, 1944.³ From its inception, the GSC was composed of the then four major producers: Horn Brothers, Medart, Universal, and Wayne. The chairman, who was to continue to hold this position until the dissolution of the Council in 1953, was R. P. Dryer.⁴

The constitution and by-laws provided for an organizational structure that was to remain in effect throughout the life of the Council. Article I of the constitution stated:

¹See document 4-1904.

²Minutes of First General Meeting GSC, document 5-6742.

³Ibid.

⁴Ibid.

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The objects of this organization are to promote in all lawful and proper ways the general welfare of the gymnasium seating industry, properly and lawfully to prevent unfair trade practices and methods of competition therein; to create and sustain goodwill, trust and confidence and to set up and foster a high standard of conduct between the members of the industry, its employees, its customers and the public generally.⁵

Other articles made provision for standards of membership, the election and compensation of a chairman and secretary-treasurer, annual meetings, the requiring of a two-thirds vote to pass policy changes, and future amendments. The constitution also called for the creation of two general departments: one, to be called the Research and Process Department, to deal with standardization programs, trade promotion, market analyses, and related matters; the other, to be called the Trade Practice Department, to administer the fair trade practice rules that were to be developed by the Council.⁶

The by-laws, adopted concurrently with the constitution, were more specific: they called for a sustaining fund, for which contributions were required from members in proportion to their percentage of total members' sales; they accorded to the chairman the access to members' records. The chairman was also assigned the duty of enforcing any fair trade rules agreed to by the Council.⁷

⁵California documents, Exhibit 6.

⁶Ibid.

⁷California documents, Exhibit 7.

It was not, however, until January 4, 1950, that such rules were formally adopted, and even then, by 1952, three amendments had been added. In their final form, the fair trade practice rules included six provisions:

- (1) Manufacturers were required to clearly indicate net prices on all quotations, and such prices were to be made on a delivered and installed basis only;
- (2) Producers were to accept contracts only if detailed information as to specifications was available;
- (3) Manufacturers were not to respect quotations resulting from unauthorized price concessions by agents;
- (4) Producers were to quote on a combination basis only if bids for all items were indicated separately and only if the sum of the separate bids equalled the quoted amount of the combination;
- (5) Manufacturers were to make no attempt to wrest away contracts awarded to competitors, if the award had been recognized by the ultimate owner;
- (6) Producers were not to infer or otherwise indicate that a competitor failed to meet state requirements, unless such clearly was the case.⁸

In addition to enforcing these rules, the Trade Practices Department was also supposed to make recommendations relative to credit matters, discount practices, and related commercial activities.⁹

⁸Gymnasium Seating Council, "Fair Trade Practice Rules," (as amended), document 1-23917-28.

⁹California documents, Exhibit 6.

Despite the profusion of laudable aims that the industry publicly professed, the basic purposes of the group were price-fixing and market allocation, as the following statement from a Brunswick memorandum indicates:

I cannot dwell too much on the basis of allocation pertained to the old group (GSC). The purpose of this allocation was to see that each company received their allocated share of the business available and it was assumed that the guarantee of this share was that they would have low bid often enough to gain this share.¹⁰

The Organization of the GSC

An organizational structure conducive to accomplishing price fixing was promptly established. The chairman's offices were originally placed in Cleveland and in 1950, to obtain greater proximity to the participating firms, moved to Chicago. Also in that year in accordance with the constitution, a secretary-treasurer was hired for the express purpose of removing some of the routine workload from Dryer.¹² A budget was established and compensation for the Council's two officers arranged. The direct costs of all this varied from over 2.0% of sales in 1944 to about 1.2% of member sales in 1952, and in absolute amount averaged considerably over \$40,000 annually.¹³

¹⁰Memorandum prepared by Brunswick, "FGS Industry," April 19, 1957, which describes the history of the industry up to that time. Documents, 4-4054-4065. Quotation from 4-4054. Reproduced in California documents, Exhibit 104.

¹¹See Minutes of May 18, 1950, meeting, document 5-6818.

¹²Ibid.

¹³Minutes January 14, 1963, meeting, document 5-6630.

Up to 1950 there were three or four meetings of the membership per year, at which time one or more representatives of each member company participated. From 1950 to 1952 there were monthly meetings, almost invariably held in Chicago, although on some special occasions (a National Education Convention meeting in Florida, an Army-Michigan football game in New York) meetings would be held in other cities.¹⁴

To the outside world the Council sought to present the appearance of a trade association. Indeed, it did perform some of the functions normally linked with such a group. One major concern of the organization, for example, was to alleviate any difficulties that might arise as a result of government controls during the Korean War.¹⁵ Another was to develop common publicity campaigns and group exhibits at various national conventions where representatives of schools were present.¹⁶ Yet another was to standardize specifications throughout the industry.¹⁷ The existence of such activities

¹⁴See, for example, minutes of October 13, 1950, meeting, document 5-6787.

¹⁵Minutes of the June 25, 1951, meeting, document 4-2030.

¹⁶Ibid.

¹⁷Minutes of meeting of November 2, 1951. Previously a "Special Committee on Questionnaires" had been set up in order to take a market survey to determine whether 24" rise was desired by customers.

was carefully noted in the minutes, while simultaneously all references to price-fixing activities were circumspectly expurgated.

The Formulae for Fixing Prices

Nonetheless, evidence of price fixing exists, largely because it appears that this aspect of the conspiracy required considerable correspondence between the Council members and the chairman.

In order for price fixing to be effective it was necessary to agree on common list prices for bleachers. Table 21 reproduces one such "Folding Bleacher Price List" that became effective November 1, 1950, and continued in use during the remaining life of the GSC. This list established four territories, with a differential set of prices for each. Prices were based on standard 16' sections and 8' half-sections. Mobile bleachers cost the customer \$200 more per section or half-section, while such extras as special finishes and aisles required that an additional percentage of the list price be included in calculating final bids.

In addition, because all orders did not come in neat multiples of 8' and 16' sections, it was necessary to have a common conversion arrangement (shown by Table 22). Thus, from the table, a bid for 84 feet of bleachers would be equal to five 16' sections and one 8' section. In the same manner, a 19' requirement would be priced as one 16' section and one-half 8' section.

TABLE 21. -- Folding bleacher price list

Number of rows	Price per standard 16' section ^a			Price per standard 8' half-section ^a		
	Base Territory	Western Territory ^b	New York Territory ^c	California Territory	Base Territory	Western Territory ^b
3	400	440	410	450	240	260
4	530	560	540	590	300	340
5	630	680	640	700	360	410
6	730	790	740	810	430	490
7	840	910	890	890	500	560
8	960	1060	1010	1100	580	640
9	1100	1210	1010	1260	660	740
10	1260	1390	1150	1450	750	810
11	1430	1570	1310	1640	850	930
12	1590	1750	1490	1810	950	1030
13	1760	1930	1650	2000	1060	1140
14	1950	2130	1830	2210	1180	1260
15	2140	2340	2010	2440	1280	1380
16	2340	2550	2230	2650	1430	1500
17	2540	2830	2410	2960	1530	1640
18	2780	2990	2630	3130	1660	1800
19	2990	3230	3090	3380	1800	1830
20	3210	3480	3310	3630	1940	2060

^aMobile bleachers were \$200 extra per section.

^bIncluding states of Arizona Colorado, Idaho, Montana, New Mexico, Nevada, Utah, Washington, Wyoming, Oregon.

^cSpecial prices for New York City.

Source: Adapted, with modifications in format, from California documents, Exhibit 10.

TABLE 22. -- Bleacher conversion list

Over	Actual length (in feet) to and including	<u>Number of standard sections</u>	
		16'	8'
0	8	0	1
8	16	1	0
16	20	1	1/2
20	24	1	1
24	32	2	0
32	40	2	1
40	48	3	0
48	56	3	1
56	64	4	0
64	72	4	1
72	80	5	0
80	88	5	1
88	96	6	0
96	104	6	1
104	112	7	0
112	120	7	1
120	128	8	0
128	136	8	1
136	144	9	0

Source: Adapted from "Additions to Price List" document 4-2091.

Up to this point the bids of all companies would be identical, since they would be figured from a uniform price list and a common set of specifications. Such a procedure would, however, contrary to Council intentions, advertise the existence of a conspiracy. In order to overcome this danger, the Council used two methods of spreading members' quotations: the discount system, used through nearly the entire life of the conspiracy; and the bracket system, apparently used only for a brief period.

The discount system.--For any such procedure to be effective there must be some prior agreement about relative market shares. Such a division of shares in the seating industry was based on Dryer's analysis of industry sales over a three-year period; and as of March, 1952, the division was: Medart 35%, Horn Brothers 28%, Wayne 22%, and Universal 15%. Apparently the agreed-on market shares remained constant over time, but were arrived at only after some hard bargaining, as the following statement from a letter from Dryer to Horn Brothers indicates:

I was struck with Gene's statement that he was hired to get 28% of the seat, 95% of the partition business and 100% of the stage business. I don't think he made a complete statement there. He should have said not more than 28% of the seat business. He should have added 95% of the partition business provided that in payment for that protection the competition in the seat business itself should never suffer.¹⁸

¹⁸Letter of December 31, 1951, from Dryer to Frederic G.

It would seem, at least by implication, that Horn Brothers' allocation was partially contingent upon Council members' removing themselves from competing in partitions or stages.

Once positions had been determined, the next step was to see that the discount system divided industry sales in accordance with pre-determined market shares. In order to obtain the desired division as well as to spread the bids so as to conceal the collusion, a variety of discounts were developed.

The basis of the system was the "Green Sheet," which all members were required to return to Dryer when the form was completed. It provided space for the manufacturer to list the total price quoted for a particular job, the method of arriving at this price, the discount used, the specifications for the job, and whether it included other items.¹⁹

From these Green Sheets, Dryer developed cumulative sales statistics, which of course enabled the Council to derive market-share allocations.

But, more important, monthly compilations of the Green Sheets showed which companies were exceeding their allocated market shares,

Horn, one of the owners of Horn Brothers, document 4-2298. See also document 4-1903, where these divisions are made explicit.

¹⁹ California documents, Exhibits 16 and 17.

and, hence, indicated what discount policy should be adopted. Suppose, for example, as actually occurred during July, 1949, that Medart's share, for one reason or another, plummeted. Dryer would, again as actually happened, send out the following instructions:

Horn Brothers, on 75% of monthly footage quote discounts of less than 5%, on 10% of footage quote discounts of 5-8%, and on the remaining 15% of footage quote discounts of more than 8%.

Medart, on 20% of business quote discounts of 5% or less, and on the remaining 80% quote discounts of 8% or more.

Universal, on 40% of sales, discount 5% or less, on the remaining 60% discount between 5-8%.

Wayne, on 10% of business quote discounts of 5%²⁰ or less, on 90% of business use discounts between 5-8%.

The net result of this procedure was to favor Medart, which was allowed discounts of more than 8% on 80% of its bids, while the only other company even allowed to make discounts of 8% or more was Horn Brothers, and that on only 15% of the bids. Medart's market share, then, would increase, and when it became sufficient to correct the existing imbalance, different instructions would be issued. Thus Dryer, by controlling which company obtained the largest portion of contracts on the 42% of business that was then sold at low bid, could correct discrepancies that arose because one

²⁰Communication from Dryer to Council members, around August, 1949, document 4-2287.

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or more members had unusually good market coverage or received an abnormally large percentage of business at prices higher than the low bid.²¹ Furthermore, prices could be varied without constantly changing list prices by altering the discount structure. And finally, Dryer, by compilations of data from the Green Sheets, could check to see that members were correctly following his recommended course of action.

Also, since Council members were allowed to use different discounts without imperiling market-share agreements, this permitted bids to be spread. Suppose that East High School located in Wisconsin, requested bids on 72' of eight-row bleachers. From Table 22, this is equal to four standard sections and one half-section. From Table 21, the price to the purchaser per full section is \$960 in the base territory, per half-section, \$580. The list price for all companies, then, would be equal to four times \$960 plus one times \$580, or \$4,420. Following Dryer's general directives as to which discount ranges should apply, the companies would choose the specific discounts they wished to use. Suppose that Horn Brothers preferred a 5% discount, Medart 10%, Universal 8%, and Wayne 7%. Then the final bids would be \$4,199, \$3,978, \$4,066.40 and \$4,110.60

²¹See May 27, 1952, memorandum from Dryer to industry, California documents, Exhibit 11.

respectively. The bids would be identical only if the companies accidentally selected the same percentages -- and Dryer's orders in most cases would prevent this from happening.

The bracket system.-- To eliminate the possibility of identical bids was perhaps a major reason for the development of the bracket system. The new system retained, however, much of the initial procedure of the discount formulae, for again basic price and conversion lists were necessary. But once the list price for the job was established, the bracket system took over. To illustrate: using the previous example, suppose the list price was \$4,420. Taking the last three digits of this amount (\$420) and using Table 23, the members would find that this order was in the 110-550 bracket, and that Medart was assigned low-bid position. This company would bid \$4,420 less 10%, or \$3,978. Wayne would bid list less 9.4% or \$4,024.52. Universal and Horn would compute their bids in a similar manner.

Under the bracket system, then, bids would never be identical. Once again prices could be varied each month without changing list prices, simply by altering the basic discount. Market shares would be allocated in the prescribed manner by allowing Medart the largest bracket spread -- i.e. from 110 to 550 as contrasted with Wayne's 660-990, the next most extensive spread. And second,

TABLE 23. -- The bracket system

If the last three digits of the list price fall within this category	Then reduce the dis- count by this amount (H=Horn, M=Medart, U=Universal, W=Wayne)		If the basic dis- count is 10%, then the actual discount would be:
000-110	H	0.0	10.0
	M	0.6	9.4
	W	1.2	8.8
	U	1.8	8.2
110-550	M	0.0	10.0
	W	0.6	9.4
	U	1.2	8.8
	H	1.8	8.2
560-650	U	0.0	10.0
	M	0.6	9.4
	W	1.2	8.8
	H	1.8	8.2
660-999	W	0.0	10.0
	M	0.6	9.4
	H	1.2	8.8
	U	1.8	8.2

Source: Adapted from California documents, Exhibit 11,
document 1-766.

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third, and fourth positions could be rotated in such a manner that the three other firms would not be disadvantaged either if the low bid was not accepted by the school or the low bid was not submitted by the designated company.

This system, with modifications, was used at various times.²² But for one reason or another, despite its obvious advantages, it did not survive. In fact, by 1952 Dryer could write in a confidential communication to Horn:

Don't fill in anything opposite the word bracket. That was not intended to be a word by itself, but only qualifies the list price in a manner which has never been worked out and is at present negligible.²³

Summary.--Under either the allocation or bracket system prices were fixed, bids spread, and market shares predetermined by Dryer and the Council. In order to do this, Dryer sent the members common price lists, discount sheets, and conversion tables. In return the members were to send Dryer reports on bids and orders. From these Green Sheets, Dryer would compile cumulative monthly and yearly sales statistics to determine which companies were either

²²The Council also used the last two digits for establishing brackets during October, 1950. See document 4-2092. This system was adopted bodily by the FGS Council. See below.

²³Letter from Dryer to Horn, 1952, California documents Exhibit 26, document 1-571-72.

above or below their allocated market shares. And, from these sheets Dryer would also determine whether his corrective measures, conveyed either through the allocation or bracket formulae, were being followed by Council members.

Major Problems Faced by the Conspirators

Apparently price fixing could not be pursued in the seating industry without internal friction among the GSC members. One major source of such dissension was combination bidding, as the following comment evidences:

The combination bid rule is the one which has given rise to more discussion and education than any other. . . This industry's customers very largely spend public funds, and it is not deemed in the public interest to restrict in any way the free choice of the customer in the purchase of any commodity at the lowest price for that commodity without reference to any others.²⁴

The difficulties with combination bids reached such a height that the Council was forced to restrict nearly all such bids, thereby going considerably beyond the original Fair Trade Practice Rules.²⁵ The reason for such a blanket policy was expressed succinctly in a communication from Dryer to GSC participants:

²⁴Letter from Dryer to Brunswick-Balke-Collender (as Brunswick was then known), November 13, 1952, document 5-6635.

²⁵Minutes of March 28, 1962, meeting GSC, document 5-6674.

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In the vast majority of cases both the tying bid and the combination bid originate either in the mind of the representative or of the manufacturer as a competitive matter to affect competition on one or more other items included in his bid and since the members of the Council have seen fit to eliminate all such bids, our best solution is to enforce this practice on the representatives.²⁶

The Council quite clearly recognized the threat represented by such bidding: members could cut prices while technically remaining within existing price formulae. In order to alleviate this problem, the group finally decreed that orders obtained from agents that involved other items should be declined by the manufacturer. Dryer further advised that:

The proof of the pudding is in the eating and the refusal to accept such an order, coupled with the statement that the manufacturer does not care to rebid on any other basis on this particular job, -- in other words that he is declaring the representative out -- should be entirely conclusive.²⁷

Closely allied to the problem of combination bids was the continuing problem of control over agents. When dealers were arbitrarily cutting members' bids, the following solution was proposed and accepted:

The Chairman suggested that the first cure for this condition was to insist that an authentic copy of the final bid as submitted, on which an order or contract is based, must accompany submission of the order from the representative to the head

²⁶Letter of May 21, 1952, to Council members from Dryer, document 5-6670.

²⁷Ibid.

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office, with the instructions that unless the document is submitted the order will be refused.²⁸

As Brunswick put it, in a letter to Dryer:

On the other hand, I know, as I am sure every other member of the council knows, that the control of agents represents a continuing fight and that success at best is relative.²⁹

Difficulties with combination bidding and control over agents, as later events were to reveal, were never completely solved.

Another major difficulty that befuddled the conspirators was the tendency for members to attempt to secure additional business by quoting alternative bids, as the following injunction demonstrates:

It seemed to be the consensus that the base bid should always be made on the arrangements shown by the customer. Having done this it seems to be all right to suggest some rearrangements which will make the installation cheaper for the customer without too much sacrifice of seating capacity, although it should be born in mind that our object is to sell as many seats as possible and not to sacrifice the customer's best interest for the sake of figuring out a lower list price. Above all that practice should not be indulged in.³⁰

These three problems alone, although irksome, might not have been sufficient to cause the dissolution of the Council and the conspiracy. But suddenly the conspirators were faced with an unexpected dilemma -- the entry of Brunswick.

²⁸Minutes of November 16, 1950, meeting, document 5-6784.

²⁹Letter to Dryer from Brunswick, November 14, 1952, document 4-1910. Council uncapitalized in original.

³⁰Letter of Dryer to Council members, "Figuring by Standard Sections," March 27, 1951, document 4-2069.

2. 1953-1954: THE INTERREGNUM YEARS

On August 1, 1952, Brunswick purchased Horn Brothers.³¹ That same month, Dryer, after considerable discussion, offered Brunswick GSC membership and noted that he was sure "everyone else shares my hope that the prospective new member can qualify and continue the cooperative effort which has meant so much in dollars and cents and in pleasure of doing business to all of us."³² These hopes were to be temporarily realized, for in a letter dated August 12, 1952, Brunswick officially applied for membership.³³ On September 4 provisional status was granted to become permanent when constitutional provisions for new members were met.³⁴ But five months later, at the Atlantic City meeting, February 18, 1953, Brunswick's application for permanent membership was denied, allegedly because of its failure to abide by the Fair Trade Practice Rules.³⁵ And subsequently, at the March 19, 1953, Chicago meeting, the

³¹Letter from Brunswick to GSC, August 12, 1952, document 1-23932.

³²Letter from Dryer to Horn, August, 1952, California documents, Exhibit 27.

³³Letter from Brunswick to GSC, August 12, 1952, document 1-23932.

³⁴The constitution required that new members be in the bleacher business for at least one year before acquiring membership.

³⁵Minutes of Annual Meeting, document 5-6600.

three remaining participants decided to continue the Council; they agreed to renew, with modifications, Dryer's contract, and also approved a reduced operating budget.³⁶ But by the April 8, 1953 meeting, the story changed once more: the conspirators concluded that the Council could not be effectively continued without representation from one of the major producers, and hence its activities should be abandoned.³⁷ However, it was not until June 31, 1953, that it could be fully liquidated, although it had been moribund since the February meeting.³⁸ Even then dissolution was accompanied by considerable acrimony; including the threat of Dryer, unable to obtain compensation as established in his contract, to place into the minutes of meetings references to discussion about the Antitrust Laws. In an angry letter he concluded:

I do not for a minute think that anybody concerned wants this to happen. The certain result would be such a washing of dirty linen in public that the name "Gymnasium Seating Council" would not be valuable to anyone.³⁹

Within four days a proposal to pay the Chairman part of the remuneration due him was initiated, and a suggestion that the three remaining GSC members express their "personal friendship, respect

³⁶Minutes of meeting, document 5-6601.

³⁷Minutes of meeting, document 5-6547.

³⁸Ibid.

³⁹Letter from Dryer to Donald Vance of Universal, April 20, 1953, document 5-6584.

and gratitude" for the Chairman's "fifteen years service" to the industry was made.⁴⁰ However, the gratitude did not extend to the point of preventing a recommendation that the Chairman's termination allowance be reduced by \$4,100.⁴¹

Apparently the contacts built up over the years continued on an informal, and somewhat sporadic basis during the post-GSC period for, according to Dr. Russell Wilson, one-time Brunswick employee, the other Council members systematically rotated low bids so as to under-bid Brunswick while simultaneously avoiding large losses to any one firm.⁴² The result was a price break and eventually a precipitate decline in Brunswick's market share, both of which continued until 1954, when the conspiracy was revived.⁴³

Reasons for the Dissolution of the GSC

Why should the GSC have disappeared amid such bitterness and recrimination? Why should a conspiracy that had been in effect for over eight years be so suddenly dissolved? There were, perhaps,

⁴⁰Letter from Wayne to Universal, April 28, 1953, document 5-6583. This letter tends to confirm the existence of a conspiracy prior to 1944, and indicates that the date of the first conspiracy might have been as early as 1937.

⁴¹ibid.

⁴²Wilson statement, p. 6.

⁴³See below, Chapter 6.

three proximate reasons for the GSC's demise. One was the existence of a long-standing feud between Horn Brothers and Dryer. Discord had become serious at an early date, for Dryer in 1949 sent Horn this blunt warning:

There seems to have grown up a considerable uncertainty as to your company's attitude toward our whole enterprise . . . I have been asked whether there is any reason to believe that you are proposing to embark on another line of manufacture which would be competitive with other lines of the rest of the group. Such a move would, I think, increase greatly the difficulties of our particular enterprise and lead to its eventual, if not early, dissolution.⁴⁴

And in 1951:

This is largely exemplified by the fact that whatever happens and however irregular the negotiations have seemed, you are the only member who has never paid the only penalty which is implied in the whole set up-- i.e. to refuse to take a job.⁴⁵

And by November, 1952, Dryer was complaining that Horn, now Brunswick, was not sending him Green Sheets on all jobs -- an obvious subterfuge to avoid being caught using too large discounts.⁴⁶

Even before November suspicion had become mutual. Frederic G. Horn, former owner of Horn Brothers and now an employee of Brunswick, complained about Dryer's attitude on a potential sale:

⁴⁴Letter from Dryer to Horn, August 8, 1949, document 4-2286.

⁴⁵Letter from Dryer to Horn, December 31, 1951, document 4-2298.

⁴⁶Letter from Dryer to Horn, December 19, 1952, document 1-23958.

Because of the fact that Mr. Dryer has demonstrated repeatedly that he cannot administer the functions of the Council without favoritism it can only be concluded that he is no longer qualified to hold the office.⁴⁷

Two days later Brunswick was grumbling because Medart agreed to license its bleacher patents to Berlin-Chapman, thus potentially allowing Medart to bid low on contracts it wanted and bid high on jobs it considered undesirable, while Berlin-Chapman (its associated company), not privy to the Council, went after the business that didn't appeal to Medart.⁴⁸ A few days later when the GSC attempted to collect an initiation fee from Brunswick, Frederic Horn issued this dire admonition:

It is my observation that Dryer is attempting to be very cagey and is making every effort to cause an embarrassing situation. it is time that a showdown be had with him.⁴⁹

In such a climate, agreement was difficult.

Another factor contributing to discord was the persistent melee over combination bids. Brunswick, who even then produced a

⁴⁷Internal Brunswick memorandum, believed to have been authored by Horn, probably around October, 1952, document 4-1904.

⁴⁸Brunswick internal letter, October 13, 1952, document 4-1908.

⁴⁹Brunswick internal letter, from Horn to Howard Barber, October 17, 1952, document number obscure. See California documents, Exhibits 24, 25 and 31. Brunswick also felt that the Council had kept an umbrella over weak members, Universal and Wayne. See document 4-1903.

wider range of products than the other members, was reluctant to dispense with combination bidding. Dryer was equally adamant, and finally was able to induce Brunswick to refuse one such bid.⁵⁰ But it was not until January 6, 1953, that he extracted a promise from Brunswick that they would indicate on the Green Sheets whether non-bleacher or other items were included on the bid.⁵¹ Even at that Brunswick flatly refused to designate by name any products so combined.⁵²

A third, and perhaps more important reason was that during 1952 Horn and Universal had achieved an unusually high percentage of industry sales -- so high, in fact, that both companies would be forced to reduce their sales taken at high bid, or without competition, as well as eliminating all low bids, if their market position was to be reduced to agreed levels by December, 1952. Since such action would be virtually impossible, the date on which allocations should equal planned norms was extended until June, 1953, and Brunswick and Universal were merely cautioned to reduce drastically their percentage of low bids.⁵³ Nonetheless, this was hardly a situation

⁵⁰See California documents, Exhibit 29.

⁵¹Internal Brunswick letter, from Barber to C. H. Poppe, document 1-23959.

⁵²See the letter from Dryer to Brunswick, September 12, 1952, California documents, Exhibits 30 and 31.

⁵³Ibid.

conducive to procuring agreement between the Council and new member, Brunswick.

Although suspicion of the stiff prohibitions on combination bidding and required reductions in its market share may have been contributory, the fundamental origin of Brunswick's intransigence is probably to be found elsewhere: the firm's management was not in sympathy with collusive price-fixing arrangements.⁵⁴ Consequently, when Brunswick brought its General Counsel to the acrimonious February 18, 1953, meeting, he found at least fifty reasons for supposing Council activities were illegal.⁵⁵ With this outlook, it is not surprising that Brunswick refused to abide by Council procedures, thus forcing the group to reject its application for membership.

That the ultimate cause of the Council's decline was Brunswick's concern about the legal implications of the GSC seems to be confirmed by the following statement included in a memorandum drafted about 1956:

Shortly after the "H.B." Company was purchased by the "B" Company, the group was dissolved. The dissolution came as a result of "B's" insistence that they would not be a

⁵⁴See the Wilson statement, pp. 5-6, and the minutes of the February 18, 1953, Atlantic City meeting, documents 5-6600 and 5-6601.

⁵⁵ibid.

member of the council since there were inherent dangers that certain facets of the law were being violated.⁵⁶

Since this document was kept strictly confidential and was conspicuously candid, it would not appear that this explanation was intended to be self-serving.

1952-1954: Some Conclusions

The memorandum also succinctly summarizes the two outstanding characteristics of the interregnum period. First, the period was one of little conspiratorial coordination, as the following passage indicates:

The industry operated without any coordination for a period of time extending from February, 1953, until April, 1954.⁵⁷

Second, the lack of coordination was due to the dissolution of the Gymnasium Seating Council, which in turn was caused, not by its internal frailties, but by the refusal of one major member to participate. The following statement puts the situation well:

It is interesting to note that the old council did not break up or fall apart because of any inherent weakness in its system, but on the other hand, was dissolved by virtue of the fact that a strong member withdrew.⁵⁸

⁵⁶Brunswick Memorandum, "FGS Industry," op. cit., document 4-0455. "H.B." is Horn Brothers; "B" is Brunswick-Horn.

⁵⁷Ibid.

⁵⁸Ibid.

To put it differently, then, the GSC disappeared, neither because of intrinsic infirmities nor because of other economic conditions, but rather as a corollary of its failure to solve the essentially political problems of reconciling differences among Council participants.

3. 1954-61: THE FGS COUNCIL YEARS

On or about August 14, 1953, the first overtures toward establishing a new exchange of information were initiated by Wayne.⁵⁹ But it was not until nearly two months later that H. B. Barber, then Vice-President of Brunswick, reacted: in a letter notable for its caution he intimated that interchanges of "non-competitive" information might be constructive, provided that such exchanges were restricted to aggregate sales volume statistics and were collected by some independent and unprejudiced source.⁶⁰ And he rather caustically added:

I, of course, am not sure whether the bleacher industry is ready for such a program. I haven't had much contact with the industry the past few months. You will know more about this than I do.⁶¹

⁵⁹Letter to Mr. Howard Barber from Carl Wetzel, President of Wayne, August 14, 1953, document 1-24809.

⁶⁰Letter from Barber to Wetzel (reply to communication mentioned in footnote 59), October 13, 1953, document 1-24808.

⁶¹Ibid.

In such a frigid atmosphere it is not surprising that this advance came to naught.

A second, and more successful, contact was made during March, 1954, at an American School Architects meeting in Atlantic City attended by Donald Vance of Universal and Brunswick.⁶² But because the Wayne representative was not immediately available, negotiations had to be temporarily postponed.⁶³ In any event, Brunswick concluded that Mr. Vance was "most eager to arrive at some equitable solution to the common problems."⁶⁴ But it was not until April 28, 1954, that definitive agreement was reached.

Confirming our discussion the following pricing policy on bleachers will become effective Wednesday, April 28th. All list prices for bleachers will be determined in accordance with the pricing formula in effect February 1st, 1953. . .⁶⁵

Why should this series of contacts have been successful when earlier attempts at reconciliation had failed? Dr. Russell Wilson, then an employee of Brunswick, attributed the difference to a change in the purposes and personnel of Brunswick during 1954 and 1955.⁶⁶

⁶²Internal Brunswick memorandum, from E.F. Negethon to H. B. Barber, April 16, 1954, California documents, Exhibit 37.

⁶³Ibid.

⁶⁴Ibid.

⁶⁵Internal Brunswick memorandum, E. F. Negethon to H. B. Barber, n.d., California documents, Exhibit 37, document 1-254. Exceptions were made for special features.

⁶⁶Wilson statement, pp. 5-6.

Mr. Barber was asked to resign, who had been the Executive Secretary for the corporation, Executive Vice-President; Mr. Givens, who had been the sales manager for the School Furniture Division, was asked to resign; and after these personnel schuffles (sic) Mr. Steffens was promoted to the Vice-President in charge of the School Division.⁶⁷

Subsequently, Mr. Stevens "told me that they were going to go back into being members of the Gymnasium Seating Council."⁶⁸ However, it appears that Barber was fired fully a year after Brunswick had rejoined the conspiracy, which may perhaps indicate that Brunswick went through some internal struggle over the matter.⁶⁹

History of the FGS Council

In any event, as of April 28, 1954, the conspiracy had been revived. Until September, 1954, as far as is known, meetings were held only on an infrequent and informal basis. Starting with the September 8, 1954, meeting, however, monthly assemblages were held, usually in Chicago but often in such diverse places as Florida, Wisconsin, and New Hampshire.⁷⁰ Such gatherings continued until at least 1960.⁷¹

⁶⁷Ibid.

⁶⁸Ibid., p. 6.

⁶⁹Ibid.

⁷⁰Both the California exhibits (especially numbers 30-110) and the Van Sistine statement contain many references to the meetings and the meeting spots.

⁷¹See Van Sistine statement, pp. 59 ff.

The new group called itself the Folding Gymnasium Seating Council, and was composed originally of the four firms which constituted the GSC. Later, in mid-1955, Berlin-Chapman and Leavitt were added to the groups' roster, and when Safway acquired Leavitt it also acquired membership in the Council.⁷² During mid-1956, Medart and Safway formally left the group, although both continued to supply sales information and to operate most of the time under the same pricing formulae.⁷³ In 1958, Hussey was asked to become a participant in the Council's activities; it is not clear whether or not it joined for a short period.⁷⁴

By January 12, 1955, the conspirators had reached agreement on Council objectives:

- (1) Exchange of information -- especially reports of individual and total price;

⁷²California documents, Exhibits 51, 53.

⁷³See the Sales Analysis Sheets, described in Appendix A. In fact, Medart attended meetings as an "observer." Medart left the group in April, 1956, and rehired Corray as consultant during February, 1957. Safway also agreed to notify Corray when reducing prices. See California documents, Exhibit 105.

⁷⁴A statement contained in a letter from one of Brunswick's agents is illuminating on this score: ". . . it was mentioned that . . . Phil Hussey had just returned from the Wisconsin meeting; and while there, he agreed to increase his price of 24" spacing and otherwise get in line. Among those present at the meeting, . . . were Don Vance of Universal and Don Warner. . . (who) was drunk all the time he was there." Letter of October 9, 1958, document 5-15884.

- (2) Maintenance of a profitable price level;
- (3) Ability to place an occasional job;
- (4) Freedom (and obligation) to meet outside competition;
- (5) Freedom to meet rabbits (conspirators attempts to cheat by unannounced price reductions) of industry.⁷⁵

Other stated objectives included giving consumers the advantages of certain economies of standardization, industry regulation of trade practices, and cooperative sales promotion and legislative lobbying.⁷⁶ Although these objectives were approved during the January 21, 1955, meeting,⁷⁷ the illegality of some of them was clearly recognized, as the following comment contained in a report on the January meeting shows:

For obvious reasons, I suggest you keep this letter and all other such letters at home rather than in the office.⁷⁸

Despite the recognition of the potential legal dangers of the Council, its organizational structure remained intact until March, 1956. During this period a chairman, who served as host for the monthly meetings, was chosen from among Council members. He also had responsibility for the Council's agenda. He was required to keep records of all intermember exchanges of information, to note and to attempt to

⁷⁵See minutes of meeting, January 21, 1955, California documents, Exhibit 46. Rabbits are discussed below.

⁷⁶Ibid.

⁷⁷Ibid.

⁷⁸Ibid.

reconcile complaints among participants, and to prepare the minutes of the previous meeting. The chairmanship was rotated among Council participants on a monthly and sometimes bi-monthly basis.⁷⁹

These arrangements were radically altered in March, 1956, when the Council employed an independent Consultant, Fred H. Corray, formerly President of Leavitt (a company which, of course, by that time had been sold to Safway).⁸⁰ Corray subsequently, like Dryer before him, hired a secretary to handle the routine work. He was eventually assigned numerous responsibilities, among which were:

- (1) To arrange for, establish the agenda for, chair, and transcribe the minutes of monthly meetings.
- (2) To suggest allocations of the market and price formulae appropriate to such allocations.
- (3) To tabulate footage and dollar sales data supplied by the participants on a monthly basis, and to supply each member with such "Sales Analysis Sheets."
- (4) To tabulate new orders for the entire industry and new orders booked for each company on a weekly basis, and to supply each member with the industry total and its total for the week.
- (5) To develop trade practice rules, standardization studies, cost data, and other information which could be beneficial to the industry.
- (6) To serve as an arbitrator of members' disputes.

⁷⁹ Apparently it was rotated at random.

⁸⁰ Corray had been President of Leavitt as early as 1950.

- (7) To handle or have a part in handling cases in which members failed to follow established bidding rules.

In order that Corray might fulfill his obligations, each member supplied him with an "Orders Received" report (the FGS Council's equivalent for the GSC's "Green Sheet") for each job on which they bid.

