A STUDY OF COUNTERVAILING POWER WITH
SPECIAL REFERENCE TO THE TIRE
AND TUBE INDUSTRY

BY

ROBERT VICTOR MITCHELL

B.S., University of Illinois, 1936
M.B.A., Northwestern University, 1937

THESIS
SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN ECONOMICS
IN THE GRADUATE COLLEGE OF THE
UNIVERSITY OF ILLINOIS, 1937

URBANA, ILLINOIS
# TABLE OF CONTENTS

**Preface** ................................................................. ix

**Chapter**

1. Elements of the Theory of Countervailing Power ........................................ 1

   Basic Elements of the Theory ........................................ 2
   Original and Countervailing Power ................................ 2
   Countervailing Power a Self-generating Force ......................... 4
   Countervailing Power in the Consumers' Goods Market .............. 5
   Countervailing Power in the Producers' Goods Market ............... 6
   Countervailing Power and the Concentration Process ................ 7
   Limitations on Countervailing Power ................................ 10
   Countervailing Power and Policy of Government ..................... 21
   Countervailing Power and Social Efficiency ........................ 24
   Summary .................................................................... 30

II. The Role of Countervailing Power in American Capitalism ......................... 35

   Economic Background ................................................ 36
   Apprehension and Insecurity ........................................ 36
   The Basic or Deeper Cause of Insecurity ............................ 37
   The Failure of Ideas ................................................ 40
   Price-making Under Oligopoly ...................................... 43
   Alternatives in Face of the Exposure ............................... 47
   Failure in Performance ............................................ 51
   Circumstances Contributing to Success .............................. 53
   Technical Change .................................................. 53
   Comparative Opulence .............................................. 54
   Countervailing Power ............................................... 54
   Administrative Problems in Centralized Decisions .................. 56
   The Keynesian Formula ............................................. 56
   Central Authority .................................................. 58
   A Reminder ......................................................... 60

III. General Reactions to the Theory of Countervailing Power ....................... 62

   Introduction ................................................................ 62
IV. Reactions to Specific Elements in the Theory of Countervailing Power

Definition of Countervailing Power
Growth of Countervailing Power and the Concentration Process
  Growth of Countervailing Power in the Labor Market
  Growth of Countervailing Power in Governmental Activity
  General Comments on the Growth of Countervailing Power
  The Concentration Process
Countervailing Power in Operation
  Greater Emphasis on Limitations in General
  Specific Limitations
  The Role of Large Buyers
Consumer Benefits from Countervailing Power and the Concentration Process
  Galbraith's Tests of Efficiency
  Bilateral Monopoly and Countervailing Power
  Balance of Power
  Lower Prices from Retailing Function or Competition
  Better Distribution of Income
  Galbraith's Revision of His Tests
  Reduction of Social Tensions
  Technical Change
Emphasis on Countervailing Power
Public Policy
Summary and Evaluation

V. Problems in Identification of Countervailing Power an Introduction to Industry Analysis

Objectives of Industry Analysis
Specific Objectives ........................................ 171
The Industry to be Used in Analysis ....................... 175
Selection of the Industry .................................. 175
Definition of the Industry .................................. 176
Problems in Identifying Original and Countervailing Power ........................................ 181
The Definition of Countervailing Power Re-examined ........................................ 181
1. Limits in Defining a Market ......................... 184
2. Determining Positions of Market Power ............ 195
   a. Concentration -- Number and Size of Firms and Changes in Structure ............................ 205
   b. Differentiation ........................................ 206
   c. Behavior .............................................. 207
   d. Entry ................................................. 209
   e. Results ............................................. 210
   f. Summary and Supplement ............................ 211
3. Location of Countervailing Power .................... 224
4. Power Requirements for a Countervailing Force .... 230
5. The Elements of "Timing" and "Cause" as Requirements for a Position of Countervailing Power ... 247
6. Government or Public Power as a Countervailing Force ........................................ 251
Summary ................................................. 255

VI. Countervailing Power in the Tire and Tube Industry ........................................ 257
The Industry .............................................. 258
Tire and Tube Manufacturers .............................. 259
Product Lines and Diversification of Automotive Tires ........................................ 261
Vertical Integration and Decentralization Among Producers of Automotive Tires .......... 266
Other Producers of Tires and Tubes .................... 267
The General Pattern of Distribution for Automotive Tires ........................................ 268
Variations in the Distributive Pattern for Automotive Tires by Type and Brand of Tire .... 278
Variations by Manufacturer in the Distributive Pattern for Automotive Tires ............. 280
| Alternative Products and Services in the Tire Replacement Markets | 291 |
| Earliest Market Studies of the Tire Industry | 293 |
| Fluctuating Prices for Crude Rubber | 295 |
| Increasing Tire Performance and Decreasing Tire Costs for Consumers | 296 |
| Consumer Buying Habits and Nature of Demand | 297 |
| Fixed Costs and Optimum Size of Plant | 299 |
| Excess Plant Capacity | 301 |
| Concentration at the Manufacturing Level | 301 |
| Profitableness of the Industry | 302 |
| Conflict of Interests among Tire Companies | 304 |
| Changes in the Distribution Pattern for Tires | 306 |
| General Nature of Competition | 306 |
| The Role of the Big Buyer | 308 |
| Monopolistic Elements in the Tire Markets | 309 |
| Market Power within the Industry | 311 |
| Classification of Markets in the Tire and Tube Industry | 312 |

1. Original Equipment Markets within the United States | 313 |
2. Replacement Markets within the United States | 318 |

Identification of Market Power within the Automotive Segment of the Industry |

1. Original Equipment Markets | 320 |
2. Replacement Tire Markets | 322 |

a. Purchasers Buying or Negotiating Directly with Manufacturers or Factory Branches for Tires which
<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>VII. Countervailing Power in the Tire and Tube Industry (Continued)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Development of Market Power</th>
<th>354</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Concentration Process among Manufacturers of Automotive Tires</td>
<td>354</td>
</tr>
<tr>
<td>Concentration within the Automobile Industry</td>
<td>371</td>
</tr>
<tr>
<td>The Growth of Mass Distributors and Direct Sales by Manufacturers in the Automotive Tire Replacement Markets</td>
<td>374</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Positions of Power and the Self-generating Characteristic</th>
<th>385</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Original Equipment Market for Passenger Car Tires</td>
<td>386</td>
</tr>
<tr>
<td>The Replacement Markets for Automotive Tires Purchased Directly from Manufacturers for Resale</td>
<td>388</td>
</tr>
<tr>
<td>The &quot;National&quot; Market for Sale of Tires or Tire Mileage to Commercial Accounts</td>
<td>402</td>
</tr>
<tr>
<td>The Use of Market Power</td>
<td>406</td>
</tr>
<tr>
<td>Display of Original Power</td>
<td>406</td>
</tr>
<tr>
<td>Activities of Countervailing Power</td>
<td>413</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1. Countervailing Activities in Original Equipment Markets</th>
<th>419</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Countervailing Activities in the Replacement Markets</td>
<td>422</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Elements of Counteraction</th>
<th>430</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lower Prices and the Development of Additional Price Lines</td>
<td>432</td>
</tr>
<tr>
<td>2. Advertising and Distribution Effort</td>
<td>434</td>
</tr>
<tr>
<td>3. Protection of Independent Dealers</td>
<td>436</td>
</tr>
<tr>
<td>4. Vertical Integration and the Opening of Company Stores</td>
<td>438</td>
</tr>
</tbody>
</table>

A Reminder | 440 |
VIII. Results and Policy Aspects of Countervailing Power

Results from Positions of Countervailing Power

Nature of the Interactions from Market Activities

The "Spreading" of Price Concessions and the "Passing" of Results to Subsequent Levels of Sale

Other Elements of Results

Public Policy Aspects of Countervailing Power

The Clayton Act and the Robinson-Patman Amendment

1. Fewness

2. The Measure of Quantity

3. Promotive of Monopoly

Experiments with Resale Price Maintenance in the Tire Industry

The Proposal to Limit the Distribution of Tires and Tubes to Independent Dealers

The Relation of Countervailing Power to the Cases Cited

Concluding Comments

Bibliography
CHAPTER VI

COUNTERVAILING POWER IN THE TIRE AND TUBE INDUSTRY

The general and specific purposes of the industry analysis designed for the present study of countervailing power were set out at the beginning of Chapter V. ¹ In brief the task is one of testing the propositions advanced for solving the problems relating to identification and measurement of countervailing power, and of expanding the discussion of certain aspects of this theory through reference to events and practices within a selected industry.

The results of the analysis supporting this phase of the study have been organized under the following major topics: (1) The Industry -- a section which sets out its framework or structure; (2) Earlier Market Studies of the Tire Industry -- a summary the industry's major characteristics; (3) Market Power Positions within the Industry -- the classification of markets and identification of market power; (4) Development of Market Power -- the concentration process among tire companies and automobile manufacturers, and the growth of mass distributors; (5) Positions of Power and the Self-generating Characteristic -- the element of "timing in appearance" and "cause-and-effect" in the identification of countervailing power; (6) Use of Market Power -- actions and counteractions of firms in positions of market power; (7) Results of Countervailing Power -- an expansion of earlier discussions with emphasis on the transfer to consumers of any gains from countervailing power; (8) Public Policy Aspects of Countervailing Power -- a section emphasizing selected cases of government action; and (9) Concluding Comments -- a section bringing together the major conclusions of the industry analysis.

¹See pages 170 ff.
The first three topics designed to summarize the framework and characteristics of the industry and to identify positions of market power within it are discussed in the present chapter.

The Industry

The selection of the industry for this study and the nature of the industry concept to be used were discussed in considerable detail in the preceding chapter.\textsuperscript{2} At that point, the tire and tube industry, selected for this phase of the analysis, was defined to include all types of new tires and tubes, used tires and tubes, recapped tires, and tire and tube repair services at the stage of production for the finished product within the United States and all stages of distribution to reach all classes or types of domestic markets.\textsuperscript{3} This broad concept was selected because a more narrow viewpoint tends to reduce artificially the problems involved in applying the theory of countervailing power to a particular industry. In view of the nature and scope of the present study, complete coverage within this broad concept is not necessary. As explained earlier, attention will be directed primarily to the automotive tire segment including passenger and truck tire casings in contrast to other segments such as airplane, industrial, or bicycle tires.\textsuperscript{4}

\textsuperscript{2} See pages 175 ff.
\textsuperscript{3} See page 180.
\textsuperscript{4} See page 180.
Also, within the automotive tire segment emphasis will be placed on new products in contrast with the used or the repaired items and with repair services.

Tire and Tube Manufacturers.--In determining the nature of the manufacturing level for new tires and tubes, one is faced with the fundamental problem of heterogeneity among the producers. The problem, in part, grows out of the need for a variety of product lines to meet the specific requirements of type and size of tire or tube for specific types of vehicles and equipment; and the fact that all manufacturers do not produce all types of tires and tubes.

A review of the product lines of the manufacturers suggests various groupings of companies within the broad concept of the tire and tube industry. Such groups are not mutually exclusive, but they do indicate divisions or segments which are helpful in analyzing and understanding the structure of the industry. Groups of tire and tube companies based upon product lines, are usually the result of applying one or more of the following criteria: the type of tire or tube produced determined by the type of vehicle or equipment for which it is designed (passenger car, truck and bus, agricultural or tractor and implement, industrial, motorcycle, bicycle, airplane, and juvenile); the general characteristic of tire construction or design (pneumatic, semi-pneumatic, and solid); and the distinction between inner tubes and tire casings, including tubeless tires.

If one applies the criteria set out above, the companies usually included in analyzing or discussing the "tire" industry should be identified as the manufacturers of automotive pneumatic tire casings. The term
automotive is used in the generally accepted sense to include passenger and truck and bus tire casings. In 1955, eighteen companies were producing these two types of pneumatic tires. The other ten manufacturers of pneumatic tires produced no casings in the automotive lines. The production of pneumatic tires by the ten manufacturers was restricted to the industrial or to the juvenile types of tires, or to a combination of these two types. All except one of the ten companies also produced solid or semi-pneumatic tires. If one includes the manufacturers of automotive tires, about fifteen of the twenty-eight producers of pneumatic tire casings manufactured solid or semi-pneumatic tires. In addition to these fifteen firms, the Rubber Red Book lists forty-six other companies as manufacturers of solid or semi-pneumatic tires with several of these companies producing a solid truck tire but no pneumatic truck tires. As pointed out earlier, variations such as these in product lines suggest different groupings of companies and emphasize the

5 For example, see Warren W. Leigh, Automotive Tire Sales by Distribution Channels, Bureau of Business Research Study 5, (Akron: University of Akron, 1948), p. 3.

6 This number is based upon an analysis of company lists appearing in the Rubber Red Book, Directory of the Rubber Industry, 1953-54 edition, published biennially by Rubber Age, and a review of current reports included in Standard Corporation Descriptions, published by Standard and Poor's Corporation, New York. In the tabulation, subsidiaries or companies affiliated with another were not counted as separate companies producing tires.


8 Ibid., pp. 251-252.
importance of defining clearly the industry or any segment which is being analyzed or described. They also suggest that a study of market power throughout the tire and tube industry defined broadly to include all of these segments is a very complicated assignment.

Within the segment identified as the producers of automotive pneumatic tires there is considerable variation in the lines of tires and tubes produced and in the extent of diversification in product lines other than tires. Differences and similarities also exist within the group based upon such factors as size of firms, location of plants, and marketing or distribution policies followed by the manufacturers. Some of these comparisons, particularly those relating to the distribution policies, will be developed more fully in later sections of this chapter. Others are appropriate at the moment in considering the nature of this segment of the industry at the manufacturers' level of operation.

Product Lines and Diversification of Producers of Automotive Tires. A number of observations or facts relating to product lines and diversification are helpful in understanding this segment of the industry. Starting with the distinction between inner tubes and tires, one observes that most of the eighteen tire companies, identified as producers of automotive tires, also produce inner tubes for passenger cars, trucks, and buses. Three of the companies do not produce a line of automotive tubes. In 1952, five companies, not affiliated with any of the eighteen, were producing automotive

9 Reference to the fact that these are pneumatic tire casings has been dropped to simplify terminology.
tubes but no tires. In addition to these five companies, three firms produced tubes for industrial equipment but no automotive inner tubes. Thus, it may be appropriate at times to refer to the "tube companies" or the "automotive tube companies," identifying groups of firms which differ in part from the segment identified as manufacturers of automotive tires.

Within the group of eighteen companies producing automotive tire casings there is also considerable variation in the number of additional types of pneumatic tires produced. Three of the companies manufacture all types of pneumatic tires including bicycle tires. Another company, Firestone Tire and Rubber Company, produces all types of tire casings except the bicycle tire line. In comparison, it appears that five companies produce no additional types of pneumatic tire casings other than tires for passenger cars, trucks, and buses. In between these two groups the assortment of pneumatic tire casings produced by the other nine companies varies considerably.

Types of tires added to the automotive lines by most of these companies are industrial and agricultural tires. In comparison, bicycle tires are produced

11 Goodyear Tire and Rubber Company, United States Rubber Company, and General Tire and Rubber Company including subsidiaries. (Ibid., p. 251.)
12 Cooper Tire and Rubber Company, Corduroy Rubber Company, Dayton Rubber Company, Lee Rubber and Tire Corporation, and McGreary Tire and Rubber Company. (Ibid., p. 251.)
13 Seven of the nine companies produce industrial pneumatic tires and six produce agricultural pneumatic tire casings. Only one of the nine companies (Denman Rubber Manufacturing Company, an affiliate of McCandless Corporation) produces neither of these two types of tires. (Ibid., p. 251.)
by only one of these companies, Mansfield Tire and Rubber Company. 14

Finally, in addition to pneumatic tires, about one-third of the manufacturers included in the automotive segment produce solid tires or semi-pneumatic tires as additional items in the agricultural, industrial, juvenile, or truck tire lines. 15

A review of product lines and diversification of the eighteen companies indicates that the lines, other than tires or tubes, which appear most frequently in this segment of the industry are tire accessories and repair materials and mechanical or industrial rubber goods. 16 Other rubber products such as footwear, heels, soles and soiling materials, sporting goods and bathing accessories, drug and surgical sundries, flooring, household goods, toys and novelties, fuel cells for aircraft, and rubber life rafts are produced in varying degrees of diversification by several of the companies. A few, particularly the larger companies, produce a wide variety of these lines.

The larger companies particularly have also diversified their output to include non-rubber products such as chemicals, plastics, textiles, and rims for various types of vehicles. In fields less common to the industry

14 Bicycle tires are produced by only five companies. Four of these are included among the eighteen producers of pneumatic, automotive tires. The other company, Carlisle Corporation, produces automotive tubes but no tires other than bicycle tires. (Ibid., p. 251.)

15 Ibid., pp. 251-252.

16 This review was based primarily upon corporation descriptions in current issues of Standard and Poor's Standard Corporation Descriptions and classification of companies by product lines in the Rubber Red Book, Directory of the Rubber Industry published biennially by Rubber Age.
generally, one company\textsuperscript{17} has sizeable holdings in the radio, television, and motion picture industries. Another \textsuperscript{18} produces airships and airplane sub-assemblies. This company and at least one other \textsuperscript{19} are also producing guided missiles. \textsuperscript{20} Each of these companies (Goodyear and Firestone Tire and Rubber Companies) also operates an arsenal for the Government, and one of them (Goodyear Tire and Rubber Company) operates a nuclear fission plant for production of atomic energy. Other examples could be given, but the ones cited indicate the variety of paths followed in diversification.

The extent of diversification is indicated by the fact that for the five largest companies the sales of tires and tubes account for 40 to 60 per cent of each company's total sales. \textsuperscript{21} For some of the smaller companies, however, the sales of tires and tubes represent a much larger percentage.

\textsuperscript{17} "General Tire and Rubber Company," \textit{Standard Corporation Descriptions}, Standard and Poor's Corporation, Vol. 17, No. 12, Section 2, April-May, 1956, pp. 7215-7217.


\textsuperscript{20} In addition, Aerojet General Corporation (5.32 per cent owned by General Tire and Rubber Company) is "the nation's largest commercial developer and manufacturer of rocket motors, components, and propellants." ("General Tire and Rubber Company," \textit{op. cit.}, p. 7216.)

of total sales by the company. For example, in 1955 more than 90 per cent of the consolidated sales of Mansfield Tire and Rubber Company were in tires and tubes. In the same year, however, Dayton Rubber Company with total sales just a little below the level obtained by Mansfield had product sales as follows: tires accounted for 50 per cent of consolidated net sales, mechanical rubber goods 39 per cent, and latex foam rubber products 11 per cent. 22

Part of a recent editorial in Rubber Age supports the conclusion in regard to the importance of tire and tube sales for the five largest companies. It indicates the importance and the nature of diversification in the automotive tire segment of the industry:

It is no secret in the industry that the larger manufacturers have been reaping sizeable sales and profits from products other than tires in recent years. The percentages of such sales and profits as compared to grand totals have, however, been very carefully guarded. A break in the walls surrounding this information was recently made by E. J. Thomas, president of the Goodyear Tire and Rubber Co., when he revealed that although Goodyear's tire business this year is bigger than ever its non-tire volume will account for 40% of its total sales. These sales, incidentally, are expected to exceed $1, 300, 000, 000.

One must keep in mind the fact that the Goodyear organization is not only a producer of rubber products, both tire and non-tire, but is also a producer of aircraft parts, rubber and other chemicals, synthetic rubbers, steel products, and a host of other materials and products. But such diversification is also true, to a greater or lesser degree, where U. S. Rubber, Firestone, Goodrich and General Tire are concerned. Although Goodyear has seen fit to give an inkling of its non-tire position the closed clam attitude is being continued by the other members.

of the "Big Five." It is believed, however, that the U.S. Rubber and Goodrich ratios of tire and non-tire products are in the 50-50 range, while those of Firestone and General Tire approximate the Goodyear position.

The healthy financial position of these rubber manufacturers, as well as that of many of the smaller companies in the medium-size range, is proof sufficient of the advantages to be gained by diversification. It will be noted, however, that with one or two exceptions, diversification is accomplished within the primary fields of rubber and transportation. ... 23

**Vertical Integration and Decentralization Among Producers of Automotive Tires.** Closely associated with diversification of products on a horizontal basis is the expansion of the larger manufacturers, particularly the "Big Four," 24 in a vertical pattern with integration backward through the production of rubber (crude, synthetic, and reclaimed), chemicals, and tire cord and with integration forward through the operation of wholesale branch houses and company-owned retail outlets. This pattern, however, is not uniform throughout the Big Four nor is it limited entirely to these companies. For example, the United States Rubber Company does not operate any company-owned retail stores. Also, several of the smaller companies have at least a part interest in plants producing synthetic rubber, and many of them sell through their own wholesale branch houses. Variations in the marketing practices for the sale of tires will be discussed in another section of this chapter. At this point, however, one other aspect of diversification should be mentioned. The three members of the Big Four operating retail stores

---


24 This includes: Firestone Tire and Rubber Company, B. F. Goodrich Company, Goodyear Tire and Rubber Company, and United States Rubber Company.
also perform various tire repair and automotive services for consumers and distribute as wholesalers and retailers a number of products manufactured by others. For example, Standard and Poor's corporate description of Firestone Tire and Rubber Company includes the following paragraph:

The domestic auto supply and service stores supply such services as tire repairing, tire retreading, chassis lubrication and brake and ignition service, oil and gasoline, and sell various items manufactured by others. Among these purchased products are batteries, bicycles, spark plugs, automobile accessories, radios and television receivers, sporting goods, paint, work and recreation clothes, toys, garden supplies and tools and home appliances.

Decentralization has also been a noticeable trend among the manufacturers of automotive tires. Sixteen of the eighteen companies were founded before 1920, but with the expansion of capacity new facilities were added in the South, Southwest, and West in addition to the expansion of plants at one location. The decreasing trend in the number of manufacturers with some companies being absorbed by others has resulted in additional plant facilities for several companies at locations other than the original plant site of the particular company. Although there has been a tendency for decentralization, four of the "Big Five" have plants and their home offices in Akron, and ten of the eighteen companies have plants and their home offices in Ohio.

Other Producers of Tires and Tubes.—In considering the nature of the manufacturing level for new tires and tubes attention has been focused primarily on one segment of the industry, namely, the eighteen manufacturers of automotive pneumatic tires. This segment represents the largest volume in terms of the number of tire units produced and sold. It was also selected

because data concerning industry practices are more readily available for it from secondary sources. The discussion in the preceding sections, however, emphasizes the variety of groups or segments which exist within the broad concept of the tire and tube industry. This point has been stressed for two reasons. First, there has been a tendency to generalize concerning the "tire and tube" industry or the "rubber tire" industry from data relating to a particular segment. Although such generalizations may be valid, they should be drawn and used with care. Second, the various lines of tires and tubes are not all sold through the same channels to the same buyers or users of the products. Thus, a study of market power is complicated by the variety of lines produced and the heterogeneity introduced by the variations in the "product-mix" of the manufacturers. Although the analysis of market power in the present study is built primarily around the automotive segment of the industry, the influence of this element of heterogeneity will be indicated by the analysis and the conclusions drawn from it.

The General Pattern of Distribution for Automotive Tires.--The distribution of automotive tires and the changes which have taken place particularly during the past thirty to thirty-five years in the marketing channels for this segment of the industry have been set out in considerable detail in other studies. In view of this, the purpose of the present section is to summarize very briefly the chief characteristics of the distributive pattern for these tires. Some references will be made to major trends, but the coverage of this topic will be introductory in nature with more detailed analysis developed in later sections. Although the present section considers

\footnote{These studies are listed in the bibliography and appear frequently as footnote references in the remaining sections of the present analysis.}
specifically the marketing of automotive tires, it is appropriate to keep in mind that "farm tires go to market generally through the same distribution channels that characterize automotive tires in the agriculture areas."\(^{27}\)

Automotive tubes also follow the same general channels of distribution as tire casings.\(^{28}\)

The individual markets within the automotive tire segment of the industry are usually placed in three major groups: the original equipment markets in which tires are sold to car and truck manufacturers for mounting on new vehicles, the renewal or replacement markets in which tires are sold to individual consumers and commercial accounts within the United States, and the export markets which include both original equipment and replacement sales in markets outside the United States. Automotive tire shipments by manufacturers to these three groups of markets for recent years are shown in Table 1.

In regard to the domestic markets, Dr. Leigh pointed out in 1948 that over the years about 30 per cent of the total number of tires sold reached consumers through the original equipment markets.\(^{29}\) During the last eight years, however, the percentage has exceeded 30 per cent each year reaching a high point of almost 44 per cent in 1955. This increase, of course, has resulted directly from increased production and sale of new passenger cars, trucks, and buses.