To show how the conspiracy actually worked, Table 24 reproduces the agenda for the March 27, 1958, meeting. Some idea of the comprehensiveness of the collusion may be gained by analyzing specific agenda items. For example, the bid-rigging scheme by this time had become so precise that special procedures had been developed for orders located in the borough of Queens, New York City (Item 13). Indeed, the system had become so sophisticated that 2% discounts were being proposed on those few orders that contained requests for standard and special rises in the same installation (Item 6).

These manipulations had achieved considerable success, for, from its initial start in 1954 to late 1958, the conspiracy exhibited a high degree of effectiveness. Prices increased dramatically or remained stable at high levels during most of this period, and volume reached unprecedented peaks in 1957 and continued to be very good in 1958.

TABLE 24. -- Agenda of FGS Council meeting, March 27, 1958

Place on Agenda	Item
1.	Order reports for March, through 21st a. Emphasize new system of check mark
2.	Total business book through March 21st
3.	Current bidding with examples
4.	Sales compared to estimates a. Explanations by FC
5.	General discussion of above
6.	2% discount, 24", split rise, corner construction
7.	Dealer activity
8.	North Carolina and Georgia codes
9.	Plywood backing
10.	Courtesy at conventions
11.	California
12.	Salesmanship achievement and adoption of specs.
13.	Queens
14.	May meeting
15.	Open forum

Source: Reproduced from document 5-8378.

But the fall of 1958 saw two ominous events occur: First, a small price war threatened to erupt between Brunswick and the rest of the industry. Second, grand jury indictments charging price fixing were brought against the conspirators.

The impact on the industry was striking. Prices for bleachers started declining about October, 1958, and, despite frantic warnings from Corray at hastily-organized industry meetings, they continued to plummet until April and May, 1959.⁸¹ And on July 13, 1959, most of the industry was indicted for illegal price-fixing activities.

Despite these blows, Corray continued to operate much as before. Price fixing was partially reestablished in June and almost fully restored in July. But he did make one concession to the Court decisions: so that participants might place such material in their files, he started to send to members types of data collected by legally-constituted trade associations.⁸²

Corray is known to have served the industry until at least January 31, 1961.⁸³ It is believed, however, that industry pricing formulae were abandoned somewhat earlier, although this fact can

⁸¹See "Sales Analysis Sheets" described in Appendix A.

⁸²Van Sistine statement, pp. 14, 30 ff.

⁸³See letter from Medart to Corray, January 25, 1961, document terminating agreement between Medart and Corray. Whether or not ~~Jack~~ Evans continued to employ Corray is not known.

only be established inferentially from a passage contained in an August, 1960, internal Brunswick letter:

In accordance with your assignment of some time back, we have worked in conjunction with the Accounting Department in developing a new basis for bidding gymnasium seating on factory costs. The industry price formula for FGS was discontinued last week.⁸⁴

Thus, what Van Sistine indicated was the fundamental aim of the FGS Council -- price fixing -- continued only slightly abated even after adverse court decisions.⁸⁵

The Formulae for Fixing Prices

Given the vast number of orders placed by purchasers, it is probable that such price-fixing activities could not have been carried out successfully without some sort of procedures for routinizing collusive pricing. Whether or not this is true, the FGS Council, like its earlier GSC counterpart, found it convenient to incorporate bidding procedures into definitive formulae. But, because Council members employed during the Council's six-year life no less than four distinct and separate methods for computing prices, they found it necessary to provide labels for the different systems. It was also imperative that the **exact dates** during each formula was to start be carefully indicated

⁸⁴Letter from Shipman to Miller, August 9, 1960, document 4-2731. (*Italics added.*)

⁸⁵Van Sistine statement, p. 94.

if chaos was to be avoided. An examination of Table 25, which summarizes these agreements, demonstrates that each of the various systems were used for a considerable length of time: the first for four months, the shortest period; the last for more than three and one-half years, the longest period. An analysis, then, of the diverse methods would appear in order.

The discount system.-- The first formula subscribed to by the Council, the discount system, was a continuation of the GSC's discount approach, but without its market allocation features. Under this method, which was in effect from April 28, 1954, to September 12, 1954, both the price lists and the conversion tables were copied bodily from earlier GSC models. Up to this point in their calculations, then, both GSC and FGS Council members would arrive at precisely the same prices in exactly the same way. But it is from there on that the two methods diverge: the one establishing discounts in terms of pre-determined market share agreements, the other employing a formula embodying flat discounts.

Under the old GSC approach, it will be recalled, discounts were determined by Dryer in terms of equalizing existing and agreed market shares. Under the FGS Council system, once list prices had been computed from Tables 21 and 22, the following simple rule for calculating discounts was made mandatory for all Council members:

TABLE 25. -- Price fixing formulae under the FGS Council

Name of formula	Dates this formula operative	Basic method of pricing
Discount	April 28, 1954 to September 12, 1954	By use of sectional and half-sectional prices, conversion tables, and discounts
Simple bracket	September 12, 1954 to May, 1956	By use of sectional and half-sectional prices, bracket adjustments, multipliers, and add-on figures
Complex bracket	May, 1956 to January, 1957	Same as above, but the variables are combined in a more complex manner
2' Increment	January, 1957 to at least June, 1960	By lineal (frontage) foot prices in stages of 2', discounts, and other special factors.

Source: Compiled from minutes of FGS Council meetings, California documents, and other industry sources. The names have been attached only for descriptive purposes and have been adopted from but do not necessarily precisely follow labels attached to the formulae by the industry. Dates for 1956 and 1957 are only approximations, since by these years the conspirators had become sophisticated enough to use the old system for a number of weeks after the official introduction of the new one in order to cut prices and thereby obtain additional orders. These dates have been established by use of scratch sheets (sheets showing how bids were calculated) contained in the Brunswick sample, and represent the dates the system became actually operative, not the dates of formal implementation as decreed by the Council.

For bids submitted directly to ultimate consumers:

On bids with list prices of over \$10,000 discount
20% from list; if under \$10,000, 15% from list.

For bids submitted to general contractors:

On bids with list prices of over \$10,000 discount
15% from list; under \$10,000, 10% from list.⁸⁶

Further reductions were permitted only in two cases: if members cheated, other participants were allowed to meet, but not undercut, the price of treacherous conspirator; and if firms not privy to the agreement bid on a particular job, members were authorized to meet, and if necessary to undercut bids made by non-members.⁸⁷ In addition, conspirators were allowed for a brief period to subtract arbitrary amounts up to \$80 from their discounted list prices.⁸⁸ Table 26 shows how a bid would be calculated under this, the first FGS Council formula. Once the appropriate list price has been determined, the process is straightforward enough -- the proper discount must be selected and the additional arbitrary amount subtracted. As the table indicates, the most likely result is a uniform bid of \$3,677 by the four conspirators.

The defects of this system are obvious: not only do identical

⁸⁶California documents, Exhibits 37 and 38.

⁸⁷Ibid.

⁸⁸This was permitted only during April, May, and early June, 1954, if the scratch sheets in the Brunswick sample are representative.

TABLE 26. -- The discount system

Number of step	Step (Brunswick-Horn. Medart, Universal, Wayne)
East High School in Wisconsin requests bids for 72' of 8-row bleachers:	
1. Establishing the list price	All companies use the same procedure. From Table 17, 72' are equal to 4 full-sections and 1 half-section. From Table 16 an eight-row full-section is priced at \$960 and and eight-row half-section at \$580 in the base area where Wisconsin is located. Thus, list price equals \$960 times 4 plus \$580 times 1 or \$4,420.
2. Taking the discount	The bid is being made directly to the school and the total list price is less than \$9,999; therefore, the appropriate discount is 15%. All companies would charge \$4,420 less 15% or \$3,757.
3. Taking the extra discount	For a short period, companies were permitted to subtract arbitrarily amounts up to \$80. Since each company usually wanted the business, they would tend to take the maximum. Thus, the four companies would tend to bid \$3,677.
4. Special features	If one of the four firms cut prices in violation of the formula, the others were allowed to meet the cut. If other firms (Leavitt, Berlin-Chapman, Hussey) were bidding, the four participants were permitted to undercut the bids of the non-participants.

Source: Compiled from California documents, Exhibits 37-39, and from actual bids shown in the Brunswick sample.

prices advertise the existence of a conspiracy, but they provide no mechanism for market allocation and no procedure, therefore, for guaranteeing each member an acceptable sales volume. It would seem almost inevitable, then, that this rudimentary formula would be replaced by a more adequate one.

The simple bracket system.-- The second formula used by the Council, the simple bracket system, was put into effect September 12, 1954, and discontinued in June, 1956. As under its predecessor, a common price list was employed by all members of the Council, although a new and higher price list was approved effective as of November 1, 1954, and actually put into operation December 1, 1954.⁸⁹ A common conversion table was also used; again it was taken intact from the one developed by the GSC and reproduced in Table 22. As before, from these two items, the list price for the bleachers was computed.⁹⁰ So far, then, the simple bracket and the discount systems are identical.

It is again from this point that the two methods diverge. Under the later system, each company is assigned a specific set of

⁸⁹The delay was due to the tendency of Council members to make an error using the old price list "mistakenly" as a means of reducing prices.

⁹⁰All recorded bids in the Brunswick sample followed this procedure.

numbers known as brackets. For example, the assignments for November 1 to December 3, 1954, were:

Medart	20-35
Wayne	45-60
Brunswick-Horn	70-85
Universal	95-100 ⁹¹

In order to calculate the final bid-price, the last two digits of the discounted list price are taken. To find this price, a 10% deduction is applied if the original list is \$10,000 or more, a 5% deduction if it is under \$10,000.

Table 27 shows how this would be done in the now familiar case of East High School. Since the list price is \$4,420 for the 72' of 8-row bleachers, and since \$4,420 is less than \$10,000, the discounted list price would be \$4,420 less 5%, or \$4,199; thus, the last two digits of the discounted list price are 99. For Universal in whose bracket 99 falls, no further adjustment is required, and this company would bid \$4,199. For the others, additional adjustments must be undertaken. These firms would subtract from 99 the lowest number in their assigned bracket, and the figures thus derived would represent each conspirator's basic bracket adjustment. For Brunswick, Medart, and Wayne, then, basic bracket adjustments are 29, 99, and 54 respectively.

⁹¹Calculated from scratch sheets, Brunswick sample. Later the brackets were changed at five-month intervals.

TABLE 27. -- The simple bracket system

Number of step	Step	(Brunswick-Horn, Medart, Universal, Wayne)
	East High School in Wisconsin requests bids for 72' of 8-row bleachers.	
1.	Establishing the list price	As before, all companies determine list prices by reference to Tables 16 and 17. List price equals \$4,420.
2.	Taking the discount	10% discount if list price over \$10,000; 5% if list price under \$10,000. In this case 5% discount is applicable; therefore, price is \$4,199.
3.	Figuring the bracket: (November brackets - Brunswick 70-85; Medart 20-35; Universal 95-100; Wayne 45-60)	Last two digits of discounted list are 99. The companies would then take the lowest number in their bracket from 99. Universal, in whose bracket this order falls, however, would make no further adjustment. 99 -70 <u>29</u> 99 -20 <u>79</u> 99 -45 <u>54</u>
4.	Application of the multiplier less than \$5,000 multiplier is one.	
	plier (on list price of \$5,000 or less, multiply by 1; on list price of \$5,000-10,000, by 2, and so on.)	29 x 1 <u>29</u> 99 x 1 <u>99</u> 54 x 1 <u>54</u>
5.	Use add-on figure arbitrarily selected by company; Council specified that it had	

TABLE 27. -- (Continued)

5.(Cont.) to be within a certain range; often 17-27	29 <u>+27</u> 56	99 <u>+26</u> 125	No ad- justment	54 <u>+20</u> 74
6. Add final adjustment figure to list price	4199 <u>+ 56</u>	4199 <u>+125</u>	4199 <u>+ 0</u>	4199 <u>+ 74</u>
FINAL BIDS	\$4,255	\$4,324	\$4,199	\$4,273

Source: Compiled from Brunswick sample scratch sheets.

But there are still two further complications: the multiplier and the add-on. The former was included to spread (enlarge the differences between) the pre-determined low and high bids as the dollar value of the order increased. The latter was developed so as to conceal any regularities in the bidding that might not be fully hidden by bracket adjustments. The multiplier works as follows:

On list prices of \$5,000 or less, multiply the basic bracket adjustment figures by one; on \$5,000-10,000, list prices by two; on \$10,000-15,000, by three; and so forth.

Since this order has a list price of less than \$5,000, the multiplier is one and the basic bracket adjustment figures remain 29, 99, and 54.⁹²

The add-on figure was determined arbitrarily by each conspirator from a range of numbers changed monthly by the Council. Here it is assumed that the Council selected a range of 17-27 and that from this group Brunswick, Medart, and Wyane chose 27, 26, and 20 respectively.

Now all the elements for calculating final bids are in order. The basic bracket adjustment figure (after the application of the multiplier) and the add-on are summed in order to obtain what might be

⁹²This system was subject to many changes; very early cents were dropped from all computations. At times the top number of the bracket was used. Eventually the multiplier was changed so that for orders of \$0-10,000 it was two, of \$10,000-20,000 it was three, and so forth.

called the final adjustment figure. This and the list price (after the discount is applied) are in turn added in order to compute final bid prices. Thus, in the example, Brunswick would bid \$4,255, Medart \$4,324, Universal \$4,199, and Wayne \$4,273.⁹³

There are several advantages to this system. Each conspirator automatically arrives at a bid of a different level; furthermore, such bids can be calculated for every transaction without requiring frequent conspiratorial consultations. Also, the various bidding positions -- from low to high -- are systematically rotated among conspirators. Prices as before, can be easily altered either by establishing new list prices or discount structures. In short, this formula is efficient, flexible, and easily applied. But it does have a major defect: since the brackets include the same quantity of numbers (in this regard Brunswick's 70-85 is equivalent to Wayne's 45-60), there would be a tendency for an equality in market shares to develop -- a situation hardly satisfactory to Brunswick and Wayne, who previously, as has been demonstrated, shared the dominant position in the industry.

⁹³ Brackets were changed bi-monthly and were assigned by drawing from a hat. Add-on ranges were periodically altered. And at times other modifications were made. It might be noted that less than .1% of the Brunswick bids as shown on the scratch sheets, Brunswick sample, during the period 1954 for which the most bid data is available, violated the rules of this system, then in effect.

The complex bracket system.-- The third system, the complex bracket system, was used during the short period from May, 1956, to December, 1956. It involved the use of two new tables, reproduced in part below as Tables 28 and 29. Like the simple bracket system, this formula relied on a common price list and conversion table. And as before, each company would use the last two digits⁹⁴ of the list price as the "list" described in Table 28. Brunswick, then, as the directions require, on an order for \$4,420 would take 84 from 20 to establish its basic bracket adjustment. But in order to avoid negative numbers, the conspirators required that any firm facing this situation subtract the 84 from 120, and not 20, leaving Brunswick an adjustment of 36.

The same procedure holds for Medart: since the two relevant digits are 20, and since Medart's directions call for addition, this company would add 20 to 16, and thereby also obtain a basic adjustment of 36. And, of course, the computations for Safway, Berlin-Chapman, Universal, and Wayne adhere to the same pattern, yielding figures of 3, 86, 70, and 53 respectively. Furthermore, again like the simple bracket system, a multiplier here equal to 1 (since the list price is under \$5,000) and an arbitrary add-on adjustment (here

⁹⁴

At times, particularly after June, 1956, the third and fourth digit from the right of the decimal point were used.

TABLE 28. -- List of bracket adjustments

Bracket	Company assigned this bracket ^a	Adjustment	How adjustment is applied to list prices
1-16	Brunswick	List less 84	Subtract
17-33	Medart	16 less list	Add
34-49	Safway	List less 17	Subtract
50-66	Berlin-Chapman	List less 34	Subtract
67-83	Universal	List less 50	Subtract
84-100	Wayne	List less 67	Subtract

^aAs of May 28, 1956.

Source: Compiled from documents 1-192-065 and 1-988.

TABLE 29. -- Application of final bracket adjustments

If the bid falls in the bracket of:	Then the bidding position is:				
	Low	Next low	Next low	Next high	High
Brunswick-Horn (B-H)	-1(B-H)	List (M)	+1 (S)	+2(B-C)	+3(U)
Medart (M)	List (M)	+1(S)	+2(B-C)	+3(U)	+4(W)
Safway (S)	-5(S)	-4(B-C)	-3(U)	-2(W)	-1(B-H)
Berlin-Chapman (B-C)	-4(B-C)	-3(U)	-2(W)	-1(B-H)	List (M)
Universal (U)	-3(U)	-2(W)	-2(B-H)	List (M)	+1(S)
Wayne (W)	-2(W)	-1(B-H)	List (M)	+1(S)	+2(B-C)
				+2(B-C)	+3(U)

Source: Compiled from document 1-28779. The only direct evidence that this system was actually used is contained in the Brunswick scratch sheets included in the Brunswick sample. However, all such sheets were consistent with the system as described.

the conspirators are all assumed to choose 20) are applied. And also, as under the simple bracket formula, the final adjustment figure is equal to the bracket adjustment times the multiplier plus the add-on. Up to this point, then, the procedures for computing bids under the complex bracket system parallel exactly those for the simple bracket formula with one exception: bracket adjustments are calculated from the list price under the former system, from the discounted list price under the latter. Otherwise, to this point, there is no discernible difference between the two methods.

The difference, unfortunately, does not end here; for a further manipulation must be made. Reference to Table 27 reveals that this potential order lies in Medart's 17-33 bracket. Table 29 tells Medart to bid list. It also orders Safway to bid list plus its final bracket adjustment; Berlin-Chapman list plus twice its final adjustment; Universal list plus three times its final adjustment; and so forth. Proceeding in this manner, as shown by Table 28 (which summarizes how the calculations should be made), Medart would bid list or \$4,420, Safway \$4,453, Berlin-Chapman \$4,632, Universal \$4,690, Wayne \$4,712, and Brunswick-Horn \$4,700.

It is easy to see that this formula is by far the most complicated and difficult to administer of those which had been developed up to 1956. Yet the industry chose to adopt it. Why?

Regrettably, available industry records provide little help in answering this question. But perhaps some shrewd speculation can provide a plausible, if not certain, response. Reference to Table 29 reveals that no matter whose bracket a given list price happens to fall into, Medart would always submit its bid at list price. Combine this information with the purported withdrawal of Medart about May, 1956, and a clearer explanation of the reason for adopting the complex bracket system emerges.⁹⁵ This formula was expressly designed to serve in a situation where one important conspirator wished to adhere to the terms of the collusion while simultaneously withdrawing from formal conspiratorial activity. Thus, Medart could independently bid list price, while the conspirators continued to fix prices and allocate market shares. And as long as Medart continued to bid at list, the conspiracy continued unabated.

Another advantage of the complex bracket system was its ability to increase the spread between low and high bids. This, of course, is a consequence of the factors as shown in Table 25. Basing calculations on the same list price, for example, the simple bracket formula yielded a spread between low and high bids of 125 (Table 27), and the complex bracket formula, a spread of 292 (Table 30). As such increases take place, of course, the percentage of

⁹⁵See California document, Affidavit of William I. Cohen, Section 43.

TABLE 30. -- The complex bracket system

Number of step	Step	Berlin- Chapman	Brunswick- Horn	Medart	Safway	Uni- versal	Wayne
East High School in Wisconsin requests bids on bleachers with a list price of \$4,420.							
1.	Figuring the bracket adjustment	120 -34 26	120 -84 36	20 +16 36 ^a	20 -17 3	120 -50 70	120 -67 53
2.	Including the add-on (assumed here to be 20)	86 +20 106	36 +20 56	Need make no further computation since Table 23 tells to bid at list	3 +20 23	70 +20 90	53 +20 73
3.	Establishing final bid positions (final bracket adjustments) times multi- pliers as shown Table 23	106 x 2 212	56 x 5 280		23 x 1 23	90 x 3 270	73 x 4 292
4.	Establishing the final bid price	4,420 +212 4,632	4,420 + 280 4,700	4,420 + 0 4,420	4,420 + 23 4,453	4,420 + 270 4,690	4,420 + 292 4,712

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^aThis calculation technically is not necessary since Medart is required to bid at first list, but is included here because Medart is the only company required to add in order to obtain its bracket adjustment.

Source: Compiled from scratch sheets, Brunswick sample, and from Tables 27 and 28. This is an example of how this system is believed to have worked during June, 1956. Other months the third and fourth numbers to the right of the decimal (here 42) were utilized for bracket purposes. Even this description is slightly simplified; with all orders under \$5,000 the conspirators added a 3% charge to the list price before further calculations were made.

orders taken at other than low bid decreases, thereby assuring the conspirators a more stable allocation of the market.

The two-foot incremental system.-- The fourth formula, the two-foot incremental system, was placed in operation around January 1, 1957, and continued thereafter for at least three and one-half years. Of all previous systems utilized by either the GSC or by the FGS Council, it was probably at once both the least complicated and most sophisticated.

The basis of this new approach was a series of price lists that were fundamentally different from all preceding types. For one thing, as Table 31 (which reproduces a portion of one such list used by Brunswick) shows, pricing by section and half-section was completely abandoned in favor of pricing by two-foot increments. Consequently, of course, the need for a conversion table disappeared.

The new formula employed only two variables: the number of lineal feet in the order, and the number of rows required. By consulting its price list, any conspirator could establish directly the correct list price for the seating. To introduce the East High School example once more, reference to Table 31 shows that the list price for 72' of eight-row bleachers is \$5,290.⁹⁶ And, as is by now

⁹⁶ The increase in list price over Table 22 is a reflection of gradual increases in prices between 1950 and 1956. It also

TABLE 31. -- Brunswick 2' incremental price list (8-row portion only)

Spacing (in feet)	List price	Spacing (in feet)	List price
Up to 8'11"	670	60'1" to 62'	4600
8'1" to 10'	920	62'1" 64'	4620
10'1" 12'	960	64'1" 66'	4930
12'1" 14'	1130	66'1" 68'	4980
14'1" 16'	1160	68'1" 70'	5160
16'1" 18'	1350	70'1" 72'	5290
18'1" 20'	1590	72'1" 74'	5540
20'1" 22'	1770	74'1" 76'	5580
22'1" 24'	1830	76'1" 78'	5750
24'1" 26'	2080	78'1" 80'	5780
26'1" 28'	2210	80'1" 82'	6090
28'1" 30'	2290	82'1" 84'	6130
30'1" 32'	2310	84'1" 86'	6320
32'1" 34'	2620	86'1" 88'	6450
34'1" 36'	2670	88'1" 90'	6700
36'1" 38'	2920	90'1" 92'	6730
38'1" 40'	2980	92'1" 94'	6910
40'1" 42'	3230	94'1" 96'	6930
42'1" 44'	3270	96'1" 98'	7240
44'1" 46'	3440	98'1" 100'	7290
46'1" 48'	3470	100'1" 102'	7470
48'1" 50'	3780	102'1" 104'	7600
50'1" 52'	3820	104'1" 106'	7850
52'1" 54'	4010	106'1" 108'	7890
54'1" 56'	4140	108'1" 110'	8060
56'1" 58'	4390	110'1" 112'	8090
58'1" 60'	4420		

Source: Compiled from document 5-15605. This is for one portion of the eight-row part of the list. In effect during early 1959. Except for some changes in pricing of various rises and depths, Brunswick used a consistent price list from 1957 to 1960. This list is for the 10 1/2" rise.

obvious, this system received its name from the variations of two lineal feet used on such price lists.

Brunswick's list also differed from earlier varieties in another way. Regional distinctions in the basic list were abolished and, hence, the list price for seating sold in Wisconsin, New York, Oregon, or California would be identical. This is not to say that such regional differentials were abandoned; they were taken into account in the discount structure.

Each conspirator was given a price list superficially similar to Brunswick's, but with one fundamental difference: the list prices for the same set of requirements varied from company to company. For example, taking 60' of six-row bleachers, the list prices were:

Brunswick-Horn	\$2,908
Wayne	2,803
Medart	2,840
Berlin-Chapman	2,890

In this case, Wayne would be low bidder. If 100' of six-row bleachers were required, the firms for which price lists are available would charge as follows:

Brunswick-Horn	\$5,590
Wayne	5,637
Medart	5,550
Berlin-Chapman	5,551

reflects in part the inclusion of 10 1/2" spacing, for which a small added charge was levied.

For orders specifying these sizes, Medart would be low bidder.⁹⁷

This system, then, enabled conspirators to bid directly from list prices without in any way referring to a complicated series of brackets or to a conversion table.

Once the list price had been established, the final bid price could be quickly calculated. For, at their monthly meetings, the conspirators would agree on a common set of discounts to be applied during the succeeding month by all participants. For example, the discount which was agreed on during May, 1959, amounted to 30%. Each conspirator would bid his list price less 30%, and, as a result, the percentage spread between prices included in the various original list prices would remain intact even after the application of the deduction.⁹⁸ One other factor must be noted: any regional price differences were included in the discount structure. Since, for example, California prices were supposed to be higher than those

⁹⁷See Affidavit of William I. Cohen, California documents, Sections 53 and 54. For the specific price lists, see California documents, Exhibits 97-100. The **example** has been changed from an eight-row order to a six-row one merely to enable an easier reference to the discussion in Cohen's Affidavit. Consulting Exhibits 97-100 will establish that the same principle holds for the eight-row order. Because Wayne was not formally a member of the Council, Corray provided this company with a special method of computation. See for example, grand jury document 1-195-57.

⁹⁸The spread would be reduced by the discount in the same proportion as the original list price.

in the base areas, during September, 1957, all California orders were to be charged 17% extra.⁹⁹

To summarize, then, under the two-foot incremental formula, prices were computed as follows:

- (1) Each company would refer to its own price list, which was different from those of all other conspirators, in order to find its list price for the bleachers.
- (2) It would apply the previously-determined monthly discount to its list price.
- (3) It would add any agreed-on special charges for orders outside the base areas, and any additional amounts for extras and other special features.

Since each firm started from a different list of prices, the final bids would perforce be spread. Each conspirator would be low bidder only on those jobs for which his original list was low.

But several further questions need to be considered. How were the various price lists developed? On what basis did the Council determine the bidding positions? How, if at all, did prior market allocations enter?

The key to resolving these questions perhaps may be found in a study Corray conducted and the Council considered during a meeting sometime in 1956. In his original comments on the proposed

⁹⁹See California documents, Exhibit 106. This policy was actually reflected in Brunswick bids to California, as shown by the Brunswick sample.

changes in pricing, Corray included three items:

- (1) A list by footage of all orders placed by Council members for the year 1954.
- (2) Such orders organized by footage, from the order requiring the least number of feet to the one requiring the most.
- (3) An arrangement of the organized orders into a system of brackets.

Tables 32 and 33 not only include a portion of the above items as developed by Corray, but also show how a proposed pricing formula was derived from them.

The first step in Corray's initial scheme was to assign to each company a code letter, and associate the code letter with a set of brackets. The brackets were carefully chosen so that each company would secure the same portion of business at low bids. The second step was to order the bids in such a way that every conspirator would know his bid position regardless of the bracket into which the bid happened to fall. The final step was to design bidding directions which were to be associated with each bidding position. For example, suppose that Brunswick is Company A during the month in which a bid for 150 feet of seating is received. Since 150 feet is in Brunswick's bracket, it would be assigned low-bid position on this order (Table 33) and would, as low bidder, price at list. If Medart were designated by the Council as Company B, it would be assigned position two, next to low bid, and as such submit

TABLE 32. -- 1954 Footage sales (by footage)

Raw 1954 sales by footage ^a	Sales organized from low to high footage orders	
45	45	
300 (2)	48	
48	78	
192 (2)	80	
204	84	
78	136	Company A's
144 (3)	144 (3)	bracket
80	160	0-160
160	168	
84	176	
176	180	Company B's
168	192 (2)	bracket
136	204	161-204
320 (9)	210	Company C's
180	216	bracket
315	224 (4)	205-239
312	240	Company D's
224 (4)	252 (2)	bracket
290	256 (5)	240-266
256 (5)	288 (4)	
252 (2)	290	
210	300 (2)	Company E's
216	312	bracket
240	315	267-317
	320 (9)	Company F's
		bracket
		318-22

^a Measured in feet, not lineal feet. Thus, for example, one of the orders for 320 feet might consist of 40 lineal feet of eight-row bleachers.

Source: Compiled from documents 1-195-201-202. This table, of course, includes only a small portion of the original.

TABLE 33. -- Price calculations under the 1956 proposed system

Step in process and explanation of step	
<u>Assigning each company a code letter:</u>	
Letters A through F were used. At one time the assignments were A=Brunswick-Horn; B=Medart; C=Wayne; D=Leavitt (Safway); E=Universal; and F=Berlin-Chapman.	
<u>Assigning each letter a series of brackets:</u>	
The proposed assignments were : A=0-160, 527-550, 551-577, 958-961, 962-1037, 1408-1519.	
B= 161-204, 485-526, 578-611, 898-957, 1038-1064, 1520-1689.	
C=205-239, 440-484, 612-647, 860-897, 1065-1100, 1690-1850.	
D=240-266, 389-439, 648-679, 808-859, 1101-1182, 1851-2200.	
E=267-317, 363-384, 680-744, 797-807, 1183-1266, 2201-2447.	
F= 318-322, 323-362, 745-771, 772-796, 1267-1407, 2450 or more.	
Thus an order for 150 feet would fall into A's bracket.	

Ordering the bids:

If the bid falls into the following bracket:		Then the positions from low to high bid will be:					
		Position-1 (low)	2	3	4	5	6 (high)
A		A	B	C	D	E	F
B		B	F	D	A	C	E
C		F	C	B	E	D	A
D		D	A	E	B	F	C
E		C	E	A	F	B	D
F		E	D	F	C	A	B

TABLE 33. (Continued)

Calculating the price:

<u>If the bidder is supposed to be in position:</u>		<u>Then the final bid should be: IF list over \$5,000 IF list under \$5,000</u>	
1	List	List + 1% + \$40	List + 3%
2	List + 1% + \$40	List + 2% + \$5	List + 3% + 1% + \$8
3	List + 2% + \$5	List + 3% + \$30	List + 3% + 2% + \$1
4	List + 3% + \$30	List + 4% + \$15	List + 3% + 3% + \$6
5	List + 4% + \$15	List + 5% + \$25	List + 3% + 4% + \$3
6	List + 5% + \$25		List + 3% + 5% + \$5

Source: Compiled from sources listed in Table 32.

a bid of list plus 1% plus \$40.¹⁰⁰ The remaining bids would be calculated in the same manner.

Corray's proposed formula would be of only academic interest were it not for the probability that it formed the basis for the two-foot incremental system. Rather than have Council members make the arduous calculations necessary to establish bid prices under the 1956 plan, Corray simply incorporated the price differentials into the price lists. For example, for all combinations of row-sizes and lineal-foot lengths that would create a total of 150 feet, Brunswick list would be low. Thus, on the price lists for 50' lineal feet of three-row, 30' of five-row, 25' of six-row, 15' of ten-row and so forth, Corray would place Brunswick's list price at the lowest level.

There are two types of evidence that this was how the two-foot incremental plan was developed: (1) an examination of price lists reveals that the differences between low and high bids are consistent with the approximate 5% spread that the 1956 proposed formula entails, and (2) Van Sistine in his statement indicated that a 5% bid spread was maintained throughout 1958.¹⁰¹

¹⁰⁰If the contract is over \$5,000; of course, 150' of seating would almost invariably be priced below \$5,000, in which case Medart would submit a price of list plus 3% plus 1% plus \$8.

¹⁰¹Van Sistine statement, p. 24.

Corray, however, probably made one additional modification in the two-foot incremental plan: he included allocation features. In order to do this, the chairman had to obtain the Council's consent to a set of predetermined market apportionments. Precisely at what levels these were remains unclear, although the following data probably yield rather close approximations to the actual allocations:

Company	Percentage allocation per original 2' incremental plan ¹⁰²	Percentage allocation in 1958 as stated by Van Sistine ¹⁰³
Berlin-Chapman	8	10
Brunswick-Horn	23	25
Medart	19	22
Universal	22	21
Wayne	19	18
Others (unspecified)		4
Hussey	3	
Safway	7	

In other words, Corray prepared his brackets for the 1954 footage in such a way as to divide the 1954 results to achieve the desired market allocations. In all probability, then, he simply built modified 1956 bracket adjustments directly into the price lists.

¹⁰² Brunswick, "FGS Industry," op. cit., document 4-4062.

¹⁰³ Van Sistine statement, p. 49.

One consequence of these manipulations was not only a plan that was simple to administer, but also a system that was highly flexible. Prices could be altered easily by changing discounts. In addition, regional differences could be computed with a minimum of effort and altered without developing new price lists. Prices for extras and special features could quickly be included in the formula as either an extra dollar amount or a percentage addition to list. And, finally, market allocations could be maintained automatically unless unusually large percentages of orders at prices greater than low bids were being secured by one or more Council members. Even here, a simple solution was available -- Corray would allow the companies whose percentages were lower than the norm to add a slight supplemental amount to their discount for the month, while the others retained existing discount structures.¹⁰⁴ Of course, when the difficulty was eliminated the discount differentials would be discontinued.

It is easy to see why this system was at once the simplest and the most sophisticated of the formulae. From this it should not be inferred, however, that the incremental system was without flaws. In fact, despite the adoption of even more complicated and compre-

¹⁰⁴ Van Sistine statement, pp. 95-96.

hensive formulae, the FGS Council never satisfactorily eliminated all of the problems that beset it.

Major Problems Faced by the Conspirators

The difficulties that confronted the GSC, it will be recalled, consisted mainly of such items as combination bidding, alternative bidding, and unauthorized price concessions on the part of dealers. Unfortunately for the FGS Council, it had to overcome these as well as a number of other encumbrances.

Standardization of prices for extras.-- Since effective collusion could be completely counteracted if participants in the Council were able to lower prices with impunity on extras (or other special features) and obtain additional orders thereby, the conspirators faced the urgent need of establishing common prices for these items.

The first recorded efforts in this direction took place in the early years of the GSC, where such features as special rises, special depths, and extra coats of paint were to be subject to differential pricing. And throughout the FGS Council period (throughout most of 1954 and all of 1955 and 1956) the drive toward this objective intensified to such a point that by 1957 a formal set of rules for standardization, to be uniformly adhered to by all Council members, was codified into a group of "Recommended Practices for Standardization."

These regulations are reproduced in an abbreviated and partial form in Table 34.

Not only did common prices have to be developed for the items described in the accompanying table, but uniform prices and practices had to be promoted by the Council in order to deal with seat numbering, aisles, and other extras, as well as with the issue of whether to absorb or not to absorb local and state sales taxes.¹⁰⁵

Although the Council could, and did, establish standardized prices for special features almost as fast as such components could be improvised, the existence of these units was a distinct handicap to the conspiracy. For instance, as Van Sistine plaintively remonstrated, such tactics as to provide 24" spacing for the price normally charged for the 22" variety were customary.¹⁰⁶ Another tactic was to include an extra, such as power operators, as a free bonus.¹⁰⁷ So not only did the Council have to expend time and energy compiling

¹⁰⁵Usually sales taxes were not absorbed by the agent or parent company but were added to the final bid as calculated by the parent company. This provided an excellent avenue for agents to make "mistakes" and quote bids that were intended to be exclusive of taxes as including taxes. The only major exceptions to this rule were in California and Washington, where sales taxes were included in the extra charges levied on orders from these areas. See California documents, Exhibit 93, document 10-313-36.

¹⁰⁶Van Sistine statement, pp. 28 ff.

¹⁰⁷This was a quite common phenomenon if the Brunswick sample is representative.

TABLE 34. -- Recommended practices for standardization

Feature or item	Percentage extra charge or comment on item
Special rises	For rises of over 10 1/2" quote 10% additional. Don't quote on rises of over 13 1/2".
Special depths	24" quote 7 1/2% additional.
Reverse-fold, recessed	Price as though order had on extra row.
Mobile ^a	\$450 extra for 1st unit; others \$325.
Plywood backing	Develop some extra charge.
Extra coats of paint	5% more per coat above standard two.
Special colors or finishes	5% more.
Pressurized treatment	25% more, don't quote special brush-on or flame-proof finishes.
Fixed rows, cut outs	Price as normally.
Removable foot- and seatboards	\$13.00 for each row on highest section involved.
Other items	Maximum materials and labor guarantee should be one year; all quotations on delivery and installed base only; payment at no discount in 30 days standard terms throughout industry.

^aDuring part of 1959, mobile units were priced at 15% extra; 24" spacing during this year was often also priced at 5% extra.

Source: Compiled from Corray's document "Recommended Practices for Standardization," California documents, Exhibit 93, documents, 10-313-34, 10-313-35, and 10-313-36. Percentages were to be added to price list, before discounts were taken.

list prices for a number of special features, but it also had to police participants' illicit attempts to gain added business by granting concessions on such items.

Combination and alternative bids.-- That these two forms of bids continued to plague the conspirators is attested by two provisions included in the list of "Recommended Practices for Standardization":

It is recommended that you do not allow bleachers to be quoted in combination with any other item or items.

It is recommended that you do not quote on lesser lengths of bleachers than is required by the prospect.¹⁰⁸

Despite this Brunswick, for instance, systematically employed such bids and even went so far as to advise its dealers under what conditions combinations should be quoted:

The primary purpose of a combination price is to place a company in an advantageous position over competitive companies.¹⁰⁹

Brunswick used such combination bids widely and successfully, even after the Council rule prohibiting combination bids was put into effect.¹¹⁰ It was disgruntled with this Council regulation:

¹⁰⁸"Recommended Practices for Standardization," California documents, Exhibit 93, document 1-313-35.

¹⁰⁹Brunswick Sales Bulletin 147, "Combination Bid Procedures," August 19, 1955, document 1-24027.

¹¹⁰From the Brunswick sample it appears that at least 75% of price concessions came from combination bids.

The rule was, in my opinion, . . . instigated by "U" who had no other products to combine with their FGS. It definitely worked to "U's" advantage and to the disadvantage of "B-H" and "W".¹¹¹

And to add fuel to the flame, Brunswick, perhaps as a rationalization of its own self-interest, believed that this proviso could not be enforced when "the combination of products was formulated and set forth by an Agent."¹¹² In any event, the propensity of both producers and agents to use combinations continued to be a problem that was never satisfactorily combatted.¹¹³

The story for alternate bids, on the other hand, is much more complicated. On the face of it, alternate bids would appear to present a more difficult problem than the combination variety -- for even if the formulae were universally applied, it would be possible for the prearranged low bidder to lose out to a pre-determined higher bidder on a disparate set of specifications. And, of course, the conspirators were quick to take advantage of these possibilities by quoting on variations which, although only infinitesimally different

¹¹¹Brunswick, "FGS Industry," op. cit., document 4-4057.

¹¹²Ibid.

¹¹³Combination bids continued into late 1958. After that year price concessions were made directly. Source: Brunswick sample.

from the originals, were sufficiently divergent to place the order in the bracket for which they were assigned the low-bid position.

Corrective measures were rapidly promulgated to repair this rather ominous situation. In relation to the two bracket formulae, Council members were told to designate as the base bid for computation purposes the customer's specifications having the largest dollar value; as alternative one, the specifications having the second largest value; as alternative two, those having the third largest value; and so forth.¹¹⁴ This nomenclature was to be followed regardless of the order in which the customer designated his alternates.¹¹⁵ Under the simple bracket system, the base bid was to be computed as previously shown. The first alternative was based on calculations used in determining the base bid, for it was to be priced at list (or discounted list) plus 90% of the same bracket adjustment, and the same multiplier was utilized in computing the base bid. Alternative two was to be found in like manner, except 80% was to be applied. For alternative three the relevant percentage was 70%, and additional alternate bids followed the same pattern.¹¹⁶ On February 17,

¹¹⁴See California documents, Exhibit 70.

¹¹⁵Ibid.

¹¹⁶Calculated from Brunswick sample.

1956, the percentages were reduced to 80% for the first alternative bid, 70% for the second, and so forth.¹¹⁷

For the complex bracket method, a nearly identical approach save for a further change in percentages was employed. If the bracket adjustment were to be added to list, the amount for the first alternate remained at 80%, but if the bracket adjustment were to be subtracted from list, the relevant figure for the first alternative was 40%.¹¹⁸

These manipulations would automatically determine the low bidder and the relative positions of the other bidders on every alternate. The ultimate result was that the relative positions of all bidders were constant, except in the event of cheating, during the life of the quotation.¹¹⁹ The same stability existed under the scheme for pricing alternatives under the two-foot incremental system. Initially a per foot price was derived by dividing the original list price by the number of feet included in the original specifications. Alternative bids were established by multiplying this per-foot price and the number of feet contained in the alternate requirements and

¹¹⁷Ibid. Almost immediately, however, the 80% was maintained on all alternatives.

¹¹⁸Ibid. Again the figure for the first alternative was applied to others.

¹¹⁹The bidder who had the favored position on the base specifications would also be in first (lowest) position on every alternative.

adding 2% to the total.¹²⁰ As a practical matter, however, this 2% special charge was discontinued, and the conspirators reverted to quoting alternatives without incorporating extra charges.¹²¹ And the result of either method, since the per-foot prices invariably reflect the different list prices for the base specifications, is to spread the alternatives in the same manner as the base bids.

But the conspirators, in this connection, still had to deal with two related problems not covered by the various procedures for determining alternative bids. One was the tendency to try to induce customers to change previously-issued base specifications in order to put the contract in a category for which a given company was assigned the advantage. This problem was particularly vexing; finally a rather mild proviso to deal with this difficulty was promulgated:

If at any time you are responsible for architect or customer changing previously issued plans or specifications notify chairman immediately who will then advise others of change.¹²²

The other was the tendency for purchasers to attempt to wring price concessions by incessantly changing specifications; to take care of this danger, a rather stringent rule was adopted:

¹²⁰The Brunswick sample contains only a few cases of the application of a 2% discount.

¹²¹This conclusion was derived from a close inspection of the pricing of alternatives in the Brunswick sample

¹²²California documents, Exhibit 71.

Effective immediately if bids have been accepted, and opened and the prospect asks for quotations on additional amounts follow original base bracket bids as to position even where the new quote is in larger amount than the original bid.¹²³

These regulations appear to have stifled more or less effectively the use of alternative bids as a competitive weapon.

Agents.--Exacerbating the problem with combination and to a lesser extent with alternative bids, was the existence of the dealer system. One major source of concern was the tendency of agents to make price concessions by cutting commissions without receiving prior approval from their parent companies, as witnessed by the following comment of a Brunswick representative:

Because of adverse specifications on the FGS and our analysis of previous bids we elected to go lower out of our own commission.¹²⁴

Another favorite tactic, especially when general contractors were involved, was to refuse to bid on jobs directly, but offer to meet and slightly undercut the lowest price offered by any other agent.¹²⁵ In the face of these stratagems the Council, like the GSC, endeavored to compel the conspirators to enforce strict observance of established prices on their agents. The campaign was somewhat successful, as

¹²³Ibid.

¹²⁴From Brunswick sample, document 1-14992.

¹²⁵See, for example, document 3-1033.

the following Wayne letter to its agents demonstrates:

Also, please note that in the future no Gymstand order will be accepted from any distributor. . . at a price which is different than the one figured and checked by our office.¹²⁶

Again, however, the assertion of this rule apparently was not sufficient to procure its enforcement, for the conspirators met with only indifferent success in their attempts to control their agents.¹²⁷

We manage to take a certain percentage of the work in this area; however, we are certain with a good locker connection and a source for the other miscellaneous items that we could do considerably more business. . .¹²⁸

Agents were often very effective in creating dissension in the Council by disparaging the products of other members, who were never sure whether the real source of the derogatory comments came from the agent or from his parent company.¹²⁹

Two other problems were closely connected with the agent system. One was the existence of many sales that were important for demonstration purposes. A new school, of a particularly original

¹²⁶Letter from V. P. Kelchar, sales manager, Wayne Iron Works, to agents, April 8, 1955, document 1-193-53.

¹²⁷The Brunswick sample includes many examples of cases where the agents cut their commission, often either with the covert encouragement or active support of Brunswick.

¹²⁸Letter from R. M. Sedwick Co., Dallas, Texas, to Brunswick, July 21, 1959, number illegible, from Brunswick sample.

¹²⁹See, for example, document 5-16807.

design, could be of unusual importance to both the dealer and the producer in terms of securing future sales -- especially since some orders were based on impressions visiting school boards received from personal inspections of installations.

Also, there was the necessity of keeping dealers happy. Typical of representative complaints is this comment from an agent to Brunswick:

I do not need to tell you that we have always stood ready to sacrifice part of our commission to bring about success. I am sure you also know. . . that working these jobs is very time consuming. Our time is all we have to sell and when we have so many unsuccessful bids. . . it gets discouraging to say the least.¹³⁰

And from one Berlin-Chapman agent to another:

. . . do you not feel if they have collusive deals, that every agent should get a drawing account so that if they double cross him, . . on his deals he at least gets something for his work.¹³¹

The extent of the bitterness can be assessed by this excerpt from the correspondence of one of the same agents:

You. . . cannot deny that based on these bids your bidding is hopeless and if it reflects your costs you are headed down the drain. It also reflects a complete lack of stability in your prices that is amateurish and to the Justice Department

¹³⁰Letter to Brunswick from their agent, Southland School Equipment Company, April 8, 1958, document 1-5817.

¹³¹Letter from one California Berlin-Chapman agent to another, document 500-531.

would look like collusion in several instances. . . . You say it is not so and I have to take your word for it.¹³²

Again and again the need to keep dealers happy is explicitly noted by the conspirators.¹³³ In summary, then, it appears that the following comment from a Safway letter to Medart is well taken:

. . . I am completely cognizant of the fact that one of the greatest weaknesses that we have (mutually) in this, or any other business, is the fact that we cannot always answer for the actions of the people who represent us.¹³⁴

But, in any event, enforcement of rules relative to agents in some instances was rather strict, as the following comment on Council strategy by Van Sistine indicates:

We'd say well, our dealer did it, then they'd say get rid of the dealer. If you can't control your dealer get rid of him, that's all.¹³⁵

Nonetheless, while a given formula might guarantee an acceptable level of sales for the parent company on a national basis, the same system could not assure a profitable level of orders for the local agent.

Cheating.--Another major problem was the prevalence of cheating, which eventually led to a universal attitude of distrust

¹³²Letter from California Berlin-Chapman agent to Berlin-Chapman, July 15, 1955, document 500-48.

¹³³See, for example, documents 1-23821, 1-1946, and 1-10520.

¹³⁴April 19, 1957, document 5-16807.

¹³⁵Van Sistine statement, p. 78.

among Council members. Typical of the dishonesty that was practiced is this information contained in an internal Brunswick letter:

We have entered an order for the required FGS of the list project with an indicated contract price of \$25,990.00 as opposed to our quoted amount of \$26,983.00. At such time as the Council Report is prepared, it should be adjusted to indicate a contract price of \$26,983.00.¹³⁶

Or this inquiry to Brunswick from one of their agents:

I was instructed. . . not to quote the "credit" or package deal price on Brunswick's standard quotation form, but rather on our own letterhead. We followed these instructions, of course, but tell me -- why the cloak and dagger act? Has the old Gym Seating Council raised its ugly head again or just exactly what is going on?¹³⁷

As a result, none of the conspirators could be sure of receiving contracts for which they were assigned low position. The following letter from Brunswick to one of their Indiana agents tells part of the story:

We anticipate that you are following these jobs very closely; however may we urge upon you the importance of attempting to close this business just as soon as possible to avoid competition attempting to cut under our quotations.¹³⁸

The other part of the story, that even after awarding of the contracts,

¹³⁶Internal Brunswick letter, January 25, 1957, from Brunswick sample, document 1-14-53.

¹³⁷Letter from G. Fred Hasse, Toledo, Ohio agent of Brunswick, March 21, 1958, from Brunswick sample, unnumbered.

¹³⁸Letter from Brunswick to George Hayes, one of Brunswick's representatives in Indiana, March 29, 1958, from Brunswick sample, no identification number.

the conspirators could not be certain of their fellow Council members, is attested to in a Brunswick letter:

. . . it would appear that price has not entered into the picture as the purchaser desires Wayne materials, however, the Wayne Sales Representative no doubt has been pushing this point which is contrary to the rules, in that Brunswick had the order. Just thought you might like to bring this to the attention of FC (Fred Corray).¹³⁹

Some cheating was made much easier and less dangerous by the existence of imperfect information in the industry. It was almost impossible for Council members to keep track of thousands of individual orders, as the following comment from a Brunswick agent's letter illustrates:

You will be interested to know that our competitors do not know of our combination bid even though we were also awarded the contract for the Basketball Backstops.¹⁴⁰

Indeed, the problem became so acute that Berlin-Chapman was forced to warn its agents to collect all available information on competitive pricing:

I would like to reiterate again the importance of passing on to us all available information relative to competitor's activities. We have lost several jobs through gimmicks that we might have dreamed up. . . ¹⁴¹

¹³⁹Internal Brunswick letter, September, 1956, from Brunswick sample, document 1-15051.

¹⁴⁰Letter from Brunswick to George Hayes, Brunswick's Indiana agent, November 19, 1957, from Brunswick sample, document 1-16369.

¹⁴¹Letter from Berlin-Chapman to its agents, document 500-38.

To recapitulate, then, the following comment by Van Sistine seems a propos:

Like I ¹⁴²say, there was absolutely no integrity among the group.

Under these circumstances, distrust between Council members was bound to remain intense.

Other sources of suspicion.-- Like the GSC, the FGS Council found that business taken at other than low bid could become a serious problem. This is illustrated by an August 22, 1958, letter from an agent to Brunswick:

This job was a rough one to get. It was supposed to go to someone else, but because of Brunswick's co-operation and our hard work we got it.¹⁴³

The result of such hard work, superior market coverage, a well-known brand name, or other factors was that Brunswick obtained a persistently higher percentage of the market than its allocation. In 1956 Brunswick even agreed to raise prices by 2-3% on a portion of their quotations.¹⁴⁴ A Brunswick official added that:

. . . the group is rather alarmed and disgruntled at our position, and the Consultant made the statement that we might have difficulty in holding the group together.¹⁴⁵

¹⁴²Van Sistine statement, p. 24.

¹⁴³Letter to Brunswick from one of its Illinois agents, August 22, 1958, from Brunswick sample, document 1-15901.

¹⁴⁴Internal Brunswick memo, April 16, 1956, document 1-22206.

¹⁴⁵Ibid., document 1-22205.

Later, just before the price break in late April, 1959, Berlin-Chapman commented on Medart's leadership of the downward price movement:

. . . it's undoubtedly a case of their feeling that they have been pushed around a little and this is their way of retaliating. Universal, Horn, Medart, and Wayne will have a lot of explaining to do to somebody some day.¹⁴⁶

The companies themselves characterized the industry as including a number of "junior-grade Pearl Harbors" and "big and little price wars."¹⁴⁷ Representative of such industry comments are the following passages, culled from a Brunswick "FGS Industry Report":

The tenor of the meeting was quite similar to several meetings which I have attended in the past, in that there had been a complete break down in faith on the part of all the Conferees.

Our Consultant tendered his resignation effective March 1st, 1958. All of this was quite a show, which as I have stated before, I have seen in previous meetings.

After much speech making, it was agreed that we would operate on the basis that the Consultant would be the "Supreme Court," as it were, and that he would administer the operation with guaranteed profit results to all concerned. We, of course, reiterated our position that unless the situation righted itself almost immediately that we were going to be forced to take other action.¹⁴⁸

¹⁴⁶Letter to agent from Berlin-Chapman, April 11, 1959, document 11-867.

¹⁴⁷Document 4-4057. For additional examples of cases of price decreases unilaterally initiated by one of the conspirators, see documents 1-22280, 1-23821, and 1-24891.

¹⁴⁸Internal Brunswick communication, October 4, 1957, document 1-24891. Another major source of conflict occurred when

Apparently, the path of successful conspiracy is not always a smooth one.

Entry. -- Hussey and Narragansett had become serious competitors in late 1956. In fact, the conspirators' own compilation of orders lost to outside firms showed an 87% increase for Hussey between 1956 and 1957.¹⁴⁹ This company's penetration of the New England market became particularly serious, as is evidenced by this comment from one of Brunswick's Massachusetts dealers:

We want to remind you, again, that Hussey is usually at least 12% lower than we are on FGS. . . Thought you'd like to see for yourself, in black and white, just how dark is the picture for us on FGS. Hussey's more than a thorn in our side. If you could make special price treatment for FGS in New England, it's possible we could get more FGS business and along with it, contracts for our other items.¹⁵⁰

Noting these complaints, the Council proceeded with caution toward a system designed to deal with the threat posed by the new entrants.

Relative to Narragansett, the Council concluded:

The general feeling amongst competitors was that Narragansett at the moment is not a big enough factor for immediate action but that we should be considering what action can be taken for the future.¹⁵¹

the Council attempted to raise prices for several months after the price increase, participants would continue to "mistakenly" quote the old prices.

¹⁴⁹ Sales Analysis Sheets, described in Appendix A.

¹⁵⁰ Letter to Brunswick from one of its Massachusetts agents, March 6, 1957, document 1-11383.

¹⁵¹ Document 1-840.

Unfortunately for Beatty and Hussey, the same feeling was not extended to them, for the Council began preparations for systematic (and in one case successful) elimination of these two firms. The first step was to summarize all business that the two companies had obtained, including the amount of discount from list represented by each order. The next step was to calculate the cost to the conspirators per dollar of business that would be taken away from Beatty or Hussey if the conspirators were allowed special discounts on jobs for which bids were submitted by these two companies. The conclusion of the Council's analysis was that in Hussey's case, at least, at a 10% discount -- as opposed to the normal no-discount policy then in effect -- the maximum amount of dollar volume could be pirated per dollar of revenue lost to the conspirators.¹⁵² The proposed policy was quickly put into operation, and a special 10% discount was allowed for the New England area, in which Hussey was located and in which it had done the most damage.¹⁵³ This excerpt from a Brunswick agent's letter testifies to the temporary effectiveness of this policy:

We want you to know that we are most appreciative of the special New England area prices you are furnishing us. If

¹⁵²See California documents, Exhibits 57 and 58.

¹⁵³From Brunswick sample scratch sheets.

it weren't for this consideration, we're afraid we would be in serious difficulties -- saleswise, at least.¹⁵⁴

Unfortunately, from the viewpoint of the conspirators at least, this program was successful for only a brief period, and discounts -- even to combat the minor threat of Narragansett -- had to be increased to 15% and eventually in some cases even to 20%.¹⁵⁵

But Hussey's continued growth caused the conspirators to consider altering their tactics. And, in the autumn of 1957, Universal repeatedly requested that the Council return to the 1956 price level, which would involve a reduction in prices of over 10%.¹⁵⁶ Brunswick objected violently to this step, pointing out that the dollar volume of sales gained by using even a 15% discount to discourage non-member production could not conceivably offset the loss in profit the discount would create.¹⁵⁷ This disagreement was of long standing and added further fuel to the conspirators' dissension.¹⁵⁸

¹⁵⁴ A. J. Cloutier, Brunswick's Massachusetts agents, November 17, 1957, Brunswick sample 1-11568.

¹⁵⁵ This eventually resulted in the elimination of Beatty as an independent company.

¹⁵⁶ Letter from Brunswick to Corray, December 9, 1957, documents 5-16688 and 5-16691. See also document 1-22121.

¹⁵⁷ Ibid.

¹⁵⁸ Ibid.

Finally a two-pronged approach was approved. To deal with competitors such as Narragansett and Beatty, on the one hand, special regional discounts were continued. As regards Hussey, on the other hand, a strenuous attempt was made to induce participation in the conspiracy. The advantages of this proposal relative to Hussey were explicitly noted by the Council in the following words:

If Hussey is brought in under this idea his growth will be controlled. On the outside he can run wild. Furthermore it will be a great aid if we can have his industry information on order reports, etc.¹⁵⁹

Whether or not Hussey joined formally in Council activities, the conspirators were able to cajole Hussey into raising its prices.¹⁶⁰

The problems, then, of standardization of prices, of extras, of combination and alternate bids, of agents, of cheating, and of entry, were of sufficient magnitude to warrant continued counter-measures by the conspirators. But the proposed solutions (the rule prohibiting combinations and limiting alternatives, the attempts to eliminate or reduce the impact of non-participants) were far too feeble to resolve the fundamental difficulties faced by the industry. Stronger and more effective programs had to be found.

¹⁵⁹Document 1-1025.

¹⁶⁰See Appendix Table 2.

Attempts to Eradicate Cheating

Coincident with the introduction of the simple bracket system about September 12, 1954, the conspirators also placed in operation a complicated group of special formulae for dealing with some of the problems confronting the Council. The special formulae provided that:

For jobs where bids of one or more Council members were too low, Council members were permitted to deduct a maximum of 5%.

For jobs where a conspirator was in serious difficulty vis a vis an agent who had received too little business on one job per month per Council member a 5% discount was permitted if the order listed for less than \$10,000.

For jobs where non-conspirators (except Leavitt) were bidding, on two bids per month per conspirator a 5% discount was allowed.

For jobs in which the price quoted by a conspirator was far too low, all other Council members were allowed to undercut the low price by 1% as a disciplinary measure.¹⁶¹

Other agreements, approved along with the special formulae, provided that in cases of threatened cancellation of an order due to delays in delivery of the bleachers, other could quote "nothing better than normal delivery."¹⁶² Furthermore, "any unusual conditions

¹⁶¹See California documents, Exhibits 43, 44, 45, and 46. These formulae were subject to considerable change; for example, at times an 8% discount was allowed for jobs where agents were unhappy (see California documents Exhibit 43). Actually there were five formulae, the missing one permitting Council members to meet but not undercut bids; by September the use of the brackets had caused this missing formula to fall into disuse.

¹⁶²See California documents, Exhibit 44.

not covered by established rules" were to be "clarified and agreed upon by telephone or otherwise."¹⁶³

These special formulae appear to have been little used and, during the April 7, 1955 meeting, agreement on eliminating them was reached.¹⁶⁴ Thus, the attempt to reduce the impact of cheating through the use of a safety valve, designed to allow the conspirators a limited amount of competitive freedom in a few selected instances (whether by means of price concessions, changes in specifications, alterations in the charges for extras, or the quoting of combination and alternative bids) proved an abject failure. To carry the load, better procedures were needed. In this direction a tentative first step had already been taken, for sometime early in 1955 a new rule relative to bids of \$30,000 or over was approved. It read in part:

On all jobs of \$30,000.00 list and over, clear with current chairman by advising him whether you are quoting on the base bid as specified or if you are going to ignore the base bid and submit your own alternate quotations.¹⁶⁵

By the time of Corray's appointment as permanent chairman, the \$30,000 rule had been substantially enlarged. One move in this

¹⁶³Based on an examination of the Brunswick sample.

¹⁶⁴California documents, Exhibit 50.

¹⁶⁵California documents, Exhibit 56. During this period the chairmanship of the Council was being rotated among its members.

direction was the requirement that all such bids had to be cleared by the chairman before being submitted.¹⁶⁶ Thus, Corray would know not only which company was to submit the low bid and the level of the low bid, but he would also be apprised of the amount of every other bid.¹⁶⁷ According to Van Sistine the \$30,000 rule was adopted in order to reduce the cheating that went on, but it may also have served as a means of making actual and pre-arranged market shares more nearly identical.¹⁶⁸ Unfortunately, no information on how long this rule remained operative is available, although it is known to have been in effect until at least December, 1956.

But even the \$30,000 rule, apparently, was not stringent enough, for by the February 17, 1956, meeting a new procedure had been worked out -- a program that was to consume a major portion of the energies of the conspirators. This plan was tabbed the "Rabbit Control Procedure,"¹⁶⁹ and it derived its name from the word rabbit, which as early as January, 1955, had been used to

¹⁶⁶See, for example, California documents, Exhibit 43.

¹⁶⁷Thus, the Brunswick sample includes numerous cases where \$30,000 orders were reported to Corray.

¹⁶⁸Van Sistine statement, p. 52.

¹⁶⁹See California documents, Exhibits 62-67, for a description of the Rabbit Control Procedures.

designate a bid that was priced below industry norms.¹⁷⁰

From this rather simple definition, the rabbit system evolved into an elaborate form that resembled most nearly a private court. The evolution of the rabbit system began with an explicit statement of the preconditions for an effective system of control:

The basic problem now confronting us is the frequent changes taking place in the industry and the limited time available for industry discussion. Any system must be simple and basic to eliminate confusion, misunderstanding and suspicion. Any system must be easily understood by all participants of varying degrees of past experience.¹⁷¹

The importance of these prerequisites can be appreciated by reference to Table 35, which reproduces a portion of information prepared by the conspirators after the rabbit control program had been operative for about a year.

Although this table is abnormal in that it represents a period during which the rabbit system was important, it is easy to see the need to initiate and to improve the procedure if the situation were to be rectified; for when forty percent of business was quoted at non-conspiratorial levels, the Council was confronted with the threat of imminent and immediate collapse. With subsequent

¹⁷⁰

See California documents, Exhibit 47.

¹⁷¹

From "Rabbit Control," n.d., reproduced in California documents, Exhibit 66.

modifications, however, perhaps the rabbit control procedure in its full-blown form could become fully adequate to deal with these difficulties, if conscientiously carried out by the conspirators. In any event, the conspirators were to make every effort in this direction.

TABLE 35. -- An analysis of business written, months of January and February, 1957

How orders obtained	Dollar value
Combination bids or price concessions by agent or conspirator	\$275,775
Wrong area price	4,762
Non-required alternative	21,258
Standard practice	<u>440,158</u>
TOTAL	\$741,953
Percent of non-standard business	40.67%

Source: Compiled from "Business Written" document for January and February, 1957, unnumbered.

The program began with a broadened definition of the word rabbit as:

- (1) Any quotation which is lower than the proper bracket price for the same requirements;
- (2) Any combination, rebate, discount, terms of payment, gift of other items, or any other device which offers a price inducement;

- (3) Any change in price after quoting, which can accomplish either. . . (the) above.¹⁷²

The Rabbit Creator (R.C.) was defined as the "member who is accused of creating a Rabbit,"¹⁷³ and the value of the rabbit was the "proper price before adjustment" of the order.¹⁷⁴

Prior to embarking on their detailed description of the way in which the system was to work, Council members were urged not to forget the basic purposes of the rabbit system:

It is easy. . . to lose sight of the fact that we are first and foremost trying to set up a penalty system for Rabbits. This is not a discussion on giving so called injured parties an advantage because of alleged damage. Like every part of our system injuries will all average out in the end with reasonable control.

We have been creeping for 19 months, now we are learning to walk satisfactorily, let's not run too soon and fall flat on our faces

To meet these objectives all firms accused of violating industry pricing norms by excessive low bidding were faced with the Rabbit Control Procedure, which worked as follows:

- (1) Before a monthly meeting each injured member should make his accusations to the chairman, who will in turn keep a record of them and will notify the alleged Rabbit Creator;
- (2) At the next meeting the chairman will announce each rabbit

¹⁷²California documents, Exhibit 66, document 1-195-169. The document is entitled simply "Rabbit Control" and was produced sometime during the first quarter of 1957.

¹⁷³Ibid.

¹⁷⁴Ibid.

on his list, at which time the Rabbit Creator should be prepared to disclose the facts associated with the bid in question;

- (3) The Rabbit Creator must then either
 - a. Admit the rabbit,
 - b. Deny the rabbit,
 - c. Profess lack of knowledge;
- (4) In the event of alternative b or c being selected by the Rabbit Creator, the Council members must decide (by majority vote, one vote per company, with the Rabbit Creator not voting) whether
 - d. The Rabbit Creator is innocent,
 - e. The Rabbit Creator is guilty,
 - f. There is insufficient evidence on which to base a decision.

In the event f is selected, the chairman should include deferred accusations in his record, and all members should attempt to secure additional information by the next meeting.¹⁷⁶

If the Rabbit Creator was adjudged innocent, the matter was dropped. If he was guilty, the Council was required to fix the value of the rabbit immediately, and the chairman was compelled to enter the rabbit under "Charges" in his records.¹⁷⁷ And the consequences of being so singled out were:

Each member listed, . . . under "Charges" when quoting a job which falls in his bracket (within the next 30 days) is obligated to overbid, by adding a bracket adjustment of 200 times the proper multiplier.¹⁷⁸

¹⁷⁶Ibid.

¹⁷⁷Except for minor modifications in phrasing and order, this is a close paraphrasing of this document.

¹⁷⁸Ibid.

Thus, if a member had combined rabbits of \$10,000 during a given month, he was required during the succeeding month, on a contract of \$10,000 or on several bids totaling \$10,000, to raise his price artificially. For example, if he selected a single \$10,000 bid on which to work off his rabbits, he would bid his normal price (including all adjustments) plus \$400 (200 times the multiplier, which is two for a job of this size).¹⁷⁹

In subsequent meetings even this system was modified: on report sheets for rabbits, a special code was developed.¹⁸⁰ A company claiming credit while working off a rabbit was automatically entitled to it unless proven otherwise.¹⁸¹ Provision was eventually made for the mutual subtraction of rabbits.¹⁸² The pre-arranged low bidder who was damaged by the rabbit was allowed to subtract from his total penalties the list price of the potential order.¹⁸³

Despite these refinements, rabbits continued to amount to between 20% and 70% of sales (depending on the company and the period) until mid-1957, at which time the rabbit situation visibly improved.¹⁸⁴ The advance was so marked, in fact, that the system

¹⁷⁹ Apparently this system, if the Brunswick sample is representative, continued even after the bracket system, and hence the multipliers, had been abandoned.

¹⁸⁰ See California documents, Exhibits 62-67.

¹⁸¹ Ibid. ¹⁸² Ibid. ¹⁸³ Ibid.

¹⁸⁴ Computed from Brunswick sample.

is known to have continued in force until at least late 1958.¹⁸⁵ Throughout this period, a large proportion of each monthly meeting was devoted to the quasi-judicial procedures involved in dealing with rabbits. Indeed, these procedures became so institutionalized that they could be spoofed:

Meeting as soon after 9:00 as possible. DB will supply cream from the milk train. All hunters must have license and show same to warden before they will be permitted to shoot. Hunters will meet until 1:00 p.m. , . . After the hunt the executives will come in to pick up the game. Be sure that same is properly cleaned and that all fur and innards are removed.¹⁸⁶

Perhaps the innards of competition were removed as well.

The Ideology of the Conspiracy

One of the fascinating aspects of the FGS Council was Corray's attempt to develop an ideology that would be conducive to continued collusion and that would undermine the distrust which had become so detrimental to the Council. In this connection, such banalities as the following were frequently employed:

Keep in mind that if the entire bleacher industry creates good will with architects and customers, your own company will share in the benefits.¹⁸⁷

And:

Learn to know your competitors. At conventions, etc., invite

¹⁸⁵The two-foot incremental system, however, may have reduced the number of rabbits somewhat.

¹⁸⁶Document 1-195-111. This meeting was held at the LaSalle Hotel, Thursday, August 18, 1957.

¹⁸⁷Fred H. Corray, "Proposed Standards for the Bleacher Industry," op. cit.

him to have luncheon or coffee break with you. You will discover that he is just as nice a fellow as you, perhaps even nicer.¹⁸⁸

Particular emphasis was placed on the extermination of price competition and on the elimination of attempts to disparage competitors' products. Emphasis on the merits of one's own product was urged as a substitute:

It is recommended that you sell your product on its merits alone. If each of you succeed in giving the others in the field a bad name, then in a very short time the entire bleacher industry has a bad name with architects and customers. Don't knock your competitors, SELL your own product.¹⁸⁹

Perhaps the most nauseating of the Corray comments on industry solidarity was the "Fable of the Wild Asses," which Corray distributed to all Council members and which is reproduced below:

At the beginning of things, when the world was young, the donkey was esteemed by all the tribes of men as the wisest of animals. The good Sheik El-Get-Em-All owned a great herd of these sagacious beasts, which was the pride and joy of his life.

Other Sheiks came from all around to listen and marvel at the Wisdom of the herd. At such a time came even the Prophet himself -- most learned and wise of all the East. With much glowing pride El-Get-Em-All led him out to the herd and said:

"Behold, O Prophet, the wise and talented asses. Converse with them, test them, and see if they are not verily wiser

¹⁸⁸Ibid.

¹⁸⁹Ibid.

than forty trees full of owls!"

Then the Prophet addressed the asses, "Let us test your wisdom," said he. "Answer me this question: What shall an ass require for a three days' journey?"

And they made reply: "For a three days' journey, O Prophet, any ass should require six bundles of hay and three bags of dates."

"Very good," quoth the Prophet. "That soundeth like a fair and proper price." Whereupon El-Get-Em-All broke into loud chuckles and said: "Did I not tell you they are passing wise?"

The Prophet answered, "Wait," and he again addressed the asses: "I have to make a three days' journey, but I will not give you six bundles of hay and three bags of dates for making it. Let him who will go for less stand forth."

And behold, they all stood forth and began to talk at once. One would go for six bundles of hay and one bag of dates; until finally one especially long-eared ass agreed to go for one bundle of hay.

Then spoke the Prophet: "Fool," quoth he, "you cannot even live for three days on one bundle of hay, much less profit from the journey."

"True," replied the long-eared one, "but I wanted the job."

And from that far-off day to this, asses have been known as fools and price cutters have been known as asses.¹⁹⁰

In any event, the idealism involved in these admonitions was apparently somewhat tempered, for, according to Van Sistine, the conspirators continued to act like a bunch of thieves cheating each other.¹⁹¹

¹⁹⁰ Anonymous author, "The Fable of the Wild Asses," submitted by Corray but not written by him, May 3, 1956.

¹⁹¹ Van Sistine statement, p. 63.

4. CONCLUSIONS

The bleacher industry went through four distinct periods: the GSC 1944-1952 cycle, during which the conspiracy evolved; the 1953-April, 1954, interregnum, during which collusion disappeared; the 1954-1960 FGS Council years, during which conspiracy revived; and the brief interlude in and around April, 1959, when the FGS Council became temporarily impotent.

Even in times of collusion, however, the industry was again and again racked by disagreement and dissension--in part a result of the necessity for product standardization, of combination and alternative bidding, of agents, and of perpetual cheating. Faced with these difficulties, the conspirators had to, and did, develop programs to neutralize them.

Having in Chapter 3 described the nature of bleachers as a product and in Chapter 4 delineated the structure of the industry, Chapter 4 attempted to deal with the bleacher industry during its alternating cycles of conspiracy and competition. It is not time to turn to the next two chapters--the first to discuss the performance of the industry, with the way in which prices, costs, profits, and other variables responded to collusion and to competition; the second to analyze the interplay of the factors endemic to collusion.