The marketing channels used to reach these major divisions or groups

\(^{28}\)Leigh, Automotive Tire Sales & Distribution Channels, p. 3 -- footnote.
\(^{29}\)Ibid., p. 5.
### TABLE 1

**SHIPMENTS OF AUTOMOTIVE TIRES BY MANUFACTURERS, 1946-1955***

(Thousands of units)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Shipments</th>
<th>Replacement Sales</th>
<th>Original Equipment Sales</th>
<th>Export</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Passen-</td>
<td>Truck-</td>
<td>Passen-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ger</td>
<td>Bus</td>
<td>ger</td>
</tr>
<tr>
<td>1946</td>
<td>82,312</td>
<td>54,684</td>
<td>10,806</td>
<td>11,086</td>
</tr>
<tr>
<td>1947</td>
<td>91,183</td>
<td>52,857</td>
<td>10,014</td>
<td>19,644</td>
</tr>
<tr>
<td>1948</td>
<td>77,781</td>
<td>41,295</td>
<td>7,853</td>
<td>21,589</td>
</tr>
<tr>
<td>1949</td>
<td>76,517</td>
<td>36,440</td>
<td>7,026</td>
<td>28,129</td>
</tr>
<tr>
<td>1950</td>
<td>99,587</td>
<td>47,103</td>
<td>9,705</td>
<td>36,678</td>
</tr>
<tr>
<td>1951</td>
<td>78,442</td>
<td>34,226</td>
<td>10,386</td>
<td>26,729</td>
</tr>
<tr>
<td>1952</td>
<td>85,346</td>
<td>45,458</td>
<td>8,884</td>
<td>24,106</td>
</tr>
<tr>
<td>1953</td>
<td>94,617</td>
<td>45,798</td>
<td>9,326</td>
<td>33,106</td>
</tr>
<tr>
<td>1954</td>
<td>90,241</td>
<td>47,044</td>
<td>8,111</td>
<td>29,741</td>
</tr>
<tr>
<td>1955</td>
<td>108,499</td>
<td>50,189</td>
<td>9,057</td>
<td>42,574</td>
</tr>
</tbody>
</table>


...of markets are shown by Chart I. This chart is reproduced here through the courtesy of Dr. Leigh, recognized as the leading authority on the marketing of automotive tires. It was prepared by him from a variety of sources and estimates but primarily from his comprehensive surveys of the distributive organization of the industry. Although the chart was originally published in 1948, reflecting data for 1947, more recent publications by Dr. Leigh indicate that the pattern of distribution has not changed significantly since...
CHART 1

A Diagram of Tire Distribution -- 1947*


that time. The number of manufacturers, however, has decreased to eighteen.

Study of the above chart aids materially in understanding the distributive organization for tires, but Dr. Leigh warns that explanation and amplification are necessary because of the "intricate and confused" market relationships within the industry. This is particularly true for the channels

reaching the replacement markets within the United States. Sales to car, truck, and trailer manufacturers as original equipment buyers are made directly by the tire manufacturers because of the size of the purchases, and the need for a close working relationship between car and tire engineers. 31 Moreover, the export markets have been excluded from the present study because of their relatively minor importance to the industry, and the practical problem of keeping the scope of the study of countervailing power within reasonable limits. The following facts relating to replacement sales have been selected from the studies of Dr. Leigh to clarify and expand somewhat the information on this segment provided by the chart.

(1) The ultimate buyers within the domestic replacement markets have been placed in four groups by Dr. Leigh. The largest segment is composed of individual owners of passenger cars and operators of from one to five trucks. The second group consists of the "so-called" commercial market (larger truck operators) and the government or institutional market. The third group, representing military sales, is separated from other groups, in so far as possible, to keep the data comparable with prewar years. 32 The fourth group of ultimate purchasers is a special type of commercial account, referred to in the trade as "mileage" accounts because tires are leased to these buyers by tire manufacturers. In other words, these purchasers

32 Leigh, Automotive Tire Sales by Distributive Channels, p. 16.
usually do not take title to the tires but purchase the "service of the tire" on a mileage used basis.

(2) To reach the ultimate buyers of replacement tires the most important channels in terms of tire volume can be grouped under the trade term of "regular distributor and dealer sales." In 1947, this group accounted for 51.7 per cent of all replacement sales. Actually this is a very broad group, although current usage gives a more narrow grouping than was customary in the early history of the industry. 33 In the chart this group includes those identified as wholesalers and jobbers, direct distributors and dealers, and "other" dealers. The primary wholesaling agency within this segment of the replacement market is represented by manufacturers' branch houses. In 1947, the direct distributor and dealer sales by tire manufacturers represented 42.3 per cent of total replacement sales. The remaining 9.4 per cent making up the regular distributor and dealer sales reached the retail level through tire, hardware and automotive wholesalers. Many of the dealers buying directly from manufacturers served as tire distributors or semi-jobbers reselling part of their tire purchases to a wide variety of outlets acting as sub-dealers.

(3) The channels represented by the integrated operation of manufacturers' stores include the stores "owned and operated under the name of the tire manufacturers or in which manufacturers maintain and exercise control." 34 As suggested in the chart, these stores sell

33 Ibid., p. 16.
34 Ibid., p. 13.
to other dealers and to ultimate users of replacement tires. The unit sales figure shown for these stores, however, does not include wholesale sales (sales to other dealers) made by them. In other words, the sales include "only commercial and over-the-counter transactions of these outlets."\(^{35}\) Also, it should be noted that unit tire sales shown as "manufacturer-direct" sales represent units in addition to those given under the "manufacturers' retail stores" heading. More specifically, the term, manufacturer-direct sales, is used here to include "tires sold and invoiced by the central or district offices to national, mileage and government accounts."\(^{36}\) One other clarification is needed in regard to these manufacturer-direct sales. A line in the chart suggests, as it should, that direct sales are made by tire manufacturers for military use. The unit sales figure given for direct sales, however, excludes military tires. Including military tires direct shipments as defined represented 1.95 per cent of all replacement sales in 1947.\(^{37}\)

(4) The channels of distribution falling under the descriptive heading of "buying and sales commission, oil companies" rank second in importance accounting for 23.1 per cent of the total replacement tire sales in comparison with the 51.7 per cent sold through the distributor-dealer outlets.\(^{38}\) As shown in the chart, these channels lead through

\(^{35}\) Ibid., p. 14.
\(^{36}\) Ibid., p. 16.
\(^{37}\) Ibid., p. 24.
\(^{38}\) Ibid., p. 23.
oil company owned and operated outlets and through dealer stations operating solely or primarily under an oil company T.B.A. (Tire, Battery and Accessory) selling program. The majority of these outlets (3,300 of the company outlets and 85,000 of the dealer stations) sell private brand tires of the oil companies. In these cases the oil company buys the tires from the manufacturer and assumes all marketing functions from that point in the distribution of the tires. A second group of outlets including 700 company stations and 25,000 dealer stations sell the manufacturers' brands of tires which are purchased from the factories by the oil companies supplying these stations. In some cases these oil companies are given the exclusive right to sell the brands within certain areas. The third group of outlets included in the oil company channels is a combination of regular-dealer operations and a T.B.A. selling program of an oil company.

Under this type of arrangement, the tire manufacturer sells and delivers tires to the oil company dealer, collects the purchase price and aids him in their promotion and sale. The oil company ties in with a T.B.A. selling program which is aimed to promote tire sales. At the end of a stated period, the oil company receives an accounting on sales of tires to acknowledged dealers as per the contract and receives a sales commission for its sales services. ...

This relationship is shown on the chart by a line from manufacturers' district branches to the line connecting oil companies and their outlets. The

39 Ibid., p. 9.
40 Ibid., p. 9.
three groups of outlets referred to above do not include all petroleum outlets selling tires. In 1947, about 70,000 outlets sold gasoline of major oil companies with some type of T.B.A. program, but the dealers sold tires entirely outside the program or handled sponsored tires along with, but secondary to, competitive brands of tires.\(^{41}\) In addition to these dealers, there is another group including about 65,000 outlets which received gasoline from oil companies or jobbers without T.B.A. selling programs.\(^{42}\) Again, the outlets shown by the chart as part of the channels for oil company sales are those buying solely or primarily under T.B.A. programs. Other outlets are classified as direct dealers or sub-dealers for tire manufacturers.

(5) The classification used here for chain stores differs somewhat from the concept used by the Census of Business in identifying chain organizations selling tires. Dr. Leigh included "the stores of Sears-Roebuck, Montgomery Ward, Western Auto, Gamble-Skogmo, and a number of smaller companies."\(^{43}\) And, as pointed out above, he placed manufacturers' retail stores in a separate category. The Census includes manufacturers' outlets as chains but excludes stores of such organizations as Sears, Roebuck and Company. Chains as defined by Dr. Leigh accounted for 13.9 per cent of replacement tire sales in 1947. Most of these tires were resold through the chains' owned stores (11.4 per cent of replacement sales compared with 2.5 per cent

\(^{41}\) Ibid., p. 10.
\(^{42}\) Ibid., p. 10.
\(^{43}\) Ibid., p. 6.
sold at wholesale to dealers). 44

(6) The other channels shown on the chart are of less importance.
The sales of tires by department stores, "such as Macy's in New York, Goldblatt's in Chicago, etc.," represented only 0.2 per cent of replacement sales in 1947. 45 Cooperative associations appealing particularly to farmers accounted for 1.1 per cent of renewal purchases, and mail order houses sold 2.3 per cent of replacement tires through the medium of mail order sales. 46

Chart I and the accompanying explanation drawn from the studies of Dr. Leigh show the major channels for automotive tires and suggest some of the variations which exist in the actual marketing of tires. Even this amount of detail, however, does not show all of the variations resulting from use of the distributive organization of this industry. Passenger car tires and truck tires, for example, flow through the same channels, but some of the channels are more important for one type of tire than the other. Other variations in the product, for example by brand and by price line, reflect somewhat different patterns of distribution. Also, the chart summarizes the distributive channels used by all manufacturers. In this respect, the chart is a type of average which does not show the individual variations by type of tire, brand, and manufacturer. 47

44 Ibid., p. 12.
46 Ibid., p. 24.
47 Many of these variations have been brought out in the studies by Dr. Leigh and other analysts.
Variations in the Distributive Pattern for Automotive Tires by Type

and Brand of Tire. — The relative importance of the tire channels indicated by Chart I and the supplementary data relating to it was determined primarily by passenger car rather than truck tire sales. In 1947, over five times as many passenger car tires as truck tires were shipped into the replacement markets of the United States. 48 When one considers the relative importance of the various channels for each of these major types of tires, it develops that the oil company, chain and mail order channels were less important in the sale of truck tires than tires for passenger cars. In comparison, the regular distributor-dealer channel, manufacturers' stores, and manufacturer-direct sales were more important for truck tires than passenger-car tires. In 1947, the greatest variation in relative importance of the channels for passenger and truck tires was in the direct sales made by manufacturers. Excluding military tires, this channel accounted for less than one per cent of the replacement sales of passenger-car tires and over five per cent of the replacement sales of truck tires. 49

In considering variations in the distributive pattern for types of brands and for price lines sold, a few preliminary comments will be helpful. The yardstick for determining the level of quality and price in the tire replacement markets is represented by the tire brands of the major manufacturers sold for original equipment. The original equipment tires are referred to in the industry as the "100" level tires. In the replacement markets, premium tires sell at prices above this "100" level, and second and third line tires

48 See Table I, page 270.
49 Leigh, Automotive Tire Sales by Distribution Channels, pp. 16 and 18.
sell below it. In the past, fourth and fifth line tires have also appeared on
the market. From the standpoint of brands, the major classification used by
the industry is the twofold one of distributors' or private brands and manu-
ufacturers' brands customarily found in marketing literature. In addition,
there is a special group of brands within the manufacturers' brand classifica-
tion referred to in the industry as "associated brands." These are the brands
of companies absorbed by other manufacturers in the industry which have
been kept alive by the purchasing corporation.

In 1947, private brands represented 31.8 per cent of all replacement
sales. Again, however, variations are important. Only 21.0 per cent of
truck tire sales were in distributors' brands in comparison with 33.8 per
50

cent for sales of passenger-car tires. Variations also appear in the relative
importance of the various channels of trade for each of the major types of
brands. In 1947, chain stores, mail order houses, and cooperatives handled
private brand tires almost exclusively. In comparison, manufacturers' stores
and the distributors and dealers buying from manufacturers handled the
brands of the manufacturers exclusively, or for all practical purposes ex-
clusively. In the channel through independent wholesalers, manufacturers'
brands were predominant accounting for over four-fifths of the sales. Thus,
the only channels in which there was a fairly even division of the market
between the major types of brands were those identified as the oil company
channels of trade. In these channels, manufacturers' brands accounted for
41.4 per cent and distributors brands 58.6 per cent of the sales in 1947. 51

50 Ibid., pp. 18-19.
51 Ibid., p. 19.
Variations by Manufacturer in the Distributive Pattern for Automotive Tires. Variations in the distributive pattern followed by tire manufacturers may be classified in several ways. Some of the differences are related to the size of the manufacturer. Individual variations, however, also appear in the merchandising and sales policies of manufacturers of about the same size. Following a somewhat different approach, some of the variations relate directly to differences in the markets or market segments sought by the manufacturers. In contrast, other variations are related to the different channels or brand policies used by the manufacturers to tap the same markets or segments of markets. The classification used here is a combination of these ideas, but it is based primarily upon the variations related to the markets or market segments sought by the manufacturers, and the variations related to the channels used and the policies adopted by manufacturers in reaching the markets or segments selected.

Variations in the pattern of distribution related to the markets or market segments sought by the manufacturers include: variations in the sales of manufacturers by major market divisions, and by type of final purchasers, and variations in geographical coverage and market strength of manufacturers. Those related to the channels used and the policies adopted by manufacturers in reaching the markets or segments selected include: variations in the vertical structure of the channels used for replacement sales, variations in the replacement sales of manufacturers by size of purchasers, and by type of brand, and variations in policies of manufacturers related to the diversification of their dealers. Others might be listed, but
the ones outlined call attention to the major differences in the distributive
patterns of individual tire manufacturers. Each of these will be discussed
briefly in the paragraphs which follow.

1. Variations in the Sales of Manufacturers by Major Market

Divisions.--This variation occurs only in sales to the division of original
equipment markets. All tire manufacturers sell to at least some segments of
the replacement markets, but the original equipment markets are served by
only a few companies. In 1952, the Big Four members of the industry
accounted for 97.7 per cent of all original equipment tire sales. This fact,
however, does not show all of the variation in sales importance of the original
equipment markets. Even among members of the Big Four the relative im-
portance of original equipment tire sales to total sales varies considerably.
In 1952, for example, "one member of the Big Four had 53 per cent of its
domestic tire sales in original equipment while another had only 33 per cent."

2. Variations in the Sales of Manufacturers by Type of Final

Purchasers.--Within a major division of the markets variations occur in the
type of purchasers to whom final sales are made. This type of variation is
reflected in the extent of the product line produced by the tire manufacturers.
Larger manufacturers produce a complete line of passenger, truck and bus
tires, and, therefore, seek the markets or segments represented by ultimate
buyers needing each particular type and size of tire. Smaller manufacturers,
particularly the smallest producers, aim primarily for the passenger tire

52 A. D. H. Kaplan, Big Enterprise In A Competitive Economy, (Washington:

53 Ibid., pp. 100-101.
business. Some small companies emphasize truck tires, but "the heavy truck
and bus tire field, whether the tires are sold outright to the user or rented
to him, is dominated by the Big Four...." 54

3. Variations in the Replacement Sales of Manufacturers by Geographical
Area.—Classified broadly three different policies relating to geographical
coverage of the markets have been followed by tire manufacturers. 55 The
alternative adopted by the large manufacturers is essentially a policy of com-
plete national coverage. The policy of the larger of the small manufacturers
is usually a modification of this first alternative. These companies usually
attempt national coverage, but on a selective basis, concentrating their efforts
in certain areas throughout the Country. In contrast to these policies, the
very small manufacturer usually seeks markets on a regional basis con-
centrating on the area near the factory and the areas tapped by a few key
independent distributors or wholesalers.

These variations in policies of market coverage contribute to another,
the geographical variations in market strength of manufacturers within
the markets sought by them. A. D. H. Kaplan called attention to this type
of variation when he observed that "the market strength of a manufacturer
of replacement tires will vary regionally, depending upon the character of the
distributors or the presence of small manufacturers entrenched in their own
market areas." 56 The nature and extent of this type of variation is illustrated
by facts from the sales records of one Big Four manufacturer:

55 This conclusion and the points relating to it are based on Dr. Heflebower's analysis of price-making in the tire industry. (Ibid., pp. 75-76.)
The national distribution of this company was organized in five regions comprehending 46 sales districts. Among its 21 "plus" districts, the company's sales ran up to 40 percent above its estimated percentage of the national market. Among its 25 "minus" districts, sales went down to 30 percent below the company's national share. ... 57

Another observation of Kaplan's indicates the importance of the geographical variations in market coverage by tire manufacturers. Kaplan found that "there are several market situations in which the small independent tire manufacturer sold more tires in his base market than did any member of the Big Four." 58

4. Variations in the Vertical Structure of the Channels Used for Replacement Sales.-- The vertical structure of a trade channel refers to the combination of distribution stages represented in the particular channel. In theory both the number, indicating the "length" of the channel, and the nature of the combinations may vary. In practice both types of variations exist in the automotive tire industry.

Starting with a general point in regard to the length of the channels used for replacement sales by large and small tire companies, it is appropriate to note an observation of Dr. Leigh's that "the large companies sell primarily to retailers while the smaller companies generally use less direct distribution. ..." 59 Being more specific, it will be recalled that the primary wholesaling agency within the automotive segment of the replacement market

57 Ibid., pp. 101-102.
58 Ibid., p. 102.
59 Leigh, "Automotive Tires," op. cit., p. 120 -- footnote.
is represented by manufacturers' branch houses. The smaller tire com-
panies, however, distribute a larger portion of their tires through independent
wholesalers than do the larger manufacturers.

Another illustration of this type of variation is shown by the fact
that the relatively short channels resulting in direct sales to commercial
accounts or sales through company-owned stores are more important routes
for large manufacturers than for smaller ones. At one time all of the
larger companies and about half of the smaller manufacturers operated one
or more retail outlets. Some of the smaller companies, however, main-
tained but one store and that in the city or town where their factories were
located. In 1939, the United States Rubber Company disposed of its last
controlled store and has not reentered this field. Today, the other three
members of the Big Four, each operating from 500 to 700 outlets, account
for all or practically all of this type of direct sale, i.e. through integrated
retail store activities.

5. Variations in the Replacement Sales of Manufacturers by Size
of Purchasers. -- The findings of the Federal Trade Commission in regard
to the Quantity-Limit Rule and its application to the tire industry provide
information on the size of the direct purchasers of tires for resale and relate
this information to the size of the tire manufacturers making these sales.

60 See page 273.
61 Federal Trade Commission, Distribution Methods and Costs, Part IV
62 Ibid., p. 124.
63 Ibid., p. 128.
64 See: "Quantity-Limit Rules of the Federal Trade Commission," Trade Regu-
12, 201-212, 217.
Although the four largest manufacturers in the tire industry have challenged these data, the findings in regard to size of purchasers are summarized here because of their importance in applying the concept of countervailing power to the industry. In view of the challenge by the Big Four, their conclusion will also be presented.

According to the minority findings written by Commissioner Lowell B. Mason, the data used by the Federal Trade Commission were received from 21 tire manufacturers in response to mail inquiries. In his statement, Mason reported that the number of purchasers of replacement tires from the 21 manufacturers aggregated about 90,000. The commission, in its analysis, reduced the number to slightly more than 48,000 to give an estimate of the number of accounts purchasing replacement tires from manufacturers with no duplication of the accounts included. Since the data available to the Commission did not include the names of purchasers with annual volume of less than $100,000, the Commission reduced the number of purchasers on the basis of estimates of the number of duplications among the smaller purchasers. In terms of the dollar volume for 1947, the Commission arrived at the tabulations and summary shown in Table 2, which focuses attention on the fact that 11 individual purchasers accounted for 20.4 per cent of the total purchases made by 48,198 accounts, and that less than 2 per cent of the buyers accounted for almost 48 per cent of the purchases.

To determine the relationship, if any, between the size of the tire manufacturer selling to these buyers and the size of the purchaser, the

---

65 Ibid., p. 12, 209.
66 Ibid., p. 12, 209.
Commission divided the data in regard to purchases into three groups representing the sales of large, medium, and small tire manufacturers to purchasers within each volume bracket. The results of this tabulation are shown in Table 3. These figures indicate that the relative importance of the

**TABLE 2**

PURCHASERS AND PURCHASES OF REPLACEMENT TIRES AND TUBES BY VOLUME IN 1947*

<table>
<thead>
<tr>
<th>Volume Brackets</th>
<th>Purchasers</th>
<th></th>
<th>Purchases</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Per Cent of Total</td>
<td>Per Cent of Total</td>
<td></td>
</tr>
<tr>
<td>(1) Under $100,000</td>
<td>47,247</td>
<td>98.027</td>
<td>52.4</td>
<td></td>
</tr>
<tr>
<td>(2) $100,000 to 600,000</td>
<td>888</td>
<td>1.842</td>
<td>18.7</td>
<td></td>
</tr>
<tr>
<td>(3) 600,000 to 5,000,000</td>
<td>52</td>
<td>.108</td>
<td>8.5</td>
<td></td>
</tr>
<tr>
<td>(4) 5,000,000 to 25,000,000</td>
<td>9</td>
<td>.019</td>
<td>10.1</td>
<td></td>
</tr>
<tr>
<td>(5) 25,000,000 to 50,000,000</td>
<td>2</td>
<td>.004</td>
<td>10.3</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>48,198</strong></td>
<td><strong>100.000</strong></td>
<td><strong>100.0</strong></td>
<td></td>
</tr>
</tbody>
</table>


**TABLE 3**

PERCENTAGE OF BUSINESS DONE BY SIZE OF MANUFACTURER WITHIN VOLUME BRACKETS OF PURCHASES OF REPLACEMENT TIRES—1947 *

<table>
<thead>
<tr>
<th>Volume Brackets</th>
<th>Total Per Cent</th>
<th>Seven Largest Mfrs.</th>
<th>Seven Next Largest Mfrs.</th>
<th>Seven Smallest Mfrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Under $100,000</td>
<td>100</td>
<td>84.2</td>
<td>12.0</td>
<td>3.8</td>
</tr>
<tr>
<td>(2) $100,000 to 600,000</td>
<td>100</td>
<td>85.1</td>
<td>12.7</td>
<td>2.2</td>
</tr>
<tr>
<td>(3) 600,000 to 5,000,000</td>
<td>100</td>
<td>86.4</td>
<td>13.2</td>
<td>.4</td>
</tr>
<tr>
<td>(4) 5,000,000 to 25,000,000</td>
<td>100</td>
<td>88.0</td>
<td>10.0</td>
<td>2.0</td>
</tr>
<tr>
<td>(5) 25,000,000 to 50,000,000</td>
<td>100</td>
<td>97.3</td>
<td>2.7</td>
<td>.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
<td><strong>86.3</strong></td>
<td><strong>11.1</strong></td>
<td><strong>2.6</strong></td>
</tr>
</tbody>
</table>

the seven largest manufacturers increases as the size of the purchaser increases. In other words, the Commission found that the largest manufacturers are most important for sales made in the largest volume bracket of purchasers of tires for resale.

The four largest manufacturers challenged the conclusions of the Federal Trade Commission. Their challenge was supported by a tabulation of their sales data prepared by an independent agent for the firms. Specifically, the manufacturers claimed that their companies alone had slightly more than 50,000 replacement customers after eliminating duplication; and that, as a group, they sold a smaller percentage of the requirements of the larger customers than of the smaller buyers. In view of the latter point, the Big Four pointed out that the opposite results which appeared in the Commission's figures for the seven largest manufacturers must have been due to the smallest three of that seven. The sales data tabulated by Alderson & Sessions for the Big Four shows that these companies accounted for 73.7 per cent of the sales made to replacement purchasers buying less than $100,000 in 1947 and only 60.4 per cent of the purchases made by those buying tires in greater volume. In comparison, the remaining seventeen manufacturers accounted for 26.3 per cent of the purchases made by the smaller buyers (under $100,000) and for 39.6 per cent of the purchases by the larger accounts ($100,000 or more). Thus, these data and the findings of the Federal Trade Commission show a variation in the distributive pattern of manufacturers by

size of purchaser. They differ on one fundamental question: Do the larger purchasers tend to buy from the larger manufacturers?