CHAPTER 6

BLEACHER INDUSTRY PERFORMANCE

Up to this point, it has been demonstrated that conspiracy was potentially profitable, that the structure of the industry was highly conducive to conspiracy, and that conspiracy did in fact exist. But a number of crucial issues remain unresolved: How did prices react to alternate cycles of conspiratorial robustness and impotence? In what way did costs and profits respond? Did collusion have any consequences for innovation and product improvement? Was the industry sensitive to either the requirements of the economy or the needs of bleacher purchasers? Or did the conspiracy have a stifling influence on both? In toto, did this market form have a detrimental or desirable impact on the industry and on the economy? The answers to these questions are, of course, crucial not only for an adequate understanding of the nature of conspiracy, but also for an assimilation of the factors that loom large when its policy implications are traced.

1. PRICES

So far, price had been employed as though it were a

completely unambiguous term. In documenting manipulations under the price-fixing formulae, for example, the relevant conceptions bid prices. But, in most cases, by the very nature of the information collected and compiled into aggregate form by the two Councils, price series must employ sales data. For these reasons, before proceeding further, the link between bid and sale prices must be rather meticulously explored.

Prices -- Some Theoretical Considerations

It will be recalled that bid prices were, by reason of the computational methods that prevailed, composed of three elements:

- (1) The list price in effect at the time of the bid;
- (2) The discount agreed on at monthly industry meetings;
- (3) Any bracket adjustments, special regional charges, or other required extra amounts added because of special features.

In addition, the bid price could be modified by concessions made either by conspirator or agent. Wide-ranging changes, in the main, resulted from alterations in list prices or in discounts. Despite this, however (as noted previously), because there was often a long period between the date on which the bids were submitted and that on which the successful bidder was selected, bid and sales prices could differ significantly. But because the linkage is complex most of its analysis must be left to Appendix B.

There are, however, two aspects of the interaction of bid and sales prices that need to be considered before further progress can be made. The first is that sales prices are bound to be lower on the average than bid prices -- a conclusion based on the length of time between bid and sale:

- (1) From the day the first bid is open to the day the contract is let, cheating on the part of agent and conspirator alike is invariably going to be in the direction of offering price concessions;
- (2) When the Council approved price increases, members pressured purchasers with the threat of higher prices. When price decreases occurred, members had no hesitation in rebidding the job. Thus, an asymmetrical effect was inevitable.

This means that sales prices will be lower than bid prices if they are separated by a long period.

But there is an offsetting factor: sales during a given month typically represent bids that were submitted during several previous months. Therefore, if prices are rising (as was the case during most of the 1944-61 period) monthly sales averages would tend to be further below monthly bid average, since the former would reflect bids made during prior lower-price periods. On the other hand, if prices were declining, sales prices would tend to be higher than normal relative to bid prices, reflecting as they do previously higher bids. In short, not only should sales prices be generally

lower than bid prices, but also swings in sales prices should be smoother and less extreme than in bid prices.

The Statistical Evidence

It might seem at first glance that these conclusions are not only pedantic but are also picayune; however, their relevance will be readily apparent upon reference to Table 36, which attempts to provide a consistent industry per-foot price series. As far as the 1944 to June, 1953, and the 1956 to 1961 periods are concerned, there is little problem. The GSC and FGS Councils maintained comprehensive sales series, the latter having encompassed over 92% of total industry sales. But the mid-1953 to 1955 period is another matter. In the first instance, up to April, 1954, no industry organization existed to collect such information. In the second instance, from April, 1954, of course, the FGS Council was extant, but unfortunately did not collect per-foot price statistics until January, 1956. For this situation the obvious remedy is, of course, to derive a price series for the lapse of two and one-half years in industry data.

To do this, two approaches have been employed. For the last half of 1953 Brunswick sales data were utilized (the data fortunately included at least some representation from all companies). Since sales data for 1954 and 1955 were so scattered as to be

TABLE 36. -- Bleacher industry prices (all companies, 1944-1961)

		Prices per foot during year and month of:							
Month	1944-1947- 47 av. 49 av. 51 av.	1952 ^b	1953 ^b	1954 ^c	1955 ^c	1956	1957	1958	1959 1960 1961
January		\$7.42	\$7.12	\$6.93 ^d		\$8.74	\$8.87	\$9.57	\$8.50 \$7.40 \$6.97
February		7.31	7.12	6.33		9.44	9.04	9.33	8.89 6.77 6.95
March		7.12	7.10	6.03		9.00	10.62	9.16	7.74 7.24 7.02
April		7.18	7.07	6.66		9.29	9.32	8.81	7.05 6.78
May		7.20	7.00	6.72	7.57	10.15	9.72	9.03	6.37 7.21
June		7.07	6.85	7.01		9.13	9.59	9.07	6.63 6.94
July		7.33	6.90	6.65		9.41	9.51	8.94	6.43 7.00
August		7.29	7.09	6.73		9.17	9.35	9.07	6.83 6.99
September		7.25	6.64	7.84	8.79	9.20	9.67	8.42	6.86 7.22
October		7.22	6.76	7.55		8.76	9.56	8.57	7.10 6.52
November		7.43	6.76	7.90		9.19	10.04	9.05	7.26 6.95
December		7.20	6.98	n.a.	8.96	9.19	8.88	8.83	7.06 6.95
Yearly									
Avg. ^a	\$3.55 \$5.13 \$6.24 \$7.25 \$6.92 \$6.41 \$8.44 \$9.26 \$9.49 \$9.00 \$7.06 \$7.00								

^aSee Table 11 for explanation of dates before 1952.

^b1952 and the first six months of 1953 data from GSC statistical compilations, documents 4-2302 and 5-6447 to 5-6462. After February, 1953, industry totals do not include data for Brunswick. Data for the last half of 1953 calculated as in c below.

^cFrom Brunswick sales statistics. This data includes some (but a disproportionately small percentage) sales for other companies.

^dTen-row bid, except for December, 1955, which is an eight-row bid.

Source: Compiled and computed from sources listed in Table 11 and notes a through c of this table. Bid data from Brunswick used for 1954 and 1955.

unreliable, a substitution of bid data for nine-row size bleachers, regarded as standard by the industry, had to be made.

Despite the limitations and dangers inherent in combining such diverse series, the per-foot monthly prices are illuminating. Perhaps the most striking feature of the behavior of prices occurred during the early post-war years, when prices rose from an average of \$3.55 in 1944-47, to \$5.13 during 1947-49, and in 1949-51 increased further to \$6.24. For the entire 1952 year, prices stabilized at about \$7.25, although they reached their GSC high of \$7.43 during November, 1952.

Less striking but equally significant is the price decline that set in after November. By mid-1953 prices had dipped below the \$7.00 level for the first time since 1951, and in April, 1954, per-foot prices reached \$6.00 -- a figure lower than the 1949-51 average.

But suddenly and dramatically the downward trend was arrested and reversed. From May, 1954, prices began a long upward climb, interrupted only when prices reached the \$9.00 per-foot level. Prices reached \$10.62 in March, 1957, and hovered near, and in some case considerably above, the \$9.00 level until as late as January, 1959. In May, 1959, prices hit a new four-year low of \$6.37. In June, 1959, prices started to rise again, but never

managed to get much above \$7.00. And in late 1960, prices started their second decline within less than two years.

But could the combination of two different series of data misrepresent the actual situation? If so, in what direction might the data err? It is here that the discussion of the relationships between bid and sales prices becomes helpful, for there is reason to believe that the combined price series understates actual price differences:

- (1) Sales prices are generally lower than bid prices; therefore, the 1954 Brunswick bid series would have to be adjusted downward, thus diminishing even more the 1954 low point.
- (2) Sales prices, as shown in Appendix A, tend to understate seriously the actual cost of purchasing bleachers within a given month when prices are rising; therefore, the high price during the conspiracy is likely to be artificially depressed.
- (3) Since the series used to establish the low point during 1954 is based on Brunswick data alone, and since prices for this company were considerably higher than for the rest of the industry,¹ the 1954 low needs to be further deflated.²

These three factors, then, indicate that if anything price movements from 1944-55 are understated: highs were higher than the data show, and lows were lower. And, of course, given the tendency for sales series to underrepresent both peak and trough prices, the same conclusion holds for the 1956-60 period, though not as strongly because

¹Wilson statement, page 6.

²Given the paucity of either bid or sales data for other firms, Brunswick data had to be used for the period 1953-55.

of the utilization of a more consistent series.

Thus, fluctuations in prices assume particular significance in relation to what is known about conspiratorial activities. While the GSC was strong during the period, 1944-52, prices rose spectacularly. But when the rift between Brunswick and the remaining members of the GSC became serious, prices abruptly started to decline. Furthermore, throughout 1953 and early 1954, in the absence of any coordinating group, prices continued to tumble. But immediately after the advent of the new conspiratorial arrangements in late April, 1954, industry prices rose rapidly. The increase continued (exactly as would be expected from the growing effectiveness of the Council's control devices) until prices reached a plateau in 1957. Even the stability of prices at high levels during 1957 and 1958 is consistent with the reluctance of conspirators to be overly aggressive in the face of newly-awakened competition from Hussey and Narragansett.

The rapid price decline after 1958 reflects the phenomena that culminated in the temporary breakdown of the FGS Council in April, 1959. And the price increase in June, 1959, is consistent with the attempts to reestablish the conspiracy during May, 1959.³

³ Assuming a one-month lag in the sales series. This assumption should not be, of course, applied to the 1954-1955 period where bid series were used.

Even the slight price decreases in late 1960 correspond with the hypothesis that industry price norms were eliminated in August, 1960.

In summary, then, a nearly perfect correlation exists between conspiratorial periods and high prices, and between non-conspiracy periods and low prices. But how significant is this relationship?

Table 37 attempts to answer this question by comparing prices during conspiracy and competitive periods. If, for example, the conspiratorial price of November, 1952, is contrasted with the competitive price of April, 1954, the former exceeds the latter by 24%. If, on the other hand, the all-time high conspiratorial price of \$10.63 in March, 1957, is contrasted with the low price during the competitive month of May, 1959, the differences amount to 65%. Other comparisons yield differences within this range.⁴ In short, the correlation between conspiracy and high prices and competition and low prices is of significant magnitude.

Perhaps one objection could be raised to this analysis: there has as yet been no proof adduced as to whether the 1953-54, 1959, and 1960 periods were in fact competitive. To be sure, the evidence indicates that these spans were non-conspiratorial,⁵ but this does not necessarily mean they were competitive, for they may

⁴See Table 37.

⁵See the discussion in Chapter 5.

TABLE 37. -- Comparison of prices during collusive and competitive periods

Type of comparison	Conspiracy price and its date (price per foot)	Competitive price and its date (price per foot)	Per cent Difference
Lowest price quoted during competitive period vs. highest price of conspiracy:			
GSC	\$ 7.43 (Nov., 1952)	\$6.03 (April, 1954)	23%
FGS Council	10.62 (March, 1957)	6.37 (May, 1959)	67
FGS Council	10.62 (March, 1957)	6.52 (Nov., 1960)	63
Highest price quoted during competitive period vs. lowest price during conspiracy:			
GSC	7.07 ^a (June, 1952)	6.98 ^c (Dec., 1963)	1
FGS Council	8.42 ^b (August, 1958)	6.37 ^d (May, 1959)	32
FGS Council	8.42 (August, 1958)	7.22 (Sept., 1960)	14
Average prices, conspiracy and competitive periods:			
GSC	7.24 (1952)	6.43 (1st qtr., 1954) ^e	11
FGS Council	9.06 (1955-1958)	6.68 (2nd qtr., 1959)	36
FGS Council	9.06 (1955-1958)	6.95 (Sept., 1960 to March, 1961)	30
AVERAGE, all calculations			31

^aLowest prices for 1952 only.^bIncludes FGS Council years, September, 1954 to Dec., 1958.^cExcluding July, 1953, when there were probably still vestiges of the Council.^dCompetition prevailed, as far as can be determined, only during this one month.^eFor 1954 only because it may have taken some period for the breakdown to be translated into price reductions.

Source: Computed from Table 36.

have represented below-cost pricing associated with price-war conditions. This matter is dealt with below, and until then the designation of these three spans must be regarded as an unproven hypothesis.

Statements of the Conspirators

While the statistical evidence provides overwhelming documentation for presuming an extremely close correlation between collusion and price, questions about the selection and designation of conspiratorial and competitive periods might still be raised. In view of this potential objection, it is enlightening to examine the conclusions of Council members on these matters.

The first direct reference to the effects of the GSC reaches this blunt conclusion:

The organization has been very successful in that prices have been steadily increased. . .⁶

But the result was radically altered in 1953, according to this Brunswick comment:

During 1953, as a result of the purchase of Horn Brothers by Brunswick, a price war ensued in this industry. . . Prices during 1953 and the forepart of 1954 deteriorated to the point where gymnasium seating jobs were going at approximately 35% less than the normal rate had been.⁷

⁶Undated and unsigned Brunswick memorandum, document 4-1904.

⁷Brunswick memorandum, December 28, 1959, document 1-22334.

The belief in a price deterioration of 35% was toned down somewhat in the following observation by Brunswick:

The industry operated without any coordination for a period of time extending from February, 1953, until April, 1954. . . On many occasions, prices would be as much as 25% to 30% off what was formerly known as list.⁸

These comments would seem to confirm, not only the conclusion that conspiracy and high prices are related, but also that the price series previously developed did, as expected, underestimate the price differentials during the two periods.

The Council was reactivated, of course, in April, 1954. And, even before the 1959 break, the conspirators had been forewarned by Corray as to what would happen in the event of attempts to gain additional market penetration through the reduction of prices:

Normal projected sales of the next 5 years is 60 million dollars. Under price war conditions normal projected sales shrink to 42 to 45 million dollars, an industry loss of 15 to 18 million dollars. . .⁹

This statement implies, under the likely assumption that the reduced prices did not increase industry volume, a price decline of from 33% to 43%, depending on which of Corray's alternatives is accepted.¹⁰

⁸Brunswick memorandum, "FGS Industry," op. cit., documents 4-4056 and 4-4057.

⁹Letter from Corray to (apparently) all FGS Council members, February, 1957, document 1-1020.

¹⁰The evidence that the demand for bleachers is inelastic makes this assumption highly plausible.

Another more conservative estimate, which subsequent events proved was highly "Pollyanna-ish," was provided by Brunswick:

If the council should break up, our alternative, of course, would be to bid our products in combination. . . It is my impression that if we were forced to operate in this fashion, we could take a lot of business fast at from 6 to 10% discount, and then let the boys fight for the rest of it from 25 to 30% off.¹¹

But in a later letter, a different view was expressed by Brunswick:

Frankly, I would like to do all possible to hold this group together. If it should break up, their prices would go 30 to 40% lower than they should be. This happened once before and after about a year of it, it was decided to try it again the other way.¹²

In 1959 there was an opportunity to test these estimates, and the results weren't to Brunswick's liking, for Brunswick deplored in vigorous terms the price break of that year:

As mentioned before, pricing has always been on a shaky foundation in this industry and early in 1959, the bottom fell out. Pricing went as low as 50% of what would be considered normal pricing. . .¹³

To recapitulate, then, the conspirators themselves credited their activities with raising prices by a considerable margin, and their assessments of these amounts are consistent with the statistical

¹¹ Brunswick memorandum, 'FGS Industry', op.cit., document 4-4063.

¹² Brunswick internal correspondence, April 16, 1957, document 1-22206.

¹³ Internal Brunswick letter, December 28, 1959, document 1-22335.

series previously presented. Their beliefs tend to confirm the Wilson statement that conspiracy resulted in higher prices:

Q. . . .We feel that. . . the conspiracy resulted in higher prices than would have occurred had there been free and open competition.

A. I am sure that this is true.¹⁴

The concurrence of statistical data and of conspiratorial belief would seem to establish this relationship conclusively.¹⁵

There is, however, one other persuasive type of evidence-- the effect of the Council's temporary dissolution in early 1959 on the treatment of special features. The changes made from March, 1959 (when the decline in prices became serious), to 1960, during which period the revitalized conspiracy failed to raise prices to previous heights, included the following:

- (1) The elimination of the program of providing end panels, end rails, and scorers' tables without charge to the purchaser, and the substitution of the quotation of these items as extras;¹⁶

¹⁴Wilson statement, p. 3.

¹⁵Wilson indicates that he has "reasons to think" that Brunswick was engaging in other price fixing activities outside the School Equipment Division, and that they weren't completely out of character, therefore, in joining the bleacher conspiracy. Ibid. p.6.

¹⁶See documents 4-2674, 4-5434, 4-5435, and 8-4351. At first, Brunswick provided such items free only on request, but later took the more drastic step.

- (2) The allowing of agents to quote bleachers on f.o.b. factory and without-installation bases -- a step up to this time strictly prohibited;¹⁷
- (3) The authorizing of cuts in prices by dealers willing to absorb losses in commissions or in installation allowances;¹⁸
- (4) The granting to agents of the privilege of making on-the-spot adjustments in prices when the parent company listed incorrect specifications for the potential order;¹⁹
- (5) The cutting of installation allowances and commissions paid by the parent company to the agent;²⁰
- (6) The differentiation of orders by delivery date, and the use of varying prices for orders specifying diverse delivery requirements;²¹
- (7) The development of a study designed to eliminate seldom-used special features and extras;²²
- (8) The drastic reduction of regional differentials to a basis more consistent with actual cost variations;²³
- (9) The quotation of extras in terms of percentages representing actual costs involved in producing them;²⁴
- (10) The refusal to continue to absorb certain state and local sales taxes;²⁵

¹⁷See document 8-4354.

¹⁸See documents 8-4351, 5-3838, and 5-3839.

¹⁹See document 8-4351.

²⁰See documents 5-15856 and 5-15857, as well as the Brunswick sample.

²¹See document 5-15858.

²²See document 4-5423. Brunswick made no such distinction.

²³See document 4-5432.

²⁴See document 4-5428.

²⁵See document 5-15857.

Although all these steps were not taken by every company privy to the conspiracy, each was a radical departure from previous practice, and a step in the direction of competition.

Prices and Market Shares of Individual Firms

But another aspect of the effect of conspiracy is its influence not only on the prices of individual companies but also on their market share. Appendix Table 2 includes prices and market shares in some cases by months and in others by years for the period 1944-1961.²⁶ Such statistics point to several important facts:

(1) One of the basic conflicts in the seating industry was the inelasticity of the industry demand curve for bleachers and the elasticity of the demand curve for the individual firm. As an example, in early 1959 Universal cut prices to the point of being low in the industry; the result was an increase in its market share. More generally, this industry was in the throes of the dilemma that besets all collusive arrangements in some way or another-- the perennial conflict between the perceived interest of the conspiracy and the conspirator.

(2) The aggregate sales statistics, since they are averages computed from data supplied by all firms, result in an understatement

²⁶ Monthly data is included whenever available.

of the effect of conspiracy on price, for the differential lags in reporting by the various firms tend to smooth out industry price patterns. Consequently, a conservative bias is implanted.

(3) The market share of Brunswick tended to decline during non-conspiratorial periods and to advance under conspiracy conditions. As a case in point, on Appendix Table 2 see Brunswick's market shares during the early halves of 1954 and of 1959, as well as late 1960. And, despite this, Brunswick continually complained that they could not "subscribe forever to holding an umbrella over the weak in an effort to make them strong."²⁷ A corollary of this attitude, as well as of the conflict between the conspirator (whose immediate interest was to reduce price in the absence of similar cuts by others) and the conspiracy (which had to face the aftermath when others matched the initial cut) probably explains not only the series of sporadic price wars between 1954 and 1959, but also accounts for the drastic price reductions made by Brunswick in the winter of 1958 -- cuts which ultimately helped to precipitate the price break of April.²⁸ But it is important to note that, except for this one period when

²⁷Internal Brunswick letter, April 16, 1956, document 1-22206.

²⁸This is even more noticeable if, rather than the "Sales Analysis Sheet," the bid sheets in the Brunswick sample are consulted.

exogenous pressures were present, similar past conflagrations had induced only minimal price concessions from already bloated conspiratorial price levels.

To summarize, then, it appears that disaggregation of industry statistics supports rather than contradicts the proposition that conspiracy was a significant factor raising bleacher prices.

2. COSTS

How did the conspiracy affect costs? Did cost increases parallel price changes? In order to answer these questions it is essential to understand the hierarchy of cost relationships thoroughly. Bleacher costs as calculated by the industry are composed of three central elements: factory costs are the sum of material costs, labor costs, and overhead costs (the latter usually designated by the term burden). Material costs can in turn be subdivided into two classes: lumber²⁹ and steel. Labor costs include only direct labor used in manufacturing the seating. Burden consists of selling and administrative expenses. Total cost is the sum of factory cost and expenses for freight, installation, and agents' commissions. The latter expenses represent about 25% of the total cost.³⁰ Of this

²⁹In late 1959 producers began to substitute other materials for lumber on their seats and footboards.

³⁰The apportionment of these costs would, of course, be

amount approximately 7% is allocable to freight, 8% to installation, and 10% to commissions.³¹ These, of course, are relatively constant costs over which producers have little control.³²

As for the components of factory cost, according to an analysis by Safway during June, 1959, the cost per foot of producing a standard bleacher could be subdivided as follows:

Material:	lumber	\$1.27
	steel	<u>1.28</u>
	Total	2.55
Labor		.47
Burden		<u>.70</u>
	TOTAL	\$3.72

In the Safway analysis, lumber and steel costs amount together to 68% of total cost; labor costs represent 12%, and burden amounts to 20%. Unfortunately, however, this breakdown may provide a distorted picture of the actual situation, since Safway failed to segregate indirect labor expenses.³³ Table 38 presents a more realistic picture of costs; it is based on a 1956 Medart analysis of

different for the various companies and jobs. In 1959, agents' commissions were reduced, and this percentage would be less than 25%.

³¹See document 4-2858.

³²Compiled and computed from document 5-16707.

³³Indirect labor expenses would include such items as handling of materials, portions of administrative expenses dealing with supervision of workers, etc.

costs for a nine-row, 16-foot section that according to Medart "is considered standard".³⁴

TABLE 38. -- Breakdown on bleacher costs (Medart, 1956)

Type of cost		Cost per lineal foot	Percentage of total costs
<u>Materials:</u>	steel	\$0.81	24.6%
	other (mostly wood)	<u>0.97</u>	<u>29.2</u>
	Total	\$1.78	53.8
<u>Labor:</u>	direct	\$0.98	29.5
	indirect	<u>0.19</u>	<u>5.6</u>
	Total	\$1.17	35.1
<u>Burden</u> ^a		\$0.37	11.1
TOTAL		\$3.31	100.0%

^aThis estimate is far closer to the belief of Brunswick that burden (selling, general, and administrative expenses) represented approximately 10% of sales prices.

Source: Compiled and computed from an internal Medart communication, May 31, 1956, document 710-972.

Thus, the two most thorough industry studies presently available are in substantial agreement: both arrive at a factory list of around \$3.50 per foot. The discrepancy (the difference between the Medart 1956 figure of \$3.31 and the Safway 1959 one of \$3.72) could easily

³⁴Internal Medart communication, May 31, 1956, document 710-972.

be explained by increasing material, labor, and burden costs in the interim between 1956 and 1959. Taking conservatively the Safway \$3.72 and assuming that freight, installation, and commission continue to represent 25% of selling price, and further allowing each company an arbitrarily-selected 10% profit margin on sales, the total cost of bleachers (including normal profit) under competition ought to have been around \$5.70 per foot. And this, it should be noted, given the low level of investment per sales dollar in this industry, would embody a most generous profit on investment. It would seem, then, with prices during most of the FGS Council years running well over \$9.00 per foot, that collusion was able to garner great rewards for the producers.³⁵

But a fundamental question still remains. Were these costs legitimate? Or were they inflated by conspiratorial activity? In general, it appears that costs were significantly raised as a result of collusion; there are a number of reasons for advancing this proposition:

(1) The conspiracy failed to stimulate vigorous cost reduction drives by its members. If Brunswick, for whom the most data are available, is taken, this company engaged in major design

³⁵ Medart and Safway were, if asides in various industry documents can be believed, median-cost producers. Brunswick was, by its own admission, a high-cost producer. See document 1-22376.

changes and cost-cutting programs only during two years -- 1954 and 1959. The 1954 program was, as far as can be determined, formally considered for the first time at a meeting held on March 16, 1954.³⁶ By November of that year a model of Brunswick's new design had been produced and evaluated and its developers could claim:

We believe that the new design should permit us to effect certain cost savings which will permit us to be more competitive.³⁷

And that the model was actually changed is attested to by the following comment:

In 1954 "B" completely redesigned their FGS and eliminated many inherent features, therefore, we established ourselves in the field with a highly acceptable product.³⁸

Unfortunately, aside from scattered references, little is known about the 1954 design alteration.

The same does not, however, hold for the 1959 design change. On June 29, 1959, Brunswick started a plan that was devised to reduce costs by at least 12%,³⁹ because "in general, our competitive bid situation indicates that we are producing at too high

³⁶See document 1-24199.

³⁷Internal Brunswick letter, November 1, 1954, document 1-24852.

³⁸Brunswick memorandum, "FGS Industry," op. cit., document 4-4059. "B" is used here as a code for Brunswick.

³⁹See documents 1-22371 and 4-2977 ff.

of a cost. . .⁴⁰ To do this, uncommon bleacher variations were eliminated, the understructure was completely remade, and eventually vinyl-on-steel was substituted for the conventional wood seat and footboards.⁴¹ These modifications ultimately culminated in two entire new lines of seating: the Crown and the V.O.S. (vinyl-on-steel). On November 1, 1960, Brunswick abandoned production of all but the V.O.S. variety.⁴² Ultimately the result was to reduce costs by at least 20%.⁴³

Brunswick was not, however, the only company to engage in cost cutting. Safway, on June 15, 1959, initiated a program to reduce seating costs by a target amount of 20% within a one-month period.⁴⁴ Judging by subsequent Safway prices, this plan was successful. And, according to Van Sistine, such efforts were common to all the conspirators.⁴⁵

⁴⁰Internal Brunswick letter, November 20, 1959, document 1-22376.

⁴¹See for example documents 1-22293, 1-22306-10, 4-3050-54, 4-2682, and so forth.

⁴²Technically the Crown units weren't fully eliminated until 1961.

⁴³Brunswick internal communication, November 16, 1960, document 4-5462. Technically this document deals with the Crown line, which was more expensive than the V.O.S. type. This conservative estimate is in full accord with that derived from the Brunswick sample.

⁴⁴Internal Medart letter, June 15, 1959, document 8-4350.

⁴⁵Van Sistine statement, p. 32.

To recapitulate, Council members entered into cost reduction programs during those years when conspiracy was inoperative. Brunswick, for example, redesigned its bleachers completely during (or very closely after) the 1954 and 1959 price breaks. It did not engage in general cost cutting in any other period. The inference, then, that conspiracy (or at least the high prices produced by conspiracy) was directly associated with the failure to attempt meaningful savings in costs, would seem rather firmly established. That this relationship is not entirely imaginary is attested to by the following comment on the 1959 period, contained in the Van Sistine statement:

The thing I'm saying is that without an organization now they had to compete, so they are trying to make something a little bit cheaper to be in the price line.⁴⁶

The cost savings that the would-be conspirators were able to effect as the result of the stimulus of competition are made even more dramatic when it is realized that material prices and wage rates probably increased between 1958 and 1960.⁴⁷

(2) The two Councils imposed extra expenses on the industry -- and these added burdens had to be absorbed by members. For example, Corray's 1957 expenses ran to over \$30,000.⁴⁸ And

⁴⁶Van Sistine statement, p. 32, comment made by Howard James, Assistant Sales Manager, Berlin-Chapman.

⁴⁷Ibid., p. 64.

⁴⁸Compiled from expense vouchers sent the various firms. Includes operating expenses as well as salary.

this does not include a number of items:

- (1) The cost in terms of time and effort of providing Corray with analyses of each sale. In fact, according to Van Sistine, Berlin-Chapman had to employ one man of high rank whose duty was to deal exclusively with communications to and from Corray;⁴⁹
- (2) The cost of the monthly meetings to which each of the six participants usually sent two or more representatives;
- (3) The effort and expenses expended by agents to gather information on each sale, since such data were required both for the rabbit control program and for filling out forms sent by the producer to Corray;
- (4) Telephone expenses associated with administering the conspiracy.⁵⁰

As a rough estimate, these items alone should have accounted for over \$120,000 annually, or at least 1% of annual industry sales.⁵¹ Thus, the expenses of maintaining the conspiracy undoubtedly raised industry costs. Somewhat offsetting this, it might seem, would be normal trade association activities that would presumably be undertaken even in the absence of collusion. But Brunswick, commenting on these activities in the case of the GSC, which dabbled more in

⁴⁹Van Sistine statement, p. 10.

⁵⁰See California documents, Exhibit 55.

⁵¹This estimate was derived as follows: \$30,000 direct Council expenses as per above; salary of 6 people (one per firm) two-thirds time at \$15,000 annually; \$15,000 for meetings (\$200 per company per meeting). Telephone calls, agents costs, etc. were not included, and it was assumed that these expenses would more than offset any non-conspiratorial benefits gained from the Council.

this field than the FGS Council, noted that the non-conspiratorial aspects were of minimal importance, except as camouflage for concealing the collusion:

The main purpose of this phase of activity (promotional activity) is to justify the legality of the organization. It could be eliminated without any noticeable effect.⁵²

The cost of bleachers necessarily, then, ultimately had to reflect the expenses involved in maintaining the conspiracy.

(3) Industry costs were raised because of the survival and growth of inefficient firms. Brunswick, with its admittedly 12% higher factory costs than Medart, was able, by skillful manipulation of its political power within the Council and by the strength of its agent system, to obtain an increasingly large penetration of the market. And Medart, Universal, and other firms, despite their efficiency, did not grow relative to Brunswick.⁵³ This situation is, of course, repeated in the case of other low-cost producers. Relative to Brunswick alone (assuming a 10% augmentation in its market share because of collusive pricing) the failure of the low cost producers to gain the benefits of additional market penetration would increase

⁵²Brunswick memorandum, "The Gymnasium Seating Council," unspecified date (believed to be around December, 1952), document 4-1903.

⁵³Probably the best estimate of relative costs can be derived from Appendix Table 2, which shows prices. The low points should be used for this purpose.

industry costs over 2%.⁵⁴

The effects of the absence of competition do not end here. Prices as determined by the various pricing formulae did not allow for differences in transportation costs. Thus, since the conspirators were located in distinct areas, industry costs would be augmented to the extent that prices failed to reflect locational advantages.

Another factor of considerable importance in contributing to higher costs was the ineffectiveness of the price system in distinguishing differences in the relative costs of producing alternative bleacher lengths. For example, according to a Corray study, the following were the costs of producing an 8-foot, eight-row section:

	Percentage of producing <u>16-foot, eight-row section</u>
Wayne	80%
Universal	50
Medart	50
Leavitt-Safway	50
Brunswick-Horn	56
Berlin-Chapman	51

And, of course, the relative cost positions would vary as the length of the seating changed. Since the price formulae made no attempt to take these variations into account, and since under competition

⁵⁴This includes only the probable effect as a result of Brunswick's growth; in 1961, under competitive conditions its penetration declined to 11%, indicating that this estimate is not unrealistic.

there would be a tendency for contracts to accrue to the least-cost producer of that particular size, industry costs were raised. To put it differently, under competition, Medart, Universal, or Leavitt-Safway would tend to receive the contract because their low production costs made possible the submission of low bids on bleachers of this size while, under the conspiracies, the job would tend to be obtained by the firm assigned the low-bid position, which might be any of the six.⁵⁵ Again, conspiracy inflates industry costs.

Much the same holds for the efficiency of agents. Since prices are centrally fixed by the conspirators, an efficient agent (an agent who was particularly adept at assembling and installing bleachers, an agent who was careful in servicing the seating) could not attain any advantage accruing from his efforts.

(4) The price mechanism under conspiracy failed to allocate resources properly over time. An examination of Appendix Table 2 reveals that at times the industry, even under conspiracy, suffered

⁵⁵This only follows, of course, if the costs for the 16' unit for all companies are identical. Given existing differences in costs, however, it is possible that Wayne might be the low bidder. But if such were the case, since Wayne cannot at any given moment meet seating requirements for the nation, an efficient allocational system would have Wayne concentrating on 16' and other length bleachers for which it is the most efficient. The reasoning here, of course, is analogous to the case of comparative advantage in international trade.

from lean sales for a short period -- a period which was usually succeeded suddenly by a sales bulge. In short, under conspiracy, the price mechanism made no attempt to shift resources from the latter to the former. The formulae were responses, then, not to the need of the producers to maintain full use of productive facilities, but rather to the exigencies of conspiratorial activities.

(5) The price-fixing formulae also failed to reflect economies of mass purchases of gymnasium equipment by the schools. As one Brunswick agent put it, after making an exhaustive analysis of a customer's proposed purchases of a large quantity of bleachers and related items:

I am wondering if this whole thing could be analyzed again in order that we may come up with a figure representing a true saving to the school that we can present to them in the purchase of the entire program.⁵⁶

And Brunswick's reply perfectly expounds one reason for higher costs under conspiracy:

We have a set policy and formula for determining prices for our equipment, which will give a fair profit to our Agents as well as to us, the company.⁵⁷

⁵⁶ Brunswick correspondence with McFadden Corporation, one-time Lansing, Michigan, dealer, May 7, 1956, Brunswick sample, document 1-1355.

⁵⁷ Ibid., May 14, 1956, Brunswick sample, document 1-3354.

Under these conditions, the school is subject to no stimulus to purchase seating in such a manner as to realize economies associated with large orders.

In the same vein, schools invariably accepted end panels, end rails, and scorers' tables since they were offered without charge. And when the producers tried to circumvent the conspiracy by illegally offering other inducements, the school district would be unlikely to refuse such free bonuses. Of course, the inclusion of all such items, except in the unlikely event they would have been required anyway, ultimately lead to higher industry costs.

(6) Conspiracy may have caused greater expenditures to be devoted to sales efforts than would have occurred under competition. Because of the slight bid spreads implicit in Council formulae, because of the channeling of creative efforts away from price as a sales promoting variable, and because of unremitting efforts to gain added business by juggling specifications, the industry may have devoted abnormal effort toward selling and advertising.

Table 39 attempts to summarize these cost-raising influences as well as to estimate their minimum impact on the industry cost structure. It is probable that conspiracy resulted in a 23% increase in industry costs -- and every effort has been made to calculate this figure in a conservative manner:

TABLE 39. -- The effect of conspiracy on costs

How costs were raised	Estimated percentage of cost increase due to this factor
Failure of conspiracy to stimulate vigorous cost-reduction programs	20-25%
Cost of conspiracy	1-2
Persistent growth or lack of decline of higher-cost producers	2-10 ^a
Absence of price mechanism that compensates for differences in transportation costs	n.a.
Failure of system to place orders proportionately with those companies having cost advantages for bleachers of specific lengths	n.a.
Failure to place orders in proportion to efficiency of agents	n.a.
Inability of price system to allocate orders over time	n.a.
Inability of system to provide for economies associated with large purchases	n.a.
Inclusion in sales of unnecessary and unwanted special features	n.a.
Additional selling expenses resulting from collusion	n.a.
MINIMUM ADDITIONAL COSTS ASSOCIATED WITH THE CONSPIRACY	23%

^aThis factor may be tied in with the cost-reduction programs; although Medart, it will be recalled, a lower-cost producer than Brunswick, also set a target of a 20% reduction in costs.

Source: Compiled and computed as discussed in text. The growth or lack of decline of the higher-cost producers has been estimated only for Brunswick. This is intended to offset roughly the over-representation resulting from the tacit assumption that the 20-25% reduction in factory costs could also be extended to include freight, installation, and commission.

- (1) It is conservative because only the 1959 cost reduction has been included;
- (2) It is conservative because only a portion has been taken of this 1959 reduction, and that part of the decrease eaten up by increases in the prices of materials and labor has been excluded;
- (3) It is conservative because only minimum estimates of each factor have been utilized;
- (4) It is conservative because all factors for which it was impossible to assign or estimate a specific percentage influence have been treated as though they did not exist.

In retrospect, then, the effect of conspiracy on costs is, to say the least, striking. But perhaps equally dramatic is the character of some of these relationships. The bulk of the increases in cost was not associated with the static allocational aspects of traditional economic theory, but rather came from more dynamic influences.⁵⁸ For the main prod to cost reduction came during competitive periods, when the conspirators were finally forced to redesign their product fundamentally.

3. PROFITS

Up to this point, it will be recalled, it has been established that prices during the Council period remained consistently

⁵⁸ There remains the possibility that the more traditional theory may apply, for the potential cost increase due to abnormally high payments to productive factors has not been explored. However, since bleachers represent such a small portion of purchases of such factors, this line of inquiry has not been pursued.

over \$9.00 per foot up to late 1958. Per-foot costs for two companies, Medart and Safway for 1956 and 1959 respectively, were calculated to be around \$5.70. Since profits, roughly speaking, may be thought of as the difference between selling price and cost, it is apparent that profits should have been lucrative.⁵⁹ But there are two possible objections to such a simplified analysis: First, costs have been calculated for only two firms. Thus, such costs may not be representative of the entire industry, thereby potentially distorting the premises upon which conclusions must be based. Second, properly speaking, profits should be shown neither as the difference between prices and costs nor as a percentage of sales, but as a percentage return on investment.

In regard to the first objection, it has been possible to estimate per-foot costs for two additional producers. Berlin-Chapman, sometime around 1958, calculated its costs including transportation and installation as around \$5.92 per foot.⁶⁰ And there are two methods available for computing Brunswick per-foot costs:

⁵⁹And, as shown below, they were.

⁶⁰Van Sistine statement, pp. 77 ff. This figure was derived by taking the 8-foot, three-row section example cited by Van Sistine at his revised list of \$140. This list was designed to include freight, etc.; however, it is not clear whether it made provision for profit.

- (1) In a table Brunswick shows that at 34% discount from list, it would make a gross profit of 20.3%⁶¹ Assuming 10% net profit on sales as a norm and accepting its own assessment that selling costs constitute 10% of the total selling price, means a 34% discount should cover costs and yield a normal profit. List prices for the industry involve an average per-foot price of about \$9.20 per foot; list less 34% places costs at \$6.13 per foot.
- (2) Brunswick itself estimated that the cost of its understructure was 12-15% higher than Medart's.⁶² Assuming that this would add about 5% to Medart's costs, and assuming that Medart's costs were about \$5.70, this would lead to a figure of \$5.99 per fot for Brunswick.⁶³

The former \$6.13 figure seems more reliable and can, perhaps be taken as a reasonably accurate approximation to Brunswick's cost of producing seating.

As for the second objection, less can be said. Small producers in other lines were able to enter the industry (in 1956, for example, Narragansett, which produced a number of products other than bleachers, had assets of less than \$400,000).⁶⁴ Seating requires a relatively simple technology, and costs of redesigning capital goods used in the production of bleachers are inexpensive.

⁶¹See document 4-4053.

⁶²Internal Brunswick communication, May 2, 1960, documents 1-22238 and 1-22239. The understructure represents, of course, only a portion of factory costs; hence, the application of 5%.

⁶³This assumes Medart costs increased to the Safway level by 1959.

⁶⁴See document 5-8591.

All these factors indicate that the sales-investment ratio would be lower than in most industries and that, therefore, a large profit on sales would appear even greater if measured with investment as a base.⁶⁵ In reference to the amount of investment required to produce bleachers, Brunswick was able to move all facilities for manufacturing seating from Muskegon, Michigan, and Marion, Virginia, to Kalamazoo, Michigan, to design and develop the new V.O.S. line, and to retool equipment for the new variety for about \$700,000.⁶⁶ And even this amount included some expenditures for facilities used in making products other than seating.⁶⁷

If prices and costs actually behaved as described and if the investment-sales ratio is low, a number of concomitant conditions should be found: (1) Higher profits should persist during conspiracy than competitive periods; (2) Profits on bleachers should generally be more pronounced than on other related school-equipment lines;⁶⁸

⁶⁵ No direct estimate of profit on investment is possible because producers do not disaggregate investment costs for bleachers.

⁶⁶ Brunswick, "Proposal for Gym Seat Program," November 29, 1961, document 4-3055.

⁶⁷ Ibid.

⁶⁸ Assuming that demand growth is about the same in such similar school-equipment lines. For isolated cases, where demand may have shifted more rapidly, profits could be higher even under competition than under conspiracy.

and (3) The conspirators should appear to be reasonably satisfied in any comments they make about profits during the two Council periods.

Profits During Conspiracy and Competition

If collusion has been able to raise prices to a greater degree than it has costs, then profits should be higher under conspiratorial than competitive conditions. And, as Table 40 shows, in terms of its profits Brunswick (the one company for whom comprehensive data are available) shows gross profit margins that were lower during the 1953-54 and 1959 price breaks than during the Council period.

TABLE 40. -- Brunswick gross profits, 1953-1960

Year or month	Gross profit margins (per cent)
1953	30.9%
1954	20.6
1955	35.3
1956	43.2
1957	46.3
1958	42.6
1959	28.0
1959 - January	39.4%
February	30.2
March	26.4
April	14.9
May	12.6
1960	15.2

Source: Compiled from documents 4-2980, 4-3007, and 1-21056. The low percentage for 1960 can probably be attributed to the competitive situation that apparently developed in August, 1960.

Brunswick's profits, then, were closely correlated with collusion: when the Council was strong, profits were high; when it became weak, profits declined dramatically. This correlation is also evident in the only other consistent profit series presently available.⁶⁹

Profit on Seating and Related Equipment

If conspiracy has accelerated profit rates, then profits in products not related to school equipment should tend to be lower than those for seating where prices were fixed. This relationship should be even stronger for products related to school equipment, where presumably demand grew in a somewhat equivalent manner.

Fortunately there are two series of profit statistics that will serve to test these assumptions. The first, as summarized in Tables 41 and 42 is for Medart during isolated months in 1955, 1956, and 1958.

In almost every case, then, gross profits on seating were higher than equivalent profits on other product lines or average profits for the company. Nor were these differences insignificant, as is demonstrated by Table 42, which present gross profit data

⁶⁹See Safway, "Manufacturing Sales," September 4, 1959, document 8-4352.

TABLE 41. -- Medart profit data, isolated periods, by month
1955, 1956, and 1958

Type of comparison	Number of times profit rate on bleach- ers exceeded that on other products	Number of times profit rate on other products exceeded that on bleachers
Bleachers and all-profit average	17	0
Bleachers and profit rates on individual non-seating products	98	4

Source: Compiled and computed from Medart "Summary Costs of Sales" sheets, documents 5-18010, ff. The products include lockers, lockerrobes, locks, gym equipment, backstops, mats, Safwal, and furniture. The dates include the last quarter of 1955, January, 1956, and monthly data for all of 1958.

TABLE 42. -- Medart gross profit data by product, 1958

Product	Gross profit	Percentage by which gross profits on bleachers exceed gross profits on this product
Bleachers	42.9%	
Scoreboards (the most profit- able other product)	33.9	26.5%
Mats (the least profitable other product)	26.3	63.1
Average of all non-seating products	28.9	48.4

Source: Compiled and computed from "Summary Cost of Sales" sheets for 1958, document 5-18030.

for 1958, the only year in which comprehensive information is obtainable. As the table indicates, bleachers were the most profitable product line, eclipsing by far every other individual product.

The second test of the assumption, as shown by Table 43, is for Brunswick during the period 1955-58. The case is not so clear-cut, since Brunswick had another high-profit item -- folding stages. But even here during two of the four years seating was the highest profit item, and with the exception of 1955, profits on bleachers were always significantly greater than average. And if the minor product, folding stages, can be ignored, margins on seating exceed those on every other product taken individually and, consequently, on the average of other products.

The evidence strongly suggests, then, that gross profits on bleachers were unusually lucrative -- especially given the low level of investment per sales dollar required and the small portion of profits eaten up by administrative and selling expenses.⁷⁰

Profits -- As Producers Viewed Them

Another indication of profit levels is provided by the comments of producers. For example, in a report on the GSC,

⁷⁰Such expenses, it will be recalled, amounted to about 10% of sales prices. This is an extremely low ratio, especially when Brunswick, for instance, habitually had a ratio of over 20% on all its products. All companies calculate gross profits after

TABLE 43. -- Brunswick gross profit percentages, 1955-1958

Year	Number of products ^a	Gross profits on seating	Range of gross profits on all other products	Average of gross profits: other products ^b
1955	4	35.3%	33.3-46.0%	38.6%
1956	4	43.2	16.1-43.2	30.5
1957	6	46.3	11.0-46.3	26.0
1958	6	42.6	14.6-47.4	33.5

^aTwo new products were added in 1956.

^bSimple average. The average is, therefore, somewhat distorted by the high profits in the folding-stage line, which was not a product enjoying large sales.

Source: Compiled and computed from Brunswick memorandum, "Minutes of Architectural Products Meeting," June 22, 1959, documents 4-2996 and 4-2997. The Safway series, mentioned in footnote 65, has gross profit data by product, but is suspect because of this company's new status in the field.

Brunswick noted that:

The organization has been extremely successful in that prices have been steadily increased and profits have been extremely satisfactory.⁷¹

Apparently, during the period between Councils Brunswick did not suffer actual losses, but its profits were reduced considerably.⁷²

With the restoration of conspiracy, however, by 1956 profits on bleachers, according to Medart, were considered "satisfactory."⁷³

In 1957 Medart was lamenting what proved to be a temporary decline in "the high profit seat line."⁷⁴ And Brunswick could look back nostalgically to the 1955-58 FGS Council period:

Brunswick's performance and profits historically, in the gymnasium seating industry, has been a good one. Distribution has been strong and profits during the years 1955 through 1958 were excellent.⁷⁵

And this was despite the higher profitability of other firms:

It is believed that most manufacturers during the 1957-58 peak price period were obtaining in the neighborhood of

deductions for freight, commission, and installation. This is not inconsistent with the possibility that conspiracy may have raised selling costs, since such costs are primarily determined by the character of the industry.

⁷¹Brunswick, "The Gymnasium Seating Council," op. cit.

⁷²Wilson statement, p. 6.

⁷³Internal Medart letter, May 31, 1956, document 5-16709.

⁷⁴Internal Medart letter, June 17, 1957, document 5-8576.

⁷⁵Brunswick memorandum, "FGS Product Review," July 20, 1961, 4-3006. Grammar in original.

50 to 60 per cent gross profits. Brunswick, during these two years, was obtaining gross profits of 40 to 45 per cent.⁷⁶

The inference that FGS Council period profits were ample is abundantly supported not only by cost data, by comparisons of profits during conspiratorial and competitive periods, and by contrasts of profitability for bleachers and for other products, but also by comments made by parties to the collusion.

And the objection that the 1959 price break represented a price war which forced price levels to the point that losses had to be endured by the industry is contradicted by industry comments. For example, during 1959, Brunswick was disconsolate because Brunswick had "too much fat" and "competitors have 30-35% gross profit despite big discounts."⁷⁷ And according to Van Sistine, in mid-1959 Universal representatives indicated that, despite the dramatic price break, they were still making money.⁷⁸ These comments tend to confirm, then, previous indications that the conspirators were approaching then-existing cost levels (including "normal" profits) in their prices. Allowing for subsequent decreases in costs, even were the cost

⁷⁶Ibid., document 4-3001.

⁷⁷Brunswick memorandum, "Minutes of Architectural Products Meeting," op. cit., document 4-2981. In the original G.P. was used instead of gross profit.

⁷⁸Van Sistine statement, p. 33.

estimates far too low, the price break could still be regarded as approximating competitive conditions.

4. INNOVATION

Evidence that one form of innovation was muted during the conspiracy years has already been presented: the lack of basic design changes. But according to Van Sistine this was not the only way in which conspiracy discouraged creative improvisations -- for the Council at times actively attempted to suppress potentially destabilizing new ideas.⁷⁹ For example, when Berlin-Chapman developed an improved model of a power operator, other Council members insisted that the list price for this special feature be retained as the average of the costs of this item to all companies, thereby preventing Berlin-Chapman from effectively marketing it.⁸⁰

This situation was not confined to one company. Brunswick, in a confidential memorandum, admitted their lack of innovative activity:

With regard to product modifications, re-engineering, etc., I am sorry to state that we have not been the major leader in this respect since 1953.⁸¹

⁷⁹Van Sistine statement, pp. 11, 91, and 95.

⁸⁰Ibid., p. 11.

⁸¹Brunswick memorandum, "Architectural Products," op.cit., document 1-22335.

And further:

. . . our engineering and creative talents have been directed more to furniture with the result that we are not leading the architectural products industry with innovations.⁸²

And a more devastating comment on innovation in an industry than the following could hardly be found:

Generally, manufacturers of gymnasium seating offer units that, by modern design standards, could be considered cumbersome, hard to install, hard to service, below standards of modern design appearance-wise, unfunctional (units are used a small per cent of time as compared to other functional school equipment) and there have been no basic design changes by the gymnasium seating manufacturers since original patent issuance of the basic designs.⁸³

If these assertions are only partially correct, the bleacher industry would appear to have been relatively stagnant during the conspiratorial periods. It is perhaps significant that under the impetus provided by competitive pricing, producers began to reevaluate and redesign their product.

5. OTHER CONSPIRATORIAL EFFECTS

In addition to prices, costs, profits, and innovation, collusion had an impact in three other areas. First, Council activities invariably involved several forms of price discrimination. Regional

⁸²Ibid., document 1-22336.

⁸³Brunswick, "FGS Product Review," July 29, 1961, op. cit., document 4-3003.

Price differences, for example, had little or no relationship to costs.⁸⁴

As already indicated, there was no guarantee that the low-cost producer would obtain the contract. Also, prices to purchasers changed in terms of alterations in the pricing formulae, which might or might not have any relationship to fluctuations in costs.⁸⁵

Second, Council activities, by establishing high prices, encouraged entry--and worse yet, probably uneconomic entry. As Brunswick put it:

During the 1957-58 peak pricing program of manufacturers, new competition was entering the field, obtaining jobs at lower prices than established manufacturers. . .⁸⁶

In early 1957 there were eight producers; at the end of 1958 there were fourteen; and by the end of 1960 (after the impact of two competitive periods between 1958 and 1961) there were nine producers.⁸⁷ The conspiratorial price mechanism, then, invited entry from marginal firms whose costs, as subsequent events demonstrated, were too high relative to existing producers. And when the edifice created by the collusion came tumbling down, the new entrants also fell. The result: misallocation of resources.

⁸⁴Van Sistine statement, pp. 13, 35, 59, and 77.

⁸⁵See below.

⁸⁶Brunswick, "FGS Product Review," op.cit., document 4-3002.

⁸⁷Ibid.

Third, the Council, by refusing to allow members to quote on some items desired by schools, reduced consumer welfare.⁸⁸ Although the justification for this behavior (to increase standardization of the product) was laudable, and although the probable real reason (to diminish cheating by reducing the complexity of bidding) was not so laudable, the effect was to deprive the consumer of desired products, even when he was willing to pay for them.

6. BLEACHER INDUSTRY PERFORMANCE AND THE ECONOMY

Up to the present, comparisons have largely been of two types: those involving conspiratorial and competitive periods for bleachers alone, and those involving bleachers and related products. An important aspect of performance, therefore, has been almost totally ignored -- how movements in industry variables compare with those of the entire economy. Such contrasts can not only confirm conclusions already derived, but can also remove one remaining doubt -- that the ramifications attributed to internal industry factors were in reality associated with aggregate forces common to all segments of the economy.

⁸⁸Van Sistine statement, p. 91.

Demand

It could be argued, in this vein, that the price breaks of 1953-54 and 1959 were a reflection, not of the temporary impotence of conspiracy, but rather of declining demand. Thus, plummeting prices were due either to the low level of aggregate demand or a decrease in the demand for bleachers.

A basis for responding to these doubts is provided by Table 44, which includes series for 1944-60 by years and in some cases by months for gross national product and for footage sales of bleachers, the former as an approximation to aggregate demand and the latter as an estimate of bleacher demand.⁸⁹

These data make it clear that price discontinuities were not associated with vagaries in demand of either type: that, in fact, demand in 1953-54 was appreciably higher than in 1952; that demand for 1959 was perceptibly larger than in 1958; and that demand during the second quarter of 1959 when taken by month was substantially similar to that of past years. The corrosions in prices during 1953-54 and 1959 cannot be explained by demand.

⁸⁹Of course, GNP is determined by the intersection of the aggregate demand and supply functions. But if other measurements are taken (personal income, disposable income) the results are not significantly altered. And GNP is probably a more meaningful measure of aggregate demand in the case of bleachers, dependent as they are on public approval of bond issues and tax revenues, both likely to be a function of GNP. As for bleacher demand, the equating of sales and demand is, of course, valid only if demand is inelastic.

TABLE 44. -- Demand, 1944-1960 (1952=100)

Year and month	Index of per foot prices	Index of GNP	Index of bleacher sales
1944-1947	49	61	43
1947-1949	71	71	44
1949-1951	86	84	130
1952	100	100	100
1953	95	105	130
1954	88	105	160
1955	116	115	197
1956	128	118	216
<u>1957:</u> January	122		334
February	125		257
March	146	126	143
April	129		159
May	134		170
June	132	127	186
July	131		311
August	129		269
September	133	129	201
October	132		175
November	138		197
December	<u>123</u>	<u>127</u>	<u>281</u>
YEAR	131	128	223
<u>1958:</u> January	132		176
February	129		141
March	126	125	256
April	122		233
May	125		307
June	125	126	247
July	123		251
August	125		289
September	116	129	189
October	118		245
November	125		228
December	<u>122</u>	<u>133</u>	<u>275</u>
YEAR	124	128	326

TABLE 44. (Continued)

<u>1959:</u> January	117		165
February	123		139
March	107	136	139
April	98		255
May	88		252
June	91	141	360
July	89		346
August	94		257
September	95	139	178
October	98		264
November	100		157
December	<u>97</u>	<u>141</u>	<u>405</u>
YEAR	97	139	241
<u>1960:</u> January	102		128
February	93		165
March	100	144	277
April	94		153
May	99		201
June	96	146	266
July	97		211
August	96		276
September	100	146	211
October	97		275
November	90		252
December	<u>96</u>	<u>145</u>	<u>257</u>
YEAR	97	145	224

Source: Compiled and computed from sources listed on Table 7 and from U. S. Department of Commerce, Business Statistics, op. cit., p. 2. But see note Table 11. 1944-51 averages are slightly off centered, since GNP data are by calendar year, while bleacher series are from March to March, GNP's by quarters. Bleacher sales by footage. For per-foot price index sources, see Table 46.

The record is not so plain for the GSC and FGS Council periods. As far as monthly price changes go, there is little or no relationship to demand. But in terms of the yearly price movements, there is some relationship, for simultaneous rapid increases in prices and demand are found, suggesting once again the advantageous position into which the conspirators were placed by the growth of demand. On balance, however, the net effect of conspiracy, as shown by the lack of relationship between demand and prices in the monthly data, was to insulate producers from shifts in demand, and to allow political forces leeway in determining pricing policies.

Prices

Shifting the attack, it could be argued that bleacher price movements did not reflect conspiratorial or competitive conditions within the industry at all, but rather responded to the inflationary trends that dominated the economy during the period under consideration.

Unfortunately, again, the empirical evidence contradicts this reasoning. Table 45 represents for the relevant period retail and wholesale price series for all products, and a wholesale price series for durable goods only.

The data reveal that, regardless of which price series is used, prices increased more rapidly in the seating industry than in

TABLE 45. -- Bleacher, wholesale (all product), wholesale (durables), and retail prices, 1944-60. (Column 1=bleacher prices; column 2=wholesale prices, all products; column 3=wholesale prices, durable goods; column 4=retail prices; 1952=100)

Year and month	(1)	(2)	(3)	(4)
1944-1947	49	64	n.a.	63
1947-1949	71	89	81	87
1949-1951	86	95	92	91
1952	100	100	100	100
1953	95	99	102	98
1954	88	99	103	98
1955	116	99	107	97
1956	128	102	114	97
<u>1957:</u> January	122	104	117	98
February	125	105	117	99
March	146	105	117	99
April	129	105	117	100
May	134	105	117	101
June	132	105	117	102
July	131	106	118	103
August	129	106	119	102
September	133	106	119	102
October	132	106	118	101
November	138	106	119	101
December	<u>123</u>	<u>106</u>	<u>119</u>	<u>101</u>
YEAR	131	103	118	101
<u>1958:</u> January	132	107	119	103
February	129	107	119	104
March	126	107	119	105
April	122	107	118	106
May	125	107	118	106
June	125	107	119	106
July	123	107	119	106
August	125	107	119	105
September	116	107	119	105
October	118	107	120	105
November	125	107	120	104
December	<u>122</u>	<u>107</u>	<u>121</u>	<u>104</u>
YEAR	124	107	119	105

TABLE 45. (Continued)

<u>1959:</u>	January	117	107	121	104
	February	123	107	121	104
	March	107	107	121	103
	April	97	108	121	103
	May	88	107	122	103
	June	91	107	122	104
	July	89	107	122	104
	August	94	107	122	103
	September	95	107	122	104
	October	98	107	122	103
	November	100	107	122	103
	December	<u>97</u>	<u>107</u>	<u>122</u>	<u>103</u>
YEAR		99	107	122	103
 <u>1960:</u>	January	102	107	122	103
	February	93	107	122	102
	March	100	108	122	103
	April	94	108	122	104
	May	99	107	122	104
	June	96	107	121	105
	July	97	107	121	106
	August	96	107	121	105
	September	100	107	121	105
	October	97	107	121	105
	November	90	107	121	106
	December	<u>96</u>	<u>107</u>	<u>121</u>	<u>106</u>
YEAR		97	107	122	104

Source: Compiled and computed from U.S. Department of Commerce, Business Statistics, op. cit., pp. 37-38, and sources listed in Table 36. Note that this index is based on the already bloated conspiratorial price levels of 1952, and despite this fact during the FGS Council years 1955-58, the bleacher index outstripped all others.

the economy as a whole. And in contradistinction to the price decreases in bleachers during 1953-54 and 1959, general price levels rose. Furthermore, during the FGS Council years there was little connection between bleacher and general price levels.

In short, it would appear that seating prices varied not only without relationship to aggregate price fluctuations, but also grew much more rapidly than their more general counterparts until 1959.

Costs

There remains the possibility that price oscillations reflect alterations in costs. To some extent this has already been considered -- and rejected. But it is, nonetheless, illuminating to compare indices of raw material prices and labor costs with bleacher prices, as is attempted by Table 46. It is also interesting to assume no productivity gains in the industry, and to use the Medart cost allocations between materials, labor, and burden to estimate a composite cost index.

The result is about as expected: there is little association between costs of raw materials or labor and the price of bleachers. Once again, movements in the more general economic variable are inadequate and apparently irrelevant as an explanation of fluctuations in bleacher prices. In short, conspiracy appears to have been a much more important factor in this industry than the more traditional

TABLE 46. -- Bleacher prices and costs (1952=100)

Year or month	Labor cost index ^a	Steel cost index ^b	Douglas fir cost index ^c	Bleacher price index	Composite bleacher cost index ^d
1944-47	62	58	43	49	56
1947-49	77	76	82	71	78
1949-51	90	97	87	86	91
1952	100	100	100	100	100
1953	106	106	92	95	102
1954	108	111	93	88	104
1955	113	116	103	116	111
1956	119	124	102	128	115
1957	124	136	102	131	121
1958	128	142	91	124	121
1959					
January	131	145	94	117	124
February	132	145	97	123	125
March	133	145	100	107	126
April	134	145	101	97	127
May	134	145	103	88	128
June	134	145	105	91	128
July	131	145	106	89	129
August	133	145	105	94	127
September	132	145	104	95	128
October	134	145	103	98	125
November	136	145	97	100	126
December	133	145	97	87	127
Year	133	145	101	97	127
1960	137	145	95	97	127

^aManufacturing hourly wage rate, including overtime. This series was selected because as shown in Table 13 most of these companies manufacture a number of items (usually in the same geographic area as bleacher production) and must, therefore, purchase labor on a manufacturing basis.

^bConstruction grade Douglas fir. There is some question about the comparability of the series.

^cComposite finished steel index.

^dAssume "burden" or overhead expenses move in same proportion as labor costs and that there is no productivity gains.

Source: Compiled and computed from U.S. Department of Commerce, Business Statistics, op.cit., pp. 75, 152, and 185. 1952 was selected as the base year because of the complete data available that year. It must be remembered, therefore, that the subsequent series is the highest conspiracy prices attained before 1955.

economic concepts of demand, prices, and costs. Collusion enabled this industry to be largely independent of and disassociated from these macroeconomic forces.

7. CONCLUSIONS

Conspiracy was able to raise prices, costs, and profits to a significant extent. It limited innovation and in other ways reduced social welfare. It insulated the industry for several years from the remainder of the economy.

But what does this mean? What consequences does it have for the entire economy? How were structure, conduct and performance in this industry related? It is time these questions were answered. It is time to turn to summing up.

CHAPTER 7

A THEORETICAL MODEL OF PRICE CONSPIRACY

Generalizing for the entire economy--or even for the whole gamut of known price-fixing conspiracies--what has been culled from the vast quantity of data for a single industry and from other relevant theoretical and empirical literature, at best, can lead to a quagmire of difficulties and, at worst, prove to be pure quackery. Yet the temptation remains to treat what is essentially one fragment as though it were the whole.

Standard practice in this situation is to invoke a caveat--that conclusions derived from this study represent a thorough analysis of only one industry combined for comparative purposes with similar work in other industries; they are, therefore tentative--and call for further research to verify their validity. This conventional equivocation, of course, has achieved the status of a successful formula, and in the fervent belief that successful formulae should be abandoned neither in television programming nor in theses (but should be discontinued in price-fixing cases), I employ it here. The results of

this analysis, in short, may or may not hold for all collusive arrangements. Risk-taking in this regard is left to the reader.

This position may not be as illogical and indefensible as it may superficially seem. For policy makers, judges, and economists are constantly called upon to render judgments about price fixing. In cases where decisions are required and where indecision is itself a decision, the proposition that some knowledge is better than no knowledge is almost beyond dispute. For this reason, the risks of generalizing from a sample of the size and character of the one employed here are much less than the alternative of reaching judgments on the basis of no information or analysis. The conclusions that follow, then, properly should be regarded as tentative and preliminary--hypotheses, in short, which are probable but not certain, and which should be provisionally accepted until disproved.

It is hoped, however, that these conclusions will serve a further function. They may be regarded as propositions that have been inferred from an intensive study of a single industry and from a comparison of that industry with the evidence that had previously been developed. Such propositions may usefully serve as a vehicle, a model, or a framework for the analysis of other price-fixing conspiracies.

Thus these conclusions serve a dual function -- as tentatively-proven hypotheses, and as propositions useful for further empirical testing.

Three areas of central concern were delineated in Chapter 1: (1) the causes and origins of conspiracy; (2) the behavior patterns characteristic of conspiracy; and (3) the economic consequences of conspiracy. At this point let us turn to a detailed discussion of each topic.

1. THE ORIGINS AND PREREQUISITES OF CONSPIRACY

Properly speaking, the origins and the conditions conducive to conspiracy may be two quite different matters. In the case of electrical equipment, for example, price agreements are believed to have been in existence since 1946 or perhaps even earlier. The first conspiracy in the electrical equipment industry that the courts were able to discover started in 1951, and detailed information is available only for conspiracies originating or reestablished after 1955. In the case of bleachers the date would have to be placed even further back--perhaps about 1934. Detailed data on the GSC began in 1944. Thus, the term "origins" should be understood to include not only the original factors that helped produce price agreements but also the factors that induced competitors to revive once-defunct conspiracies.

If this expanded definition of the origins of collusion is accepted, then the evidence suggests six critical factors are in large measure responsible for the development of conspiratorial arrangements:

First, the single most important factor is the structure of the industry -- particularly the number of firms and their size distribution. Again and again and again the studies of specific industries revealed the significance of structure. In bleachers, where there was a particularly successful conspiracy, the market was dominated by four, then six, and finally eight firms. In electrical equipment, where there was a particularly successful set of conspiracies, the markets were dominated by very few firms. In other cases (cement, turbines, pottery, and oil) a somewhat different pattern emerged: the industry had a relatively small number of large firms (usually one or two) and a number of smaller producers (usually less than thirty).

Two types of industrial structure seem to be prone to conspiracy: one, an industry having a very small number of firms; the other, an industry having a somewhat larger number but with one or two firms predominant in size.

Second, there may often be a relative absence of alternative modes of effecting conspiratorial objectives without utilizing conspiratorial arrangements. Specifically, price leadership, cutthroat competition, and mergers could be employed toward the same ends as conspiracy. These alternatives either must be foreclosed or be disadvantageous to the industry.

One illustration of the prominence of this element is provided

by this previously-quoted statement by Fred Corray, Chairman of the FGS Council:

It would take at least 5 years of ruinous price war to discourage any manufacturer currently engaged in the business to the point of cessation. Even in such event. . . no more than one or two would be so affected and they would probably reingage in the business if the situation once again became stable.
(Spelling in original.)

So price fixing is more likely in those industries where the existing firms, or at least some of them, have considerable staying power -- possibly associated with conglomerate size, with large capital resources, or with vertical and horizontal prominence in the industry. It is also more likely where one or more of the major producers have demonstrated an unwillingness to merge with competitors. Of course, an industry, because of its structure or the nature of its product, may only be amenable to a given form of coordination.

Third, conspiracy often follows a period of depressed conditions in the industry. In every case that this study examined, the origins or the revitalization of the collusion occurred immediately after it suffered economic reversals. In bleachers the GSC was started toward the end of the Second World War-- and from passing references in the documents it was clear that seating sales were sharply reduced because of the difficulty of obtaining steel and other materials. In electrical equipment many of the origins or the recreations of the agreements (for which details are available to the

public) came in 1955-56 and in 1958-59: immediately after the famous "white sales." In pipe, in pottery, and in oil, conspiracy followed (usually by less than a year) a slight, and often severe, industry slump.¹

Thus, price fixing seems to be associated with a period of reversals for the industry. Otherwise competitive urges may not be overcome. This is not to say, of course, that conspiracy is impossible in the absence of such an experience but merely that collusion is more likely after a period of decline. Certain industry economic conditions -- a depression, a recession, or a downward movement in industry demand -- provide a favorable climate and incentive for conspiracy.

Fourth, conspiracy is far more likely to be attempted when the demand curve is inelastic, and also perhaps when there is potential overcapacity. As has been shown above, both bleachers and electrical equipment are subject to highly inelastic demand. The quantity of pipe and of pottery purchased is probably less rigidly fixed, but the demand is still likely to be inelastic.² This result

¹No data on the starting dates of the British conspiracies mentioned earlier are available.

²In the case of retail gasoline the situation is difficult to evaluate. Normally the industry demand curve would be expected to be inelastic over the relevant range (a few cents per gallon). But whether this holds under depression conditions is not clear.

could, of course, be predicted on theoretical grounds. With an inelastic demand the penalties in terms of profit for failing to price fix and failing, therefore, to raise prices are high; with an inelastic demand the rewards of price fixing and high prices are equally great. Price fixing, therefore, should be more likely if the industry faces an inelastic demand curve.

The potential influence of overcapacity is more difficult to demonstrate. But it is clear that there was overcapacity in the pipe, pottery, gasoline, and electrical equipment industries during the periods immediately preceding the establishment of the conspiracies.³ This fact can be explained theoretically: with overcapacity, firms feel tremendous pressure to cut prices in the erroneous belief that competitors will not match the initial decreases. Thus, an industry that was able to maintain high prices by means of price leadership or some other form of joint restraint would in the face of overcapacity be forced to resort to some sort of formal system to avoid unwanted price reductions. Therefore, an industry that in the past exhibited some form of market coordination after a period of declining demand might be induced to resort to price fixing. Furthermore, even an industry without previous experience in joint cooperation on prices

³Because of the special conditions during the Second World War the bleacher experience is not relevant here. There is also a conceptual difficulty, for overcapacity and depressed conditions are

would be more likely to recognize its value after a period of decline in demand. For both these reasons, depressed conditions and overcapacity tend to lead an industry toward price fixing.

Fifth, industries with strong trade associations are particularly prone to price fixing. The trade association provides a mechanism through which conspiracy can easily be conducted. In general, then, the larger the portion of the industry encompassed by the trade association, the more conspiracy is to be expected. Also, the more essential the functions performed -- e.g. collections of price statistics, regular evaluation of market conditions, development of industry standards, etc. -- by the trade association, the more likely is conspiracy.⁴ There is, in addition, some empirical evidence that trade association activity is closely connected, at times at least, with conspiracy. In both the electrical equipment and bleacher industries, as well as in the earlier cases, conspiratorial meetings were held either at, or immediately after, trade association meetings. Gathering of sales and price data seems particularly important, for in every

usually correlated with each other. The point here is that even if prices were high (because of tradition, say) an industry that is highly concentrated would be more likely to move toward price fixing if there was overcapacity. Furthermore, price fixing would be more likely than price leadership, for the latter would tend to be unstable in the face of temptations to cheat, generated by the overcapacity.

⁴This factor is included only because of Dowdell's theorizing; there is no empirical evidence in this study to substantiate or refute it.

instance such information was collected.

In bleachers an historically unique factor may have been present. The forerunner of the GSC may have been the legal price fixing that was allowed under the N.R.A. Code. The bleacher conspiracies may have been merely a continuation of the earlier price fixing. At least, the experience under the N.R.A. constituted something of a discipline after the demise of N.R.A.

Sixth, personal leadership may have some effect on the creation of collusive arrangements. For example, Van Sistine and others with their adamant stand against conspiracy may have doomed the outdoor bleacher group and forced it into intermittent and sporadic meetings. Not too much should be made of this, since neither Van Sistine nor some of the electrical equipment executives were able to resist the temptation to continue when confronted by pressure from higher levels -- even though professing to find their participation in the conspiracy repugnant. It is probably true, nonetheless, that an individualistic corporate leader in a powerful position could preclude conspiracy for an entire industry -- even an industry meeting every prerequisite for conspiracy. It is also true that in the world of organization men such types are rarities. The converse probably also holds: a strong personality could create a conspiracy under conditions where it would not normally exist.

Of these six factors, undoubtedly the most crucial is the structure of the industry. In the bleacher industry the tight control exerted by four, six, and later eight firms permitted a coterie conducive to price fixing to prosper. On the other side of the coin, the growing number of producers made conspiracy progressively more tenuous, as evidenced by the bizarre nomadism of Medart and Safway during 1957 and 1958 and by the Council's periodic forays designed to entice into the group or to eliminate, as the case might be, Hussey, Narragansett, and Beatty. The relative ease with which the bleacher and electrical conspiracies took hold, as compared to the problems faced by some of the other groups, supports the proposition that a viable conspiracy is more easily started when the number of sellers is small.