6. Variations in Renewal Sales of Manufacturers by Type of Brand. --

Variation in the distributive pattern for the industry by type of brand was discussed earlier in this chapter. At that point, however, the variations were not related to differences in the brand policies of manufacturers. Adding this factor brings out two additional points of importance for a study of market power in the industry. First, this element in the distributive pattern of the industry varies somewhat by size of the manufacturer. Data prepared by A. D. H. Kaplan show the degree of concentration in major divisions of the tire markets through production and sale by the Big Four companies in comparison with all other tire manufacturers. His comparisons, based on data for 1952, show that the degree of concentration was greater in the sale of manufacturers' brands than for distributors' or private brands of tires. In other words, companies other than the Big Four had a slightly larger share of the market for distributors' brands than for manufacturers' brands. The extent of the variation is shown in Table 4 which is reproduced from Kaplan's study.

The relative importance of each type of brand varies considerably by individual manufacturer within each group of companies based on size or share of market. Within the Big Four, for example, the United States Rubber Company has been one of the largest producers of distributors' brands while Firestone Tire and Rubber Company has insisted that the Firestone brand appear on all tires sold by the company. A different type of variation is illustrated by the fact that at least one mass distributor, Sears, Roebuck and
**TABLE 4**

**ESTIMATED DISTRIBUTION OF DOMESTIC TIRE MARKET, 1952**

**BY MARKET SEGMENT AND SHARE OF THE BIG FOUR***

(101 million tires = 100 per cent)

<table>
<thead>
<tr>
<th>Market Segment</th>
<th>Per Cent of Grand Total</th>
<th>Per Cent of Market Segment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Big Four</td>
</tr>
<tr>
<td>Original Equipment</td>
<td>28.1</td>
<td>97.7</td>
</tr>
<tr>
<td>Replacement--new tires</td>
<td>53.8</td>
<td>66.1</td>
</tr>
<tr>
<td>Manufacturer-owned brands</td>
<td>(38.8)</td>
<td>67.4</td>
</tr>
<tr>
<td>Private brands</td>
<td>(15.0)</td>
<td>62.7</td>
</tr>
<tr>
<td>Recaps and Retreads</td>
<td>18.1</td>
<td>9.4</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>64.8</td>
</tr>
</tbody>
</table>


Company, has heavy interests in tire processing plants.

7. Variation in Policies of Manufacturers Related to the Diversification of Their Dealers. — A survey made by the National Association of

---


The Armstrong Tire and Rubber Company of Natchez, Mississippi, a subsidiary of Armstrong Rubber Company, is 50 per cent owned by Sears, Roebuck and Company. ("Armstrong Rubber Company," Standard Corporation Descriptions, Standard and Poor's Corporation, Vol. 17, No. 4, Section 2, Feb.-Mar., 1956, p. 2574.)
Independent Tire Dealers in 1947 shows a pattern of increased diversification among independent dealers with many of them selling automotive supplies, petroleum products, automotive services, electrical appliances, and various sundry products including bicycles, toys, sporting goods, motorcycles and automobiles, in addition to the traditional lines of tires and tire services. The Director of Research for this project concluded that "the old single-line tire dealer will soon be as much of a rarity as the old fashioned single-line drug store is today."

This tendency for diversification is also supported by a staff report prepared by the Select Committee on Small Business of the United States Senate. Their conclusion, quoted in the paragraph which follows, also indicates the extent of diversification generally found among tire dealers.

More and more independent tire dealers realize every day that the sale of tires alone is not going to provide them with a decent standard of living. Diversification offers one road to salvation. It has been estimated that only 3 percent of the independent tire dealers do above 50 percent of their total business in tires and tubes. From 1935 to 1947 the number of tire dealers handling batteries, auto radios, brake linings, and general automobile supplies increased by about 30 percent. Large numbers of dealers have also gone in for such unrelated sidelines as electrical appliances and sporting goods.

---


71 Ibid., p. 468.

In the survey by the National Association of Independent Tire Dealers, one tabulation prepared in analyzing the results was based upon facts from dealers who handled only one brand of new tires. This tabulation revealed some rather definite patterns of diversification reflecting the merchandising policies of the tire manufacturer supplying the particular brand. For example, Firestone dealers were found to offer diversified lines of merchandise with many of the items supplied by the tire manufacturer under the Firestone label. The percentage of this company's dealers performing tire services, such as vulcanizing and recapping, however, was below the average for all dealers. In comparison, the dealers for the General Tire and Rubber Company showed less diversification, continuing to be tire specialists primarily with a greater than average percentage doing recapping and vulcanizing work. Illustrating a somewhat different type of variation, the survey found that the B. F. Goodrich Company distributed manufacturers' nationally advertised products, such as Motorola radios and Norge refrigerators, to its dealers rather than following the Firestone policy of using its own company name or brands. Other variations are shown by this study. The ones cited, however, illustrate the nature of the differences, and support the conclusion that the pattern of diversification among tire dealers reflects variation in the policies of the manufacturers supplying them.

Alternative Products and Services in the Tire Replacement Markets.

In addition to the variety of new tires sold in the replacement markets with differences in construction, number and type of plies, color of sidewalls,

73 Schalk, op. cit., pp. 464-466.
safety features, tread design, and tire size; differences in brand names and price lines; and differences in the tire services provided by the seller of the tires, the consumer may also elect to have a tire injury repaired, recap a worn casing, or replace it with a used or recapped tire.

Among these alternative products and services, recapping has become an important one. Kaplan presented figures showing that recaps and retreads increased from 5.8 per cent of the replacement market in 1933 to 16.9 per cent in 1941. From this point the percentage dropped to 11.4 per cent in 1947 before increasing to 25.2 per cent in 1952. Dr. Leigh, who has made a number of studies of the recapping segment of the tire industry, has pointed out that the variation in volume of recapping occurs primarily in passenger rather than truck tire retreading. For example, "during 1949, passenger retreads amounted to about 12,750,000 units while in 1951 they totaled about 19 million. Truck tire retreading is much more stable, approximating 5 million annually." Leigh also observed that the price advantage of retreads relative to new tires is much more favorable for truck than passenger tires. This fact, at least in part, accounts for the difference in the stability of sales for these two product lines.

The figures in Table 4 suggest another significant fact in regard to the retreading segment of the tire industry. The degree of concentration in the retreading segment is extremely small with only 9.4 per cent of the recaps being supplied by members of the Big Four. In contrast, the survey

---

74 Kaplan, op. cit., p. 100.
76 Ibid., p. 124 -- footnote.
of the National Association of Independent Tire Dealers referred to earlier found that 62.9 per cent of the dealers returning questionnaires owned and operated complete recapping establishments in 1947.

This high percentage is surprising and in probability represents a peak figure, since new tires are now abundant. This fact, plus evidence that some dealers are selling their recapping molds, indicates that recapping service will be carried on by fewer operators. However, when the service is performed by experienced and quality-minded operators, recapping has proved its worth and is here to stay.\textsuperscript{77}

---

Earlier Market Studies of the Tire Industry

During the past twenty-five years several studies have been made of the rubber tire industry in the United States. These studies perform three important functions in the current analysis of countervailing power. First, they call attention to the important characteristics which have influenced the growth, development, and nature of competition within the industry. Second, the studies provide the principal raw materials for developing the empirical phase of the present analysis. And third, the earlier investigations provide a type of yardstick which aids in evaluating the concept of countervailing power as a tool of analysis within the industry. In the present study, emphasis is placed on the use of countervailing power as a tool of analysis rather than on the tire industry and the gamut of its marketing and pricing activities. One element in the evaluation of the tool, however, is the extent to which the

\textsuperscript{77}Schalk, op. cit., p. 464.
concept adds or fails to add to our understanding of the industry, its market structure and behavior.

The earlier studies of the tire industry have appeared in several different forms and have been undertaken with various objectives in mind. In a number of cases, the analysis resulted in a chapter or section of a more general book designed as a study of American industries or of marketing policies and practices within certain industries. In a few instances, an analysis of the tire industry has appeared as part of a book designed for general readers and developed from the history of a particular company or the history of the industries supplying rubber or using it in the manufacture of rubber products. In addition, there are several "special" studies of the tire industry which have been particularly helpful in the present analysis of countervailing power. These include: publications of the National Recovery Administration, findings and publications of the Federal Trade Commission, reports of Congressional Committees, doctoral dissertations, individual research sponsored by university grants or published by university bureaus of research, studies sponsored by groups of manufacturers or dealers, and other special studies by individuals. 78

Several important characteristics of the tire industry were pointed out in the preceding section of this chapter. Others will be developed in the sections devoted primarily to the analysis of countervailing power in the industry. Therefore, at this point, it is desirable to emphasize only certain

78 A number of these studies will be referred to in this section and those which follow. All which have been used are also included in the Bibliography.
major characteristics of the industry brought out in earlier studies. The
characteristics selected supplement the industry pattern developed in the
preceding section and provide a background for better understanding of the
role of countervailing power within the industry. In considering the character-
istics, two points should be kept in mind. First, the summary has been
drawn from a number of studies. All characteristics included in it were
not mentioned by all analysts. Moreover, there was some variation in
the characteristics emphasized, and there was actual disagreement on a
few points. Second, in view of the purpose of the section, the summary which
follows cannot reflect all of these variations or differences. Thus, selection
for the summary must reflect the judgment of the present analyst.

Fluctuating Prices for Crude Rubber.--Throughout much of the
history of the industry, manufacturers have been troubled by wide fluctuations
in the prices for crude rubber. This fact has been recognized generally and
has been emphasized in several studies of the tire industry. Writing in 1932,
Fraser and Doriot started their chapter on rubber with the comment that
"the rubber and tire industry, because of the importance of its raw materials
and their wide fluctuations in price, has long been recognized as a highly
speculative industry." ⁷⁹Albert Abrahamson observed at one point in his
analysis that the "competitive struggle among tire manufacturers began in
the market for raw materials." ⁸⁰ Others have referred to the violent

⁷⁹Cecil Eaton Fraser and Georges F. Doriot, Analyzing Our Industries, (2d
⁸⁰Walton Hamilton and Associates, Price and Price Policies, (New York:
fluctuation in rubber prices, their influence on competition in the industry, and the conflict of interest arising among tire companies with changes in the price of crude rubber. For example, in commenting on the failure of the industry to achieve a durable price agreement, Lloyd Reynolds remarked:

The violent fluctuations of rubber prices have been an additional obstacle to price agreement. When the price of rubber is changing rapidly there is a conflict of interest between the Big Four who have large rubber inventories and the smaller firms who buy their rubber on the spot market; and it would be difficult to reconcile this conflict. Moreover, the mere fact that a fixed price for tires would require frequent alteration introduces grave administrative difficulties. 81

Also, the characteristic of widely fluctuating prices for the principal raw material was a factor which contributed to the degree of concentration in the industry. This resulted from the fact that "the large, well-financed company could better take heavy tire sales commitments and bear the raw material price risks... ." 82

Increasing Tire Performance and Decreasing Tire Costs for Consumers.--The history of the industry has shown an increasing performance record for tires at a decreasing cost per mile for consumers. It has been reported that a tire for a Ford automobile averaged only 3,500 miles in 1910 in comparison with 34,000 miles in 1947. During this same period the cost per 100 miles dropped from 87 cents to 4.2 cents. 83 The improvement in tire

performance, however, created a major problem for the industry. Fraser and Doriot explained it this way:

Tire manufacturers suffer from an unusual ailment. The length of life of their products increased constantly, with the result that in 1931 the replacement sales of a car had declined steadily for over a decade. During the same period, productive capacity had been kept well ahead of consumption, a practice which resulted in destructive competition among manufacturers. 84

After an intensive study of price-making in the industry, Richard B. Heflebower wrote that "at the root of the price structure and of competition in the industry have been basic changes in the product and in the buyers' attitude toward it." 85 Heflebower pointed out that development of the product affects the position enjoyed by rivals, the standing of the manufacturer's line with the distributive trades and of his brand with vehicle owners, the capacity problem, the methods of distribution, and the consumer's buying habits. 86

Consumer Buying Habits and Nature of Demand.--In the preceding paragraph it was pointed out that consumer's buying habits have been influenced by changes in the product. Heflebower called attention to the fact that "improvement of the product prepared the way for two important changes in the consumer's buying habits. One was to make him more receptive to price appeals and the other was to cut him loose from relying on a dealer for tire service." 87 These changes, of course, had a marked effect upon the types

84 Fraser and Doriot, op. cit., p. 82.
86 Ibid., p. 180.
87 Ibid., p. 180.
of brands sold, the methods of distribution used, and the merchandising policies adopted by the trade.

A basic characteristic of the tire markets observed by the analysts generally is the fact that demand for the product is relatively inelastic. In regard to original equipment tires, Lloyd Reynolds observed that "demand in this market is very inelastic and fluctuates violently with fluctuations in automobile production." 88 In the replacement markets, demand is also inelastic. 89 Albert Abramson explained the point in somewhat more descriptive terms. He wrote:

... The demand for tires, very sensitive to automobile sales, car mileage, and national income, is singularly impervious to price. Even if they were given away, additional tires would be of little use to the motorist and could find only a functionless place apart from the automobile. And conversely the price might be substantially increased without a material reduction in the demand for tires by current car owners. ...

In addition to labeling the demand inelastic, Dr. Leigh called attention to "the complex demand pattern in terms of incomes, car ownership, driving habits, and tire service requirements that have imposed variations in products and marketing methods." 91 In his discussion of tire buying behavior, Leigh also emphasized the element of frequency of consumer purchases of tires. On this point he made the following comments:

---

88 Reynolds, op. cit., p. 460.
89 Ibid., p. 460.
90 Hamilton and Associates, op. cit., p. 89.
Since each car owner requires just over one replacement tire per year, this means that the average tire buyer is in the market only once in approximately every two years. The infrequency of purchase creates a twofold distribution problem. First, tires tend to become merchandise side lines in many types of stores catering to automobiles. Second, the merchant emphasizing tires has real difficulty in holding customers. Consequently, the tire business has manifested an increasing trend toward diversification.92

The importance of advertising and selling activities to build consumer acceptance and brand preference has been emphasized in some of the earlier studies. Reynolds observed, for example, "that the Big Four owe their continued dominance in the industry largely to consumer preference developed through advertising."93 Leigh pointed out that marketing and advertising factors have played a role in the concentration process. He emphasized, however, that there has been a change in the importance of brand preference to consumers. Motorists have definite brand preferences, but they "now... consider all brands to be 'good'."94 In contrast, they "previously ... relied heavily on tire brands, the reputation of the manufacturer, and the experience of the dealer who sold them."95 This point is in line with the one referred to earlier by Heflebower relating to changes in consumer's buying habits.

Fixed Costs and Optimum Size of Plant.--The various studies referring to the ratio of fixed costs are in close agreement with the estimate made being about 25 to 30 per cent of total costs.96 Dr. Leigh, who has been

93 Reynolds, op. cit., p. 467.
95 Ibid., p. 124.
96 For example, see: Reynolds, op. cit., p. 459 -- footnote; Leigh, "Automotive Tires," op. cit., p. 118; and Heflebower, op. cit., p. 47.
recognized for many years as the leading authority on the tire industry.

recently confirmed this range of estimates and pointed out the influence of
these costs on the struggle for tire sales by manufacturers:

The industry has a fixed-expense ratio of between 25 and 30
per cent. An increase in sales volume of 10 per cent would
produce cost savings of perhaps 2.5 percent. This fixed-
expense ratio, although only moderately high, is sufficient
to impel an aggressive struggle for volume. 97

97 Dr. Richard B. Heflebower, sets this ratio slightly higher.
"Price Making in the Rubber Industry" (unpublished manu-
script).

The question of the optimum size of plant is one on which there is
no conclusive evidence. The evidence cited has usually been from one or
more of four sources: early estimates by E. G. Holt of the United States
Bureau of Foreign and Domestic Commerce; statements by Sears, Roebuck
and Company based on their experience in buying under similar contracts from
Goodyear Tire and Rubber Company and a small factory in Iowa; the Report
of the Federal Trade Commission on Distribution Methods and Costs; and
unit cost data from surveys made by the Office of Price Administration. 98

Some of the analysts have concluded that the size of the plant per se has
practically no influence on the cost of production. Others have stressed the
point that the economies of machine production seem to be fully realized with
a relatively small plant. And, a few have concluded that the plants producing
most of the output appear to be too large. The present analyst believes that

98 See: Leigh, "Automotive Tires," op. cit., p. 120; Reynolds, op. cit.,
p. 466; Hamilton and Associates, op. cit., p. 95 -- footnote; and Albert
Abrahamson, The Price of Automobile Tires, Consumer Division Report
Dr. Leigh's conclusion is the proper one. He wrote:

The cost data on this point are inconclusive. Where comparable jobs are done there is good reason to believe that the large companies both produce and distribute tires fully as efficiently as do the small concerns. 99

**Excess Plant Capacity.** Throughout most of the history of the tire industry, it has been faced with the problem of excess plant capacity. Although the estimates of the extent of plant utilization have varied somewhat, the general conclusion has not. 100 Various factors have contributed to the excess in plant capacity. Since several of these will be brought out in the discussions which follow, they are omitted at this point.

**Concentration at the Manufacturing Level.** The decrease in the number of tire manufacturers and the concentration of sales with a small number of the remaining companies have been well publicized facts. For example, in 1933 the Dayton Rubber Manufacturing Company ran an advertisement pointing out that since 1912 (the year the first Dayton tire appeared) 537 tire companies had started, but only 32 remained in 1933. The number now, twenty-three years since the advertisement, is only 18.

99Leigh, "Automotive Tires," *op. cit.*, p. 120.


For a more recent picture showing the years 1947, 1950, and 1952 in comparison with a prewar average for 1939-41, see: Leigh, "Automotive Tires," *op. cit.*, pp. 120-121.
With the decrease in the number of firms, attention has been focused upon the degree of concentration of industry sales among the four largest producers of tires. Recent figures showing the degree of concentration within the major divisions of the tire markets were given in Table 4. The process of concentration in the industry will be considered in the next chapter. At this point, however, it is interesting to note that as early as 1914 sixty-six per cent of the industry sales were made by the members of the Big Four. At that time there were 301 firms active in the industry.

Profitableness of the Industry. — Although the industry was noted for its profitableness during the first part of the twentieth century, it was classified by one analyst, writing in 1933, as one of the most unsuccessful industries in the annals of American business. The early profitableness of the industry is described in the following quotation from the work of Howard and Ralph Wolf:

Two, three and four these Akron companies stood in the nation and, to appreciate what casings meant to them, remember that Goodyear and Firestone were nearly all tires, Goodrich fifty-five percent so. As to the sort of profits found in them, note that Goodyear paid stock dividends of one hundred percent in 1909, 1910 and 1912, of twenty percent in 1914, of one hundred percent in 1916, and of 150 percent in early 1920 as its stock stood at over $400 a share. Note that its earnings on common, including stock dividends, had averaged better than fifty percent a year for the twelve-year period up to 1920.

101 Gettell, op. cit., p. 97.

102 The analyst was Mr. A. L. Kress of the Research and Planning Division of N.R.A. His comment, referred to in the Work Materials prepared by Cross, Earseman, and Lenaerts, is quoted in this section.
For 1919 Goodyear netted $15,331,000, Goodrich $14,247,000, Firestone $7,995,000. And speaking of Akron’s small companies, $2,000 invested in Mohawk as it came into being in 1913 would have accumulated a value on the books of $28,886 and brought in a total cash dividend of $11,981 in little more than a decade. Nor was it the most successful of the school of small fry. 103

In contrast with this description, A. L. Kress of the Research and Planning Division of the National Recovery Administration wrote the following in 1933:

Notwithstanding the great increase in demand between 1919 and 1929, and the complete absence of any inter-industry competition, the tire industry has probably been one of the most unsuccessful in the annals of American business. In the year 1929, the rubber industry ranked first in unprofitability in that 47.5 per cent of all companies reported no net income to the Bureau of Internal Revenue. 104

From an analysis of income tax reports filed by rubber tire manufacturing companies at the Bureau of Internal Revenue during the eight year period 1926 to 1933, Cross, Earseman, and Lenaerts showed a picture of even greater unprofitableness for the industry. Their analysis, however, probably included many other rubber manufacturers with the tire companies. They found that the number of companies reporting profits during this period was consistently less than fifty per cent of the industry. In analyzing these data, they also pointed out some elements of concentration which add to the understanding of the profit characteristic of the industry. These elements

are shown by the following conclusions:

Although the number of companies reporting profits was considerably less than half of the total number of companies within the Industry, their volume of business was in many years considerably more than half of the total volume of the industry.

This is due to the fact that two of the larger companies, Goodyear and Firestone, which are responsible for about 30 per cent of total sales of the Industry, have shown a consistent ability to make money. Every year during the period covered in this report, both companies showed profits with the one exception of 1932, when Goodyear suffered losses. …

These data are not presented as conclusive evidence of the profitability of the tire industry. As one analyst warned, "the value of evidence of this nature is highly questionable unless accompanied by an exhaustive study of the financial history of the industry…." They do, however, indicate a change in the profit picture of the industry shortly after the first World War.

**Conflict of Interests among Tire Companies.** -- The conflict of interests among tire companies has been an important factor influencing the marketing activities of the firms and the nature of competition within their markets. Richard Gettell's analysis of pluralistic competition with an illustrative case study of the rubber tire industry provides the most complete evidence on this point. In his conclusions he emphasized the importance of the heterogeneity of the firms as is shown in the quotation which follows:

The heterogeneity of the units involved in the production and/or sale of tires has presented a major problem to the analysis of competition in the industry. Differences in size, organization, market strength, diversification, and degree of interest in the market are all complications which are customarily assumed away in conventional price theory, but, as shown in the previous descriptive and analytical sections, they are distinctly relevant to an understanding of the nature of competition in the tire industry. In particular, these differences have offered impediments to successful alliance. Practically every tire company has a relative advantage over its competitors in some respect, even though it may be at a disadvantage otherwise. The differences among the companies have induced them to employ different tactics in pursuing their separate advantages. And independent action of this sort often becomes contagious once it is started. Only after a long and bitter experience with unrestricted conflict did the tire companies reach the conclusion that their several interests were better served by joint than by independent competitive adjustments. And even now, given the present variety of possible tactics, price, quasi-price, non-price, and extramarket, and the number of different markets in which to employ them, it must be acknowledged that, however much the heterogeneous units in the tire industry recognize their mutual dependence, any alliance among them is precarious, and can be disrupted whenever a single unit believes that it can serve its particular interests better by independent action. If such a unit is willing to brave retaliation, it can precipitate conflict whenever it desires.  

Other studies have noted the conflicting interests among firms in the tire industry. Earlier reference in this section to the influence of fluctuating prices for crude rubber on large companies in comparison with the smaller ones illustrates a point of conflicting interest. The variations in the production and distribution pattern for the industry emphasized in the preceding section of this chapter offer many other examples. Some analysts

have also called attention to the importance of individual personalities, especially Harvey Firestone, Senior, as an element contributing to the conflict of interests. 108

Changes in the Distribution Pattern for Tires. -- During the past thirty years there have been major changes in the relative importance of various distribution channels for automotive tires. These changes include: the rise of the chain stores during the latter part of the 1920s as an important element in tire marketing; the growth of manufacturers' stores, particularly during the period 1929 to 1935; the increasing importance of oil company outlets since about 1930; and the decline in the relative importance of dealers and distributors, particularly between 1920 and 1940. 109 Since these changes are discussed more fully in Chapter VII, greater detail is omitted at this point.

General Nature of Competition. -- The tire industry has been characterized generally as a highly competitive one. A report of the Research and Planning Division of the National Recovery Administration referred to "futile competition and discord" as one of the outstanding factors in the industry. 110 Reynolds, writing in 1938, referred to the highly competitive character of the industry which had led financial journals to term it "chaotic," "murderous," and "insane." 111 Alderfer and Michl observed that "rubber

110 Abrahamson, op. cit., p. 33.
manufacturing, as reflected in the earnings of the tire companies, has been
marked by price wars and keen competition for years." In his recent
book, American Industries, Stanley Vance pointed out that "although there
are only a score or so tire manufacturers, and the big four control a major
share of the market, competition has always been keen." Such conclusions by these analysts and similar conclusions by others
are in terms of effective competition rather than competition in the classical
sense. This type of conclusion is shown clearly by the final paragraph in
Dr. Leigh's study of marketing channels for automotive tires. At that point,
Leigh wrote:

Finally, these data indicate, over a span of years, the
strength and effectiveness of the "corrective action of the
market." No contention is made that the results have always
been "just" or in the direction of the highest, ultimate social
ends. Nevertheless, this "action" has worked--even the giants
have been bowed down before the "forces of the market," new
developments have been constantly forthcoming and consumers
have been well served at reasonable prices. In short, the
writer is fully convinced that competition is functioning in
the tire market.  

112 E. B. Alderfer and H. E. Michl, Economics of American Industries,
318.

In support of this conclusion, the authors pointed out that "throughout
the 20-year period prior to 1940, these companies earned an average of
only 2 per cent on their net worth. This is in contrast with 8 per cent
earned during the same period by 200 large companies engaged in all
kinds of industry and trade." (Ibid., p. 318.)

113 Stanley Vance, American Industries, (New York: Prentice-Hall, Inc.,

114 For a brief definition of effective competition, see page 21 -- footnote.

115 Leigh, Automotive Tires Sales by Distribution Channels, p. 22.
The Role of the Big Buyer. -- The role of the big buyers in the tire markets has been recognized as an important market force. In the earlier studies, the degree of importance and the exact nature of the role of the big buyers has varied, but the factor certainly has not been completely overlooked. In fact, some have attached great importance to the bargaining power on the buyers' side of the tire markets. On this point, it is interesting to note a paragraph included in Llyod Reynold's study of competition in the tire industry as given in an article written by him eighteen years ago. 116

The study leads also to reflections concerning public policy. Concentration of production in the hands of a few large firms can apparently exist without any planned exploitation of consumers. The interest of consumers has been protected in this case by the efficiency and uncooperativeness of Mr. Firestone, and by the bargaining power of large retailers. It is difficult to see how manufacturers could succeed in fixing tire prices much above the competitive level without the cooperation of the large distributors. Such cooperation is unlikely to develop. The distributors are not interested in helping the manufacturers to make profits, but rather in securing a large turnover of goods on a small margin at the lowest possible price. Their interest thus corresponds more closely to that of consumers than to that of the manufacturers. It seems likely that as chain-store organizations grow in size and influence, they may come to be one of the most important defenses of the consumer against price-combination among manufacturers. 117

116 This was not the first study to call attention to the importance of big buyers in the tire industry. The one selected, however, seems to parallel more closely than any other the ideas of Professor Galbraith expressed fourteen years later.
Monopolistic Elements in the Tire Markets.--The characteristics and activities of the industry have led some to conclude that there are significant monopolistic elements in the tire markets. Such observations are not new. For example, Howard and Ralph Wolf observed monopolistic elements in the early history of the industry. 118 A report of the National Recovery Administration in 1936 called attention to the fierce competition in the industry and added: "It is not likely that the small independent dealer or manufacturer can survive, and the Industry may be faced with a monopoly in the not distant future." 119 In 1941, a report printed for use by the Special Committee of the United States Senate to study problems of American Small Business gave the following conclusion:

Unless the small tire dealers' problems resulting from the competition of the company-owned store, the corporate chain, the oil-company tie-ups, direct consumer sales, and mileage and rental contracts, are speedily solved, the Nation will be face to face with monopoly in the tire industry. ... 120

In issuing the Quantity-Limit Rule in 1951, the Federal Trade Commission included the following paragraph in its "Statement of Basis and Purpose" for the rule:

118 Howard and Ralph Wolf, _op. cit._, pp. 401-429.
119 Cross, Earseman, and Lenaerts, _op. cit._, p. 43.
An affinity between sellers and purchasers based on size, such as exists in the replacement tire industry, has been aptly described by some economists as a "bilateral oligopoly," which is a reciprocal relationship between a few large sellers and a few large purchasers operating to dominate the market for their mutual benefit and to the injury or destruction of the smaller sellers, the smaller purchasers, and the competitive system. 121

In contrast with these statements the marketing consulting firm of Alderson & Sessions published an economic study of tire marketing in 1950 which reached significantly different conclusions. Their conclusions, in part, are given below:

The trend in tire distribution exemplifies flexible adjustment to changing markets in a competitive industry. The consumer remains supreme in this field and manufacturers and retailers diligently undertake to assess and to satisfy consumer demand for products and services. The pressure of effective consumer choice compels the industry to operate as efficiently as possible and to seek constant improvement in distribution methods as well as in the quality of tires. No group of distributors or dealers has been able to obtain a dominant position in such a dynamic situation, so that a satisfactory balance is maintained with respect to bargaining power. Opportunity in tire distribution is greater than in most lines of retailing and the tire dealer has the advantage of working with manufacturers who give full and practical recognition to the principle of joint opportunity. There is no restriction of opportunity by either manufacturers or dealers. 122

The criteria used in reaching the conclusions on monopolistic elements and competition included in this summary, and the evidence supporting them, have been omitted because they become part of the materials for consideration in the sections and chapters which follow.

122 Alderson and Sessions, op. cit., p. 68.
Market Power within the Industry

The discussion in the preceding section of this chapter indicates that market power exists, at least to some extent, in the tire and tube industry. However, the identification of specific positions of original and countervailing power presents additional problems. These were discussed in detail in Chapter V, and suggestions were made to aid in solving them.\(^{123}\) If one proceeds in a logical, systematic manner in carrying out these suggestions, three major steps should be taken. First, since original and countervailing power operate in individual markets, one should classify the various markets for tires using the limits recommended in Chapter V. Next, one should determine whether or not market power of sufficient strength, to be classified as original or countervailing power, exists on either or both sides of each individual tire market, or in a majority of the individual markets comprising each class of markets for tires. Finally, if market power of sufficient strength is found on both sides of a market or class of markets, an additional test of "timing in appearance" should be applied to determine whether one or both of the positions should be identified as countervailing power.

The purpose of the present section is to carry through the first two of these steps to a point which will show clearly the meaning and implications of the suggestions made in Chapter V, and the nature of the problems involved in executing them. The technique will also give an approximation of results for selected segments of the industry and provide a basis for further consideration of the self-generating characteristic of countervailing power claimed by

---

\(^{123}\) See pages 181-256.
Classification of Markets in the Tire and Tube Industry.—The nature of the limits which should be observed in defining individual markets was discussed in considerable detail in the preceding chapter, and many of the illustrations in the discussion referred specifically to the tire and tube industry. In addition, the customary broad division of markets within the industry (original equipment, replacement, and export markets) was used in discussing the marketing channels for automotive tires. Thus, the background and criteria for defining individual markets relating to the particular industry have been stated. The task now is more specific in that it requires application of the limits suggested to develop a classification of individual markets for tires and tubes.

It was shown in Chapter V that the problem of setting the limits for individual markets is basically one of determining the proper grouping of buyers and sellers who actually comprise specific markets. The sellers and buyers which should be included are limited primarily by: the product made and/or sold by firms on the sellers' side of the markets; the needs and desires of buyers and the use of the product by individuals and firms on the buyers' side of the markets; the stage of production or marketing in which the sellers and buyers appear; and the geographical area within which buyers and sellers are in "close contact." Ideally a market consists of a common group of buyers and sellers. Changes in the structure of a group create new market situations, but from a practical standpoint it may not be advisable to

124 See pages 184-195.
define each variation as a separate market. As suggested earlier, one may find it necessary to consider groups which are substantially the same, judged by such factors as number of buyers and sellers common to each or share of market represented by firms which are common to each, as part of the same market.

The approach to classification of tire markets suggested here is organized within the customary major divisions of original equipment, replacement, and export markets.

1. **Original Equipment Markets within the United States.** The original equipment markets are set apart for several reasons. The sellers of tires for original equipment include only a small number of the manufacturers. Some sales are made to very small purchasers by dealers or distributors, and some sales are made by tire companies other than the Big Four. The degree of concentration of sales among members of the Big Four, however, is very high. From the standpoint of the product, these markets are limited to the sale of new tires or tire assemblies (tire and tube, or tire, tube, and flap). Used or recapped tires would be very poor substitutes. Moreover, these buyers purchase with unique motives, and their demand for tires is

---

125 See page 193.

126 See: Office of Price Administration, Amendment 5 to Revised Maximum Price Regulation 119, Document No. 52827, March 7, 1946. This amendment removed from the regulation the sale of original equipment tires and tubes by firms other than manufacturers and brand owners. These sales were placed under Revised Maximum Price Regulation 143 which established wholesale prices for new tires and tubes sold by firms other than brand owners.

127 See page 289.
more irregular than the demand for replacement purchases.

Starting with a somewhat oversimplified statement, individual markets within the major division of original equipment sales are identified in terms of the groups of purchasers manufacturing different types of vehicles using different types of tires. 128 Thus, for example, farm implement manufacturers and the tire manufacturers selling to them comprise a group quite separate and distinct from aircraft manufacturers and sellers to them or bicycle manufacturers and their tire suppliers. Although some members of the buying and selling groups appear in each of the three individual markets, the groups are substantially different. In addition, the tires produced for one of the markets are generally poor substitutes for purchasers in one of the other original equipment markets. Other groups or individual markets within the original equipment field should be identified in a similar manner.

The major problems which arise in defining these individual markets result from the wide variety of vehicles and tires produced and the diverse activities of the manufacturers in each field. A problem also arises because some types of tires may be used as original equipment for more than one type of vehicle. Usually, however, tires are designed for a particular type of vehicle. Two or three examples will illustrate the nature of these problems and provide a basis for discussion and decision.

Although some manufacturers sell truck tires and not passenger- car tires as original equipment, both types of tires are generally produced and sold for original equipment by the same tire manufacturers. Also, on

128 See page 189.
the buyers' side, the major share of truck sales are now made by the "Big Three" producers of passenger automobiles. In addition, the same tires may be used as equipment for small pickup trucks and some models of passenger cars. These factors suggest that one might place in one group all purchasers of passenger and truck tires for original equipment, and consider these buyers and the sellers supplying them with tires as one individual market. The alternative would be to depict two individual markets in which there would be considerable overlapping, but some difference, in the membership of the groups and for which the tire products generally would be poor substitutes.

From the standpoint of market power and the various factors contributing to it, the first alternative may be the better choice. In comparison, three factors suggest that the second alternative is the better approach in studying countervailing power in this industry. (1) When two individual markets are defined, the firms making up the corresponding side of each market vary somewhat. The specific firms included and the degree of concentration in sales for firms common to both markets are somewhat different.

These facts are particularly important in markets, such as the one being considered, i.e., in markets with a very small number of buyers and sellers.


130 For example, according to the 1955 new truck registration figures, the make of truck ranking third in importance (International) was not produced by a manufacturer of passenger cars. Also, it should be noted that the so-called independent truck producers are particularly important in the sale of heavy trucks. See: Automotive Industries, Vol. 114, 38th Annual Statistical Issue, March 15, 1956, p. 100.
(2) When defined as two markets, each represents an important market in terms of vehicle or tire sales volume. (3) The types of tires being considered are, in general, not close substitutes to equip new passenger cars and trucks. Because of these factors, the present analyst believes that the better choice of alternatives is to define as individual markets the manufacturers of passenger cars and the manufacturers of trucks. With this alternative, the broader aspects of economic power, and the extent to which the groups of buyers and sellers overlap should be kept in mind.

A similar but easier problem in defining individual markets for original equipment sales is provided in grouping the producers of earth-moving equipment as buyers of tires. The leading producers of such equipment are engaged in a variety of activities. The leading producers include:

... railroad equipment manufacturers, such as Westinghouse Air Brake and Baldwin-Lima-Hamilton; farm equipment producers, such as Allis-Chalmers, Caterpillar Tractor, and International Harvester; truck makers, such as General Motors and White Motor; and a machine tool maker, Warner and Swasey. The other leading firms, Thew Shovel, Marion Shovel, and Jaeger Machine Company, are also engaged in making a variety of automotive and industrial equipment. 131

Although there is overlapping between this group and other groups of buyers of original equipment tires, the approximately 300 manufacturers of earth-moving equipment appear to comprise a group of buyers sufficiently different to require consideration as an individual market.

The truck and bus tire line provides a different example of the

problems in defining tire markets for original equipment sales. The items

131 Vance, op. cit., p. 217.
in this line are interchangeable. More specifically, they represent just one line of tires. The line is produced by all tire companies, although some of the smaller companies do not produce all sizes in the line. Tires in the line, however, are sold for use on vehicles which have some distinctive features. The vehicles, divided broadly into trucks and buses, are produced to some extent by different manufacturers. 132 Again, one or two individual markets might be defined for purposes of analysis. The circumstances, however are different from those described above for passenger-car and truck tires.

(1) The tires are close substitutes for the purposes being considered. Only one line of tires is involved, and there can be only one group of sellers of these tires as original equipment. (2) One company controlling 85 per cent of the bus market is also the largest producers of trucks. 133 (3) The market or market segment represented by the production of buses in comparison with trucks is relatively small. 134 In view of these circumstances, it is advisable

132 The Government's recent antitrust suit against the General Motors Corporation revealed that the company controls about 85 per cent of the bus market. The company with the second largest share of this market is Flexible Company of Loudonville, Ohio. See: "G. M. Suit: Part Slap, Part Warning," Business Week, No. 1402, July 14, 1956, pp. 25-26.

133 Of the seven companies listed as manufacturers of city and intercity buses in the latest Annual Statistical Issue of Automotive Industries General Motors Corporation and Mack Manufacturing Corporation also produce Trucks. (Automotive Industries, Vol. 114, 38th Annual Statistical Issue, March 15, 1956, p. 420.)

In 1930, all producers of buses also produced trucks. (Fraser and Doriot, op. cit., p. 75.)

134 The total for factory sales of motor buses was 4,023 units in 1955. (Automotive Industries, Vol. 114, 38th Annual Statistical Issue, March 15, 1956, p. 93.)
to place the manufacturers of truck and buses in the same group of buyers for original equipment tires. When this group is combined with the tire companies supplying them it represents one individual market for original equipment tires. The manufacturers of trucks and the manufacturers of buses, however, may be regarded as separate segments of this market.

Before leaving the topic of individual original equipment markets one final observation is appropriate. In grouping the buyers and sellers for each of these markets, the limiting factor of geographical area has not been used to divide the domestic markets. Area may be a limiting factor applying to some buyers and sellers in these markets, but the bulk of the sales are not limited in this respect.

2. Replacement Markets within the United States.--In contrast with sales in the original equipment markets, replacement sales are made by all tire companies, i.e., each company taps at least some of the individual replacement markets. Also in contrast with the original equipment classification, used and recapped tires are significant as substitute items in some of the renewal markets. In addition, the limiting factors of geographical area and stage of distribution are important considerations in defining these individual markets.

The first factor to be considered in the grouping of buyers and sellers in the replacement markets is the individual product or product line. As a general statement, which has a few important exceptions and variations, each type of tire or tube designed for use on a particular type of vehicle should be placed in individual markets. For some types, such as airplane, the exceptions and variations from this statement are pointed out at appropriate points in the discussion which follows.
industrial, and bicycle tires, the grouping of buyers and sellers and the
channels of distribution used, clearly set them apart from the markets for
automotive tires. In contrast, the channels for each type of tire and tube with-
in the automotive group (passenger and truck tires and tubes) give patterns of
distribution which are similar. Also, agricultural tires generally follow the
pattern of distribution which characterizes automotive tire sales in the agricul-
tural areas. As pointed out earlier, however, there is some variation in the
groups of manufacturers selling agricultural tires, automotive tubes, and
automotive tires. These facts suggest that a discussion of individual renewal
markets can combine, at times, certain product lines, particularly those
within the automotive group.

In the paragraphs which follow, the automotive group is used to
illustrate the influence of the limiting factors (including type of tire within
the group) in defining individual markets for replacement sales. 137 As shown,
the group reflects the broad influence of type of product. It excludes a number
of manufacturers, distributors, and users of other types of tires. Further
breakdown and classification of markets within the group of buyers and sellers
of automotive tires starts with a more detailed grouping of buyers of these
tires. Such a grouping of buyers was suggested in Chapter V. 138 The
classifications resulting from these suggestions are summarized below:

136 See pages 191 ff.
137 This selection is consistent with that in earlier sections and those which
follow.
138 See pages 189 ff.
1. Buyers purchasing replacement tires for resale.
   a. Purchasers buying or negotiating directly with tire manufacturers or manufacturers' branch houses.
   b. Dealers purchasing primarily from wholesalers, distributors, or firms other than tire manufacturers acting as wholesalers.

2. Buyers purchasing replacement tires for use.
   a. Individual consumers.
   b. Commercial accounts buying tires or tire mileage.
   c. Government agencies.

Although the classifications of buyers suggested reflects some elements of the limiting factors, further consideration must be given to them in defining the individual markets for replacement sales. The factors of particular importance in this step are the product, the sellers of it in the appropriate stage of distribution, and the extent of the area in which buyers and sellers of the product trade. Since the importance of these factors vary for the classifications outlined above, the following discussion of market power within each classification is preceded by an explanation of the nature of the individual markets. This partial combination of steps places the explanation of individual markets where it will be more helpful in discussion and less repetitious.

Identification of Market Power within the Automotive Segment of the Industry. The criteria which should be used in identifying positions of market power on either side of individual markets were outlined and discussed in detail in Chapter V. In summarizing this discussion, the following conclusion was

---

139 See pages 195 ff.
Thus, positions of economic power should be identified for each market within an industry. And, in general terms, the criteria for identifying the positions of market power are represented by the element of fewness of buyers or sellers in a market with differentiation of product or buyer's services, interdependence, and sufficient difficulty of entry to permit, in the absence of strong positions on the other side of the market, control of prices and production or purchases at levels more favorable to the position of power than would result from essentially competitive positions. 140

In characterizing positions of market power, Professor Galbraith reflected in descriptive terms some elements of each of the major types of measures suggested above, i.e., concentration, differentiation, behavior, entry, and results. In his analysis, Galbraith emphasized particularly the element of concentration measured by the number and relative size or importance of the firms on one side of a market. 141 Therefore, as pointed out in Chapter V, emphasis is placed on this criterion in the present analysis. 142 Moreover, starting with an analysis of market structure is frequently a matter of convenience. Data are usually more readily available for this measure than for others, particularly at the manufacturing level. Also, judgment based upon structure may serve as a first approximation to guide a more complete analysis. Both of these reasons are applicable to the present analysis. Later sections will discuss the growth and development of market power, the

140 See page 223.
141 See pages 204 and 211 f.
142 See pages 211 and 213.
operation of countervailing power, and the results of its use. To avoid as much duplication as possible the conclusions in the present section follow the logical process used in the actual analysis. In other words, the conclusions are the tentative ones developed largely from the analysis of market characteristics and structure outlined earlier in this chapter. Each major classification of markets for the automotive segment of the industry is considered separately to show the development of these conclusions.

1. **Original Equipment Markets.**—Earlier it was shown that in 1952 four tire companies accounted for 97.7 per cent of all original equipment tire sales. Although the degree of concentration of sales is lower for truck than passenger tires, it indicates clearly that members of the Big Four are in a position described by Galbraith as one of market power. Other companies in the industry produce tires which might be substituted for those of the Big Four, but this point does not change the conclusion in regard to the position of market power. In 1947, the Big Four owned most of the net capital assets of the tire and tube industry. Their share was reported to be 88.3 per cent. 143

Dr. Ralph C. Epstein has pointed out that 88 per cent control of fixed assets "does not indicate an 88 per cent control of industrial ownership or commercial power, or of economic domination or anything else in terms of 'monopoly'." 144 In contrast with the measure of net capital assets, Epstein used total assets and total domestic assets held by the companies. His figures


show that in 1947 the Big Four held 62.6 per cent of the aggregate domestic assets of the rubber industry. The total assets of the twenty-one automotive tire manufacturing companies in business as of 1948 show that the Big Four, as previously defined, held about 73 per cent of these assets. An English company, The Dunlop Rubber Co., Ltd., which owns an American company, the Dunlop Tire and Rubber Corporation, had total assets slightly higher than one member of the Big Four. Each of these five companies had assets over 250 million dollars. Seven companies had assets between 15 and 70 million dollars, and the others had total assets between 1 and 5 million dollars. If the companies, other than the Big Four, had shared in the original equipment markets to the same extent as the replacement markets in 1947, the four largest companies would still have controlled about 68 per cent of the markets. From a production and sales standpoint, however, it is more difficult for the smaller companies to invade the original equipment markets.

On the other side of the original equipment markets there is also concentration of market power. In 1948, the big three of the motor vehicle industry accounted for 80 per cent of the production of automobiles and 70 per cent of the production of trucks. The concentration of the industry measured

145 Ibid., pp. 4 and 31.
146 Percentage computed from data shown by Dr. Ralph C. Epstein. Some of the figures are estimates prepared by him. The list of companies excludes those making inner tubes but not also making tires or casings. (Ibid., p. 75)
147 Ibid., p. 75.
148 Heflebower, op. cit., p. 144.
by net capital assets in 1947 showed 69 per cent as the share owned by the "big three." The lower percentage determined by net assets is traceable, to a large extent, to the Chrysler Corporation which was much less integrated than the other major companies. 150

In considering the truck and bus tire market separately, one finds that the companies making up the group of buyers and sellers was somewhat larger and the degree of concentration in sales slightly lower than for passenger-car tires. Also, in the truck segment of the market, one of the three largest producers of trucks is not a manufacturer of passenger cars. And, in the bus segment, the second largest producer does not manufacture trucks or passenger cars. 151 The number of companies and the degree of market concentration, however, indicate positions of market power on both sides of the original equipment market for truck and bus tires.

2. Replacement Tire Markets.--The discussion of market power within the individual markets for replacement sales of automotive tires is organized to follow the classification of buyers outlined earlier. Although it is beyond the scope of the present analysis to determine all positions of market power within these markets, tentative conclusions are drawn when data are readily available to support them. When conclusions are not feasible, the nature of the problem is explored.

150 Ibid., p. 44.
151 This company's share (Flexible Company) of the bus market was only 6.7 per cent in 1955. See: "G.M. Suit: Part Slap, Part Warning," Business Week, No. 1402, July 14, 1956, p. 25.
a. Purchasers Buying or Negotiating Directly with Manufacturers or Factory Branches for Tires which They Plan to Resell.--This classification of markets was suggested because it groups buyers who have the opportunity to use any market power they possess directly against the market power of the tire manufacturers. The classification also recognizes that separate or distinct levels of distribution generally do not exist in the tire industry. Many manufacturers have integrated and operate their own branch houses. A number of buyers, particularly the mass distributors, have also integrated by performing their own wholesaling activities. Some buyers also purchase their own raw materials and mold equipment, assume all transportation charges, and the burden of advertising their own brand. In addition, all substantial tire dealers function as both wholesalers and retailers. Only eight to ten per cent of the tire volume is sold by middlemen who function primarily as independent wholesalers.

As a classification of markets, this group includes all tire manufacturers as sellers and a variety of buyers, such as chain organizations, mail order houses, department stores, cooperative buying agencies, oil companies, wholesalers, tire distributors, and some tire dealers. The classification includes buyers and sellers of private or distributors' brands in addition to those buying and selling manufacturers' brands.

In defining individual markets within this classification it is not advisable to attempt a division of the buyers and sellers by the major product

lines of passenger and truck tires. The importance of them varies among buyers and sellers, but the firms within the classification generally buy and sell both types of tires. Moreover, market power and prices are in part a function of all lines of tires purchased by a particular account. The element of interchangeability is a factor, but it is not as important in these markets as in original equipment or replacement markets which involve purchase for use rather than resale. Variations in the importance of the major lines of automotive tires should be considered in analyzing positions of market power with each line representing a segment of the market. Thus, any significant influence of these variations is not lost in the analysis.

The limiting factor of geographical area presents an interesting problem in defining individual markets within this classification. Some of the buyers and sellers included in the group seek out customers or suppliers on a national scale. Other buyers and sellers are local or regional in their market activities. A review of the selling activities of each tire manufacturer and the buying activities of "direct" accounts would probably show that there is a national market and several fairly well defined local or regional markets. The group of buyers within the smaller markets would undoubtedly consist primarily of independent tire dealers and distributors rather than mass distributors. The variations in the groups of sellers would be due primarily to the number and relative importance of small manufacturers in the particular markets. To determine accurately the make up and extent of these markets one needs to analyze all or a representative sample of such markets. The results from this type of analysis are not available from secondary sources. The difficulty of defining and obtaining data for these individual markets,
however, does not prevent general conclusions in regard to the existence of positions of market power.

The Big Four tire manufacturers selling the bulk of the replacement tires, 68 per cent in 1947, tap all of the individual markets. Their relative importance in these markets varies; in several cases the small tire manufacturer sells more in his base market than any member of the Big Four; but, from the standpoint of market structure, power positions exist among the manufacturers as sellers of tires within these individual markets.

On the buyers' side there also appears to be little question of the existence of positions of market power. Evidence of this is available from a number of secondary sources. At this point, however, attention is limited to the major studies reflecting the structure on the buyers' side of these markets. This step is, in part, a review of data presented earlier based on tabulations of the Federal Trade Commission in support of the Quantity-Limit Rule for the sale of replacement tires. Summaries of these data were provided by Tables 2 and 3. In brief, the data show that slightly less than two per cent of the buyers purchasing replacement tires from the manufacturers accounted for almost forty-eight per cent of the sales to buyers within this market classification. The tire purchases of these buyers placed them in

153 Epstein, op. cit., p. 5.
154 Kaplan, op. cit., p. 102.
155 See page 286.
156 The buyers appear to be within this classification. The Commission received reports from twenty-one tire manufacturers setting forth, with respect to their domestic sales in 1947, the number of direct purchasers, identifying those who purchased an annual volume of
an annual volume bracket of $100,000 or more. Among these large buyers were two accounts with annual purchases between twenty-five and fifty million dollars. Tire purchases by these accounts represented slightly over 10 per cent of all purchases made by buyers within this market classification.