In any event, these six factors cannot be regarded as a definitive analysis of conspiracy. They are intended only as an explanation of conditions under which conspiracy is likely to be attempted; they do not explain why conspiracy should continue and should prosper. But they do serve as the most complete and comprehensive explanation of the origins of conspiracy currently available. They can perform, therefore, an important role: as a tool for the policy-maker, as a mechanism through which predictions of which industries are particularly susceptible to collusion can be made.

TABLE 47. -- Factors conducive to conspiracy

-
-
- (1) Structure of the industry:
 - (a) Number of firms
 - (b) Size distribution of firms
 - (2) Availability of alternative means of coordination among firms
 - (3) Frequency of unstable conditions in the industry
 - (4) Degree of inelasticity of demand and degree of overcapacity in the industry
 - (5) Strength of trade association
 - (6) Quality of leadership available to potential conspirators
-

2. CONSPIRATORIAL CONDUCT: THE GOALS, STABILITY AND ORGANIZATION OF COLLUSION

To be effective a conspiracy must do more than merely begin successfully. It must be able to help its creators achieve goals they regard as useful. Finally, it must develop into a viable ongoing organization. The analyst who wishes to explain conspiratorial conduct must be prepared to deal with each of these matters.

Conspiratorial Goals

As previously noted, one of the central questions in oligopoly theory relates to the objectives of the individual firm in concentrated industries. What, if anything, do executives attempt to maximize? Short term profits? Long-run profits? Sales? Power? Market shares? The status quo? Or do they merely satisfy? Or are they most interested in the survival of the firm?

Although these questions may seem more relevant for a treatise on oligopoly theory than a discussion of price fixing, this is not the case. Since conspiracy is a utilitarian and voluntary instrument designed by its participants, it is profoundly and immediately affected by the value systems they display. A conspiracy which maximizes short-term profits would exhibit a far different behavior pattern than one which maximizes long-run profits.

According to Fog's data on Danish cartels, the goals and the results of the conspiracies vary from one end of the continuum to the other -- from price setting even below what would prevail under competition, to price setting that approximates what would be found under pure monopoly. Fog did find that regardless of the level of prices, and the generalizations about industry goals implicit in that level, the most common mechanism used by price fixers was cost-plus pricing with the traditional profit rate added.

The data developed here, especially the more voluminous bleacher industry information, reveal that even Fog's analysis is oversimplified. The pattern of pricing in the bleacher industry was eclectic. It involved four main elements:

- (1) The basic drive was toward joint profit maximization. This thrust was attenuated somewhat by the difficulties in pooling profits, not using the capacity of the most efficient firm to the full, differences between interfirm costs, and so forth;
- (2) This drive is embodied in a cost-plus type of pricing, but with a varying profit rate depending on what the conspirators believe the market and the conspiracy will support. Because of imperfect knowledge of costs and demand, this formula does not always represent the limited profit maximization mentioned above;
- (3) Price alterations in both the upward and downward direction are sluggish and unresponsive to changes in the economic environment;
- (4) Entry, dissolution of the conspiracy, cheating, declines in market shares, or other threats to the conspiracy or to a conspirator can drastically change the entire procedure; the threat can and often does become the most important parameter.

In short, conspirators do not single-mindedly pursue a particular goal. Sometimes, as in the immediate post-War years for bleachers, the dominant concern, the impinging variable, is profits; sometimes, as in 1957 and 1958 for bleachers, it is entry and substitute products; sometimes, as for seating in late 1952, it is maintaining or expanding market shares; and sometimes, as shown throughout the bleacher conspiracy, it is preventing a price war and retaining the status quo. And all this is done in a complicated political atmosphere -- an admixture of corporate strength, personalities, bluff and counterbluff, anticipations of the reactions of rivals, and conspiratorial organization.

The Stability of Conspiracy

It is not enough to be able to delineate the goals and the concomitant behavior patterns resulting from attempts to achieve those goals of conspiracy. Some conspiracies, whatever their goals, are known to have been successful and to have survived. Some conspiracies, whatever their goals, are known to have been displaced.

Therefore, a second major problem in the analysis of conspiratorial conduct is to be able to demonstrate why some conspiracies are relatively stable and others unstable. Of course, as would be expected, the forces that lend stability to a conspiracy are in many cases identical with the factors that helped create it in the first

place. For the same reason, the forces that tend to be destabilizing to conspiracy are the reverse of the factors that encourage and sustain it.

A first major influence on conspiratorial stability is the inelasticity or elasticity of demand for the industry's product. The more inelastic the industry demand, of course, the more profitable the conspiracy and the more likely it is to continue. And the converse also holds: if industry demand is elastic, conspiracy is likely to be unprofitable and unstable.

The electrical equipment and seating industries are prime examples of this tendency. Both faced a highly inelastic demand. Both had, at least for a time, a successful and mutually-beneficial conspiracy.

A second influence is the extent of overcapacity (industry productive capacity which is greater than present output) in the industry. In general, the greater the overcapacity the less likely a viable conspiracy. This relationship may seem rather peculiar in view of the previously-discussed tendency for conspiracy to be started in industries having substantial overcapacity.

The paradox is easily resolved. Overcapacity means that the rewards for price fixing are enhanced, for if competition prevails the industry will experience a ruinous price decline.⁵ For this reason

⁵Unless instantaneous exit can be assumed.

an industry which has endured several price wars, other things being equal, is practically certain to attempt to reach some sort of stable agreement. The perennial over-optimism of some producers that they can gain by vigorous price competition is unlikely to survive the practical experience of several prolonged price wars.

But this is not to say that the attempted agreement will be successful. If excess capacity is available, the individual firm has some incentive to cheat. Such an incentive may result in mutual suspicion and wide-spread cheating, as some of the early conspiracies abundantly illustrate.

The incentive to cheat because of overcapacity is most severe, of course, in industries with high fixed costs. These industries can obtain higher profits from the decrease in costs associated with higher output as well as the additional business obtained.

The pressure of overcapacity on conspiratorial prices generally will be smaller when fixed costs are low. After all, the conspirators may be making high profits already, and may be unwilling to risk their favorable position for additional business. Especially among the larger, less aggressive firms the effect of overcapacity may be slight.

Bleacher industry evidence indicates that overcapacity does have some influence on conspiracy. For example, in 1956, Berlin-

Chapman, a relatively small company, demanded and obtained agreement from the conspirators to expand its market share in order to approximate near-capacity operations. Thus, even in the absence of economies of scale, excess capacity at times may play a significant role in conspiracy.

A third influence on the stability of conspiracy is the level and change in demand. If the demand is high relative to capacity, this proposition reduces to the one made above. In theory, however, demand in a given period could be high relative to some past period and yet, because of the growth of capacity, the amount of excess capacity could remain unchanged. In this case conspiracy is less likely to falter than if demand and overcapacity were to remain constant.

Closely allied is the case where demand has grown dramatically from one year to the next. The conspirators become optimistic: sales and profits are rising. As a consequence, even with the same percentage of overcapacity, they are less likely to cheat. The Addyston Pipe case is a propos here. Substantial excess capacity remained in 1896. Yet, the difficulties confronted by the conspirators declined as demand improved. The electrical equipment conspirators experienced their greatest problems during the "white sales" periods, which were associated with declines in demand for their product.

This generalization is by no means inviolate. In bleachers declining prices were associated with periods of demand growth. More accurately, then, other things being equal, declines in demand tend to reduce conspiratorial stability. Collusive agreements, however, have a logic of their own and are sometimes subject to other influences that overwhelm the impact of alterations in demand.

A fourth, and perhaps most important, influence is the number of sellers and their distribution. In general the smaller the number and the more symmetrical the distribution of sellers, the more stable the conspiracy. The first part of their proposition need not be belabored here, for the most successful conspiracies (electrical equipment and seating) in terms of stability and profits had the smallest number of firms, while the least successful and stable had the largest number of firms.

But the second part of the proposition needs closer attention. If, as previously indicated, firms are of substantially equal size, mergers and price leadership are less likely market forms and the chances of price fixing are correspondingly enhanced. Price fixing rather than price leadership was almost inevitable in the bleacher industry, given the nature of the industry and the ability of other firms to withstand for a long period possible Brunswick dictation on prices.

A fifth, and related, influence of conspiratorial stability is the extent to which the participants are conglomerate. The bleacher industry clearly understood, for example, that they could neither expand their market penetration nor eliminate their rivals in the face of the financial resources controlled by their conglomerate rivals.

This means that asymmetrical distributions may also yield conspiratorial results, provided that there are either several large firms or that some of the small firms possess sufficient strength elsewhere so that they cannot be dislodged.

A sixth important influence is the stability of the environment in which the conspiratorial industry lives. One major factor is the constancy of market shares, for if market positions have in the past been stable, producers are more likely to view them as permanently fixed. Thus, a major source of instability -- to use Fellner's words, the unpredictable nature of shifts in future bargaining strength-- is removed.

Since conspiracy requires a near-unanimity to effect changes, it is inevitably favorable to preserving the status quo. Any policy innovation is antithetical to its nature. For this reason a conspiracy is more likely to be stable if:

- (1) Market shares are relatively constant over time;
- (2) Demand fluctuations are moderate;

- (3) Entry and substitute products are insignificant;
- (4) Alterations in costs are mild;
- (5) There are few changes in industry capacity;
- (6) Product improvements are not widespread, or if widespread occur simultaneously to all participants.

Citing specific examples of the impact of each of these factors would be superfluous; the record, especially in the bleacher and electrical equipment industries, is replete with them. The disagreement in 1952 over the increased market shares of Brunswick and Universal, for example, illustrates the importance of stable market shares, and the results of unstable ones. The ability of the GSC to withstand the mild downward swing in demand in 1952 demonstrates that mild fluctuations in demand (at least on the downswing) enhance conspiratorial stability. Nonetheless, relative stability of market shares are of overriding importance in maintaining a stable conspiracy.

A seventh influence is the homogeneity of the industry. If interfirm costs are identical, it is easier to reach a consensus on prices. If the products of each company are viewed as exact substitutes, then it is not necessary, as in the electrical equipment industry relative to Federal Pacific, to establish a differential price structure -- a procedure that always seems to produce ire among firms not so favored.

An eighth influence is the number of variables that must be covered by the agreement. The greater the number, the less stable the conspiracy. In particular, the nature of the industry is, in addition to the more traditional categories of structure, conduct, and performance, an important influence on conspiracy.

In the bleacher industry, for example, the large number of orders placed in a given year helped to conceal cheating and to undermine the conspiracy. It also, unlike the electrical equipment industry, made allocations by individual jobs impossible and general allocational formulae imperative. The span between bid and sale in both industries and the presence of combination and alternative bidding, at least in bleachers, made the enforcement of the ban against unauthorized price concessions troublesome. In bleachers the substantial business gained at other than low bid confronted the conspirators with some severe problems. These factors may or may not be common to most industries, but they illustrate the profound effect the nature of the product and the market can have on conspiracy.

Two other factors that affected the bleacher agreement are worthy of note: (1) imperfect knowledge, which according to economic theory is a prerequisite for competition, actually tended to be a debilitating force by assisting cheating; and (2) product heterogeneity and product differentiation, which are assumed to be characteristic

of imperfectly competitive markets, were also destabilizing to the conspiracy, for they forced the conspirators to devise price and enforcement procedures to deal with each variation.

A ninth influence is the amount of control exerted by intermediaries. The existence of agents in the bleacher industry added another dimension to the conspiracy. Not only did the conspirators have to learn to control themselves, they were also forced to control their agents. Not only did they have to overcome the mutual distrust engendered by their own dishonesty, they also had to surmount the cheating of their agents. Not only did they have to insure an equitable distribution of orders among themselves, they also had to secure a fair distribution of contracts for each local agent. Thus, the existence of an independent dealer class was a major factor mitigating the effectiveness of their conspiracy.

Paradoxically, this study found no evidence that the existence of powerful buyers had an important influence on the stability of collusion. Given the superiority in organization of the bleacher group relative to the electrical equipment group, there seems to be little difference in the stability of the agreements. The buyer of electrical equipment was in a much stronger position, because there were far fewer orders and some of them ran into the millions of dollars. There is no evidence that the large buyers in electrical equipment were

able, either during competitive or conspiratorial periods, to extract significantly greater concessions. If this is representative of other conspiracies, it would mean that Phillips' emphasis on the power of outside groups and Galbraith's concept of countervailing power do not always apply during price-fixing conspiracies.

A tenth, and final, factor influencing the stability of conspiracy is the organizational strength and political skill and convictions of the conspirators. Since these points will be dealt with in the next section, there is no need to consider them here, aside from making the point that organization, personalities, leadership qualities, similarity of values, and so forth are not without influence.

Because of the length of the discussion on this topic, Table 47, which summarizes the major influences on conspiratorial stability, is presented. On a somewhat impressionistic basis, the shape, level, and change in the demand curve, the number of sellers and their distribution, and the political and personal factors appear to be the most crucial, although the overall stability of the industry may have to be included as well.

Again it should be emphasized that many of these judgments rest on a single empirical case study, and that while other potential sample members do not contradict them, neither do they confirm them.

TABLE 48. -- Summary of major factors influencing conspiratorial stability

Number	Factor
(1)	Shape of demand curve
(2)	Extent of overcapacity
(3)	Level and change in demand
(4)	Number of sellers and their distribution
(5)	Conglomerate size of sellers
(6)	Stability of industry in terms of: (a) Market shares (b) Demand fluctuations^a (c) Entry and product substitution prospects (d) Cost changes (e) Capacity changes (f) Product improvements
(7)	Homogeneity of industry in terms of costs and identical interfirm demand curves
(8)	Amount of territory that must be covered by the agreement--time span of sale, alternatives, combinations, and product heterogeneity
(9)	Number of intermediaries--agents
(10)	Political and personal factors

^aIdentical with number three. Demand has been separated because of its great importance.

Conspiratorial Conduct: Organizational,
Political, and Personal Factors

Perhaps the central fact of conspiratorial conduct is the substitution of political and other decision-making processes for the discipline of the market place. This is particularly clear for the seating industry. Industry responses to stimuli from the economy were dampened, and often completely eliminated. The 1953-1954 and 1959 conspiratorial breakdowns are illuminating in this regard--the former resulting from the intransigence of one Council member, the latter originating from the combination of a price war and an antitrust investigation.

This is not to say that economic influences were completely attenuated. These elements were present during both the 1953-1954 period (when Brunswick's uncompromising stance was in part an indirect consequence of its previous market penetration) and the 1959 period with its price war (undoubtedly motivated to some extent by economic considerations). The point, of course, is that both situations have been replicated in the past--without proving lethal to conspiracy. In short, political, organizational, and personal considerations play a decisive role in the formation, execution, and decline of conspiracy.

Two fundamental problems of this sort were faced by the

conspirators. One was the necessity of obtaining near-unanimous agreement on group policies. This process is subject to all the limitations and potential dangers mentioned above. In fact, except for the prospect of high profits, a price-fixing agreement would be out of the question even in the absence of prohibitory laws.

The second major difficulty facing the group was the need of an adequate formula for determining prices and a mechanism for enforcing it. That this was the most serious problem of all is illustrated by both the electrical equipment and bleacher conspiracies. In the former instance there was no program for imposing sanctions on deviant members--with the result that when one member cheated, almost everyone else joined the parade. In the latter instance, the bleacher conspiracy was able to impose sanctions through the Rabbit Control Procedure. Until 1959 price deviations were limited to relatively minor reductions from already bloated price levels by this procedure.

Even this program ran into trouble. It is hard to obtain agreement from any group with diverse interests. It is even more difficult to impose sanctions on a member whose participation is vital to the group. The death knell of the Rabbit Control Program, as well as the bleacher conspiracy itself, probably can be traced to the period when members started to weaken the program by such expedients as the mutual cancellation of rabbits.

There appears to be one particularly essential requisite to overcome these two difficulties: a leader in whom the members have confidence, whom they regard as not partisan to any participant. Brunswick's loss of confidence in Dryer was a contributing influence on the dissolution of the Council. In this connection, it is significant that in some of the electrical conspiracies the person in charge was not an executive of the dominant firm but, in fact, represented a smaller firm.

A second requisite is that the members' views must not be so discordant as to endanger the conspiracy. A personality clash between participants can be just as damaging to the conspirators as the widest divergence among their perceptions of their firms' self-interest.

Despite these problems, the profits to be derived from conspiracy are so large (as the next section will demonstrate) that ongoing conspiracies do take place--even in the face of laws prohibiting them. A successful conspiracy seems to follow two patterns: In the first, the formality of the agreement tends to diminish over time and formal price agreements tend to give way to tacit ones. This, it will be recalled, was found by Fog to be true of Danish cartels; it also took place in the bleacher industry. This is the significance of the price-fixing formulae discussed in such depth--

for formula by formula by formula there was a tendency to attempt to conceal the agreement. The last formula evolved to the point where pricing became automatic, where the conspirators could operate successfully without meeting each other. The thrust was toward an agreement that would be concealed from the public-- both because the formula was deliberately made obscure and because fewer meetings would be required. In this light, Phillips' contention that the more formality there is, the less competition, does not stand the test of close examination.

The second typical pattern of successful conspiracy is for a systematic centralization of authority to take place, to the point that to continue to enforce the agreement, more and more non-price items must also be controlled. The participants devote great ingenuity to devising ways of violating the agreement in spirit but not in letter. They give special services. They add in free bonuses.

The result of the interplay of these two tendencies on the bleacher formulae was marked. The formulae became progressively simpler, especially if the amount of territory they had to cover is taken into account. They also became more complicated-- at least until they included the vast majority of possible variations-- as the number of variables they had to regulate grew.

Thus, the formulae became much simpler to administer as

complicated mutual calculations of prices for basic bleachers were systematically eliminated. But the formulae also became more complicated to administer because, as time went on, the conspirators found it necessary to control pricing and terms of sale of more and more bleacher variations.

To summarize, then, this section has sought to provide some useful hypotheses about conspiratorial conduct. It has necessarily emphasized the limitations on conspiracy--and ignored the pull and appeal of high profits in supporting conspiracy. That conspiracy did exist and that it did continue is an indication of the magnetism of the profits generated by conspiracy.

What was the impact of conspiracy on the performance of the industries in which it was found? The next section examines this subject.

3. THE ECONOMIC CONSEQUENCES OF CONSPIRACY

Of all the questions raised about conspiracy--about its structure, about its conduct, about its performance--the latter is by far the most crucial. For if the desirability of conspiracy can be demonstrated, the implications are immediate. They include an alteration of an entire legal tradition as embodied in the per se rule, a total revamping of much of microeconomics, and a striking reversal of

traditional attitudes. On the other hand, if conspiracy can be demonstrated to be detrimental, the result may be the stimulation of new and far-reaching efforts to curb it.

One of the criteria upon which the performance of conspiracy must be judged is its price behavior. On this score the performance of industries subject to price fixing has been universally poor. For bleachers, the advance in prices associated with conspiracy was at least 30%. The correlation between collusion and high prices in the electrical equipment products is equally high. In the other industries surveyed, the inauguration of an agreement was invariably accompanied by price increases.⁶

Returning to bleachers for a moment, the magnitude of the price increase due to conspiracy was at the very minimum more than 30%, and if more appropriate bases for judgment are used it may have ranged as high as 70%. Collusion, then, is capable of procuring for its participants not merely small price increases but large price hikes. The pronounced effect on prices is perhaps conspiracy's most outstanding characteristic.

⁶The only exception to this is the British cement industry--and it is an example of quasi-public self-regulation. Even here a thorough examination of prices was not presented.

If this connection with high prices followed the business cycle, if conspiratorial prices were uniformly higher at both the trough and top of the cycle, the situation would be less serious. But the bleacher industry demonstrated that collusive prices could be, and were, independent not only of general business conditions but also at times of demand fluctuations in industry demand. The misallocation effects of conspiracy may not be confined to the microeconomic level; they also have macroeconomic implications.

Not only were prices much greater under conspiracy, but costs were also higher, at least in the one industry where solid data are available. For the cost of producing bleachers was raised by at least 23% over what they would have been under general competitive conditions. There is also some sketchy evidence that electrical equipment costs may have been artificially high as the result of the ongoing conspiracy.

The tendency for conspiracy to be associated with high costs has some startling implications. It means, for example, that the social cost of conspiracy is greater than what would be calculated from mere analysis of price movements. It means that treble-damage calculations based on either price or profit statistics would seriously understate the actual amount of damages caused by the conspiracy. Even more important, it casts doubt on attempts to measure the effects

of concentration by comparisons of profit margins.⁷ To be sure, O. E. Williamson has already made the point that such contrasts are subject to error:

This raises a serious question whether studies of monopoly power based on reported profits provide an accurate estimate of the effects of monopoly. It is possible that a non-negligible part of true monopoly profits is absorbed internally.⁸

Williamson suggests that such internally-absorbed costs often take the form of overcompensation of productive factors--particularly overpayment of executives.⁹ The analysis of seating demonstrates that under conspiracy (and, if the same forces are operative, under concentration in general) higher costs are associated with a potentially far more significant mechanism. Since under collusion the conspirators failed to realize the full potential of technologically feasible cost reductions, reported profits and prices do not properly reflect the repercussions of conspiracy.

To be more specific, Harberger and Schwartzman have attempted to estimate the welfare loss to the economy from monopoly, and they concluded that the total loss amounts to between .1% and 1.2% of total GNP, or between about \$2 and \$24 per capita per year.¹⁰

⁷The first such attempt was made by A. C. Harberger, "Monopoly and Resource Allocation," American Economic Review, 44, May 1954, pp. 78-87.

⁸Oliver E. Williamson, "Managerial Discretion and Business Behavior," American Economic Review, 53, December 1953, p. 1055 ff.

⁹Ibid.

¹⁰Arnold Harberger, op. cit., pp. 78-87. David Schwartzman,

Harberger, for example, assumes that all industries and firms have constant unit costs, that all demand curves are of unit elasticity, that industry rather than firm profit figures are relevant, and so forth.¹¹ From this type of reasoning, it is, of course, but a short step to the somewhat gratuitous conclusion that intensification of the government's antitrust program is not urgently needed.¹²

The welfare loss associated with the bleacher conspiracy was of a far greater magnitude than that indicated by these studies for the economy as a whole. Table 49 is a summary of some of the more important sources of welfare loss. Prices were artificially raised by at least 30%. Costs were excessively high by at least 20%. Significant unearned profits were allowed to accrue to the conspirators. Innovation was restricted. Consumer choice was reduced in order to produce a more standard bleacher that would be more amenable to price fixing. Prices and costs were not responsive to changes in the remaining portions of the economy.

The bleacher evidence, unless it is highly atypical, casts serious doubt on the generalizations made by Harberger and Schwartzman.

"The Effect of Monopoly on Price," Journal of Political Economy, 1959 pp. 352-62.

¹¹Walter Adams, "Consumer Needs and Consumer Sovereignty in the American Economy," The Journal of Business of the University of Chicago, 35, 1962, p. 226.

¹²Paraphrased from Adams, ibid.

TABLE 49. -- The effect of conspiracy on bleacher industry performance

Disadvantage of collusion	Percentage effect (if measurable)
Increases prices	30%
Increases costs (misallocates resources)	23
Allows unearned profits to accrue to conspirators	34 ^a
Restricts innovation	
Allows for price discrimination	
Has other social disadvantages	
Prices and costs unresponsive to changes in the remainder of the economy	

^aPercent by which bleacher gross profits exceed gross profits on other related items. Average of amounts computed in Tables 45 and 47. It is important to note that this would not show on financial statements, for profits on bleachers were averaged with profits on other items.

Source: Compiled and computed from the tables and text of Chapter 6.

If a conspiracy that is imperfectly organized and operated realizes handsome returns-- although with the consequence of generating an extremely large welfare loss-- would not a monopoly with its superior organizational strength vis a vis the market-place, have much more serious effects on welfare? Is such a radical divergence between the welfare loss of monopoly and conspiracy logical? Is it possible that the welfare loss associated with monopoly is considerably less than that associated with price fixing?

Of course, this implicit inconsistency can be eliminated by a slight modification: these measurements are merely attempts to evaluate the welfare loss due to the existing level of monopoly in the economy. Under these conditions, if monopoly wasn't widespread, its effects would be slight.

For Harberger and Schwartzman to reconcile the inconsistency in this way is to admit defeat. For it matters very little what the welfare loss is from existing monopoly. The crucial question is whether the welfare loss would be large if the existing level of monopoly were allowed to expand. That monopoly not be currently costing us very much because it may not be economically dominant would be merely a helpful finding; measuring the differential effects of monopoly and competition if they were widespread, however, would be a highly significant contribution. At the very minimum, then,

Harberger and Schwartzman appear to be asking the wrong question.

Even in terms of the narrow question posed by Harberger and Schwartzman, their analysis seems to be full of deficiencies. Their almost masochistic fascination with essentially mechanical measurements of the welfare loss has already been the subject of much criticism. For one thing, a non-negligible portion of monopoly profits may be internally absorbed by the firm. But the criticism should not end here.

The bleacher study indicates that the detrimental effects of price fixing in particular and monopoly in general cannot be measured, as they imply, with reference to profits alone. Under the conspiracies, inefficiencies became so prevalent that costs were significantly raised. Price discrimination, with its attendant lessening of consumer utility, became both practical and practiced. Consumer choice was limited by Council restrictions on the types of accessories that could be produced--restrictions designed not to assist the consumer by standardizing the product, but to make life easier for the conspirator.

Even in terms of profits alone, the Harberger-Schwartzman approach cannot stand examination. The advance in prices was so marked that, despite bloated cost levels, substantial unearned profits accrued to the conspirators. However, such profits would not enter the Harberger-Schwartzman computations. For one thing, Brunswick

allocated costs to the bleacher division in terms of its total contribution to sales of all school equipment. This means that actual production costs for bleachers were artificially high in Brunswick's financial reports--since agents performed many of the functions for bleachers that engaged the attention of the company for other types of school equipment. For another thing, such aggregate measures of industry profits would necessarily include many products in the case of the conglomerate firm. Bleacher profits, even if correctly measured, would be lost in the process of aggregation and would be combined with other types of school equipment, some of which were subject to intense competition.

But even more fundamentally, in the bleacher industry it took the stimulus of competition, with its concomitantly lower prices and profits, to eliminate the lethargic behavior of businessmen and turn their attention and energies away from price fixing toward cost reduction and technological innovation.¹³ Thus, this case study tends to corroborate Adams' trenchant observation that competition is necessary if the bureaucratic bias to let well enough alone is to be overcome.¹⁴

¹³It is, of course, possible that cost increases were also absorbed internally. Several executives were paid more than \$25,000 per annum--quite high for an industry with as limited sales as this one.

¹⁴Adams, op. cit., p. 276.

In a negative way, then, this case study indicates that the welfare loss from price fixing was great enough to cast doubt on analyses based on aggregative models. In a more positive vein, this study indicates that prohibitions against price fixing are not illogical and irrational. For the ultimate test of the desirability of price fixing, as with every other form of the organization of industry, must concern social benefits and social costs. If the bleacher industry is at all representative, the social benefits of conspiracy are non-existent, and the social costs are high. In this industry it was competition that provided the spur to price decreases. It was competition that promoted price reductions. It was competition that eventually eliminated exorbitant profits and prodded producers into seeking fundamental new designs and functions for bleachers.

Beyond the question of social costs are the implications for public policy of a market form so detrimental. Before returning to this subject, it might be useful to delineate some of the broad outlines of a theory of conspiracy as suggested by recent conspiracies.

4. A THEORY OF CONSPIRACY: SOME SPECULATIONS

The development of an adequate theory of oligopoly, as well as a more limited theory of price fixing, will require the collection of much more intensive empirical evidence about a much more extensive



group of industries and firms. The evidence about the bleacher conspiracy, as well as the more sketchy data in other price-fixing cases, may be suggestive of the general elements in a theory of collusion.

Such a theory would have to start with the premise that collusion is just as natural "a way of life" in many industries as is competition. In many industries, confronted with an inelastic or relatively inelastic demand curve and blessed with a small number of firms to organize, conspiracy may be the natural phenomenon and competition the artificial one. In such industries conspiracy may be the rule and competition the exception. It may be useful for the theory of the firm, as well as public policy, to consider this as a standard model, and not as a standard exception to the theory of pure competition, monopoly, and oligopoly.

This is not to say that the industry will never feel the threat of competition. For there is a perennial tension between the interests of the group and the perceived interest of the individual firm. During periods when sales are rising this tension is likely to be less acute--the firms are operating at near capacity, and additional business may be of little or no value. But during times when sales are receding the story is likely to be different--additional sales become especially valuable since they may make a marked contribution toward lowering costs. In such industries competition may have to be regarded as the

unnatural behavior the industry unintentionally and unwittingly engages in during times of recession.

Too much should not be made of this relationship, however, because, as in the case of bleachers, competition may occur even when sales are not declining. Political and organizational variables can intervene and upset normal relationships. Nonetheless, when these disturbances terminated, the equilibrium toward which the group moved was not that envisaged by competitive theory, but rather back to the conspiracy mold.

Another major premise of the theory will relate to the importance of structure. The evidence strongly supports the proposition that the fewer the number of sellers the stronger the conspiracy and the more effective its activities. More analysis will be required before the exact parameters of this relationship can be determined. In the meantime, the number of firms, their relative size, and the conglomerate power that they are able to exploit can be regarded as the most important elements of the structural relationship.

Another major premise of the theory relates to the mode and the manner of the men who make up conspiratorial patterns. The promise of stability and security may be more important to price fixers than the lure of additional profits. If structural considerations are set aside for a moment, one outstanding economic characteristic of industries that

have been subject to price fixing is their age. There is little or no representation from the group of new, dynamic, rapidly-expanding industries. Indeed, most price-fixing agreements, even though they often take place after the product has experienced a recession in sales, occur in industries that are traditionally relatively stable. Movements in prices, costs, market shares, technical innovations, capacity, new entry, and substitute products are relatively slack, not only in terms of the entire industry, but more especially in terms of the relative positions of firms.

The possibility that price fixing is in part a concomitant of the process of bureaucratization cannot be dismissed out of hand. It may be that the drive toward the quiet life is more important than the drive toward the quick profit.

Finally, a theory of conspiracy will have to recognize that price fixing is part of a complex evolutionary pattern. As Fog found in his examination of Danish industry and as the bleacher case indicates, successful conspiracies often evolve into more tacit forms of joint interfirm pricing. If this is a general tendency, it has some important implications for enforcement of the antitrust laws. If conspiracy continues unchecked or if the authorities tacitly allow it, conspiracy may evolve into relationships that are much more difficult to destroy at a later date.

A theory of collusion would also have to account for the possibility that in some industries the means of coordination may be a matter of conscious choice. Part of the task of a theory of conspiracy is to explain why in some industries price fixing (either as a matter of choice or of internal pressure) is the accepted pattern while in other industries different methods of coordination (mergers, price leadership, etc.) are adopted.

A theory of conspiracy that recognizes that collusion, not competition, is typical of certain market structures; a theory of conspiracy that recognizes that collusion is often part of an evolutionary process; and a theory of conspiracy that accepts market structure as the primary determinate of the form and the vitality of collusion can make a substantial contribution to our understanding of business practices.

But persuasive evidence has already been presented on what would undoubtedly be the most important conclusion of such a theory: conspiracy has a markedly detrimental effect on industry performance. The next chapter considers the public policy implications of this conclusion.

CHAPTER 8

IMPLICATIONS FOR PUBLIC POLICY

A framework for the possible analysis of conspiracy was introduced in Chapter 7. In this section of the study a separate and perhaps even more important problem is considered-- the implications of the model for public policies toward collusion.

Because the discussion in Chapter 7 was necessarily somewhat extended, it is desirable to select and to summarize many of the more important conclusions of the model.

1. PUBLIC POLICY: SOME GENERAL CONSIDERATIONS

One of the outstanding characteristics of conspiracy, as revealed time and time again throughout these pages, is its demonstrable, measureable, and substantial effect on the price performance of the two industries where intensive analysis was possible. Price increases associated with collusion were not only found to exist, but they were also found to be of a high order of magnitude.

But this is not all. Another notable characteristic of conspiracy is the tendency for price variations alone to provide a

downward bias in the estimates of the total detrimental effects of collusions. In fact, if the bleacher industry conspiracy can be considered as representative, aggregate social costs of price fixing are significantly larger than the concentration on initial price effects would suggest. For this reason, considering price as the sole criterion for measuring conspiratorial consequences ignores a number of other important facts-- e.g. the close association between conspiracy and high costs. In short, the social costs of conspiracy are considerably greater than those indicated by price fluctuations alone.

In this connection a further observation is particularly important: cheating, even when extensive, does not in any substantial manner nullify these results. Unauthorized price concessions were invariably accompanied by slight deviations from already highly-bloated conspiratorial price levels, but only during full-scale price breaks could they be said to have approximated competitive conditions.¹ Cheating, and the fear of cheating by others, undoubtedly played a role in preventing full exploitation of the monopolistic power generated by the agreements, but its role relative to price was a minor one in most instances. Other forces, particularly the lure of profits, were

¹In the case of bleachers the price breaks probably resulted in approximately normal competitive profits; nonetheless prices were still above competitive levels due to inefficiencies associated with the conspiracy.

sufficiently strong to overcome suspicion and dishonesty. So, although cheating occurred in a few cases simultaneously with price breaks, its presence cannot be used to infer competitive conditions.

A third outstanding characteristic of conspiracy is its transitory character. Potential participants apparently regard it as only one form of possible coordination. Mergers, price leadership, and cut-throat competition (designed primarily to reduce eventually the number of competitors) are viewed as equally acceptable alternatives to price-fixing agreements.

The existence of such alternative forms of market organization has some interesting consequences. It means that certain types of market structure are likely to lead to collusion while others exhibiting the same degree of concentration, but perhaps with a slightly different distribution of firms, are more susceptible to mergers and price leadership. It means that the industry does not face an "either-or" choice between price fixing and competition.

Thus, price fixing, even when it is chosen over other alternatives, appears to be a part of an evolutionary process. In the first instance, as amply illustrated by the bleacher pricing formulae, agreements are characterized by an ever more comprehensive control over non-price variables. Coupled with this, in the second instance, is the conspirators' development of better and better means of concealment.

As the conspirators become more experienced they also become more sophisticated--and eventually they reach the point of realizing that their identical prices are advertising their activities and that suspicion can be averted by using elaborate formulae to differentiate their prices.

Possibly even more important than the drive toward centralization and concealment may be a tendency toward the evolution of successful price fixing into other forms of market organization. Although neither the bleacher nor the electrical equipment industries provides definitive support for the thesis that price fixing in some instances may be an intermittent form of market organization, the last bleacher formula makes it seem a plausible hypothesis. Since the final bleacher formula could operate unabated with the designated price leader varying the discount, price fixing and market allocation could continue even in the absence of formal meetings. The formula was clearly capable of achieving this end. But exact relationships between price leadership and price fixing are by no means clear.

A fourth main characteristic of conspiracy is the importance of the structure of the industry in determining the effectiveness of the collusion. Particularly crucial is the number of firms. In general, as illustrated in some of the earlier price-fixing cases, the larger the number of firms the more tenuous the conspiracy. On the other hand where the number of firms in the industry is small, as in the electrical

equipment and bleacher industries, the conspiracy was not only highly effective but also recurred again and again-- suggesting perhaps that even after periods of serious breakdown the structure of the industry was such as to make collusion a logical outcome. Despite, then, the demonstrable impact of non-economic factors, one of the key operative variables is the concentration ratio in the individual industry.

2. PRICE FIXING: THE LEGAL VIEW

How do these broad conclusions compare with the legal treatment of price fixing? Have statutes been adequate to deal with conspiracy? Are court interpretations consistent with what is now known about collusion or with what can be now hypothesized about it? In short, assuming that the examples discussed in this study are representative, what conclusions about and changes in public policy are indicated? Before attempting to answer these questions it is necessary to provide a brief survey of past and present legal attitudes toward conspiracy.

The legal literature on price fixing is, of course, voluminous-- far too voluminous to be delineated in detail here.² However, a brief summary will suffice.

²See, for example, S. Chesterfield Oppenheim, Federal Anti-trust Laws -- Cases and Comments, Chapter 1, (West Publishing Company, 1959).

Prohibitions against price fixing may be traced back to English common-law traditions--although the precise nature of the traditions has been the subject of much dispute.³ In American jurisprudence, however, the first formal statute that included provisions relative to price fixing was the famous Section I of the Sherman Act, which declared that every contract or combination in restraint of trade was illegal.

Subsequently the Supreme Court, after nearly emasculating the Sherman Act by declaring that "manufacturing was not commerce" and therefore not subject to the Sherman Act, reversed itself and appeared to put some teeth into the law in such cases as Addyston Pipe, Trenton Potteries, and Madison Oil.⁴ The main thrust of the law is embodied in these decisions, and in the per se doctrine which they enunciated. The courts held that conspiracy was illegal in and of itself--that it is illegal whether its consequences are desirable or not. To prove collusion it was only necessary to demonstrate that an agreement existed and, in the case of a private treble-damage suit, that the plaintiff was damaged as a proximate result of the conspiracy.⁵

³Ibid., pp. 14-15.

⁴See Chapter 2, this study.

⁵Oppenheim, op. cit., pp. 12 ff.

With a few exceptions, the courts have taken the position that all agreements designed to fix prices are inherently adverse to the public interest. They have argued that even were prices established through agreement reasonable today, there is no guarantee that such prices would be reasonable tomorrow. And that, in any event, the determination of the reasonableness of conspiratorial prices does not properly belong to the sphere of the courts, but rather to the impersonal forces found in the market place.

It can be said, then, that the broad thrust of the antitrust laws relative to price fixing has been toward a more stringent series of interpretations. To some extent this trend has been matched in such other areas as mergers and price leadership.⁶

Perhaps this tendency has been too little and too late, an arguable point, but few would deny that it has taken place. Since this study indicates that price fixing under some conditions may be

⁶With regard to these ancillary matters, the courts have taken a much stronger position. The Brown Shoe case, as is well known, by narrowing the definition of the relevant market, gave the Department of Justice new powers with which to prevent mergers. The doctrine of conscious parallelism may eventually reduce to manageable proportions the twin problems of price leadership and other forms of parallel pricing.

The general position taken here (See Chapter 7 for more details) is that at least in bleachers, because of the nature and organization of the industry, price leadership became a meaningful alternative to price fixing only after the conspiratorial formulae had evolved into more sophisticated forms.

only an alternative form of organization, and perhaps only a stage in a more complex evolutionary process, it can be said that the movement of court decisions has at least been in a consistent direction-- toward eliminating the absurdity of treating related phenomena differentially.

3. PRICE FIXING: SOCIAL COSTS, SOCIAL BENEFITS

In the past few years a number of economists have indicated that a new policy toward price fixing was in order. They have suggested that such a policy should take account of beneficial conspiracies, and that if a rule of reason was appropriate for cases involving monopolization there was no reason to oppose the same rule for the less dangerous price-fixing cases. They hold that courts should condemn only those price-fixing agreements that can be shown to be socially detrimental, and should condone those agreements that are beneficial. To support their position they adduce three main arguments.⁷

The first is that conspiracy cannot be shown to be bad in all instances--that since collusive agreements, as for example those that might occur in agriculture, may merely be attempts to establish competitive prices in chronically-distressed industries, price fixing may actually result in a closer approximation to competition than would

⁷See the articles by Mason, Phillips (particularly the conclusion of his book), and the Restrictive Practices Court decision, all cited in Chapter 2, for examples of each of these arguments.

unbridled "price wars." Here raising prices would be positively beneficial; it would permit the industry to use its "normal" profits for such laudable purposes as product innovation and development. Such agreements, then, may not only be stimulated by depressed conditions but may also change a stagnate industry into a dynamic one. Collusive agreements may also be attempts to prevent an industry from becoming depressed, with all the attendant economic deprivations. Whatever the reason for the collusive agreement under such conditions, non-conspiratorial prices are likely to depreciate to the point that some firms are forced to bankruptcy or merger, a condition that may well spawn added concentration in the industry. To put it more succinctly, permitting price fixing may not only prevent the emergence of chronically-depressed industries, but it may also forestall future concentration.

The second argument-- which seems to have particular appeal to the Restrictive Practices Court in England-- is more technical. It is that price fixing lends stability to an industry and thereby actually improves economic performance. For the expansion of capacity (whether by means of internal growth or external entry) is more likely to proceed in an environment where prices and profits are stable. Potential participants under collusion know that prices will be adequate to meet a minimum level of profits and can therefore afford to accept a lower

level of return on their investment than if faced with the instability associated with competitive pricing. As a result, because of the reduction in risk, prices under collusive arrangements, which must cover only a relatively low level of profit, may actually be less than prices under competition, which must cover a higher level of profit.⁸

The third is a combination of the arguments often advanced to justify industries that are highly concentrated. The high profits associated with conspiracy encourage investment and research. Stable prices force the industry to turn to product improvement, which may be far more beneficial in the long run than price competition. Price fixing could also raise prices to such an extent that a Schumpeterian "gale of creative destruction" might occur in the industry. In short, by providing the industry with both the resources for and the impetus to innovation, price fixing may be superior to untrammelled competition.⁹

These three arguments, then, provide the justification for the views of those who maintain that price fixing cannot be considered unreservedly evil. In this dialogue between the courts and its critics the evidence developed here tends to support the courts. The two conspiracies that could be studied in depth did not exhibit any of the

⁸This argument is economically valid only if the economy is experiencing a shortage of investment.

⁹This is apparently the reasoning that Backman (*op. cit.*) uses to justify his position in the electrical equipment industry.

the benign qualities admired by the critics.

Of course, they would argue that such a study includes only one or two points in the entire spectrum of price-fixing agreements, and by its very nature therefore cannot demonstrate at all conclusively that all such agreements are undesirable. This point must be granted. But this study can suggest that there are conspiracies that are seriously detrimental, and that in attempting to excuse one type care must be taken not to exonerate the other type. It can also indicate that if there are any beneficial price-fixing conspiracies they must be adjudged so only after the entire gamut of social costs is taken into consideration-- a most difficult task.

To recapitulate, then, this study provides very little support for those who wish to weaken the per se rule. The evidence preponderately indicates that where intensive investigation is possible the adverse effects of conspiracy are considerable. It also demonstrates that beneficial effects are conspicuous by their absence. Furthermore, the social costs of conspiracy appear to be far greater than mere observation of price or profit movements would indicate. In the face of these facts a proposed rule of reason could only be imposed after exhaustive evaluation of the evidence-- a task, as the courts have noted repeatedly, that is probably beyond the competence of

judicial authorities.¹⁰

4. PRICE FIXING: THE PRACTICAL SIDE OF JUDICIAL ACTIVITY

This study, therefore, vigorously supports the per se rule. But what of the remedial measures adopted by the courts once illegal price fixing is found? Have the courts been severe or lenient? Have they acted promptly and effectively to prohibit and to discourage price fixing once it is found? Have they taken remedial action in such cases so as to discourage future violations?

Perhaps the best response to these questions is to examine the disposition of the cases in the two industries intensively studied--bleachers and electrical equipment. In these two cases, given the persuasiveness of the evidence, the courts should have been at their best. Here there could be little excuse for inaction, ineffectiveness, or timidity.

It has been frequently observed that an alarmingly high percentage of antitrust cases are settled either out of court or in court by nolo contendere pleas and consent decrees. And even in those relatively rare instances where either a guilty or an innocent verdict is rendered, the penalties for this form of misbehavior have been

¹⁰These conclusions closely parallel those reached by Walter Adams in "The Rule of Reason: Workable Competition or Workable Monopoly?" Yale Law Journal, 63, 1959, pp. 355 ff.

relatively mild-- as though a benign providence was particularly favorable to price fixers and other antitrust violators. Price-fixing cases have been no exception to this trend. But the two price-fixing cases to be discussed here are exceptions, for both ended in guilty judgments against a majority of those accused. Thus, these two cases are unrepresentative; they are examples of the courts at their best, of decisions that were unusually strong.

Because the disposition of the bleacher and electrical equipment conspiracies were so similar and because a complete description of the ramifications of the particular settlements in each industry would involve complex legal issues beyond the scope of this study, it is necessary to summarize the basic position of the courts in a series of generalizations applicable to both industries.

First, the conspirators were told to cease and desist from their price-fixing habits. The only effect of this is to place the power of the courts (and the more serious consequences of violating court orders) behind prohibiting an activity that is already illegal.

Second, the courts found a majority of the defendants guilty and, in accordance with the procedures embodied in the antitrust laws, imposed fines on them. In both cases the defendants, who were found guilty originally, pleaded guilty. In the electrical equipment case several conspirators were permitted to plead no contest-- and,

additionally, as a result of an industry-government agreement, all conspirators in a number of product lines were permitted to plead no contest.¹¹ The total fines paid by both industries were insignificant, particularly in the electrical-equipment industry where payments amounted to less than \$2 million, far less than 1% of the total sales involved in the conspiracies.¹² Also, as mentioned previously, the same hold for the jail sentences meted out by the courts. Although the sentences represented only the second time executives were sent to jail for price fixing, nevertheless the most serious case included a sentence of only about three months after suspensions--with time off for good behavior.

Third, in those instances where guilty pleas were forced, there has been subsequent private litigation designed to recover treble damages in accordance with provisions of both the Sherman and Clayton Acts.¹³ This is an important area in which there can be no question of the potential impact of judicial policy. It could be argued that in the case of fines and jail sentences the courts' discretion is limited by the relatively mild sanctions allowed by the antitrust statutes. In

¹¹See Herling, op. cit., appendices, for a complete list of pleas, fines, and jail sentences in the electrical cases.

¹²"Climbing Toll for the Price-Fixers," Business Week, August 29, 1964, p. 96 ff.

¹³See also the "Antimerger Act" of 1950.

the area of treble-damage litigation, however, there can be little doubt that the courts are free to write their own rules.

But because such litigation is extremely complicated and because damage suits followed a somewhat different path in the two industries, it is convenient to discuss each conspiratorial settlement separately.

In most cases in the bleacher industry the attorneys general of the states bore the major responsibility in securing redress for and in representing in court the various school districts that had been damaged as a result of the bleacher agreements. If conjectures and rumors are to be believed in this as well as in a number of other cases, such arrangements may run into a number of problems. First, many of the school districts or other purchasers of the product for reasons of their own (often perhaps because of particular friendship with the seller of the product) may refuse to participate in the case. Second, many of the plaintiffs may find it nearly impossible to obtain comprehensive lists of sales. In bleachers, for example, the attorneys general may have represented only about 60% of total bleacher purchasers within their states. Third, the periods for which damages were claimed and ultimately allowed may be abbreviated--in bleachers, for example, they lasted only from 1954 to 1958. Fourth, a minority of states (as in bleachers where only five states participated) may be

interested in recovering damages. Fifth, in some cases the budgetary system of the states may put pressure on the attorneys general to settle--for some systems could conceivably allow them to continue their cases only if they recovered enough damages to cover their outlays on the case. As a result the states would be forced to settle with the company making the best immediate offer--which was, given its resources, almost bound to be Brunswick. Sixth, because of the legal expense and risk associated with such action there may be a tendency for plaintiffs to play a waiting game, hoping that other plaintiffs will bear the expense and risk. Seventh, since one settlement can set the pattern for others, there may be great temptation to be the first to reach an out-of-court agreement with the defendants. This is especially true when plaintiffs are unsure of each other--which, if the electrical equipment case is any criteria, is nearly all the time. Each knows that a weak settlement by one can jeopardize the cases of all--and plaintiffs are not above securing a small concession from the defendants in exchange for all their data--a procedure that undermines the cases of other plaintiffs who, in order to divide the effort, would find it useful to share information and to rely on one another to cover assigned aspects of the case. Eighth, political pressure can sometimes be exerted by the defendants on public officials, particularly when the conspirator is located in one of

the states seeking redress. How can adequate settlements be reached if potential plaintiffs refuse to participate, if plaintiffs have difficulty even establishing the level of total sales, if the representative of the plaintiffs is often subject to political and budgetary pressure, if plaintiffs vie for the privilege of undercutting each other, and if the plaintiffs play an eternal waiting game, hoping someone else will bear the expense and risk of the case?

These conjectural factors may in part account for the almost inevitable process by which treble-damage suits reach out-of-court settlements. In any event, treble-damage collections in both industries were relatively insignificant. Most settlement in the bleacher cases, for example, provided for damages (even after trebling) of only about 20% of total sales volume for the four-year period and for the transactions known to the five states who were plaintiffs. Since the bleacher data indicate that price increases alone (to say nothing of the other adverse factors) associated with conspiracy were at least 34% on all transactions for a much more extended period on many more sales than those known to the states and for many more states, the conspirators were on net balance able to make a most satisfactory profit on their collusion.

A similar pattern holds for private litigation in the electrical equipment industry. Many utility companies-- either because they

were friendly with the electrical-equipment manufacturers or because they feared the future consequences of waging a vigorous court battle against suppliers who held the power of life or death over their operations-- did not even attempt to collect damages. Many companies were unwilling to bear the risk and uncertainty associated with initiating expensive legal action against the conspirators. Some of the companies honestly may have felt that they received fair value on their purchases of electrical equipment.

In any event, whatever the motives of the utility companies, there have been a large number of settlements reached privately.¹⁴ Of the approximately 1,800 cases filed in connection with this case by August, 1964, over 480 had been settled privately.¹⁵ This number is deceptive since it does not represent any weighting by sales volume, indeed, it has been estimated that most of the cases involving large sales volumes were in the settled category.¹⁶ Certainly this is true, as in the bleacher case, for the largest and most powerful company, General Electric, which has settled the greatest portion of its cases (some 95% when weighted by potential liabilities).¹⁷

¹⁴"Climbing Toll for the Price-Fixers," op. cit., p. 96.

¹⁵Ibid.

¹⁶Ibid.

¹⁷Ibid.

Again, as in the bleacher cases, the total damages collected by the plaintiffs have been miniscule in comparison to the profits obtained by the conspirator-defendants. Because there have been a number of settlements (at least 480 so far) each of which involves somewhat different terms, it is not as easy to generalize about their total amount as it was in the bleacher settlements. However, the vast majority of private agreements, particularly with regard to the earlier ones, provided for damages (even when trebled) amounting to less than 5% of sales volume. The ultimate resolution of even these early cases is in doubt, since they often included clauses that made final payments contingent upon later agreements. Nonetheless, it appears certain that total payments will not exceed 10% and probably not even 5% of sales volume, even after trebling.

When the chances of being caught price fixing are certainly not overwhelming, when the probabilities of being vigorously prosecuted are slight, and when the penalties for being caught even if vigorously prosecuted are mild, businessmen are bound to be attracted to price fixing. The profits are far greater than the penalties. Although the adverse publicity associated with price-fixing cases may be damaging to some extent, the businessman can worry about this problem as he banks the profits realized through the conspiracy.

From the conspirators' viewpoint there may, however, be some

ominous signs on the horizon. For in late August, 1964, a Philadelphia jury in the first private civil case that went to court in the electrical equipment conspiracies virtually accepted the entire plaintiff's theory of damages--to the extent that they assessed damages as 75% of those claimed.¹⁸ The damages were then multiplied by three in accordance with the provisions of the antitrust laws. The electrical equipment manufacturers reacted violently to the decision, claiming that it was "fantastic."¹⁹ The decision, of course, has been appealed.

Whether future treble-damage litigation will follow the Philadelphia pattern or whether it will be modified by subsequent cases or by appeal procedures will probably not be known for several years. But this case may be part of a long evolution in court decisions toward harsher treatment of treble-damage defendants.

The immediate effects of even a continuation of the Philadelphia pattern on the electrical-equipment industry will probably be minimal. Most of the private settlements already reached include a proviso that prohibits alterations in the terms of the settlement as a result of treble-damage trials. Consequently, once again an industry that has been caught and convicted of price fixing will have escaped effective prosecution. Once again it will have been more profitable

¹⁸Ibid.

¹⁹Ibid., p. 97.

to conspire and to be caught than to compete. The situation is a little like fining a man \$25,000 for illegally divesting a bank of \$250,000.

In fact, two economists, Robert F. Lanzillotti and Joel B. Dirlam, have facetiously suggested that if businessmen act rationally and maximize profits "antitrust involvement may even become a sizeable profit factor and reliable revenue stabilizer."²⁰ Certainly the penalties for price fixing as imposed by the courts have done nothing to make this suggestion impractical.

This is not to say that an expansion of the Philadelphia pattern into other treble-damage cases is in the long-run meaningless. On the contrary, future court awards and out-of-court settlements are likely to be profoundly affected by such a trend. The direction of change may be influential for the future.

5. THE PRESENT STATUS OF PRICE FIXING: SOME QUESTIONS

The economic evidence, it will be recalled, provides strong indications that price fixing reduces social welfare by a significant amount. It is, therefore, strongly supportive of the courts in their imposition of a per se rule in price-fixing cases.

²⁰Robert F. Lanzillotti and Joel B. Dirlam, Optimum Engagement in Antitrust Risks, unpublished manuscript, p. 2.

The implications of the economic evidence do not end here. The arguments of those who wish to eliminate the per se rule and substitute some variation of the rule of reason in price-fixing cases must be judged in a new light. At the very minimum the critics now appear to be placing most emphasis on a problem that is at best only secondary. The fundamental difficulty is not that the courts have been too harsh in the few (if any) instances in which price fixing is beneficial, but rather that they have been far too lenient in those cases where collusion is demonstrably detrimental. The basic problem is not, as its opponents claim, the arbitrary and capricious nature of the per se rule, but rather the plaint and yielding course of the courts when confronted with collusions clearly not in the public interest. The courts have reversed the logic of Theodore Roosevelt's adage to "speak softly and carry a big stick," and have followed the policy of loudly expressing self-righteous moral indignation while carrying a featherduster.

It is not, then, that the courts have been wrong when applying a per se rule to price fixing. It is rather that once the illegality of price fixing has been established the courts need to go beyond the fact of collusion to establish meaningful penalties for conspiracy.

The empirical evidence, then, strongly supports the per se rule. It suggests that the courts, by permitting even revealed

conspiracy to be more profitable than competition, have failed effectively to enforce their own doctrine. It is not when they apply a per se doctrine to price fixing that the courts appear in an unfavorable light, but when in their subsequent actions they take infinite pains to protect the welfare of the guilty defendant at the expense of the welfare of society, when they pay more attention to legal technicalities and less to effective antitrust law enforcement, and when they place more emphasis on removing the outward signs of price fixing than on eliminating the causes of price fixing.²¹

But the complete responsibility for this deplorable state of affairs does not devolve solely on the courts. Fines and jail sentences for violating the antitrust laws, at least in terms of their maximum limits, are uniquely the responsibility of the legislative and executive branches of government. These, especially as they affect the profitability of violating the law, have been set at woefully inadequate levels.

Part of the blame must also be borne by the plaintiffs and the environment in which they are required to operate. States and other units of government have been all too eager, for example, to relinquish their duty to build a body of public law antithetical to

²¹See Walter Hensen, Jr., and Harold A. Wolf, "A Legal and Economic Note on Price-Fixing," Business Topics, Spring, 1962, pp. 55-65, for a description of some of these difficulties.

conspiracy in exchange for minor short-run concessions from defendants.

This raises some important questions: Is the per se rule a myth? Does it, either deliberately or accidentally, cover by the use of stringent-sounding verbiage the inner complacency of the courts toward price fixing? The resolution of both the bleacher and electrical equipment cases implies that both questions would have to be answered affirmatively. Certainly the courts could have imposed more realistic treble-damage awards without congressional authorization.

But at even a more fundamental level it is important to note that these limitations on the courts have been more apparent than real. Statutes have limited efforts to deal with the symptoms of price fixing, and left the courts free to attack the causes of price fixing. For, while the courts could more effectively enforce the per se rule by making full use of fines and imprisonment provisions of existing statutes and by realistic treble-damage awards, it is undeniable that the real causes of conspiracy might escape undetected. Businessmen may continue to violate the law in the hope that their activities will remain unknown. They may continue to violate the law because such action is still profitable even under stricter enforcement. But, most important, businessmen may continue in spirit to violate the law by substituting other, more legal or more difficult to detect, means of

interfirm coordination to fix prices.

The courts deserve censure, then, for not attending to the fundamental problem posed by conspiracy-- the problem of market structure. The courts could force alterations in structure unhampered by legislative statute or -- in many ways unfortunately-- legal precedent. They could, thereby, prevent its future reoccurrence in another guise. They could, also, render price fixing permanently ineffective. They could, further, give pause to those who were planning price fixing, for they would know that meaningful action to reduce the power of the firm had been substituted for the slap on the wrist.

Thus, the empirical evidence suggests that structure is the most crucial element permitting and encouraging price fixing. Given the detrimental consequences of conspiracy, it strongly implies that the courts should alter the structure of those industries where price fixing is found.

Such a policy might possibly, in view of the limited evidence that price fixing is part of an evolutionary process and may at times be closely connected with other forms of oligopolistic coordination, have to be considered as an integral part of a total antitrust program.

The two great requirements for an effective policy toward price fixing are, in ascending order of importance, stronger penalties for violating the law and an attack on the structure of those industries

where conspiracy is found. Why not, for example, in Section I cases, require dissolution, divorcement, and divestiture of conspirators? Why not have the Justice Department refuse to sign consent decrees in price-fixing cases unless the decrees embody provisions altering the structure of the industry? Why not have governmental organizations, at both the federal and state levels, refuse to settle on any other basis than a change in industry structure? Why not apply increased penalties to the habitual price fixer just as they are applied to the habitual criminal? Why not in treble-damage cases place most of the burden of proof on the defendants--forcing them to show that their prices were more nearly competitive than the plaintiffs claimed?

Our great need, then, is to make the per se rule a meaningful and not an empty doctrine--to make the penalties for price fixing consonant with the profits derived thereby. But, even more important, it is the duty of the courts and the congress to eliminate or modify the structures that give rise to price fixing. Only in this way can there be assurance that price fixing is no longer likely and that competition will prevail.

APPENDIX A

THE DERIVATION OF CORRELATION COEFFICIENTS, DEMAND CURVES, AND ELASTICITIES FOR THE BLEACHER INDUSTRY

Sources of Data: Sales in feet and total dollar volume on a monthly basis from May, 1956, to March, 1961, are compiled directly from the "Sales Analysis Sheets" developed by Fred Corray, Chairman of the FGS Council.¹ In order to obtain monthly per-foot prices, total dollar volume was divided by sales in feet. A monthly series of per-foot prices resulted.

The data on new orders placed had to be estimated from graphs developed by Corray.² The positive correlation coefficients for new orders could easily be explained by errors that such a procedure inevitably entails.

¹See documents number 1-21257; 1-21279; 1-21298; 1-21319; 1-21355; 1-21383; 1-21248; 1-21501; 1-21529; 1-22741; 1-22747; 5-5194 to 5-5217; 8-4397; 8-4406; 8-4416 ff.; and 8-4812. These sheets include approximately 92% of sales. See document 1-22762. These are known as "Sales Analysis Sheets."

²For examples of these graphs see Van Sistine statement, Exhibits 7 and 8.

Seasonal Adjustments: In order to eliminate seasonal fluctuations, three steps were taken:

- (1) A centered moving average was computed, such that the centered average for the i th month (X'_i) is equal to the following (X_i 's equal actual monthly quantities):

$$(a) \quad X'_i = \frac{1}{2}X_{i-6} + X_{i-5} + \dots + X_{i+5} + \frac{1}{2}X_{i+6}$$

where X'_i must be greater than 6.

and less than $N-6$ (where N is the total number of observations: 59 and 39 in these two samples). The months and years are arranged so that the first month of the first year equals $i-6$, the second month equals $i-5$, etc.

- (2) The actual monthly sales data were then divided by the centered moving average for that month and the results were expressed as a percentage:

$$(b) \quad \frac{X_i}{X'_i} = P_i$$

The P_i were then summed month by month--that is, if i were December, 1958, then the P_i for December, 1957, 1958, 1959, and 1960 (if available) would be added together and divided by the number of P_i for December (4 here):

Let 1=January, 2=February, ... Let $a=1 \dots 12$.
Then

$$(c) \quad \frac{\sum P_{ia}}{N_{ia}} = P_a$$

The P_a represent the seasonal index.

- (3) The sales for each month were divided then by the seasonal index to find the seasonally adjusted sales.

$$(d) \quad \frac{X_{ia}}{P_a} = \text{seasonally adjusted sales during month } a.$$

This procedure is statistically very simple.³

³See Oskar Lange, Introduction to Econometrics, 2d edition,

Correlation Coefficients: Correlation coefficients were found by the use of the conventional computational formula

$$r = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{[N \sum X^2 - (\sum X)^2][N \sum Y^2 - (\sum Y)^2]}}$$

where N = number of observations, Y = quantities sold or new orders placed (in feet), and X = price per foot.

Least Square Approximation to Demand Curve: The conventional computational formula was also used here

$$Y = a_0 + a_1X$$

where

$$a_0 = \frac{(\sum Y)(\sum X^2) - (\sum X)(\sum XY)}{N \sum X^2 - (\sum X)^2}$$

$$a_1 = \frac{N \sum XY - (\sum X)(\sum Y)}{N \sum X^2 - (\sum X)^2}$$

with the same meanings attached to the symbols as in the case of the correlation coefficients.

Elasticity: The point elasticity of demand was found as follows:⁴

$$\text{Elasticity} = -\frac{p}{q} \cdot \frac{dq}{dp}$$

Pergamon Press, Macmillan Company (New York: 1963), pp. 69-77 for a discussion of seasonal adjustments. The method used is described in Murray R. Spiegel, Theory and Problems of Statistics, Schaum, (New York: 1961), pp. 296-99.

⁴For a derivation of this formula from the definition of elasticity see Taro Yamane, Mathematics for Economists: An Elementary Survey, Prentice Hall, (Englewood Cliffs, N. J.: 1961), pp. 68-69.

The elasticity was calculated at a price of 800, or \$8.00 per foot, since cents were dropped.

Some Objections to the Analysis: There are two potential objections to the above procedures that should be discussed. The first, a relatively technical one, is that in computing elasticities, price was regarded as the independent variable, while many econometricians believe that the best approximation to elasticity can be found by regarding first price and then quantity as the independent variable and subsequently averaging the elasticities thus derived. But in the case of bleachers, there are compelling reasons for using price as the independent variable: (1) Price was largely determined exogenously by the activities of the conspirators; (2) The correlations and elasticities derived from the data were so small that, as statistical theory demonstrates, the difference in methods would not be significant. And, thus, this technique has not been employed here.

The second, an economic one, involves the question of possible interrelationships between prices and demand. It might be argued that the results (low correlations between prices and quantities, inelasticity of measured demand curves) are consistent with simultaneous shifts in supply and demand curves. If supply is regarded as a horizontal line at the level of the conspiratorial price, and conspiracy prices advance or decline with increases or decreases in demand, then it

follows that as demand grows prices would rise and as demand falls prices would decrease. An upward shift in the demand curve, then, means that conspiracy prices increase, thereby reducing the quantity sold. A downward shift causes a low supply price, thereby increasing the quantity sold. And, therefore, the shifts in the demand and supply functions would be related in such a way as to impart a systematic bias into the analysis-- a bias which would tend to cause demand to appear inelastic.

This objection has some validity and probably partly explains the extremely low correlations and high inelasticities found. But there are two persuasive bits of evidence that suggest this is of only marginal importance in altering the results: (1) Detailed analysis of monthly figures shows that quantities sold were not appreciably lower only during periods when prices decreased; (2) Were the demand elastic, it would require greater monthly shifts in prices than actually occurred to explain the extremely low correlations and high inelasticities found.

APPENDIX B

THE RELATIONSHIPS BETWEEN BID AND SALES PRICES IN THE SEATING INDUSTRY: THEIR IMPLICATIONS FOR MEASURING EFFECTS OF COLLUSION

Summary of Information in the Text: Bid prices should be greater than sales prices for the individual job (at least in a number of cases) for two reasons: the presence of price concessions made either by the agent or conspirator during the lengthy period between the bid and the final approval of the customer, and an asymmetrical tendency for conspirators to close previously-quoted business when prices are rising and to rebid previously-quoted business when prices are declining. Overall, such a pattern for individual jobs should be reflected in monthly averages.

Monthly average bid and sales prices should differ because of the influence of another factor: sales prices are in part determined by bid prices that were established months ago. Since the lag between bid and sale varies from two months to two years, and since any given month is likely to include bids from several previous months, fluctuations in sales prices are smoothed out in much the manner of

seasonal adjustment of business cycles. For this reason sales prices will underrepresent actual upward price swings and also underrepresent the actual price downturns.¹ And when prices decline (since the firms, to secure added business, are likely to issue new, lower bids on prospective jobs) the average length of time for which the bids in a given month have been outstanding should decline. The result would be that the divergence between average monthly bid and sales prices should be less in a period of declining general prices (either bid or sales) than in a period of advancing ones.

The Statistical Evidence: Does the actual empirical evidence tend to affirm or to refute the conclusions reached on theoretical grounds? Were the cycles in sales prices less extensive than those of bid prices? Did the divergence between sales prices and bid prices decline as prices diminished? In order to provide responses for such questions, Appendix Table 1 contains two types of information:

- (1) Brunswick bid prices for nine-row bleachers during the period 1958-1960;
- (2) Brunswick sales prices as computed from the FGS "Sales Analysis Sheets," as discussed in Appendix A.

¹This assumes that school districts remain in substantial ignorance of prices charged to other schools. The lack of common purchasing agencies and the failure of schools to complain about obvious inequities in pricing that the formulae must have entailed would seem to make this assumption a realistic one.

APPENDIX TABLE 1. -- FGS Council Brunswick sales and Brunswick bid data, 1958-1960.

Year and Month	Brunswick sales prices per FGS Council	Brunswick bid prices per Brunswick sample	Difference
1958- January	\$9.67	\$8.87	\$0.80
February	9.44	8.82	0.62
March	9.47	8.97	0.50
April	8.61	9.13	-0.52
May	9.23	9.24	-0.01
June	8.96	9.15	-0.19
July	9.32	8.93	0.39
August	8.87	9.02	-0.15
September	8.06	8.58	-0.52
October	9.41	8.43	0.98
November	8.97	7.88	0.99
December	9.25	8.27	0.98
1959- January	8.61	7.36	1.35
February	9.26	6.34	2.92
March	7.59	6.28	1.31
April	7.19	5.02 ^a	2.07
May	6.79	6.71	0.08
June	6.53	6.67	-0.14
July	6.50	6.62	-0.12
August	6.54	6.60	-0.16
September	6.84	6.91	-0.17
October	7.25	6.99	0.26
November	6.94	6.96	-0.02
December	7.06	7.12	-0.06
1960- January	7.45	7.16	0.29
February	6.66	6.89	-0.13
March	7.08	6.98	0.10
April	7.26	7.52	-0.26
May	7.51	7.37	0.14
June	7.33	7.47	-0.14
July	7.53	7.50	0.03
August	7.33	7.02	0.21

September	7.25	7.63	-0.38
October	7.10	7.61	-0.51
November	7.98	7.60	0.38
December	7.00	7.12	-0.12

^a Abnormally low in comparison to other row sizes.

Source: Compiled and computed from Brunswick scratch sheets, Brunswick sample and from sources listed in Appendix A. Since bids do not include extras, the bid series is abnormally low.

All bid and sales data, of course, are expressed in average monthly per-foot prices. Nine-row bids are included because, as mentioned previously, such bleachers are regarded as standard; also, from visual correlation of nine-row bids and other sizes, they follow the same patterns (with the exception of April, 1959) as do other sizes. Brunswick data for these years are included solely because this company and these years contain the only comprehensive useable data.

In connection with this Brunswick bid series, however, it should be noted that these data were computed exclusive of extras and only after eliminating bids representing certain high-price areas -- and by so doing, of course, the monthly averages, representing about ten observations each, would not be affected by an abnormal number of extra charges within a given month. While this procedure is necessary in order to avoid distortions in the averages, it has the effect of lowering the entire bid series. Thus, the sales series, which

includes extras and bids to schools in expensive regions, would appear higher relative to the bid series than normally.

This is demonstrated in the table. In seventeen of the thirty-six cases sales prices were less than bid prices-- the expected result. In nineteen cases the unexpected took place. But were the bid series to be "corrected" for the absence of extras, the entire bid series would be raised, thereby increasing the number of cases in which the bid series was higher than the sales series. Thus, the proposition that bid prices should exceed sales prices over the long haul is not invalidated and is probably corroborated by the empirical evidence.²

Sales prices varied from a high of \$9.47 in March, 1958, to a low of \$6.50 in July, 1959-- a difference of some 46%. Bid prices, on the other hand, varied from a peak of \$9.24 in May, 1958, to a low of \$5.02 in April, 1959-- a variation of more than 84%, which is significant even in the presence of the abnormally low April, 1959, figure.³ Thus, the proposition that bid prices show greater fluctuations than sales price is confirmed.

²This conclusion is made even stronger when it is realized that 8 of the 19 cases where sales were higher than bid prices occurred between October, 1958, and May, 1959, when prices were declining dramatically-- exactly the result that would be predicted from the existence of the two factors mentioned below.

³If lows for 7, 8, 10, and 11 rows are used the figure would still be over 60%.

The behavior of bid and sales prices in late 1958 and early 1960 strongly support yet another proposition: there is a lag between bid and sales prices, with movements in the former preceding those in the latter by as much as several months. Unfortunately, adequate data is not available for evaluating the hypothesis that the differential lags during periods when prices are high and periods when prices are low would induce a larger variation between bid and sales prices during periods when prices are rising than those when prices are falling.

In general, then, the empirical evidence is consistent with conclusions derived from theoretical reasoning.

Implications of the Analysis for Measuring Price Movements:

This discussion, combined with the data in Appendix C, leads to two immediate conclusions:

- (1) Since the period from bid to sale varies, and since the data were based on information supplied by the conspirators, there could be a different lag relationship for the various companies and thereby the sales series would be smoothed out in such a manner as to underrepresent actual price swings;
- (2) Brunswick didn't match the lows of other companies during 1959.

These two points will be of immediate significance.

Now suppose that prices are to be used to calculate treble-damages by the plaintiff. How should he compute prices so as to maximize variations in price?

From the discussion of bid and sale price series, his procedure is obvious:

- (1) He should use sales statistics, because on the average sales statistics will be lower than bid statistics for three reasons: (a) Sales statistics represent successful bids and a high portion of such bids will be at low prices; (b) Cheating between bid and acceptance of bid will often mean that the sales price is below the bid price; and (c) There is a tendency for bids to be reopened and lowered when prices are declining.
- (2) But, because of the tendency of the sales series to be smoothed out, he should concentrate only on a few sales; sales for which bids were taken within, say, the last two months.⁴
- (3) He should avoid industry aggregates, and select for his standard the series for the firm that reached the lowest price during the competitive period. To bolster this position, he can argue that one of the effects of the conspiracy was to protect higher-price firms, and that the competitive "norm" would relate to the most efficient firm.⁵

Some of the consequences of this position are striking. For example, some sales made during the period designated by the plaintiff as "competitive" would be subject to damages, since the sales were made on the basis of bids submitted during conspiratorial periods, and, given imperfect knowledge, were not rebid when prices fell.⁶

⁴The number of months selected would be arbitrary and would reflect such variables as the number of observations and the amount of smoothing out of the sales series.