In their study of tire marketing, Alderson & Sessions analyzed in much greater detail similar data provided by members of the Big Four. The data analyzed are for the years 1941 and 1947. They include all "replacement accounts." \(^{157}\) buying $100,000 or more in the respective years. In regard to this volume level, the analysts commented that "it represents a natural breaking point in the size array of customers inasmuch as a purchaser of $100,000 or more can clearly be considered 'large' by either absolute or relative standards." \(^{158}\) In analyzing the data, Alderson & Sessions made one set of tabulations for dealers and distributors as a class of purchasers and another for all replacement accounts included in the study. Considering at this time only the data for 1947, the tabulations show that the Big Four had 654 "replacement accounts" with an annual purchase volume of $100,000 or

---

\(^{157}\) They exclude governmental accounts and sales to or through manufacturers' stores. (Alderson and Sessions, \textit{op. cit.}, Appendix VIII, p. 5.).

\(^{158}\) \textit{Ibid.}, Appendix VIII, p. 1.
more. The purchases by these accounts represented 39.7 per cent of the total domestic replacement sales of the Big Four in 1947. Of this number, 609 of the accounts were tire dealers and distributors with purchases representing 17.7 per cent of the total domestic replacement sales of the companies. Thus, a relatively small number of accounts (actually 45) not included in the group of dealers and distributors accounted for over half (60.3 per cent) of the purchases made by these large buyers. Continuing this general point, the data show that, in the volume bracket of $500,000 or more, there were 34 accounts representing 23.1 per cent of the domestic replacement sales of the Big Four. Purchases by 18 of these accounts not classified as dealers and distributors represented about 21 per cent of renewal sales of the companies.

Thus, there are a number of dealers and distributors of substantial size, but the concentration of volume within the group of large purchasers for resale is primarily among a small number of large mass distributors.

Data presented by Dr. Leigh also show concentration of purchases among buyers within the market classification being considered. Using sample data, Leigh showed that 52 per cent of the direct dealers had a volume of tire purchases less than $2,500 in 1951. Purchases by this group of buyers accounted for only 5 per cent of the direct purchases by dealers in

159 Ibid. Appendix VIII, p. 17.
160 Ibid., Appendix VIII, p. 12.
161 Ibid., Appendix VIII, pp. 12 and 17.
162 This refers to dealers and distributors with annual purchases of tires of $100,000 or more.
1951. 163 Also, Leigh estimated that "dealers buying $50,000 or more could buy a substantial part of their requirements in carload quantities."164 This included about 6 per cent of the direct dealers in 1951.

The data presented above do not show that market power exists within each of the individual market areas for replacement tires purchased for resale from manufacturers. However, they do show that, from the standpoint of structure, there appears to be market power (in line with the concepts of Galbraith) among buyers in the national market and in many, if not all, of the individual market areas.

b. Dealers Purchasing Primarily from Wholesalers, Distributors, or Firms other than Tire Manufacturers Acting as Wholesalers.--This classification of markets, identified by the buyers who comprise it, was suggested because it brings together sellers other than tire manufacturers and buyers purchasing from them for resale. Thus, if power exists on the sellers' side of the markets it arises from firms other than tire manufacturers. If power exists on the buyers' side, the purchaser do not exercise it against tire manufacturers. These characteristics are in direct contrast with the first market classification discussed for replacement sales.

The sellers within the present class of markets were among the buyers in the first classification. The buyers in the present class are generally small sub-dealers and retailers buying for resale to consumers. Sales

164 Ibid., p. 151.
involving cross-streaming or cross-channeling between middlemen place the buyer and seller within the present classification of markets for the particular activity. If such activities contribute to making sources other than tire manufacturers the primary one for these buyers, the cross-streaming actually influences the market classification in which the buyers are placed.

Individual markets within this classification are not limited by type of brand nor by type of automotive tire. Reasons for this are the same as given earlier for the first classification of replacement markets. Geographical limits, however, are basic in defining the individual markets for the classification now being considered. The marketing activities of both buyers and sellers within this classification are generally limited in geographical coverage. The wholesaling activities of chains, petroleum companies, and independent wholesalers are broader in coverage than the activities of independent tire distributors, but this characteristic does not destroy the value of geographical boundaries in the analysis of individual markets. Wholesale markets generally have less self-containment than consumer trading areas. In other words there is less of a solid core and a wider fringe of movement of buyers and sellers between markets. The broad divisions or boundaries of the markets depend upon the general pattern of purchasing habits of the buyers, influenced in part by the activities of the sellers. Data reflecting these patterns are not available from secondary sources, but the general nature of competition and market structure can be determined with a reasonable degree

165 See page 325.
of confidence.

The discussion of market power on the sellers’ side of these markets considers two major groups of sellers: (1) independent dealers, distributors, and wholesalers, and (2) mass distributors, including chains, mail order houses, and oil companies.

The "dealer and distributor" group is the larger of the two in number of accounts, and generally the accounts are smaller in size. As shown earlier, the Big Four had 609 dealers and distributors with purchases of $100,000 or more in 1947. Presumably all of these accounts are sellers in the wholesale markets, at least to some extent. Dr. Leigh has pointed out, for example, that "a dealer in the volume brackets above $100,000 normally sells 20 to 50 per cent of his volume at wholesale." 166 The 609 dealers and distributors buying from the Big Four within this volume bracket obviously do not include accounts of equivalent size buying from other manufacturers nor any smaller accounts which sell in the wholesale markets. It seems reasonably safe to assume, however, that any market power among these accounts as sellers would be reflected in the larger accounts of the Big Four.

The marketing and management consulting firm of Alderson & Sessions analyzed the larger replacement accounts of the Big Four for 1941 and 1947 (accounts with an annual purchase volume of $100,000 or more in either year). After careful study of these individual accounts, they reached several important conclusions. First, they found that the largest dealers and distributors

are not increasing in importance by concentrating an increasing share of the replacement business in their own hands." 167 This conclusion was supported by data showing that any given number of the largest accounts, the 50 largest accounts for example, in 1941 had a larger share of the market than the same number of accounts (not necessarily the same individual accounts) in 1947.

Second, they concluded that the largest accounts are unable to perpetuate their positions. For example, among the largest 150 accounts in 1941, only about 55 per cent were able to retain their position as one of the 150 in 1947, resulting in a turnover rate for the group of 45 per cent. Third, they concluded that there is great fluidity in the relative position of individual accounts. This element was analyzed by comparing the ranking of individual accounts for each of the two years. Fourth, they found that the number of purchasers of $100,000 or more increased from 174 in 1941 to 609 in 1947. 168 The increase in the population of the bracket, however, was not matched by a corresponding increase in the relative importance of the purchases made by accounts within this size group. 169


168 Dr. Ralph C. Epstein has computed the changes between 1930 and 1947 in the average price paid three large tire producers by their dealers. Average prices were based on 1930 as 100. In 1941, the index stood at 103.7. In comparison, it was 117.2 in 1947. Thus, prices for the two years did not vary greatly. (Epstein, op. cit., p. 53.)

169 Alderson and Sessions, op. cit., Appendix VIII, pp. 1-17.
Ease of entry, in fact expansion in the number of large competitors, with opportunity for growth but without the advantage of perpetuating market position in the top volume brackets does not suggest market power of the type described by Professor Galbraith. It should be added that Galbraith did not expect to find a general pattern reflecting market power among the distributive trades as sellers.

The second group of direct buyers referred to as mass distributors generally resell only in part to independent retailers. Oil companies, however, distribute primarily through dealer stations rather than company owned and operated outlets. According to Dr. Leigh's estimates for 1947, approximately 145,000 of the 149,500 stations buying tires solely or primarily under Tire, Battery and Accessory programs of an oil company were dealer stations. Leigh also estimated that about one-third of the 8,550 petroleum jobbers selling tires in 1947 were tied into the distribution programs of the major oil companies.

The question of market power among these suppliers of tires is in part a question of market structure. In the petroleum industry concentration developed early. The Federal Trade Commission reported that "at the time of the Standard Oil Co. (New Jersey) dissolution in 1912, that company controlled from 85 to 90 percent of the business in refined products."  

170 Ibid., Appendix I, pp. 1-17.
171 Leigh, Automotive Tire Sales by Distribution Channels, p. 9.
172 Ibid., p. 10 -- footnote.
Following this action and the more rapid growth of so-called independent companies, market shares were more evenly distributed. In 1939, however, 18 large companies, including 7 Standard Oil companies, controlled about 80 per cent of the domestic sales of gasoline. In the distribution of their products all major oil companies sold large quantities of gasoline and lubricants at retail prior to 1933. Since that time company outlets have been largely discontinued. Although the large refiner-marketers have dropped most of their direct retailing activities, this does not necessarily mean that they have relinquished all control over the stations selling their products. It has been claimed that various methods or techniques have been used to persuade the independent dealers to handle exclusively the products of a particular refiner, not only petroleum products but other items such as tires, batteries, and automobile accessories. A report published by the Special Committee of the United States Senate to Study Problems of American Small Business gives support to the view that petroleum companies have had considerable control over their dealers in the purchase of automotive tires. The report, in part, stated:

Despite the fact that the major petroleum marketers proclaim their stations are largely operated by independent businessmen it is not difficult to discover that so far as having the right to select a brand of tires is concerned this independence is in reality nonexistent. Dealers admit that the oil companies do not go so far as to send out any letter or written order demanding that the leased stations refrain from handling

174 Ibid., p. 1.
175 Ibid., p. 5.
176 Ibid., p. 6.
any specific line of tires. But, ... dealers report that in certain instances they had definite proof of threats to cancel leases unless unwanted brands of tires are removed immediately. The means of keeping the leased-station operators in line seems chiefly to be threats to jump rents or cancel leases. 177

Both the Department of Justice and the Federal Trade Commission have taken several actions to prevent exclusive dealing and typing arrangements which adversely affect competition. 178 Several complaints and orders have been issued against members of the petroleum industry. 179 Other sellers of tires within this market classification may use similar methods of distribution and be subject to similar actions by public authority. Chain organizations, such as Gamble-Skogmo, Incorporated, selling to independent dealers associated with them raise the question of the extent of control exercised by suppliers over their retail outlets. This possibility has also been recognized by the Federal Trade Commission. 180


178 Some of these have been initiated by the Department of Justice under the Sherman Act, some by the Federal Trade Commission under Section 5 of the Federal Trade Commission Act, and others by the Commission and/or the Department under Section 3 of the Clayton Act. See: K. J. Curran, "Exclusive Dealing and Public Policy," The Journal of Marketing, XV, No. 2, October, 1950, pp. 153-154.

179 Ibid., p. 141 -- footnote.


It is not within the scope of the present analysis to resolve the question of the extent or the pros and cons of control which may exist through exclusive dealing arrangements. If control exists which reduces the freedom of these dealers to select the line or lines of tires which they sell and the sources which they use, the bargaining ability of the retailer has been reduced for these products. Conversely, such control strengthens the market position of the supplier, introducing a stronger element of "differentiation" into this segment of the market.

Thus, this segment of the market classification, i.e., dealers actually buying tires from oil companies and chains acting as wholesalers, may face market power of sufficient strength to be classified as positions of power under the criteria discussed in Chapter V. Unqualified conclusions, however, cannot be reached on this point in the present analysis.

The "overriding commissions" referred to earlier in this chapter are related to exclusive dealing but fall within the first classification of tire markets for purchasers buying or negotiating directly with tire manufacturers.

The arrangements are discussed briefly here, however, because of their relationship to the preceding discussion on exclusive dealing, and because they have provided a special area for investigation by the Government. Recently, the Federal Trade Commission issued complaints against three major oil companies alleging that the so-called overriding commissions these firms

181 These conclusions should not suggest that exclusive dealing, by itself, results in creating or supplementing power on the sellers' side of the market and in reducing or destroying power on the buyers' side of the market. Several factors seem to influence the results including the structure of the market, the nature of the product, the extent of the product line, the type of outlet purchasing, and the nature of other arrangements accompanying the exclusive dealing.
receive from three major tire companies are illegal. At the time, Business Week referred to the complaint as a "backdoor approach in an attack on exclusive dealing in the service station business." Under the arrangement objected to by the Commission, the tire manufacturers sell and deliver to the oil company dealers. The commissions are paid to the oil companies for promoting tire sales through their service stations. In regard to this arrangement, the Federal Trade Commission charged that the oil companies have contracted to influence unduly service stations and distributors to buy tires, batteries and accessories sold by the rubber companies. In defense of the practice and the commissions paid, the companies claim that the plan is legally sound and economically desirable; that the dealers are free to purchase tires, batteries, and accessories from any source; and that the oil companies provide merchandising and promotional services through their sales staff for the commission they receive. Similar arrangements exist with oil companies other than the three named in the complaint.

Under the arrangements involving the overriding commissions, the tire manufacturers sell and deliver to the dealer stations. Thus, if the arrangements result in restricting the freedom of the dealers, they would seem to strengthen the position of certain tire companies in their dealings with certain retail outlets. At the same time, however, the tire manufacturer must negotiate with the oil company for a contract setting up the arrangement.

183 Ibid., p. 154.
including the sales commission. In other words, the market power of the
tire manufacturer is in operation in this segment of the tire markets, and is
met on the other side of the markets by the dealer and the dealer's supplier
of petroleum products. Therefore, this segment of the replacement market
was included with the first classification of tire markets involving direct
purchase or negotiation with tire manufacturers.

Returning to consideration of the second classification of replacement
markets, attention should now be focused on the question of market power
among dealers and sub-dealers on the buyers' side of the individual markets.
Unfortunately adequate data in regard to the structure of the buyers' side of
these markets are not available. Two factors contribute to the difficulties
in obtaining such data and in using the data now available. First, as pointed
out earlier, market structure should be analyzed within the geographical
limits representing the boundaries of the individual markets. But, data show-
ing the structure of tire distribution within individual wholesale trading areas
are not available from secondary sources. Second, the data which are avail-
able relating to tire dealers are not classified to show, as a separate group,
dealers buying from sources other than tire manufacturers. Although these
difficulties are major ones, certain characteristics of tire dealers, selected
from the various studies which have been made, aid in framing tentative
conclusions or approximations in regard to market power.

184 This classification of markets was identified as "dealers purchasing
primarily from wholesalers, distributors, or firms other than tire
manufacturers acting as wholesalers of tires."
The characteristics or market facts which aid in drawing these conclusions include the following: (1) There is general agreement that the number of dealers or retailers selling tires is large (roughly 200,000 to 300,000 outlets). This conclusion is reasonable, although there is no accurate count of the total number of retail outlets selling tires, and estimates of the number have varied considerably. In the great bulk of these outlets tires are usually a rather minor line. More specialized outlets classified by the Bureau of the Census as establishments whose principal business is automobile tires, batteries, and accessories totaled only 18,525 in 1939 and 20,628 in 1948. (3) The inventory requirements vary considerably between the specialized tire dealer and the retailer carrying tires as a minor line.

Dr. Leigh has estimated that "a little retailer or gasoline station needs to carry only five passenger tire sizes to tap 85 per cent of the passenger car market...." In contrast, a full line for the more specialized dealer often includes from 250 to 300 separate items including different sizes, plies, and treads for trucks and tractors as well as passenger cars." (4) The establishments receiving tires from sources other than tire manufacturers are generally the smaller establishments with a limited inventory of tires.

185See: Alderson and Sessions, op. cit., pp. 31 and 54; and Leigh, Automotive Tire Sales by Distribution Channels, p. 6.

186Tires are a minor line in about 90 per cent of the outlets. (Alderson and Sessions, op. cit., p. 55.)


189Alderson and Sessions, op. cit., p. 55.

190For example, Dr. Leigh pointed out that "tire manufacturers have encouraged tire dealers, by their discount programs, to carry tire stocks and sell and supply these small subdealers." (Leigh, "Automotive Tires," op. cit., p. 132.)
(5) A large number of small cities have no tire store or only one establishment of this type. Outlets not specializing in tires and mail order houses are important in supplying these markets with tires. Alderson and Sessions pointed out that "in nearly every county in the United States the consumer... can readily buy tires from a number of retail outlets." (6) Ease of entry and freedom of opportunity are present in the distribution system of tires.

The characteristics outlined above suggest that independent establishments buying tires from sources other than tire manufacturers generally do not possess strong market positions as buyers of tires. This does not mean, of course, that such buyers have no market power, or that no individual buyer within this classification has a strong market position. Widespread distribution of tires paralleling automobile registration has become the rule.

Also, there has been a "drift of passenger tire purchasing from downtown stores to outlying convenient locations (which) has caused the large, more centrally located dealers to concentrate on the large-volume commercial account business, recapping, and other tire service." These factors indicate that

---

191 Tire store here refers to an establishment which would be classified as a tire, battery, and accessory dealer by the Bureau of the Census. In 1939, 63 per cent of all cities with a population between 2,500 and 4,999 and 43 per cent of the cities between 5,000 and 9,999 were in this group. In the great majority of the small cities with only one tire store, the outlet was an independent rather than a unit of a chain. (Alderson and Sessions, op. cit., Appendix VI, pp. 1-10.

192 Ibid., p. 53.

193 Ibid., pp. 30-52.


195 Ibid., p. 132.
the smaller, conveniently located outlets are a part of the distribution pattern which should not be handled indifferently by the manufacturer and his distributors.

c. Individual Consumers.-- This classification of markets represents the largest number of buyers and sellers of tires. The sellers include independent tire dealers and recappers, chain outlets, manufacturers' stores, petroleum outlets, cooperatives, department stores, and a variety of other types of outlets such as motor vehicle dealers, automotive repair shops, and general stores. The buyers include, in addition to individual consumers of passenger-car tires, small truck operators. Small truckers are usually defined as those operating from one to five trucks. Although this criterion is expressed in quantitative terms, it identifies a group which should be classified with individual consumers because of their purchasing habits, buying skill, and tire service requirements. Actually, it is logical to consider the consumers or buyers needing a certain type and size of tire as a separate group on the buyers' side of the market. Each of these groups with the sellers supplying them could be considered a separate or individual market.

From a practical standpoint, however, such a detailed classification in a general study of market power is not feasible. For the retail outlet selling tires, each group of these buyers is a segment of the individual consumer market.

The breakdown of individual markets within the consumer classification should be based upon geographical limits. Buying habits and selling practices

196 See page 191.
of individuals and firms comprising this classification of markets are clearly limited by the geographical aspects of the markets. This does not mean that each market is completely self-contained, but the degree of self-containment is probably greater than in the wholesale markets for tires considered earlier in the present analysis.

The process of identifying positions of power within individual consumer markets is handicapped by the lack of data on the structure of markets within consumer trading areas. General conclusions, however, can be reached on the basis of data already discussed. Briefly, these data have shown that, on the sellers' side of the markets, there are a number of very large firms. Chain stores, mail order houses, manufacturers' stores, and some oil company outlets are part of large integrated companies selling at the retail level. Some independent dealers and distributors are also large individual retail outlets for tires. It has been shown that these firms as buyers of tires are in positions of market power. The Federal Trade Commission has charged that the number of large buyers is "so few as to render differentials on account thereof unjustly discriminatory against purchasers in smaller quantities and promotive of monopoly...."197 A number of factors indicate, however, that these firms are not in positions of strong market power as sellers of tires to individual consumers. Since most of these have been discussed in other sections, they are only summarized at this point. (1) The

---

number of sellers of tires at retail is large. (2) Trends in the number and in the relative importance of various types of retail outlets do not indicate that monopolistic positions exist or are likely to exist in the near future. This point is discussed in greater detail in Chapter VII. (3) Keen rivalry exists among mass distributors and manufacturers' stores. Except during the shortages of World War II, no one has charged that their prices are too high. (4) Specialized tire stores, in smaller communities where the number of outlets is limited, are usually not outlets of mass distributors. (5) Ease of entry exists for new businesses at the retail level for automotive tires. (6) Each consumer has a variety of alternatives in purchasing tires including the choice of brand, design, price line, service, and substitutes for new tires. (7) Recapping service is supplied primarily by independent tire dealers and recappers. With these factors in mind, the present analyst has concluded

198 In 1952, the sales of the Big Four tire companies accounted for slightly less than 10 per cent of the total sales of recaps and retreads. (Kaplan, op. cit., p. 99.)

A survey in 1947 by the National Association of Independent Tire Dealers showed that 71 per cent of their members returning questionnaires (1,433 questionnaires were returned) were selling recapping services. A breakdown of this group showed that 8.1 per cent of the dealers sent their work out to other dealers with recapping plants and that 62.9 per cent owned and operated complete recapping establishments. The analyst for this survey commented that "this high percentage is surprising and in all probability represents a peak figure, since new tires are now abundant. This fact, plus evidence that some dealers are selling their recapping molds, indicates that recapping service will be carried on by fewer operators." (Schalk, op. cit., p. 464.) This reduction in number, however, should not place the remaining operators in strong positions of market power.
that, in general, positions of strong market power do not exist on the sellers' side of the consumer markets for automotive tires.

On the buyers' side of these markets, the structure of a large number of consumers purchasing in relatively small amounts shows that positions of strong market power do not exist. In 1954, there were 48,016,725 passenger cars registered in the United States. The average tire buyer for replacement tires on these automobiles is in the market once in approximately every two years. At that time, the modal purchase consists of two tires. Cooperatives "catering particularly to farmers" and "selling practically identical percentages of both passenger and truck tires" accounted for 1.1 per cent of replacement sales in 1947. This percentage was just slightly higher than the relative share of total retail sales (0.8 per cent) made by consumer cooperatives in the United States during 1948.

d. Commercial Accounts Buying Tires or Tire Mileage. The classification of commercial accounts represents a distinct market group for a number of reasons. The buyers, as users of tires, are set apart from others by the volume of their individual purchases, their skill in buying, and the

201 Leigh, Automotive Tire Sales by Distribution Channels, p. 15.
tire services which they require. Also, in contrast with the individual consumer markets, the purchases are primarily truck rather than passenger tires. In addition, the markets include the sale of tire mileage, an arrangement between buyer and seller made only in these markets. Retreads and recapping complete the product and service items included in the classification.

On the sellers' side of these markets, the group of firms includes primarily the tire manufacturers and the larger independent tire dealers and distributors. Chains, mail order houses, and oil companies are less important in the market for truck than passenger tires. The activities of the manufacturers are varied, including: direct sale and delivery; direct sale with delivery and service by independent dealers or company stores; sale and service through the manufacturers' stores; and price concessions to dealers or distributors to enable them to obtain or hold certain commercial accounts. Direct sales with delivery from the factory or from dealers' stocks are generally to so-called "national accounts." When delivery and/or service are provided by the dealer, a commission of 5 to 10 per cent is paid by the manufacturer. The manufacturers also sell tire mileage, i.e., the use

---

203 The Office of Price Administration found that about one-third of the sales of retreaded tires in October, 1941 were made direct to commercial accounts. See brief in the files of the National Archives: The Office of Price Administration, "An Analysis of the Retreading and Top Capping of Tires" (Unpublished economic brief, 1942), p. 5.

204 Commercial accounts may have their own shops to provide tire services.
and service of tires to bus operators and taxicab companies. In addition, "some trucking accounts now rent tires, although the practice is limited." 205

In summary, the activities of the manufacturers indicate that their role may be an independent one which competes with the sales efforts of the tire dealers. Frequently, however, it overlaps by the manufacturer aiding the dealer in his price negotiations or the dealer assisting the manufacturer through the delivery and service of the tires. 206

Although the varying roles of the tire manufacturers and dealers cut across geographical limits, there appears to be a national market for commercial accounts doing business in various parts of the country, and a number of local or regional markets in which the buyers operate primarily in one locality. Again, however, data are not available from secondary sources to determine the number and the size or extent of the individual markets defined by geographical factors.

In the present analysis, the approach to the problem of identifying positions of market power within the classification of commercial accounts must be in terms of the general pattern of the markets. In drawing tentative conclusions, market behavior and results are important supplements to market structure. From the standpoint of structure, the description of this classification indicates that, in general, the markets consist of a smaller number of larger buyers and sellers than is customarily found in the individual consumer markets for tires. In addition, it has been pointed out that "scores


206 For an excellent discussion of these points, see: Heflebower, op. cit., pp. 164-168.
of truck companies, annually, buy far more tires than does the average dealer.\textsuperscript{207} Thus, many of the buyers purchase in large quantities, and many dealers are not active in the market supplying them.

Several sources have reported evidence indicating that buyers within these markets do not play a passive role in the purchase and sale of tires. Heflebower, for example, wrote that "the larger buyers practically call for bids among the competing tire companies whose products and service they consider to be satisfactory."\textsuperscript{208} The growth of "direct consumer sales" between 1921 and 1941 has been traced briefly in a report of a Senate Committee on Small Business Problems of the Rubber Industry. The following quotations from that report indicate some of the results from these market activities:

By the latter part of 1940 the national-account drive had reached the stage of cut prices to all types of commercial accounts without exception. Goodyear was said, in the West, to be soliciting large national fleet business at distributors' price less 10, 2 1/2, 2 1/2, and 2 percent for cash. Other western cities reported certain majors were seeking this business at billing less 15, 7 1/2, 10, 2 1/2, and 2 1/2 percent. From the South came the report that Firestone, Goodyear, and Goodrich were quoting a certain large dairy at billing less than 15, 7 1/2, 10, 5, 2 1/2, 2 1/2, with 2 percent for payment by the 10th of the month. Southwestern dealers reported Goodyear, Goodrich, and U. S. were selling at retail dealers' price less 15 1/2, 7 1/2, and 2 1/2 percent.

\textsuperscript{207} L. W. Leigh, "The Quantity-Limit Rule and the Rubber Tire Industry," \textit{op. cit.}, pp. 149-150.

\textsuperscript{208} Heflebower, \textit{op. cit.}, p. 166.
It also became apparent that the major manufacturers were increasingly concentrating national accounts and local business in their own retail stores or with certain favored dealers. ... 209

As additional evidence, it is helpful to refer again to the quotation from Dr. Leigh in regard to the size of purchases made by some truck operators.

A more complete quotation from Leigh is given below:

Truck operators require something beyond the ordinary in both service and price. Scores of truck companies, annually, buy far more tires than does the average dealer. Such volume purchases demand large discounts and, perhaps, costwise the trucking companies are entitled to them. 210

*Truck tire prices in urban areas are usually well below list. The theory has been advanced that the cost of selling truck tires in volume to large accounts is considerably below the average retail cost. See R. S. Wilson -- Address before National Association of Independent Tire Dealers, Chicago Convention, October, 1950.

Other sources might be cited and other examples given, but the evidence presented indicates that the tentative conclusion should be that market power in the pattern described by Professor Galbraith exists on both sides of the markets within the classification of commercial accounts.

e. Government Agencies. -- The classification of markets identified as government agencies has its chief distinguishing characteristic in the


fact that the market activities on the buyers' side are the direct purchasing activities of federal, state, or local units of government. In line with the suggestion in Chapter V, market power, if any, on the buyers' side of these markets should be identified as "positions of public market power." 211

Generally, these markets are also distinguished by the nature of the negotiations between buyer and seller. Usually formal bids are requested, and the prices asked by successful bidders are public information. 212

Tire manufacturers, tire dealers and distributors, and private brand owners are the types of firms active on the sellers' side of these markets. As in the commercial markets, some of the sellers' activities are overlapping or partly cooperative in addition to being competitive. For example, tires sold by a manufacturer to the federal government through the Procurement Division of the Treasury Department may be delivered within a certain zone by an independent distributor who receives a commission from the manufacturer.

Individual markets within the classification are influenced by matching the various types of buyers and the sellers who supply them. Sales to the federal government through procurement by the Treasury Department or purchase by the military services are usually made by tire manufacturers. Sales to small local governmental units are usually made by dealers or distributors. As pointed out by Dr. Heflebower, however, the line between the governmental units with whom the manufacturer will seek to do business and

211 See pages 251 ff.
212 Heflebower, op. cit., p. 34.
that in which the dealer or distributor seeks the contract is not clear. In view of this difficulty, it is suggested that the broad classification of markets represented by sales to government agencies be divided into two subclassifications: (1) federal agencies, and (2) other governmental agencies. The first of these actually becomes an individual market. Although the bids and awards may vary by geographical area or zone, the group of buyers and sellers active in these areas appears to be substantially the same. The second subclassification, which includes state and local agencies, should be broken down into individual markets on the basis of geographical limits. The group of buyers within each of these markets varies and the group of sellers may be substantially different from that in other local markets.

Identification of power positions within these markets requires separate conclusions for the two subclassifications and for each individual market within the second one suggested. In the market for sales to the federal government, the buyer is faced by the strong market position of the tire manufacturers, and the manufacturers are faced with a big buyer purchasing through a limited number of agencies on the basis of competitive bidding. Data are not available for the individual markets involving sales to state and local governments. For sales to state and large local government units market positions similar to that for sales to the federal government probably exist. For smaller local government units, purchases and sales probably do not take place from strong positions of power on either side of the markets.

---

213 Heflebower, op. cit., p. 170.
CHAPTER VII

COUNTERVAILING POWER IN THE TIRE AND TUBE INDUSTRY
(Continued)

The preceding chapter described the structure of the manufacturing
level for tires and tubes, and analyzed briefly the distributive pattern for
the automotive tire segment of the industry. The second section of the
chapter, based on a review of earlier studies, emphasized the major character-
istics of the industry. The third section classified the markets for automotive
tires, and discussed the nature of the individual markets within each classi-
fication. This section also included a discussion of market power within
individual markets which led to tentative conclusions in regard to the identi-
fication of positions of power.

The classification of markets for automotive tires gave six major
groups of buyers and sellers. Individual markets were defined within each
of these major groups. For the original equipment classification the primary
factor determining the individual markets was the nature of the product, i.e.,
the type of tire purchased and sold. For the various classifications of re-
placement markets, the major factor in delineating individual markets was
the geographical element or coverage of area. In view of the fact that data
were not available from secondary sources for individual markets defined
by geographical boundaries, the tentative conclusions drawn in regard to
power within these markets were in the nature of general conclusions for
all markets within the particular classification. The conclusions drawn
indicate that market power in line with the concepts of Professor J. K. Galbraith
exists on both sides of the following markets: (1) the individual markets for original equipment tires; (2) the majority, if not all, of the markets resulting from "direct" purchase or negotiation by replacement purchasers of tires for resale, i.e., direct from tire manufacturers; (3) the "national" market for sale of tires or tire mileage to commercial accounts, and probably in many of the more local or regional markets for sales to this group of buyers; and (4) the "national" market for sales of tires to the federal government, and the more localized markets for sales to state governments and units of larger local public agencies. Market power among buyers within this classification represent positions of "public market power" as defined in Chapter V. In comparison, the analysis indicated that generally power did not exist in two of the major classifications of tire markets. (1) The individual consumer markets, divided into many consumer trading areas for tires, did not show strong positions of power on either side of the markets. (2) The individual wholesale markets for tires, purchased from suppliers other than tire manufacturers, did not appear generally to possess positions of strong market power among the buyers or sellers. One segment of this market, represented by oil companies and chains as suppliers to independent dealers, may possess an important element of control through arrangements involving exclusive dealing.

The present chapter includes three major topics. First, a section is devoted to the Development of Market Power with emphasis on the concentration process among tire companies and automobile manufacturers, and the

1See page 254.
growth of mass distributors. The second section, Positions of Power and the Self-generating Characteristic, is designed to examine the three classifications of tire markets with positions of private market power to determine whether the market force on either side of the particular market should be identified as countervailing power. This step of the analysis also considers the self-generating characteristic claimed by Galbraith for countervailing power. In the third section consideration is given to the Use of Market Power in order that methods and techniques employed by buyers and sellers may be identified and classified. The analysis of use of market power also provides additional evidence in regard to the existence and nature of power positions.

Development of Market Power

The Concentration Process Among Manufacturers of Automotive Tires. -- The extent of concentration among manufacturers of automotive tires was discussed in Chapter VI. Measures of this characteristic expressed in terms of net capital assets, total domestic assets, and sales or shipments were cited for the postwar era. Two questions, however, remain for further discussions. (1) When did market power as defined by Galbraith develop among manufacturers of automotive tires? (2) What circumstances or conditions seem to have accounted for the degree of concentration which exists in this segment of the industry?

Tracing the development of market power among manufacturers in the automotive tire segment of the industry is complicated by several
factors. First, the product lines of automotive tires were developed after bicycle and carriage tires and after certain other rubber products such as footwear and mechanical rubber goods. Second, no standard or consistent series showing entrances and exits of firms for the industry is available. Before 1921, data from the Census of Manufacturers included mechanical rubber goods with tires and tubes. Since 1921, data are for all tires and tubes rather than the automotive segment of the industry. Moreover, the Census data show the number of tiremaking plants or establishments rather than the number of firms. These difficulties affect particularly the analysis of concentration within the industry during the first twenty-five to thirty years of its existence in the United States. Starting with 1925, reliable data are available showing the structure of the automotive tire segment of the industry.\(^2\)

Third, data for other measures or indicators of market power are fragmentary. Moreover, the information which is available shows that all elements of market power did not develop at the same time. Thus, if one applies the standards drawn from Galbraith's analysis to determine when the position of market power was reached, an important element of judgment is necessary.

The very early history of production and sale of tires shows considerable concentration of sales and other elements of market power. In the bicycle tire line the company of Morgan and Wright became the largest producers, at one time making 70 per cent of the total output.\(^3\) This company

\(^2\) Ralph C. Epstein, "Concentration and Price Trends in the Rubber Tire Industry, 1930-47" (An economic study prepared for submission to the Federal Trade Commission, 1949), pp. 66-78. Also see Chapter VI of the present study for data reflecting the current status of the industry.

became part of the Rubber Goods Manufacturing Company in 1899, and part of the United States Rubber Company when this so-called "Rubber Trust" absorbed the Rubber Manufacturing Company in 1905. It has been reported that by 1900 the United States Rubber Company, formed in 1892, "controlled in one name eighty percent of the rubber boot and shoe business of the country, in another name eighty-five percent of the rubber mechanical goods." B. F. Goodrich Company, the first rubber company in Akron, started in 1871 before the formation of the Rubber Trust. Its original product lines were fire hose and wringer rolls. By 1887, its sales had reached a half million dollars, all in mechanical rubber goods. A few years later Goodrich entered the rubber tire field, and in 1896 the company was the seller in the "world's first commercial transaction involving auto pneumatics." It has been reported that this order was practically forced on the company by Alexander Winton of Cleveland. "The pioneer auto man was compelled to pay for molds as well as tires and to pay in advance. Goodrich arguing that it would have the casings on its hands forever if he failed to call for them."

This was the same year that the Seiberling family started in the rubber manufacturing business. Their first venture, the India Rubber

---

5 Ibid., p. 409.
6 Ibid., p. 404.
7 Ibid., p. 413.
8 Ibid., p. 418.
Company, was absorbed by the Rubber Goods Manufacturing Company two years later. But in this same year, they founded the Goodyear Tire and Rubber Company, which became the largest rubber company in the world. It is interesting to note that at the time the new company invaded the tire industry it faced two important patents that appeared to be significant elements of market control. In the bicycle tire field, the company started off with a license under a patent by the Rubber Manufacturing Company. Within two years, however, "it was accused of selling under the stipulated price and the license was withdrawn," With the turn of events, the Company developed a variation in the process and applied for a patent of their own. Although sued for infringement the company kept on producing and increasing its production. The legal action was finally withdrawn. This patent difficulty, however, was the minor of the two. In the carriage tire field, Goodyear Tire and Rubber Company faced an important patent controlled by Consolidated Tire. The patent issued to Arthur W. Grant was originally assigned to Edwin S. Kelly's Rubber Tire Wheel Company. The product known as the "Kelly" tire was supposed to be "immensely superior to anything then on the market." The following quotations from Howard and Ralph Wolf show the difficulties which Goodyear encountered with this patent, and point out an interesting sequel to the developments between 1898 and 1902:

9 Ibid., p. 421.
10 Ibid., p. 421.
11 Ibid., p. 421.
12 Ibid., p. 419.
...Goodyear, threatened with suit by Consolidated Tire, came to terms, was promised $50,000 worth of carriage tire business a month, tied up its cash in materials and in whooping the working staff to 176; received but half the expected orders from the monopoly; had to bring suit to collect for tires delivered; and saw its license taken away. With Consolidated refusing to mount Seiberling's tires, the Akron concern now had to work out a method of its own before it could sell to carriage makers or dealers. This was easy, and to get around the Grant patent the Goodyearites evolved a "departure" from it.... Consolidated promptly sued and won a desist order. Seiberling appealed, succeeded in having original bond... reduced.... Now Goodyear could proceed during the life of the litigation -- but with all its carriage tire profits held in escrow.

... The United States Court of Appeals in May, 1902, found the monopoly's Grant patent void and Goodyear tied down the factory whistle to celebrate the release of its funds from escrow. Goodrich and the other licensed companies that had confined their carriage trade activities to manufacturing for Consolidated now leaped into the open market competition and new companies mixed in until 1907 saw 25 in the field with Goodyear first as it had been since 1905. As its monopoly blew up Consolidated itself had gone into manufacturing by taking over the Buckeye Rubber Co. plant erected in Akron at the turn of the century. A sales company was set up under the name Kelley-Springfield Tire Co., and that eventually became the title of the entire setup. Last year, incidentally, (1935) fate pulled one out of the hood as giant Goodyear pocketed the fair-sized but busted Kelley-Springfield....

The fourth member of the Big Four, Firestone Tire and Rubber Company, started in 1900. For two years, the new Firestone venture "amounted to little more than a buggy tire jobbing business." The first items actually produced were solid tires manufactured with the use of second hand machinery and a working force of a dozen men. At the time a few companies were "in small production" of pneumatic tires for automobiles.

---

13 Ibid., pp. 420-422.

Earlier Harvey S. Firestone owned a small plant in Chicago. The business, however, was taken over by Rubber Tire Wheel, and later by Consolidated Tire. (Ibid., p. 419).

14 Ibid., p. 423.
All of these were of that clincher type productive of so much motorist blasphemy, as the soft rubber bead had to be stretched over the rim in mounting or demounting. Basic patent for this was controlled by Rubber Goods Manufacturing and its U. S. Rubber successor, which had licensed five rivals. U. S. itself, Goodrich, Diamond, Fisk of Chicopee Falls, Mass., and Michelin, which had reached out from France to buy International Automobile and Vehicle Tire Co. at Chelsea, Massachusetts, received the important production allotments from the Association which set the percentages. Goodyear, soon to become incomparably the world's largest auto tire producer, was supposed to content itself with 1 3/4 per cent of the American volume. And tiny Firestone was completely snubbed. 15

Firestone's successful invasion of the market for the clincher type tire is an interesting story, and it provides an excellent description of the extent of market power resulting from control of the basic patent. Firestone's first step was to look for a different type of tire. In 1904, the company decided that an invention with "a rim having side rings or flanges bolted together and holding the tire in place" was the answer. 16 In 1904 and 1905, however, it was difficult to convince motorists that they should change their standard rims for the different design required for the Firestone tires. With these difficulties in mind Firestone approached Henry Ford with the idea of using the Firestone tire on two thousand cars which Ford was planning to produce and sell for $500. Firestone's "chief thought was sewing up the replacement business of two thousand autoists who would have to continue using his tires or change rims all around." 17 It is reported that Firestone "offered his casings at $55 a set as against the monopoly's take-it-or-leave-it

15 Ibid., p. 424.
16 Ibid., p. 424.
17 Ibid., p. 425.
Firestone was successful in getting the order and started making deliveries in 1906. Soon, however, Ford "awoke to the painful realization that U. S. and other monopoly members had dealers and branches throughout the country," but the small Firestone Company did not. It has been reported that because of this the Firestone Company received an ultimatum to deliver clincher type tires or lose the business of the Ford Motor Company. After trying unsuccessfully again for a license, the Firestone Tire and Rubber Company began producing without it in order to retain the company's business relationship with Henry Ford. Shortly after this, in 1907, the Pennsylvania Rubber Company succeeded in having the courts terminate the control of the clincher patent.

In 1907, total motor vehicle registration in the United States was only 142,061. And, during that year, only 43,300 new passenger cars were produced. Five years later, in 1912, almost a million vehicles were registered (944,000), and 356,000 new passenger cars were produced. The manufacturing of automotive tires expanded rapidly with the increased production and use of automobiles.

Not long before it had been a case of United States Rubber and its sister (the Rubber Goods Manufacturing Company) doing

---

18 Ibid., p. 425.
19 Ibid., p. 425.
20 Ibid., pp. 428-429.
eighty per cent of the nation's total caoutchouc business. Already auto tires had so changed the picture that Akron's combined small fry had caught up with and passed the octopus. The 1912 quarter billion rubber business in all lines was divided as follows: $95,000,000 to Akron's ten noticeable and several minute companies capitalized at a total of $113,000,000; $91,000,000 to a U. S. Rubber capitalized at $112,000,000 and with 27 factories scattered around the country; $64,000,000 to the 250 rubber plants independent of U. S. and outside of Akron. Of the Akron business, Goodrich, Good-year and Firestone accounted for about 75 per cent. . . . 22

Just prior to this time the two largest rubber companies in Akron, Goodrich and the Diamond Rubber Company, had merged. Thus, although the relative positions have changed, the Big Four of today could have been identified as such by 1912.

One final observation relating to aspects of market power in the early history of the industry should be noted from the writing of Howard and Ralph Wolf. To the extent that price leadership existed for tires, Goodrich usually assumed the role. Such a role is indicated in the following quotation:

The Goodrich lists supposedly approved by Diamond were... the ones generally followed by other manufacturers in hoisting or lowering prices on tires. Not to the extent that U. S. bossed boot and shoe prices did Goodrich establish casing figures but it took a lot of pride in seeming to set them even though the varying discounts given by the assorted companies made selling prices considerably different from list prices. 23

The factors described in the preceding paragraphs suggest that market power appeared very early in the history of the automotive segment

22 Howard and Ralph Wolf, op. cit., pp. 428-429.
23 Ibid., pp. 427-428.
of the tire industry. The number of firms, however, was not at a maximum within this time period. The "steady decline" had not started, and the "point of stability" had not been reached.\(^{24}\) As already observed, the Big Four have continued to hold their position with changes only in the relative positions of the individual firms. Moreover, of the eighteen firms now producing automotive tires ten were in operation by 1912, thirteen of them by 1915, and seventeen—all except one—by 1921. Half of these smaller companies started in business in the period from 1911 and 1915. Two were in operation before this time. These figures, however, do not indicate the large number of firms which entered the field only to fail at a later date. Writing in 1934, Albert Abrahamson noted that "in a recent tire advertisement the claim was made that 537 tire companies started in business since 1913, and only 32 of these remain."\(^{25}\)

The peak in the number of establishments producing tires appear to have been reached in 1919.\(^{26}\) The number of establishments reported by the

\(^{24}\) Professor Galbraith observed that "the number of firms participating in a business is likely to be at its maximum within a few years or even a few months after the business is born." See page 205 of the present study for a more complete reference on this point.


\(^{26}\) This observation and figure are confirmed by the Biennial Census of Manufacturers and by an earlier analysis of Richard Gettell's, Richard Glenn Gettell, "Pluralistic Competition, with an Illustrative Case Study of the Rubber Tire Industry" (Unpublished Ph.D. dissertation, Department of Economics, University of California, 1940), p. 75. Before 1921, the Census data included mechanical rubber goods with tires and tubes, hence data are not strictly comparable before and after this date.
Census for 1921 was 178, and for 1925 the number had decreased to 126. In comparison with this number, a detailed listing prepared by Dr. Ralph C. Epstein from trade lists, journals, financial manuals, and observation of the industry shows that only 71 firms were engaged in the production of tires in 1925. 27 Apparently all of these companies were producing at least some automobile tires. 28 Also, Epstein's listing represents companies or firms in comparison with the number of plants or establishments shown by the Census. In the fifteen year period between 1925 and 1939, Epstein shows that 45 of the 71 companies either failed, withdrew from tire production, or were absorbed by other companies. "At the beginning of 1940, 26 companies were still in the automobile tire manufacturing business as independent companies." 29 By the end of 1948, the number had dropped to 21. At the present time, seven years after the time period covered by Dr. Epstein, the number of firms producing pneumatic automotive tires is 18.

Estimates of the share of total tire and tube sales made by members


28 This point is not completely clear in Dr. Epstein's analysis. After listing 71 companies "that were engaged in the production of tires as of the year 1925," Dr. Epstein added: "During the 15 years between 1925 and 1939 inclusive, 45 of these companies either failed, withdrew from the field of tire production, or were absorbed by other companies. At the beginning of 1940, 26 companies were still in the automobile tire manufacturing business as independent companies." (Ibid., p. 68.);

29 Ibid., p. 68. "This number excludes the Ford Motor Company, which made some of its own tires between 1938 and 1942.... In 1942, its tire making machinery was shipped to Russia." (Ibid., p. 68--footnote.)
of the Big Four are not available for all years in the history of the industry. Estimates by Gettell and Leigh show the relative market position of these companies for selected years between 1914 and 1933. And, Epstein's study of concentration in the industry gives estimates for each year between 1930 and 1947. The two series, however, originated from different sources, and do not appear to be strictly comparable. Moreover, the data vary somewhat for the few years which overlap between the series. Although there are important difficulties in tracing the tendency for concentration in the industry, two important conclusions can be drawn from the data with reasonable accuracy. First, early in the history of the industry the Big Four supplied the bulk of the total market. The estimate for 1914 was 66 per cent. This percentage appears to have decreased somewhat during the next ten years, and to have increased during the next ten year period. Second, from 1935 to 1947, the last thirteen years for which comparable data are available, there was little change in the market share of the Big Four.

Although each of the companies within the Big Four have retained their position or membership in the group since the early years of the

32 Epstein, "Concentration and Price Trends in the Rubber Tire Industry, 1930-1947," p. 36. Although the percentage of total tire and tube sales made by the Big Four varied from a low of 71.5 in 1938 to a high of 79.6 in 1942, for ten of the thirteen years the percentage was between 74.7 and 77.3 with no particular pattern of variation within this narrow range. (Ibid., p. 36.).
industry, the group comprised of the four next largest companies has shown a complete turnover. In his doctoral dissertation, Warren Leigh pointed out that between 1914 and 1921 the "second line companies . . . forged ahead more rapidly . . . than did the larger companies." \(^{33}\) At this time, 1921, the "second line companies" were "Fisk, Miller, Kelly-Springfield, and Ajax." \(^{34}\) Ajax failed in 1931, and was not of "any real consequence in the market for the previous four or five years." \(^{35}\) Miller, being in financial difficulty, was purchased by B. F. Goodrich Company in 1930. \(^{36}\) Kelly-Springfield was absorbed by Goodyear Tire and Rubber Company in 1935, and Fisk by U. S. Rubber Company in 1939. \(^{37}\)

For the period 1939 to 1947, Ralph Epstein ascertained the percentage increase in dollar renewal tire sales (domestic automotive) for each of the four largest companies and for eight smaller tire companies.

The results are very striking. They clearly show that no large company has a monopoly in capturing a regularly increased share of the market; nor is any trend indicated in this direction. In fact, several smaller competitors grew much more markedly than did any of the big companies. \(^{38}\)

\(^{33}\)Leigh, op. cit., p. 19.

\(^{34}\)Ibid., p. 18.

\(^{35}\)Ibid., p. 121 -- footnote.

\(^{36}\)Gettell, op. cit., p. 93.


\(^{38}\)Epstein, "Concentration and Price Trends in the Rubber Tire Industry, 1939-1947," p. 7. The percentage increases for the Big Four ranged from 169 to 233 per cent. For the smaller companies, the range was 56 to 601 per cent with four of the smaller companies having percentage increases greater than any member of the Big Four. (p. 8.)
Thus, other companies, particularly General Tire and Rubber Company and Armstrong Rubber Company with their affiliates, have grown to offer competition to each of the Big Four. As mentioned earlier, however, all except one of the fourteen smaller companies now in operation were manufacturing tires by 1921. But, at that time none of these were among the eight largest manufacturers in the industry.

Although there was a complete turnover in the "second line companies" between 1925 and 1939, most of the tire companies which failed or were absorbed during this period were not large concerns. In only nine of the forty-five cases did the total assets of the enterprises, "prior to depletion because of financial difficulties, amount to as much as $2,000,000...; and two thirds of them were smaller than $1,000,000 in size." 39 Six of the nine companies with assets of $2,000,000 or more were absorbed by Goodyear, Goodrich, and the United States Rubber Company.

Concentration of sales among members of the Big Four has been greater in the original equipment than in the replacement markets for tires. As noted earlier, virtually all tire sales to automobile manufacturers are made by Goodyear, Firestone, U. S. Rubber, and Goodrich. Earlier in the history of the industry other companies, particularly Diamond Tire and Rubber Company, Ajax, and the Fisk Rubber Corporation, were important in this market. 40 In the early years Diamond had a large share of this market,

39 Ibid., pp. 68-69.
and its original equipment connections were probably an important factor in the Diamond-Goodrich merger in 1911.  

41 "Ajax was organized by independent automobile companies not operating under the Selden patents. They claimed that they were being discriminated against in the matter of tire deliveries so they set up their own company. This company had a phenomenal growth until about 1918."  