⁵Assuming a homogeneous product for all producers.

⁶Although for reasons discussed previously most of this would probably be rebid.

For some companies all sales could be subjected to damages, since that firm never reached the competitive norms of the low-cost producers.

It is also interesting to note that, in the end, in establishing a competitive norm, bid prices may be much more accurate than sales price--for in the race between the cumulative effects of past bidding on sales and the cheating the former may win, thereby distorting the sales series more than the bid series is distorted by the latter.

To minimize the amount of damages the defendant should follow the opposite course: use aggregate industry sales statistics.⁷ He should also insist that all sales be included, regardless of the relation between the bid and the sales date.

Now in terms of assessing the effect of the conspiracy, which estimate should be used? It is clear that up to this point, the minimum form of estimate has been utilized: the effect of the conspiracy on price was measured in terms of industry totals on sales.⁸ So the most conservative type of estimate has been accepted as proper in estimating conspiratorial price effects.

But the more general problem of what form of prices should be selected for measuring such effects is important enough to require separate treatment. This Appendix can contribute, however, by indicating the ambiguity inherent in this industry's price structure.

⁷He should reject, of course, the plaintiff proposal that only those bids and sales consummated within a certain period be included.

⁸Although bids were used for 1954-1955. However, the bids were for Brunswick, which was a high-price firm during those years.

APPENDIX C

INDIVIDUAL COMPANY DATA

This section contains data for the period 1944-1961 on sales prices and market shares for individual companies. It should be analyzed in terms of the following propositions:

- (1) Brunswick's assertion that the GSC permitted such non-national companies as Universal and Wayne to become national;
- (2) The market share of Brunswick, one high-cost producer tended to decline during periods of competition;
- (3) Brunswick's market share grew during the FGS Council period, probably because the spread in prices resulting from Council formulae was insufficient to overcome Brunswick's superior market coverage and product identification;
- (4) During the Council period, various producers engaged in unauthorized price cutting on a temporary and sporadic basis, but such concessions were but slight reductions from already bloated conspiratorial price levels;
- (5) Such price reductions were often (with some lag) reflected by increased market shares;
- (6) Industry figures do not accurately reflect actual conditions because of differences in the speed of reporting among the various conspirators. In other words, each conspirator, for example, reported 1959 lows during different months.

APPENDIX TABLE 2. -- Prices and market shares for individual firms

Date	Berlin - Chapman	Brunswick- Horn	Medart	Safway	Universal	Wayne	Hussey
1944-47 av.		\$3.22(18)	\$3.54(36)		\$3.66(20)	\$3.67(27)	
1947-49 av.		5.04(34)	5.30(45)		4.94(12)	5.11 (9)	
1949-51 av.		6.29(29)	6.28(30)		6.16(17)	6.16(24)	
1952		7.34(25)	7.28(34)		7.25(18)	7.21(24)	
1953		n.a.(29)	n.a.(25)		n.a.(17)	n.a.(26)	
1954-							
January		n.a.(36)	n.a.(22)		n.a.(17)	n.a.(25)	
February		n.a.(23)	n.a.(41)		n.a.(16)	n.a.(17)	
March		n.a.(10)	n.a.(48)		n.a.(18)	n.a.(24)	
April		n.a.(26)	n.a.(51)		n.a.(10)	n.a.(14)	
May		n.a.(29)	n.a.(36)		n.a.(6)	n.a.(29)	
June		n.a.(27)	n.a.(22)		n.a.(19)	n.a.(31)	
July		n.a.(19)	n.a.(18)		n.a.(27)	n.a.(35)	
August		n.a.(24)	n.a.(32)		n.a.(13)	n.a.(31)	
September		n.a.(10)	n.a.(23)		n.a.(17)	n.a.(24)	
October		n.a.(39)	n.a.(23)		n.a.(8)	n.a.(30)	
November		n.a.(31)	n.a.(18)		n.a.(24)	n.a.(26)	
December		n.a.(14)	n.a.(23)		n.a.(28)	n.a.(35)	
YEAR TOTAL		n.a.(27)	n.a.(30)		n.a.(16)	n.a.(29)	

Date	Brunswick-					Medart	Safway	Universal	Wayne	Hussey
	Berlin-				Horn					
	Chapman									
1955-										
January	n.a.(18)				n.a.(17)	n.a.(16)	n.a.(4)	n.a.(15)	n.a.(30)	
February	n.a.(11)				n.a.(23)	n.a.(10)	n.a.(4)	n.a.(12)	n.a.(41)	
March	n.a.(14)				n.a.(18)	n.a.(34)	n.a.(2)	n.a.(10)	n.a.(22)	
April	n.a.(7)				n.a.(15)	n.a.(19)	n.a.(7)	n.a.(20)	n.a.(32)	
May	n.a.(13)				n.a.(28)	n.a.(22)	n.a.(5)	n.a.(11)	n.a.(22)	
June	n.a.(11)				n.a.(16)	n.a.(28)	n.a.(10)	n.a.(16)	n.a.(20)	
July	n.a.(9)				n.a.(21)	n.a.(18)	n.a.(4)	n.a.(26)	n.a.(22)	
August	n.a.(12)				n.a.(25)	n.a.(17)	n.a.(6)	n.a.(14)	n.a.(27)	
September	n.a.(4)				n.a.(27)	n.a.(23)	n.a.(5)	n.a.(20)	n.a.(21)	
October	n.a.(14)				n.a.(30)	n.a.(12)	n.a.(5)	n.a.(20)	n.a.(19)	
November	n.a.(7)				n.a.(45)	n.a.(26)	n.a.(1)	n.a.(6)	n.a.(16)	
December	n.a.(10)				n.a.(24)	n.a.(23)	n.a.(4)	n.a.(16)	n.a.(24)	
YEAR TOTAL	n.a.(10)				n.a.(24)	n.a.(21)	n.a.(5)	n.a.(16)	n.a.(24)	
1956-										
January	\$9.44 (3)				\$9.07(21)	\$8.64(21)	\$8.82(13)	\$8.40(31)	\$9.01(11)	n.a. (1)
February	9.33(12)				9.24(25)	10.25(20)	n.a.(na)	10.19(25)	8.40(17)	n.a. (1)
March	9.18(11)				8.41(15)	9.45(37)	9.39 (3)	8.99(15)	8.75(19)	n.a. (6)
April	11.04 (8)				8.42(31)	8.87(21)	8.40 (2)	9.77(22)	8.52(16)	n.a. (2)
May	8.95(12)				10.11(32)	9.93 (5)	8.97 (2)	9.47(11)	9.22 (9)	n.a.(10)
June	9.72 (8)				8.97(18)	9.63(26)	8.22 (2)	8.87(17)	9.30(12)	n.a.(11)
July	9.33 (9)				9.07(31)	9.10(16)	8.13 (3)	9.10(25)	9.32(16)	n.a.(na)
August	9.38 (9)				9.47(24)	9.10(15)	9.01 (8)	9.13(18)	10.74(18)	n.a. (7)
September	8.79 (3)				9.81(32)	8.97(17)	8.86 (8)	8.81(27)	8.93(13)	n.a.(10)
October	8.48 (8)				9.25(23)	9.29(12)	8.47(17)	9.67(13)	9.21(22)	n.a. (3)
November	10.00 (9)				9.22(19)	9.51(13)	10.80 (9)	9.22(11)	9.29(26)	n.a. (7)
December	8.70 (8)				8.93(17)	8.86(20)	9.00 (6)	9.17(10)	8.81(30)	n.a. (2)
YEAR TOTAL	9.26 (9)				9.30(24)	9.36(21)	8.71 (5)	9.11(21)	9.04(18)	9.19 (3)

Date	Berlin-	Brunswick-			Medart	Safway	Universal	Wayne	Hussey
	Chapman	Horn							
1957-									
January	\$9.14 (3)	\$8.95(21)	\$9.29(16)	\$8.20 (2)	\$9.19(25)	\$8.27(27)	\$8.54 (5)		
February	9.19(12)	9.04(36)	9.37(25)	9.10(11)	9.32 (5)	8.83 (7)	7.88 (4)		
March	8.74 (9)	11.43(59)	12.96 (9)	8.58 (5)	10.69 (1)	9.14(11)	8.66 (5)		
April	10.33 (7)	9.98(41)	9.95(20)	8.71 (4)	9.41 (2)	9.02(13)	8.14 (7)		
May	10.18(18)	9.83(22)	9.93(12)	9.83(12)	9.14(13)	9.88(14)	9.23 (6)		
June	9.48 (8)	10.20 (1)	9.91 (9)	10.10(11)	9.49(24)	9.48(17)	8.68 (5)		
July	9.83 (6)	9.74(15)	9.60(20)	9.28(18)	9.61(17)	9.49(17)	8.78 (1)		
August	9.61 (9)	10.17(15)	9.58(16)	8.75(15)	9.12(24)	8.79(16)	n.a. (1)		
September	9.34(11)	10.05(16)	10.29(20)	9.03(10)	10.41(19)	9.70(14)	8.01 (3)		
October	9.31 (8)	10.18(23)	9.69(12)	11.31 (6)	7.55(13)	10.54(22)	7.17 (3)		
November	9.09(10)	11.17(15)	9.63(10)	10.37 (7)	9.13 (9)	9.87(21)	8.46 (3)		
December	10.23 (8)	9.77(16)	9.08 (2)	7.11 (6)	8.96 (1)	9.75(31)	10.70 (2)		
YEAR TOTAL	9.56 (9)	9.95(23)	9.66(16)	9.27(10)	9.22(14)	9.32(18)	8.49 (5)		
1958-									
January	11.28 (9)	9.67(19)	9.81(20)	9.23 (7)	9.10(13)	10.07(20)	7.82 (1)		
February	9.49(13)	9.44(32)	9.45(22)	10.62 (6)	8.53(17)	9.17 (7)	9.25 (3)		
March	8.57 (9)	9.47(25)	9.56(21)	9.66 (4)	9.11 (9)	8.89(14)	8.96 (5)		
April	9.30 (1)	8.61(20)	9.29(18)	8.68 (8)	8.79(22)	8.87(14)	8.24(11)		
May	9.31(12)	9.23(18)	9.72(17)	8.57 (4)	9.05(16)	9.56(21)	8.42 (8)		
June	9.19(11)	8.96(18)	9.46(13)	10.48 (8)	8.33(15)	9.01(22)	8.55 (8)		
July	11.06 (9)	9.32(16)	9.13 (9)	7.66 (3)	8.40(21)	8.84(26)	8.50 (9)		
August	9.56 (3)	8.87(26)	10.35(16)	8.83(12)	8.89(19)	8.97(25)	8.50 (3)		
September	10.04(15)	8.06(22)	8.02(13)	8.95 (6)	7.86(35)	8.14(16)	8.79(na)		
October	8.97 (5)	9.41(20)	8.43(20)	9.12(12)	8.08 (9)	8.60(18)	8.77 (3)		
November	8.35 (6)	8.97(19)	9.61(28)	8.74 (6)	8.56(11)	8.21 (8)	8.28 (3)		
December	8.51 (4)	9.25(25)	9.03(14)	8.42 (3)	8.66 (7)	8.91(21)	9.23(17)		
YEAR TOTAL	9.46 (8)	9.02(21)	9.35(17)	9.05 (7)	8.65(15)	8.97(18)	8.63 (8)		

Berlin-		Brunswick-						
Date	Chapman	Horn	Medart	Safway	Universal	Wayne	Hussey	
1959-								
January	\$7.53 (4)	\$8.61(15)	\$8.68(17)	\$8.46 (2)	\$8.43(24)	\$8.79(28)	\$8.48 (7)	
February	7.53 (5)	9.26(25)	9.31 (9)	7.93(11)	9.31(19)	8.91(28)	7.95 (3)	
March	7.53 (1)	7.59(32)	7.02 (9)	9.07(12)	7.66(11)	7.95(28)	5.58 (2)	
April	7.90 (5)	7.19(28)	6.41(29)	8.00(11)	5.78 (6)	7.62(15)	8.15 (8)	
May	7.90 (3)	6.79(39)	6.30(12)	8.57 (2)	5.51(24)	6.68(22)	9.24 (1)	
June	7.92 (5)	6.53(14)	6.61(20)	7.51 (6)	6.19(30)	6.62(18)	7.55 (4)	
July	7.00 (8)	6.50(23)	6.89(18)	7.27 (4)	5.91(19)	5.99(27)	9.20 (1)	
August	7.92 (2)	6.54(29)	6.94(16)	7.82 (6)	6.55(12)	6.70(26)	7.94 (8)	
September	7.92(13)	6.84(29)	6.36 (8)	6.60 (4)	6.51(26)	6.98(19)	8.20 (1)	
October	7.92 (8)	7.25(27)	7.29(18)	6.89 (2)	6.35(18)	6.49(12)	7.74 (1)	
November	7.92 (4)	6.94(22)	6.82(16)	7.52(30)	6.75 (6)	7.94(17)	7.23 (4)	
December	7.06 (2)	7.06(14)	7.21(18)	7.57 (9)	6.84(19)	6.93(25)	6.93 (3)	
YEAR TOTAL	7.54 (6)	7.10(23)	6.95(26)	7.62 (8)	6.55(18)	7.09(21)	7.77 (4)	
1960-								
January	7.92 (7)	7.45(24)	6.81(24)	7.45(13)	5.63 (9)	6.46(20)	7.13 (5)	
February	7.92(10)	6.66(26)	6.32(29)	7.61 (2)	6.93 (9)	6.91(21)	7.28 (3)	
March	7.00 (3)	7.08(16)	7.77(37)	7.52(12)	6.80 (9)	6.35(14)	7.31 (6)	
April	7.00 (9)	7.26(15)	6.53(20)	7.65(14)	6.52(17)	6.93(14)	6.61 (5)	
May	7.00(12)	7.51 (4)	7.35(27)	7.39(20)	6.93(23)	7.26 (9)	7.16 (4)	
June	7.00 (5)	7.33 (8)	6.93(15)	6.84(11)	6.52(17)	7.26(22)	7.24 (5)	
July	7.52 (6)	7.53(19)	6.77(13)	6.54 (2)	6.44(28)	6.45(29)	6.75 (3)	
August	7.00 (3)	7.33(18)	7.44(22)	n.a. (0)	6.91(21)	6.72(20)	6.52 (5)	
September	7.00(10)	7.25 (7)	6.53 (9)	7.41(12)	6.57(31)	8.66(26)	6.76 (4)	
October	7.02 (2)	7.10 (2)	6.69 (8)	7.18(34)	6.62(23)	7.40(26)	6.53 (5)	
November	n.a. (4)	6.98 (5)	6.95(22)	5.58 (4)	6.89(23)	7.00(27)	7.14 (5)	
December	7.00 (6)	7.00 (8)	7.09(13)	6.39(13)	6.56(32)	8.27(18)	7.38(10)	
YEAR TOTAL	7.00 (6)	7.23(12)	7.07(20)	7.10(12)	6.64(21)	7.23(21)	7.00 (5)	

Date	Brunswick-					Wayne	Hussey
	Berlin- Chapman	Horn	Medart	Safway	Universal		
1961-							
January	\$7.00 (4)	\$7.48 (6)	\$6.67(21)	n.a. (0)	\$6.95(17)	\$7.20(20)	\$7.33 (8)
February	7.17(10)	6.76(15)	6.03(17)	\$7.42(12)	6.68(12)	7.45(21)	7.00(10)
March	6.97(11)	7.14(11)	6.12 (8)	7.28(35)	6.95(13)	7.16(25)	7.02 (4)

n.a. = not available

Source: Compiled and computed from sources listed on Table 7 and from document 5-8530. Data for 1944-1953 includes Brunswick-Horn, Medart, Universal and Wayne only. Individual firm prices are not available for the period 1953-1955. Since the conspirators chose arbitrarily when to send in their reports, some fluctuations will reflect reporting procedures. Market shares may not add to 100% since slight rounding errors or the presence of non-listed competitors may create distortions.

BIBLIOGRAPHY

CHAPTER 1.

The following is intended as a fairly comprehensive list of publications dealing with price fixing. Material in two categories has been excluded: (a) government publications dealing with price-fixing statutes and proposed amendments to such statutes; (b) articles in legal periodicals and reports on court decisions. Also, theoretical books and articles by economists on the general area of imperfect competition have been excluded--with the exception of a few recent articles that might be of some assistance in the analysis of recent developments that might have a bearing on price fixing.

This list is based on an examination of the following bibliographies: (1) American Economic Association, Index of Economic Journals, Volumes 1-5, 1886-1959, (Homewood, Illinois: Richard D. Irwin, Inc., 1961-1962); (2) Edward Hastings Chamberlin, The Theory of Monopolistic Competition, "Bibliography on Monopolistic Competition," 7th edition, (Cambridge: Harvard University Press, 1956), pp. 277-346; (3) Cumulative Book Index: A World List of Books Published in the English Language, various editions, (New York: H.W. Wilson

Company, 1900-1964); (4) Public Affairs Information Service, Bulletin, various editions, (New York: Public Affairs Information Service, 1950-1964); (5) Library of Congress, Books: Subject-- A Cumulative List of Works Represented by the Library of Congress Printed Cards, various editions, (Patterson, N.J.: Pageant Books, Inc., 1950-1964); (6) International Committee for Social Science Documentation, International Bibliography of the Social Sciences, various editions, (Chicago: Aldine Publishing Co., 1962-1963); (7) Index to Legal Periodicals, (New York: H. W. Wilson Company, 1928-1964); (8) Lucille V. Craumer, editor, Business Periodicals Index, various editions, (New York: H.W. Wilson Company, 1958-1963); (9) Superintendent of Documents, Monthly Catalog of United States Government Publications, various editions, (Washington: Government Printing Office, 1940-1964); and (10) Dissertation Abstracts, various editions, (Ann Arbor: University Microfilms, 1952-1964). Reference was also made to the annual compilation of thesis included in the American Economic Review and to the bibliography included with each issue of the Antitrust Bulletin.

Books

- American Academy of Political and Social Science. Annals, 42, July, 1912. Entire issue devoted to "Industrial Competition and Combination."
- Backman, Jules. The Economics of the Electrical Machinery Industry. New York: New York University Press, 1962.
- Baer, H. W. Triple Damage Suits in Time of War. Voohis: Baker, 1943.

- Baird, Enid. Price Fixing Under NRA Codes. Work Materials No. 76, Volume 1, Trade Practice Studies Section, Division of Review, NRA, Washington, 1936.
- Baldwin, William Lee. Antitrust and the Changing Corporation. Durham, North Carolina: Duke University Press, 1961.
- Baur, P.T. The Rubber Industry: A Study in Competition and Monopoly. London, 1948.
- Brown, Nelson C. The American Lumber Industry. New York, 1923.
- Cole, Arthur H. and Williamson, Harold F., The American Carpet Manufacturer: A History and an Analysis. Cambridge: Harvard University Press, 1941.
- Compton, William, The Organization of the Lumber Industry. Chicago, 1916.
- Conant, Michael. Antitrust in the Motion Picture Industry. Berkeley: University of California Press, 1963.
- Dewey, Donald. Monopoly in Economics and Law. Chicago: Rand McNally & Company, 1959.
- Downie, Jack. The Competitive Process. London: G. Duckworth, 1958.
- Fisher, Waldo E. and James, Charles M. Minimum Price Fixing in Bituminous Coal Industry. Princeton, N. J.: National Bureau for Economic Research, 1955.
- Eliteman, Wilford. Price Determination in Oligopolistic and Monopolistic Situations. Ann Arbor: University of Michigan, Bureau of Business Research, Michigan Business Reports, 1960.
- Fog, B. Pricing in Danish Industry. Amsterdam: North-Holland Publishing Company, 1960.
- Foy, Fred C. Competitive Pricing. American Management Association, Management Report 17, n.d.
- Friedman, W., editor. Antitrust Laws--A Comparative Symposium. Toronto: Carswell Company, Ltd., n.d.

- Fuller, John G. The Gentlemen Conspirators--The Story of the Price-Fixers in the Electrical Industry. New York: Grove Press.,Inc. 1962.
- General Agreement on Tariffs and Trades. Restrictive Business Practices. Geneva: GATT, 1959.
- Hadlick, P. E. Criminal Prosecutions Under the Sherman Antitrust Act. Washington: Ransdell, 1939.
- _____. Treble Damages Under the Antitrust Laws. Washington: Ransdell, 1940.
- Hale, G. E. Market Power, Size and Shape Under the Sherman Act. Cambridge: Harvard University Press, 1958.
- Hamilton, Walter H. The Case of Bituminous Coal. Washington: TNEC Monograph, Number 16, 1936.
- Haney, Lewis H. Business Organizations and Combinations. New York: Macmillan Company, 1922.
- Henderson, James M. The Efficiency of the Coal Industry. Cambridge: Harvard University Press, 1958.
- Herling, John. The Great Price Conspiracy: The Story of Antitrust Violations in the Electrical Industry. Washington: Luce, 1962.
- Hoffman, Malcome A. Antitrust Laws and Technique: A Collection of Landmark Papers on the Antitrust Laws. Albany, New York: Bender, 1963.
- Jones, Eliot. The Anthracite Coal Combination in the United States. Cambridge: Harvard University Press, 1914.
- Kaplan, A. D., Dirlam, J.B. and Lanzillotti, R.F. Pricing in Big Business: A Case Approach. Washington: Brookings Institution, 1958.
- Kaysen, Karl. United States v. United Shoe Machinery Corporation, An Economic Analysis of an Antitrust Case. Cambridge: Harvard University Press, 1956.
- Loescher, Samuel M. Imperfect Competition in the Cement Industry. Cambridge: Harvard University Press, 1959.

- Mansfield, Edwin E. Monopoly Power and Economic Performance. New York: Norton McLeod, 1964.
- Markham, Jesse. Price and Output Behavior in the Domestic Rayon Industry. Unpublished doctoral dissertation, Harvard University.
- Mason, Edward S. Economic Concentration and Monopoly. Cambridge: Harvard University Press, 1957.
- McKie, J. W. Tin Cans and Tin Plate: A Study in Competition in Two Related Markets. Cambridge: Harvard University Press, 1959.
- Melvin, Thomas Copeland. The Cotton Manufacturing Industry of the United States. Cambridge: Harvard University Press, 1923.
- Miller, John Perry. Competition, Cartels, and Their Regulation. Amsterdam: North Holland Publishing Company, 1962.
- Neal, A. D. The Antitrust Laws of the United States of America. Cambridge: Cambridge University Press, 1960.
- Nearing, Scott. Anthracite--An Instance of Natural Resource Monopoly. New York: John C. Winston Company, 1914.
- Nicholls, William H. A Theoretical Analysis of Imperfect Competition with Special Applications to the Agricultural Industries. Ames: Iowa State College Press, 1941.
- _____. Price Policies in the Cigarette Industry. Nashville: Vanderbilt University Press, 1951.
- Oxenfeldt, A. R. Industrial Pricing and Market Practices. New York: Prentice Hall, 1951.
- Papandrea, A. G. and Wheeler, J.T. Competition and Its Regulation. New York: Prentice Hall, 1954.
- Phillips, Almarin. Market Structure, Organization and Performance, An Essay on Price Fixing and Combinations in Restraint of Trade. Cambridge: Harvard University Press, 1962.
- Richardson, G. B. Information and Investment. London: Oxford University Press, 1961.
- Stocking, G. W. and Watkins, M. W. Monopoly and Free Enterprise. New York: Twentieth Century Fund, 1951.

- Sylos-Labini, Paolo. Oligopoly and Technical Progress. Cambridge: Harvard University Press, 1962.
- Taggart, Herbert F. Cost Justification. Ann Arbor: University of Michigan, Michigan Business Studies, 1959.
- Thin, Tum. Theory of Markets. Cambridge: Harvard University Press, 1960.
- Vatter, H. C. Small Enterprise and Oligopoly-- A Study of the Butter, Flour, Automobile, and Glass Container Industries. Corvallis: Oregon State College, 1955.
- Wallace, Donald H. Market Conditions in the Aluminum Industry. Cambridge: Harvard University Press, 1937.
- Watkins, Myron W. Public Regulation of Competitive Practices in Business Enterprise. New York: National Industrial Conference Board, 1940.
- _____, and George W. Stocking. Cartels in Action. New York: Twentieth Century Fund, 1946.
- White, Donald J. The New England Fishing Industry. Cambridge: Harvard University Press, 1954.
- Whittney, Simon Newcome. Antitrust Policies-- American Experience in 20 Industries. New York: Twentieth Century Fund, 1958.
- Winston, Ambrose Pare. Judicial Economics. Austin, Texas: privately printed, n.d.

Articles and Periodicals

- Adams, Walter. "The Rule of Reason: Workable Competition or Workable Monopoly?" Yale Law Journal, 63, 1954, pp. 348-70.
- Adelman, M. A. "Economic and Legal Concepts of Competition," Journal of Political Economy, 41, December, 1959, pp. 1197-1201.
- Andrews, E. B. "The Late Copper Syndicate," Quarterly Journal of Economics, 3, July, 1959, pp. 508-16.

- Austin, R. W. "Let's Get Cost Pricing Out of Our Laws," Harvard Business Review, 32, May-June, 1954, pp. 67-72.
- Bain, J. S. "Output Quotas in Imperfect Cartels," Quarterly Journal of Economics, 62, August, 1949, pp. 612-22.
- Baumol, W. J. "On the Theory of Oligopoly," Economica, new series, 25, August, 1958, pp. 187-98.
- Boggis, F. D. "The Electrical Conspiracies," Cartel, 12, April, 1962, pp. 66-72.
- Bryant, R. C. "Lumber Prices," The Annuals, 89, May, 1920, pp. 78-98.
- Burke, S. P. "Price Fixing in the Bituminous Coal Industry: A Legal-Economic Problem," West Virginia Law Review, 41, April, 1935, pp. 225-48.
- Cameron, Juan, "Price Fixer's Dilemma: Some Second Thoughts on the General Electric Case," Harvard Business School Bulletin, 37, June, 1962, pp. 6-10.
- Dirlam, Joel B. and Kahn, Alfred E. "Antitrust Law and the Big Buyer: Another Look at the A&P Case," Journal of Political Economy, 60, 1952, pp 118 ff.
- Dowdell, E. G. "The Concerted Regulation of Price and Output," Economic Journal, 58, June, 1948, pp. 210-27.
- Fellner, William, "Collusion and Its Limits Under Oligopoly," American Economic Review, 40, May, 1950, pp. 54-62.
- Fisher, F. M. "New Developments on the Oligopoly Front: Cournot and the Bain Sylos Analysis," Journal of Political Economy, 67, August, 1959, pp. 410-13.
- Fog, Bjarke, "How Are Cartel Prices Determined?" Journal of Industrial Economics, 5, November, 1956, pp. 16-23.
- Grossfield, K. "Price and Quota Agreements: Their Effect on the Quality of Insulated Cable," Oxford Economic Papers, new series, 11, February, 1959, pp. 98-108.
- _____. "Origin of Restrictive Practice in the Cable Industry," Journal of Industrial Economics, 7, October, 1958, pp.22-27.

- Guthrie, R. R. "FTC Price Conspiracy Cases -- 1935-39," George Washington Law Review, 8, January-February, 1940, pp. 620-38.
- Harberger, A. C. "Monopoly and Resource Allocation," American Economic Review, 44, May, 1954, pp. 77-87.
- Heath, J. B. "Restrictive Practices and After," Manchester School, 29, May, 1961, pp. 173-202.
- _____. "Symposium on Restrictive Trade Practices Legislation," Economic Journal, 70, September, 1960, pp. 455-84.
- _____. "The 1956 Restrictive Trade Practices Act: Price Agreements and the Public Interest," Manchester School, 27, January, 1959, pp. 72-103.
- Henderson, Alexander. "On the Theory of Duopoly," Quarterly Journal of Economics, 67, November, 1954, pp. 565-84.
- Howard, J. A. "Collusive Behavior," The Journal of Business, 27 July, 1954, pp. 196-204.
- James, L. M., "Restrictive Agreements and Practices in the Lumber Industry -- 1880-1939," Southern Economic Journal, 13, October, 1946, pp. 115-25.
- Jenson, Walter and Wolf, Harold A. "A Legal and Economic Note on Price Fixing," Business Topics, 10, Spring, 1962, pp. 55-65.
- Knox, Robert Lee. "Workable Competition in the Rubber Tires Industry," Dissertation, University of North Carolina, 1963.
- Loescher, Samuel M. "Inert Antitrust Administration: Formula Pricing and the Cement Industry," Journal of Business of the University of Chicago, 27, 1954, p. 211 ff.
- Marburg, Theodore and Edlinger, Maria. "Price Fixing and Public Policy," Marquette Business Review, 6, Winter, 1962, pp. 9-15.
- Mason, Edward S. "Market Power and Business Conduct: Some Comments," American Economic Review, 46, May, 1956, pp. 471-81.
- Marchant, E. O. "The Government and the Newsprint Paper Manufacturers," Quarterly Journal of Economics, 32, February, 1918, pp. 238-56, and 34, February, 1920, pp. 313-28.

- McNair, A. D. "Agreements in Restraint of Trade," Economics, 4, June, 1924, pp. 176-85.
- Morgenthau, W. M. "Price Determinants in an Oligopoly with Inelastic Demand," Dissertation, University of Pittsburgh, 1962.
- Nelson, M. N. "The Effect of Open Price Association Activities on Competition and Prices," American Economic Review, 13, June, 1923, pp. 258-73.
- Nicholls, William H. "Market Sharing in the Packing Industries," Journal of Farm Economics, 22, 1940, p. 225 ff.
- _____. "Post War Concentration in the Cheese Industry," Journal of Political Economy, 47, 1939, p.823 ff.
- Article Editor, "Frequency of Price Fixing," Northwestern Law Review, 57, May-June, 1962, pp. 151-58.
- Passer, H. C. "Development of Large Scale Organization-- Electrical Manufacturing Around 1900," Journal of Economic History, 12, Number 4, 1952, pp. 378-95.
- Phillips, A. "A Critique of United States Experience with Price-Fixing Agreements and the Per Se Rule," Journal of Industrial Economics, 8, October, 1959, pp. 13-32.
- _____. "Policy Implications of the Theory of Interfirm Organization," American Economic Review, 51, May, 1961, pp. 245-54.
- _____ and Hall, George R. "The Salk Vaccine Case: Parallelism, Conspiracy, and Other Hypotheses," Virginia Law Review, 46, May, 1960, p. 717 ff.
- Phillips, Charles F. "Workable Competition in the Synthetic Rubber Industry," Southern Economic Journal, 28, October, 1961, pp. 154-62.
- Pollock, Earl E. "The 'Injury' and 'Causation' Elements of a Treble-Damage Antitrust Action," Northwestern Law Review, 57, January-February, 1963, pp. 691-707.
- Pribrom, K. "Controlled Competition and the Organization of American Industry," Quarterly Journal of Economics, 49, May, 1935, pp. 371-93.
- Rahl, James A. "Price Competition and the Price Fixing Rule--

- Preface and Perspective," Northwestern Law Review, 57, May-June, 1962, pp. 137-50.
- Sen, S. R. "The Economics of Restrictionism," Indian Economic Journal, 1, October, 1953, pp. 124-37.
- Siddiqui, Q. H. "Price Determination Under Oligopoly," Federal Economic Review, 2, July 1957, pp. 28-57.
- Simpson-Lee, G. J. "New South Wales Trade Protection Association," Economic Record, 29, November, 1953, pp. 231-44.
- Smith, Richard Austin. "The Incredible Electrical Conspiracy," Parts I and II, Fortune, 63, April-May, 1961, p.132 ff. and p. 161 ff.
- Taubman, Joseph. "Pools, Combinations, Conspiracies, and Joint Ventures," Antitrust Bulletin, 4, May-June, 1959, pp. 341-73.
- Wiprud, Grant W. "Antitrust Triple-Damage Suits Against Electrical Manufactures: The Statute of Limitations and Other Hurdles," Northwestern Law Review, 57, March-April, 1962, pp. 29-52.
- Worcester, D. A. "A Partial Theory of Collusion," American Economic Review, 48, May, 1958, pp. 588-97.
- Worswick, G. D. N. "On the Benefits of Being Denied the Opportunity to Go Shopping," Oxford University Institute Statistical Bulletin, 28, August, 1961, pp. 271-79.

BLEACHER CASE

The documents came from a large number of separate sources. Much of the data came from "scratch sheets" voluntarily relinquished by Brunswick. A major source of data was the proceedings of the State of California described below. Discovery proceedings of five states yielded another huge set of documents. Access to grand jury records was allowed--although such documents are not quoted here. These sources yielded, it is estimated, well over 100,000 documents.

The list that follows, therefore, shows only those sources of information about bleachers that yielded data that complimented to a substantial degree the information mentioned above.

Brunswick, 1962 Annual Report.

Moody's, various editions.

Safway, "The ABC's of Gym Seating," n.p., n.d.

Standard & Poor's, various editions.

State of California et al. vs. Brunswick Company et al. Affidavits, Motions, Orders, Civil Action 39352, various dates 1961-1963.

Statistical Abstract of the United States, various editions.

United States Department of Commerce, Business Statistics, 1961 edition.

Van Sistine, J. E. Statement, Berlin, Wisconsin, October 28, 1961.

Wilson, Russell. Statement, Ann Arbor, Michigan, February 20, 1961.

THE ELECTRICAL CONSPIRACY

Books

Backman, Jules. The Economics of the Electrical Machinery Industry. New York: New York University Press, 1952.

Fuller, John G. The Gentlemen Conspirators-- The Story of the Price Fixers in the Electrical Industry. New York: Grove Press, 1962.

Herling, John. The Great Price Conspiracy-- The Story of the Anti-trust Violations in the Electrical Industry. Washington: R. B. Luce, 1962.

Articles and Periodicals

Boggis, F. D. "The Electrical Conspiracies," Cartel, 12, 1962, p. 66 ff.

Industries section, "Climbing Toll for the Price-Fixers," Business Week, August 29, 1964, p. 96 ff.

Jensen, Walter and Wolf, Harold A. "A Legal and Economic Note on Price Fixing," Business Topics, Spring, 1962, p. 55 ff.

Marburg, Theodore F. "Price Fixing and Public Policy (Electrical Equipment)," Marquette Business Review, 6, 1962, p. 9 ff.

Smith, Richard Austin. "The Incredible Electrical Conspiracy," Fortune, Parts I and II, 63, April and May, 1961, p. 132 ff. and p.161 ff.

Subcommittee on Antitrust and Monopoly, United States Senate, Administered Prices -- Price Fixing and Bid Rigging in the Electrical Manufacturing Industry, Part 28, Washington, 1961.

Webster Schffield Fleischmann Hitchcock & Chrystie, and Kaye, Scholer, Fierman, Hays, & Handler, "Procedures for Calculating Overcharges in Eleven Product Lines," New York, 1963.

Other sources of information on electrical equipment: articles in the Wall Street Journal (January 9, 10, 12, 13, 1961; October 23, 1961; January 2, 1962; October 21, 1960; and June 2, 1961), as well as the indictments brought in the various conspiracy cases.

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