42 As noted earlier, the company failed in 1931. The Fisk Rubber Corporation was reported to have enjoyed a "liberal portion" of the original equipment business until the early thirties. At one time, 1928 to 1930, Fisk held a contract with the Chrysler-Dodge organization which was "regarded as one of the most profitable as well as one of the largest original equipment contracts, since it covered practically 100% of the company's requirements."  

43 Goodyear Tire and Rubber Company took over this contract in 1930.  

44 In January 1931, the Fisk Rubber Company was placed in receivership, and was absorbed by the United States Rubber Company in 1939.

Turning to the replacement markets for automotive tires, Epstein's figures show that the Big Four controlled just slightly more than two-thirds

41 Leigh, op. cit., p. 20.

42 Ibid., p. 121 -- footnote.


44 Gettell, op. cit., p. 249 -- footnote.

45 Fraser and Doriot, op. cit., p. 93 -- footnote.
of the sales to these markets in 1947. From 1930 to 1947 this percentage varied from a low point of 61.6 in 1937 to a high of 70.3 in 1942, but in thirteen of these eighteen years the figure was between 62.5 and 67.5 per cent. From the analysis Dr. Epstein concluded "that there has been no real growth in concentration of tire renewal sales during the past decade and a half (up to and including 1947)."  

Looking ahead from 1948, Epstein predicted that the 21 companies manufacturing automotive tires at that time would not "show the same tendencies to failure...as prevailed among companies in the tire industry between 1925 and 1939."  This prediction did not mean no more failures or withdrawals, but a markedly lower number and percentage of such eliminations. In support of his general forecast, Epstein called attention to several "underlying factors."  

(1) At the end of 1948, the smaller companies were in good financial condition. 

(2) The middle group of companies -- such as Gates, Lee, Armstrong, Seiberling, and Dayton--each had assets of more than $15,000,000. Also, as has been noted, some of the tire companies

47 Ibid., p. 74.  
48 Ibid., pp. 74-78.  
49 In 1948, General Tire and Rubber Company owned about 48 per cent of the common stock of the Mansfield Tire and Rubber Company. Mansfield had assets of $15,000,000. General also owned 100 per cent of Pennsylvania Rubber Company, acquired in 1945. In 1953, General sold its stock interest in Mansfield. General Tire and Rubber Company is not included in the "middle group" of companies. As pointed out by Epstein, "General is in a position to offer
grew much more markedly from 1939 to 1947 than did any of the
members of the Big Four.

(3) At the end of 1948, three-fourths of the smaller companies
(the 17 companies other than the Big Four) had assets over $2,500,000,
and not one had assets less than $1,000,000.

Dun and Bradstreet's tabulation of all manufacturing failures
between 1934 and 1947 inclusive...shows that during these 14
years the firms that failed with liabilities of over $1,000,000
amounted to less than one-quarter of one per cent of the total
number of bankruptcies. 50

(4) The price of rubber has remained more stable since 1938 than in
earlier years.

(5) By 1948, the tire industry had "emerged from its pioneering
and rapid expansion stages and settled down into a mature branch of manu-
facture." 51 Epstein expected production and improvement to increase,
but pointed out that "the unknown and hazardous elements in manufacture
have been greatly reduced."

The underlying factors which influenced Epstein's forecast of the
future reflect some of the causes of concentration in the industry. Approaching
these causes more directly, a review of earlier studies of the tire industry
indicates that reasons for the concentration processes in this industry do not
arise from manufacturing economies. 52 The factors or causes which appear

________________________
50 Ibid., p. 78.
51 Ibid., p. 78.
52 See page 299 ff. of the present study; and Leigh, op. cit., p. 19.
to have been important include: (1) product and product development activities including vertical integration to produce some raw materials, (2) financial strength, (3) widely fluctuating prices of rubber, (4) procurement of original equipment business, (5) extensive distribution and intensive promotion of product to build acceptance and prestige, and (6) administrative or management decisions, particularly those related to expansion and diversification.

The listing of the reasons or causes for concentration in the tire industry is difficult because each is related to several others. Thus, there is a spreading or overlapping which makes specific enumeration somewhat misleading. Financial strength was a factor in meeting the risks of widely fluctuating prices, and a factor in building or providing extensive distribution and intensive promotion. Extensive distribution, product development, prestige, and adequate size to assure supplies were important factors in securing original equipment contracts. Original equipment sales, in turn, aided in developing the renewal market. Also, original equipment sales played a part in reducing the size of the renewal market when spare tires were added to new automobiles by manufacturers as original equipment rather than by consumers as a "replacement" item. Product development also reduced the market for replacement sales, and combined with the expansion of capacity contributed to price wars which were a major problem for the

financially weaker companies, particularly the smaller ones depending primarily upon tire sales. Certain monopolistic elements may also be reflected in some of the factors listed above. For example, control of patents was important especially in the early history of the industry. Also, financial interests in both tire and automobile companies may have influenced the awarding of some original equipment contracts. The concentration process of the industry, however, appears to have been a "logical development." 54

Concentration within the Automobile Industry. --"Automobile manufacturing, as distinguished from experimental building, commenced in 1900." By 1902, twelve firms were producing passenger automobiles. This number doubled in 1903, and continued to increase until 1910. Considering new entrances and exits during the year, 69 firms remained in 1909, but the number dropped to 52 in 1910. By 1913, the number of companies had increased to 70 and continued generally upward until 1921, reaching an "all-time" peak of 88 in that year. By 1926, the number had been cut in half—to 44; and if 55

56 During this period, 1913 to 1921, increases occurred each year except in 1916 and 1918. (Ibid., p. 176.)

In considering the tabulation of entrances and exits by Dr. Epstein the following points aid in interpreting the data: (1) Changes in name, "either wholly capricious or else the results of a complete transfer of ownership," are not considered to constitute either entrances or exits. (2) Combinations of existing companies have been similarly treated when the lines of cars manufactured were continued.... (3) "In the instance of an already established company merely adding a car to its line, but giving it a new trade name, the new 'subsidiary' is not treated as a new concern, although it may be separately incorporated...." (4) The participation in automobile manufacture by firms already engaged in other manufacturing fields are considered as an entrance of a new automobile firm when this occurred. (Ibid., pp. 166-167.)
combinations such as General Motors were counted as single companies in that year, the figure would be only 40. 57 Today, 1956, only five companies or combinations remain. 58 According to the figures quoted, a total of 181 companies engaged in the manufacture of automobiles between 1903 and 1926.

Undoubtedly there were during these years a number of other companies, some of which probably engaged in fabricating automobiles. Most of them, however, were business units, either incorporated or otherwise, which existed only in the minds of the men who organized them. Those which did make cars turned out only a few, often only a sample car or two. A number were "active," in this sense, for one year only, or even a shorter time. Any estimate which included these "paper" firms would run high indeed. ... 59

In his analysis, Epstein pointed out that "considerable concentration ... has always existed" in the automobile industry. 60 After dividing the companies by quartiles and studying the degree of concentration accounted for by the firms in the upper bracket, he concluded that the percentage of output represented by the production of these companies remained fairly constant during the twenty-four year period 1903 to 1926. 61

In 1903, the largest plant in the industry, the Olds Motor Works, made 3,922 cars or almost 36 per cent of the 11,235 cars produced in that

58 This number does not include Kaiser-Willys which produced jeeps but no passenger cars in 1956.
60 Ibid., pp. 216-217.
61 Ibid., p. 217.
year. 62 Near the end of 1908, Olds became part of the General Motors Company which, in its first year of operation (1909), accounted for almost 24 per cent of the total output in the United States. 63 In these years the Ford Motor Company was considerably smaller, producing only 708 cars in 1903 and 12,292 in 1909. The Chevrolet Division of General Motors which now competes with Ford for the top line in sales started as an independent company in 1914 and became part of General Motors in 1917. 64 Dodge Brothers also started in 1914. Following the crisis of 1920, the Maxwell Company (1904) merged with the Chalmers Motor Company (1907), and shortly after that, in 1925, became the Chrysler Corporation. 65 In 1928, the Chrysler Corporation acquired all assets of Dodge. Shortly after this the Plymouth line was added to compete with Chevrolet and Ford. In 1930, these three lines accounted for slightly over 66 per cent of all new car sales — Ford 40.17 per cent, Chevrolet 23.56 and Plymouth 2.44 per cent. 66 In this same year all lines of the "Big Three" accounted for 83.35 per cent of new car domestic sales made by some 30 companies remaining in the industry. 67 By 1938, these three companies sold slightly more than 90 per

---

62 Ibid., pp. 213 and 314.
63 Ibid., p. 219 and 351. The output of General Motors in 1909 was 30,981 automobiles. (Ibid., p. 351.)
64 The Cadillac Motor Car Company began operation in 1903 and the Buick Motor Company in 1904. Both were included in the original General Motors' organization. (Ibid., p. 378.)
65 Ibid., p. 302.
66 Fraser and Doriot, op. cit., pp. 27 and 29.
67 Ibid., p. 27.
cent of the new passenger cars registered. "Of the total new passenger-car registration, Chevrolet had 24.6 percent, Ford 19.2 percent, and Plymouth 15.1 percent." 68 By this time, seven concerns sold 99 per cent of the new cars registered. As mentioned earlier, only five firms remain today. In 1955, the "Big Three" produced 95.2 per cent of all new passenger cars registered in the United States. 69

The Growth of Mass Distribution and Direct Sales by Manufacturers in the Automotive Tire Replacement Markets. — Although there is little statistical data relating to the distributive pattern for automotive tires prior to 1926, earlier studies, particularly those by Warren W. Leigh, give a clear picture of the general nature of tire distribution and the major developments throughout the history of this segment of the industry. A review of this history indicates that discussion and summary of the changing pattern falls roughly into a series of time periods each about ten years in length. 70

Bicycle and carriage shops were the pioneer sellers of automotive tires at the retail level. 71


69 Automotive Industries, Vol. 114, 38th Annual Statistical Issue, March 15, 1956, p. 96. Of the total registration, General Motors accounted for 50.8%, Ford Motors 27.6%, and Chrysler 16.8%. By brand or lines, Chevrolet was first with 22.9%, Ford second with 21.9%, Buick moved to third with 10.3%, and Plymouth was fourth with 9.0%. (Ibid., p. 96.).

70 The periods suggested are: 1900-1910, 1911-1920, 1921-1930, 1931-1940, 1941-1945 (World War II), and 1946-1956.


As the automobile trade developed and garages, automobile dealers, and distributors, and curb gasoline distributors arose, these were utilized. In the smaller town and rural areas hardware stores, implement houses, general stores and others were pressed into service. But on the whole, there is some evidence indicating that rubber companies did not grant dealerships quite so promiscuously as they did after 1910 or 1912. 72

At wholesale, the manufacturer's sales branch or branch house assumed the leading role early in the history of the tire industry. 73 Wholesalers or jobbers were also used and continued for many years to be important outlets for smaller companies and in sparsely populated areas. The early branch houses "performed the characteristic functions of serving as a selling headquarters for the field organization, carrying stocks of tires, breaking down shipments into retail quantities and parcelling them out to the trade, extending credit and making collections." 74 At first, however, the branch house was particularly important as a repairing and servicing agency. Independent repairmen began to appear during the latter part of 1904. 75 With establishment of independent repairmen in the field, the branch "devoted its efforts to evolving new and improved repair practices and to training salesmen and dealers in the servicing of tires. 76 The branches also served as retail outlets for the manufacturers as is shown by the following quotation:

 Practically all of the tire companies except Firestone operated retail stores at their branches, due perhaps to the lack of competent

---

75 Ibid., p. 28--footnote.
dealers and also the necessity of accumulating knowledge upon
the problems of retail tire merchandising. United States Rubber
Company discontinued its retail activities in 1912, and the other
companies followed. Kelly-Springfield, possibly the last major
company to operate such stores, closed them in 1922. 77

During the second ten year period, 1910-1920, a number of changes
and developments took place in the distributive pattern for automotive tires.
Particularly during the early part of this period, the retail dealerships
were expanded rapidly. It has been reported that "by 1917 Goodyear had
78 granted 30,000 dealerships and the other companies a corresponding number."
During the latter part of this period the tendency was reversed with the
impetus probably coming from a new tire company, the General Tire and
Rubber Company, which began distributing its products through a selected
group of retailers who were given exclusive dealerships. Shortly after this
Goodyear announced plans for selective distribution. 79

This same period, 1910-1920, was the one during which mail order
houses and chain stores began to sell tires. "The first chain store to sell
tires was probably Western Auto Supply which was founded in 1910." 80
Sears, Roebuck and Company began selling tires in 1911, and Montgomery
Ward in 1912. These outlets, however, were not major factors in the
replacement market during this period. "In total the mail order houses and

77 Leigh, "Some Marketing Problems of the Automobile Tire Industry,"
p. 38--footnote.
78 Ibid., p. 38, referring to Rubber Age and Tire News, October 10, 1918,
p. 24.
80 Ibid., p. 41.
chain stores probably sold not more than half a million tires or about 2 per cent of the market in 1921. 81

During this period the branch system of the tire manufacturers was expanded at the wholesale level. In this respect, Leigh pointed out that the branch system during the period "was substituted for jobbers and distributors as rapidly as the financial position of the companies permitted, for these middlemen were unwilling or unable to push tire sales adequately, build dealer representation, carry complete tire stocks, and extend credit to dealers." 82 Also, during this period sub-branches or chains of "supply depots" appeared to supplement the services of the main branches. Goodrich took the lead in this development in 1910, and other companies soon followed. 83 During this period, however, manufacturers generally discontinued their retail stores operated at their branches. According to Leigh's estimate, by 1920 company-owned branch houses accounted for approximately 80 per cent of the replacement sales made by tire manufacturers. 84

The period between the first World War and the Great Depression was a very important one in the marketing history for automotive tires. It was during this period that development of mass distribution for tires moved into high gear. During this period the manufacturer's dominant

---

81 Ibid., p. 42.
position in the renewal markets was challenged by mass distributors and large commercial accounts.

Following the War, the number of dealerships selling tires was expanded considerably. Impetus for the "mad rush of dealers and volume" came first from optimistic forecasts of tire sales, but it changed to excess capacity and the urgent need for volume in 1920 and 1921. During these years the financial problems involved in repaying loans, taking heavy losses on crude rubber, meeting commitments from contracts for cotton fabric, and turning large inventories of tires were met in part by the sale of tires by manufacturers at reduced prices. The leader in this step was the Firestone Tire and Rubber Company. There is also evidence that car manufacturers overbough in 1920 leading to their retailing and dumping of tires in 1921 and 1922.

The period following the first World War also marked the entry of tire manufacturers as direct participants in the commercial markets for replacement tires. "In 1920-1922 Goodyear inaugurated a rather definite policy of selling large commercial accounts direct. During the following years the practice grew until each manufacturer was soliciting these accounts with specialty salesmen. In regard to this development, a report printed for use by the Special Committee to Study Problems of American Small Business included the following comment:

86 Howard and Ralph Wolf, op. cit., pp. 445-446.
88 Ibid., p. 164, referring to testimony of R. S. Wilson, Docket 2216, pp. 20056-57 and Tires, September 1925, p. 46.
The practice of selling direct to the consumer at prices approximating the most favored small dealer buying dates back to 1921 when certain manufacturers effected contracts with certain nationally operating firms such as American Telephone and Telegraph, and Western Electric. This practice although irritating did not become serious until the early 1930's when it became apparent that more and more firms of this nature were commencing to buy at dealers' cost prices from these same tire makers. This, of course, deprived dealers of a very profitable outlet for heavy truck tires and passenger-car tires as well. 89

As noted earlier chain stores and mail order houses started selling tires about 1910, but their sales represented only about 2 per cent of the total replacement volume in 1921. By 1925, however, the mail order sales of Sears, Roebuck and Company and Montgomery Ward were 7.2 per cent of renewal sales, and chain store sales accounted for an additional 1.9 per cent. 90 The first significant increase in the share of market taken by the two large mail order houses resulted from active promotion and emphasis on tire sales by Montgomery Ward. Leigh has reported the company's tire sales increased 300 per cent between 1923 and 1925. 91 By 1927, however, Sears, Roebuck and Company had matched and exceeded somewhat the tire sales of Montgomery Ward.


90Abrahamson, op. cit., p. 37, citing figures compiled by W. W. Leigh.


Dr. Leigh estimated that the tire sales of Montgomery Ward were approximately 2,000,000 units for 1925. At that time, the unit sales of Sears, Roebuck and Company were only 700,000. (Ibid., pp. 131-132.)

92Howard and Ralph Wolf, op. cit., p. 469.
With the entrance of the two large mail order houses into the chain store field in 1926 and 1927, the relative importance of chain store sales in the renewal tire markets increased rapidly. The early store of Sears, Roebuck and Company emphasized tires, auto accessories, and hardware. Leigh has described them as "primarily retail tire stores until 1929." By 1928, the greater proportion of the tire sales of the two mail order houses were made through their retail store outlets. It has been estimated that the "chain and department" store sales of these companies accounted for 32 per cent of their total tire sales in 1927 and for 64 to 65 per cent of their sales in 1928 and 1929. By 1929, the two were handling 15.3 per cent of the tire replacement sales, with Sears, Roebuck's volume reaching 4,380,000 units and Montgomery Ward's 2,756,000.

Early in its rise to importance as an outlet for tires Sears, Roebuck and Company cancelled its cost-plus contract for tires with Murry Rubber Company and entered into its first contract with Goodyear Tire and Rubber Company. "The contract was the first between a manufacturer of a nationally known and standard line of tires and any mail order or chain store organization. Being the first, it is held responsible for all others." The nature of such

---

94 Ibid., p. 134.
95 Ibid., p. 135.
96 Howard and Ralph Wolf, op. cit., p. 469.
97 Howard and Ralph Wolf, op. cit., p. 467.
contracts and their influence are considered later, but it should be noted that
the first Goodyear-Sears contract appeared in 1926 followed by similar
contracts between other chains, such as Western Auto Supply Company or
Montgomery Ward, and other major tire companies, except Firestone Tire
and Rubber Company.

The period 1920 to 1930 was also an important one in tire distribution
because it marked the beginning of renewed efforts of tire manufacturers to
distribute their products through company-owned retail stores. As mentioned
earlier, many tire companies sold at retail through their branch houses in
the early history of the industry. This practice was largely discontinued before
1920. In 1921 and 1922, however, some tire manufacturers began selling
direct to large commercial accounts. "To hold and further develop these
accounts a few manufacturers' retail stores again began to appear." Other
factors also were important in the opening of these stores, especially for
the company stores started during the latter part of this ten-year period.
It is significant, however, that "until 1930, commercial business approximated
70 per cent of the sales of these stores.

The rapid increase between 1926 and 1930 in the relative importance


It is interesting to note that the United States Rubber Company, the only
member of the Big Four not operating retail stores at the present time,
was probably the first tire manufacturer to own a chain of retail outlets.

99These reasons are summarized in the section which follows.

of company-owned stores in the sale of replacement tires is shown by Chart II. In 1926, these outlets accounted for slightly less than .5 per cent of all replacement sales. By 1930, the figure had increased to 7.2 per cent.

Two other developments within the period 1920 to 1930 should be noted. Near the end of the period oil companies entered the field of tire distribution. In 1929, sales through this channel represented less than 1.0 per cent of total replacement sales. By 1930, the figure had increased to almost 3.0 per cent, and in another year it had jumped to 6.2 per cent. The first significant step in moving tires through this particular channel was in 1930 when the Standard Oil Company of New Jersey and its affiliates began selling tires through their service stations. Standard Oil Company through its buying affiliate, the Atlas Supply Corporation, followed the mail-order and chain store pattern of selling under its own brand. Most of the other petroleum companies which began distributing tires, however, "sponsored manufacturers' tire brands under commission arrangements on purchase and resale contracts."

A final development starting in 1926 and 1927, influenced the volume of replacement tires flowing through the retail outlets of tire dealers, mass distributors, and tire manufacturers. "In 1926 and 1927 the manufacturers of the most expensive cars began to equip them with spare tires." The practice grew rapidly, and by 1934 practically all cars were equipped with spare tires by the automobile manufacturers. In 1927, spare tires sold

---

104 Ibid., p. 99.
to automobile manufacturers represented only about .1 per cent of all replacement sales (including spares). By 1933, such sales were 5 per cent of the total.

Chart II shows the major trends in the distributive pattern for automotive tires from 1926 to 1947. The chart based upon the units sold by each major channel follows the classification of channels and terminology used in Chart I.

Chart II

SALES TRENDS IN MAJOR TIRE DISTRIBUTION CHANNELS, 1926-48*
(Tire Units in thousands)


105 Abrahamson, op. cit., p. 37.
106 See page 271.
From the standpoint of relative importance, the following major trends and developments should be noted:

(1) The relative importance of sales by chain stores and mail order houses increased particularly between 1926 and 1930 and between 1937 and 1940. By 1940 these outlets accounted for about 24 percent of the replacement sales.

(2) Retail sales by company stores reached a peak of importance in 1935 when they accounted for slightly over 12 per cent of the renewal business. Their period of most rapid growth was between 1928 and 1931. Their share of market in 1947 was actually below that achieved in 1930.

(3) Following the first period of rapid growth in tire sales by oil companies between 1929 and 1931, their share of market continued to increase reaching a pre-war peak of almost 17 per cent in 1938. Since World War II, their market share has again increased with the channel accounting for slightly over 23 per cent of all replacement sales in 1947.

(4) Direct shipment of tire manufacturers represent a relatively small share of the market, but the percentage of sales flowing through this channel almost tripled between 1938 and 1941 (.82 per cent in 1938 to 2.42 per cent in 1941). In 1947, this channel accounted for about 2 per cent of renewal sales.

107 The following points are drawn from the various studies of Warren W. Leigh the results of which were summarized in the Appendix of his last study published in 1948. (Warren W. Leigh, Automotive Tire Sales by Distribution Channels, Bureau of Business Research Study 5, (Akron: University of Akron, 1948), pp. 23-24.
(5) Cooperatives entered the distributive pattern in 1935. Starting with 1938, sales through this channel have increased gradually accounting for 1.1 per cent of replacement sales in 1947.

(6) The decline in the relative importance of distributors and dealers reflects two major periods of decline to a low point of 48.2 per cent in 1941. In 1927, these outlets accounted for about 88.5 per cent of the replacement sales. In 1930, the figure had dropped to about 70.2 per cent. In 1933, their market share was almost 66 per cent, but by 1938 they accounted for only 50.8 per cent of the replacement market. Also, it should be noted that the relative position of these outlets was better in 1946 and 1947 than in any year since 1937. In other words, their share of market was slightly higher in these two post-war years than during the five-year period preceding the War.

Positions of Power and the Self-generating Characteristic

In Professor Galbraith’s development of the concept of countervailing power the element of “timing in appearance” of market power was important for two reasons. First, in identifying positions of power as either the original or countervailing force, the element of timing was the only distinguishing characteristic. Second, the element of timing is related to the self-generating characteristic claimed by Galbraith for countervailing power. The element of timing, however, is not the basic point in proving or disproving the self-generating characteristic. The critical point is one of cause and effect.
Galbraith claimed that there is both an incentive or need and a reward for the development of countervailing power. In view of these elements in the concept of countervailing power developed by Professor Galbraith, attention should now be focused upon two questions: (1) Does the history and development of market power within the industry make it possible to identify some original positions of private market power and others as positions of countervailing power? (2) Does the history and development of market power within the industry support the claim that power on one side of a market leads or tends to lead to the development of market power on the other side of the market? The discussion of these questions which follows has been organized by the major classification of markets within the automotive tire segment of the industry selected for study in the preceding sections of the present chapter.

The Original Equipment Market for Passenger Car Tires.--The preceding summary of the growth and development of concentration in the automobile industry and the automotive tire segment of the tire industry does not indicate any significant variations in the growth of these power positions. Considerable concentration existed early on both sides of the market. The number of firms or establishments continued to expand, however, until shortly after the first World War. Since that time the number has declined, leveling out considerably by the latter part of the thirties. The similarity of the pattern of growth and development of power on each side of this market makes it difficult to identify one side as the position of original power and the other as the countervailing force. In Chapter V it was suggested that this particular problem should be solved by identifying the power on each side of
such markets as a countervailing force. The suggested solution seems appropriate for the original equipment market for passenger car tires.

Although the identification of both sides of a market as positions of countervailing power may not fit neatly into Professor Galbraith’s framework of ideas, some elements of his discussion suggest the type of situation found in the original equipment market for tires. Professor Galbraith pointed out that "new restraints on private power...were nurtured by the same process of concentration which impaired or destroyed competition."\(^{108}\) His analysis also called attention to the point that restraining positions of power have often been built up through the concentration process in the producer's goods markets. Thus, power on each side of a market may arise through similar processes of concentration rather than the growth and development on one side being dependent upon concentration of power on the other side of the market. More specifically, countervailing power is not entirely dependent upon power from the other side of the market for its origin and growth.\(^{109}\)

Although market power on each side of the original equipment market for passenger-car tires appears to have developed through similar patterns and processes of concentration, there also appears to have been some elements of a cause-and-effect relationship in the growth of these positions of market power. The growth of large automobile manufacturers selling their product


\(^{109}\) See pages 7-10.
in most, if not all, consumer markets, had a tendency to restrict the sellers of original equipment automobile tires to the large tire companies. National distribution by the large tire manufacturers, consumers acceptance of their brands, and a large dependable supply were important factors in securing and maintaining original equipment business. Thus, the element of cause-and-effect relationship was based primarily upon marketing and production factors rather than upon elements of bargaining stemming from the positions of power.

The Replacement Markets for Automotive Tires Purchased Directly from Manufacturers for Resale. — The discussion in an earlier section indicates that the role of the mass distributor became an important one during the twenties. Undoubtedly individual buyers within these markets possessed some market power before this time, and some of the buyers may have had considerable market power. The activities of these buyers, however, began to have a significant influence on the replacement market about 1926 or 1927. Analysts generally have agreed that the competitive picture of the industry changed at about this time. Gettell, for example, made the following comment:

... 1927 can be described either as the last year in which the large tire manufacturers enjoyed practical dominance of the industry, or as the first year in which major disturbing elements arose, which were to contribute significantly to the later unsettled competition among all units involved in the manufacture and/or sale of tires. 111

111 Gettell, op. cit., p. 321.
One of these disturbing elements was "the large distributing organization which became important in the replacement market after 1927." \(^{112}\)

On the other side of these markets, power in line with some elements of Galbraith’s concepts existed early in the history of tire manufacturing. Moreover, by 1926, the peak in the number of tire manufacturers had been passed. A point of reasonable stability in the number of firms, however, had not been reached. This characteristic did not appear for another 10 or 12 years. In spite of this fact, there seems to be little doubt of the point that market power among tire manufacturers existed before 1926. Therefore, within these markets it is appropriate to refer to the manufacturers of tires as the possessors of original power and to the buyers or mass distributors as the countervailing force.

The identification of opposing positions of original and countervailing power provides a market situation for further consideration of the self-generating characteristic. The specific question related to these markets is: Did the position of market power among tire manufacturers lead to the development and growth of the countervailing force in the form large mass distributors selling tires in the replacement markets? This question suggests several other more specific points. With chain and mail order houses starting in the tire business in the period 1910-1912, why did it take 15 to 20 years for their volume to become a significant factor in the industry? Does it appear that the countervailing force developed as a "direct, conscious" effort to offset, at least in part, the market power of the tire manufacturers? Indirectly

\(^{112}\text{Ibid., pp. 366-367.}\)
did the market position of the manufacturers aid the development and growth of mass distribution in tires? Did the mass distributors receive a "reward" in the form of a buying advantage over competing buyers of replacement tires? If a buying advantage was secured, was it the primary factor contributing to the development of the "offsetting" position in the markets? Definite answers to these questions are extremely difficult. In part, this is due to the fact that cause-and-effect relationships suggested by such questions are seldom based on a simple monolithic factor. Also, the questions must be answered on the basis of incomplete information, especially in regard to the reasons for the various business decisions made by buyers and sellers.

Some of the questions suggested above have been analyzed in earlier studies of the tire industry. From these analyses, several factors or reasons are suggested in the explanation of the development and growth of mass distribution of tires. The following list of factors summarizes the reasons emphasized in these earlier studies.

(1) Product improvement. — At the time chain stores and mail order houses started handling tires the average mileage from a tire was about 3,500 miles. About this same time, "cord construction was introduced, and tire mileage increased 250 per cent during the next ten years." In 1923, the first balloon tire was placed on the market. These lower-pressure tires gave more riding comfort, reduced blowouts, increased safety, and also gave more mileage. By


1925-1929, the balloon type tire gave average mileage of about 14,000 to 16,000 miles.\textsuperscript{115} These and other product developments affected the sale of tires by mass distributors in at least three ways: \textsuperscript{116} (a) Consumer preference for certain brands was weakened by more general acceptance of the prevailing quality of tires. (b) Consumers became more receptive to price appeals, and placed less value or importance on tire service provided by dealers. (c) Product improvement was an important factor in the rise of the excess capacity problem which improved the bargaining position of firms on the buyers' side of the replacement markets.

(2) Market and sales potential for tires. --Although the general pattern or rate of growth in the production of automobiles slackened somewhat after 1917, the absolute number continued generally upward with greater penetration of sales in the "middle" and "lower" classes in the income scale.\textsuperscript{117} In 1916, slightly over 1.5 million passenger cars were produced in the United States. By 1926, the number was almost 3.8 million. Truck production in 1926 was about five times greater than in 1916 (92,130 to 454,539 units).\textsuperscript{118} The growth in the replacement market for tires is shown more clearly by the increase in vehicle registrations. In 1911, total registration of all vehicles was only

\textsuperscript{115}See Leigh, "Automotive Tires," \textit{op. cit.}, p. 115, quoting figures from Goodyear Tire and Rubber Company.


\textsuperscript{117}See: Epstein, \textit{The Automobile Industry}, pp. 102-105.

\textsuperscript{118}\textit{Ibid.}, pp. 314-315.
639,500. By 1916, the number had increased to 3.5 million, in
1921 to 10.5 million, and in 1926 to 22.1 million cars and trucks. 119

Thus, even with the lower rate of growth between 1921-1926, the absolute
growth was greater than any previous five year period. The sale of used
cars and the increase of installment selling also aided in the spread of
car ownerships among the lower income groups. "Time payment" for
automobiles appeared as early as 1912-1914, and between 1915 and 1917
several finance companies began to experiment with automobile install-
ment paper." By 1925, 75.5% of all cars, both new and used, were sold
on the installment plan...." 120 The basic point here is that the expansion
of car ownership presented a "ripe market" for tire selling. After 1928,
however, the volume of replacement tire sales declined for several years.

(3) Importance as "side-line" merchandise. -- Tires and tubes were
well adapted to the role of "side-line" merchandise for mail order houses,
chains, and oil company outlets. Actually there are several factors which
contributed to this point. The decrease in the frequency of purchase
resulting from product improvement had a tendency to make tires just
one of several automotive items in the assortment of merchandise stocked
for car owners. Related to this is the fact that automotive accessories,
including tires, were the "backbone" of the early retail stores of the mail
order houses. "Oil companies, likewise, were forced by this high rental

119 Ibid., p. 317.
120 Ibid., pp. 116-117.
and salary costs to seek additional volume and automobile accessories, especially tires, served that purpose most effectively." 121 Also, an important element in this development is the fact that tires were relatively easy to display and sell. 122

(4) Lower prices. -- This factor, of course, is a resultant of other factors, particularly lower costs of selling and buying for the mass distributors. It is set out separately, however, because the price policies of the mass distributors in selling their private or distributors' brands brought a new element of price competition into the tire industry. Although this new element probably did not add a new segment to the market for replacement tires, it did appeal to an existing and enlarging segment of the market. Writing in 1936, Warren Leigh observed that "the oil companies have consistently maintained their prices at about 10 per cent below the standard brands, the mail order stores 10 per cent to 20 per cent under and the catalog about 25 per cent to 35 per cent below. The ability to sell good tires at this saving has been in no small measure responsible for their extremely rapid growth." 123

(5) Buying advantage. -- There seems to be little question of the fact that the mass distributors of tires enjoyed a buying advantage in comparison with other retailers and tire dealers. Leigh estimated that the contract between Sears, Roebuck and Company and Goodyear Tire and Rubber Company resulted in a net cash advantage for the mail order house

122Ibid., p. 149.
123Ibid., p. 153.
of about 35 per cent. "The other large accounts did not fare quite so well as Sears Roebuck, if reports are true, yet they did secure very favorable prices." 125

(6) Low costs of selling. -- Although the mass distributors purchased at prices lower than those received by dealers, the differential, in part, represented an allowance for the wholesaling functions performed by branch houses in sales to dealers but assumed by the mass distributors in the purchase of their private brands. However, according to Leigh's estimates based upon the Federal Trade Commission's investigation of the Goodyear-Sears contract, the mail order house was able to perform the wholesaling and retailing functions at costs considerably below those for the manufacturer-dealer channel of trade. Leigh also concluded that other large, integrated retailers had costs of operation which did not vary greatly from these estimates. His final conclusions in regard to these savings are shown in the quotation given below:

These integrated retailers...are able to perform the wholesaling functions at a cost including profit of approximately 60 to 70 per cent of that required by the manufacturer's branch house. This is perhaps the most substantial saving created by this method of distribution. In addition the retail stores of these large scale retailers operate at a cost of from 5 to 10 per cent below that of the independent dealer. In total, the savings effected by these large retailers approximates 10 to 25 per cent of the retail tire price. 126


126 Ibid., p. 336.
(7) Policies or decisions of tire manufacturers. — The nature of this factor is indicated both by general descriptions of distribution policies and by certain specific policies or decisions which seem to have aided the increase in the market share for mass distributors of tires. In his early analysis of the tire industry, Leigh expressed the opinion that the absence of "clean-cut and decisive distribution policies" stimulated the growth of large-scale retailers. 127 If "lack of purpose and direction" or "drifting" properly characterize many of the distributive efforts of the industry at this point in its history, the opportunities for new marketers were undoubtedly increased. Such a condition may also explain, in part, some of the specific policies or decisions which seem to have made conditions favorable for the growth of large-scale distributors. A somewhat more specific comment in a recent discussion by Dr. Leigh suggests this relationship. His comment was that "the failure of tire companies to tailor properly their product lines and price structures in terms of the market presented a ripe field for these new marketers." 128 Although this comment was not expanded to indicate more specifically the nature of the points, Dr. Leigh apparently meant that the tire manufacturers were slow in developing second, third, or lower lines of tires and in offering tires at low prices.

Space does not permit a detailed summary of the development of

various lines of tires, but the framework of major developments is appropriate. Before the first World War the major tire companies generally produced only one quality line of tires. 129 In 1921, with the intense pressure for a cheaper tire Firestone made their Oldfield brand a second line tire priced about 25 per cent below their regular or first line product. The Oldfield line had been introduced two years earlier but not as a second line tire. About the same time (1921), Goodyear introduced the Pathfinder line primarily designed for sale in agricultural areas. However, this line was built into a large volume seller before the Goodyear name was placed on it in 1928. 130 By 1922, most of the other leading companies had also brought out a second line to sell at lower prices. Subsequent developments are summarized in the following paragraphs from Gettell's analysis of the tire industry:

In 1927, led by Goodyear and closely followed by Firestone, a third line was put on sale by the leading tire companies, primarily in order to meet the price competition of the mail-order houses which were then beginning to expand their tire sales. During the following year, Firestone, which was most aggressive against the mail-order competition, began to sell a fourth line. Meanwhile, U.S. Rubber continued to sell only three lines and Goodyear brought out a "de luxe" line which was claimed to be superior in quality to the standard first line tires.

After 1927 almost all of the leading tire companies extended their lines, many of them manufacturing and selling as many as six grades of quality in their branded tires, with similar or intermediate grades of private brands being made for large distributors. 131

130 Fraser and Doriot, op. cit., p. 95--footnote.
131 Gettell, op. cit., pp. 227-228.
Although first line tires strengthened their position in the market somewhat during 1928 and 1929, the general trend during the twenties and the early thirties was an increasing share for lowe lines or levels of tires. By 1933, only 40 to 45 per cent of the sales were in the standard or first line. 132 A major factor in this trend was the price competition of chain and mail order houses, and the efforts of manufacturers to meet this competition by developing lower priced lines and devoting more sales effort to them. In general perspective, however, one should keep in mind that improvement of the tire in performance and safety was a basic factor making possible the development and sale of second, third, or fourth line products.

Another element under the general heading of policies of tire manufacturers was the decision by many companies to sell tires under private or distributor brands. Dr. Heflebower has pointed out that the key to the tire merchandising program of mail order houses and chains was private label brands. 133 In the first place the private brands permitted the large retailers to buy and sell at lower prices. If Goodyear, for example, had sold its own brand to Sears, Roebuck and Company at the price of the private brand, the level would surely have been illegal even under the Clayton Act before the Robinson-Patman Amendment. Moreover, if the mass distributors had been permitted to sell

---

133 Heflebower, op. cit., pp. 117-119.
manufacturers' brands at the differentials in price they wanted to show in comparison with other retail outlets, it would have created an extremely difficult situation for the tire manufacturers and their dealers. Heublein also pointed out that the larger retailers wanted customers to associate the lowness of price with the distributor rather than the manufacturer. Thus, again the private label was an important element in their merchandising plans. These factors suggest that taken collectively the decisions by some tire manufacturers to produce private brands was perhaps a foolish competitive advantage to grant. The mass distributors became important competitors of the manufacturers, and the private labels under which they sold were a basic factor in their success. For any one manufacturer, however, a decision to produce these brands was apparently a very wise move, because the private brand which he sold, competed with the brands of other manufacturers with a competitive price advantage.

In his early analysis of the industry, Leigh found that few tire manufacturers had clean-cut policies relating to the production of distributors' brands. It was more a "policy of drifting." "In only two or three instances were definite policies discovered either favoring or disfavoring such contracts." 134 Howard and Ralph Wolf attached some importance to the fact that the first contract for the production of private brand tires by a major tire manufacturer was negotiated and signed by a newly elected Goodyear president whose background was production rather than

Refusal by Goodyear at that time would probably not have resulted in the production of these tires by another major company nor in the entry of Sears, Roebuck and Company into actual production in its own factories. Other factors and decisions, however, led to conditions which made private label contracts a welcomed addition to factory sales. These factors included falling rubber prices combined with increasing capacity and productivity on the supply side and decreasing potential from increasing mileage for replacement tires on the demand side of the market. The important decision among these factors was the one to increase plant capacities beyond the point indicated by the immediate demand for tires. Leigh referred to the expansion in the latter part of the twenties as being "too optimistic." Other analysts have also referred to the unwarranted expansion of the industry between 1920 and 1929. It is not the purpose of the present analysis to evaluate these conclusions, but there seems to be little doubt of the point that excess capacity resulting from several factors created circumstances which made the sale of private brands more attractive.

Another factor complicating the manufacturers' problem during this period was the increasing trend in branch house expenses and in total distribution costs. Again this factor is related to others. There

135Howard and Ralph Wolf, op. cit., pp. 467-469.
136"Max Adler, who was vice president in charge of merchandising for Sears at that time, has testified...that there had been no bids for the business and that if Goodyear had not accepted, it would have gone to one of two small companies." (Ibid., p. 468.).
138For example, see: Cross, Earseman, and Lenaerts, op. cit., p. 1.
appears to have been some over-expansion of marketing facilities also.\footnote{139}
Moreover, lower prices and loss of volume to mass distributors contributed to the increase in marketing cost ratios. These increases in turn made it more difficult for the manufacturer-dealer channel to meet the competition of the large retailers who bought private brands directly from the factory.

Other factors and relationships might be discussed under the heading of policies and decisions of the tire manufacturers, but those given above show clearly that circumstances did exist which aided the growth and development of mass distribution of replacement tires, and that the policies of the manufacturers played a significant role influencing these conditions.

(8) The weakness of the independent tire dealers' position.-- In discussing the causes underlying the growth of large scale retailers in the field of tire distribution Leigh pointed out that the independent tire dealers may have been less competent in this field than in retailing generally. In support of this logic, he observed that many of the dealers were mechanics with little knowledge of advertising and sales promotion, and that many of their shops were poorly located and operated with meagre capital.\footnote{140} Evidence of this type is difficult to verify. The independent dealers undoubtedly had an advantage over their newer

\footnotesize{\footnote{139} Leigh, "Wholesaling of Automobile Tires," op. cit., p. 97.}
\footnotesize{\footnote{140} Leigh, "Some Marketing Problems of the Automobile Tire Industry," p. 150.}
competitors in the knowledge of tires and tire services. In comparison, the mass distributors were geared to offer tires as side-line merchandise at lower prices from convenient locations (or by mail for sales particularly in agricultural or rural areas). Also, it is apparent that these distributors were aggressive in their selling and merchandising of tires. The competence of tire dealers, at that time, in relation to independent retailers generally, however, is impossible to determine.

Does this summary of the factors contributing to the growth and development of power among buyers of replacement tires for resale indicate that the positions of power arose as self-generating forces? As suggested earlier, there are several elements to this question. The initial development did not result from combinations or cooperative action of small firms in recognition of need for market power or of reward for achieving it. The size and buying advantage of the mass distributors, however, was an important factor in increasing their share of the market. Moreover, it seems that the original position of power did lead to conditions which aided the growth of power on the buyers' side of these markets. Such factors, however, were only part of a complex pattern leading to the growth of mass distribution.

It seems to the present analyst that the position of power which developed in the purchase and sale of private brands might be characterized as an additional element of competition for the position of original power rather than a position providing only a countervailing force. Although the quality of the private brand may be the same or similar to that of the manufacturer, it represents a distinct alternative for the ultimate purchaser. The private
brand owner may actually produce the product in his own factory. The fact
that the owner usually "hires" a manufacturer to produce the item places the
parties on opposite sides of that particular market, but the resulting trans-
action adds an element of competition on the same side of the consumer
markets. To place all the emphasis, as Galbraith did, on the countervailing
element neglects an element which appears to have been of great importance
in the replacement markets for passenger car tires.

The "National" Market for Sale of Tires or Tire Mileage to Com-
mercial Accounts. --The market power found on each side of this market
presents another problem in the identification of power positions and in testing
the self-generating characteristic of an opposing position or market force.
Basically the problem is related to the use of "stage of production or distribu-
tion" as an element in defining individual markets. 141 The question of stage
in the productive-distributive process becomes an important issue in consider-
ing the national commercial market for tires, because it appears that power
developed among the tire manufacturers as sellers and the commercial
accounts as buyers before the two groups met in direct negotiation. As shown
earlier, tire manufacturers started selling large commercial accounts direct
about 1920 to 1922. Apparently these accounts were important individually as
buyers of tires, and therefore, the possessors of some degree of market
power. By the early twenties, the tire manufacturers also possessed a degree
of market power. As these two groups met in direct negotiation, which
was the possessor of original power and which one provided the countervailing
force?

141 See pages 224-230.
In pursuing this question, the analyst may travel at least three different routes in his reasoning. First, he may argue that the basic element in the concept of a market is the process or the transactions of purchase and sale at a particular stage in the productive-distributive process. In this approach, the principals or agents performing the transactions are secondary, and may change without changing the fundamental purpose of the process or the existence of a market at a particular stage. This line of reasoning suggests that the market for the sale of replacement tires for commercial use arose with the first transaction of this type, i.e., with the first sale of replacement tires to commercial users. With this point established, the question becomes one of determining which of the parties—commercial buyers or tire manufacturers—first developed market power in carrying out these specific transactions. This line of reasoning would probably lead to the conclusion that commercial users should be identified as the position of original power.

In contrast with the approach suggested above, the analyst may follow a second path which places emphasis on the parties rather than the transactions. Thus, the question shifts to one of determining which group—the ultimate buyers or the original sellers—first developed market power in the purchase or sale of replacement tires for commercial use regardless of the stage in which the purchase or sale was made. This approach would probably reverse the conclusion drawn above with tire manufacturers becoming the group representing the position of original power.

A third route emphasizes both the parties and the transactions at a particular stage. In other words, a change in the parties carrying out the
transactions at a particular stage or the bringing together of parties formerly operating in different stages results in the formation of a new market. To be consistent throughout the present analysis, the third alternative should be followed. A substantial change in the group of buyers or sellers at a particular stage or the bringing together of buyers and sellers from different stages creates a new or different market.

The effect of following the third alternative is to suggest that both sides of the national markets for sale of tires or tire mileage to commercial accounts should be considered as positions of countervailing power. When the tire manufacturers and commercial accounts first met in direct negotiation it appears that both sides of the market reflected positions of market power. Modification of this conclusion might be attempted by seeking to determine which side of the market took the initiative in shortening the channel and bringing the commercial buyers into market contact with the tire manufacturers. With this variation, one might identify the side initiating the action as the possessor of original power, and the other as the position representing the countervailing force. This, however, is a very difficult point to determine with any significant degree of accuracy. It might be added that the value of the determination hardly justifies the effort required or the questionable results which the analyst must defend.

The positions of power within this market are similar to those in the markets for original equipment tires in that it appears that the power on each side of the market developed through similar patterns and processes of concentration. The positions are also similar in that there appears to have
been some elements of a cause-and-effect relationship in the growth of power on each side of the commercial market. One of the reasons for the development of company-owned stores was the rising importance of the commercial business in the total market. In fact, a representative of one company (Goodyear Tire and Rubber Company) has stated that the prime purpose of that company's stores during the twenties was "to go after the commercial business." The broader aspects of the relationship are shown in the following quotation from an early study of the tire industry by W. W. Leigh.

The growth of the large national accounts and the increasing strength of the commercial market further increased the market position of the four large tire manufacturers. ... The company-owned stores of the four companies made the solicitation and service of this large volume business their primary function. Furthermore, these large companies offered a distinct advantage to the large national, commercial, and mileage accounts because of their nationwide distribution and sales organization. ... Then, too, the larger companies were in a stronger position if prices became the stumbling block to the sale. ...

Thus, again the development of power on one side of the market influenced the growth of power on the other side. As in the original equipment markets, however, the primary element of cause-and-effect relationship seems to have been based upon marketing and production factors associated with the size and geographical scope of the sales activities of the firms on each side of the market.

143 ibid., pp. 195-196.
The Use of Market Power

Broadly speaking the topic of use of market power opens the discussion to consideration of all tactics and market maneuvers made possible because the individual or cooperating group of buyers or sellers possess some degree of market power. A study of these aspects of business behavior within the various markets composing the automotive tire segment of the tire and tube industry throughout its life span would be a major research project.

As a part of the present study, consideration of the topic is designed to provide evidence of the use of market power on each side of some markets within the industry and to illustrate the nature of the tactics or market maneuvers employed.

Display of Original Power. -- Evidence of some degree of power in the market behavior of tire manufacturers can be found in the very early history of the tire industry. Some references to these activities have already been made in earlier sections of the present study.

Although patents have not played a major role in the industry, the early activities reflecting market power were, in part, built around patent associations. In the early years of production of pneumatic tires for automobiles, the Clincher Tire Association is reported to have restricted entrance to the industry and to have fixed market shares and prices for licensees. 144 One particular instance is related in the story of the Firestone

Tire and Rubber Company. In 1904, Harvey Firestone applied for a license from the association, but he was refused.

Only eight tire companies were permitted to share, in varying percentages, the available business; and they were bound to sell at a fixed price. Three of them, subsidiaries of U. S. Rubber, got a third of the total. Any association member who sold in excess of their quotas were obliged to pay penalties—a tax on popularity....

Obviously, the refusal did not prevent the Firestone Company from producing a different type of pneumatic tire, nor from producing the clincher type tire in defiance of the licensing arrangement when faced with an ultimatum for delivery or loss of a contract with the Ford Motor Company. By 1907, however, the clincher patents were invalidated.

Although similar associations or arrangements also existed for the manufacture of the best bicycle tires and the most successful carriage tires, patents did not play a major role in the later development of the automotive tire industry. It is true that survival and growth of individual manufacturers was influenced considerably by the company's ability to lead or keep up with product developments, but entrance and imitation were quite easy. Condition of entry changed in the twenties, but patent restrictions were not a factor contributing to the difficulties. Product research, development, and differentiation have been and are now an important part of the commercial rivalry in the industry. Such developments have been cited as one of the reasons for concentration of sales within the industry,

\[\text{\textsuperscript{145} Lief, op. cit., p. 26.}\]
\[\text{\textsuperscript{146} Hefiebower, pp. 20-21.}\]
\[\text{\textsuperscript{147} See pages 369-370.}\]
the developments have generally not been restricted by patents and licensing arrangements.

As reported in the section on the development of market power, some elements of price leadership also appeared in the early history of the industry. At that time, Goodrich usually assumed the role. Since that time the role of leader, among the manufacturers, has generally been assigned to Goodyear or the Firestone Tire and Rubber Company. In his early study of the industry, Leigh pointed out that:

Prior to 1927, the power over prices resided principally in the hands of the "Big Three"-Goodyear, Goodrich and Firestone--since the United States Rubber Company remained in a rather passive role. One of the large companies made an announcement and other companies followed the lead and each took its accustomed place in the price scheme. The price change was not always welcomed and frequently was bitterly challenged by one of the other large companies. The small manufacturer was in no position to protest due to his limited volume of sales....

The reference to 1927 was to identify a period prior to the "intrusion" of the large scale retailers into the renewal tire market. The significance of this point in regard to price leadership will be developed later.

Other analysts have also assigned a somewhat greater role to Goodyear and Firestone than to other manufacturers. Heflebower observed that Firestone has often led in reducing quoted prices and in the introduction of low-level tires. He also noted that Goodyear "appears to have led in

---

148 See pages 361-362.
150 For example, see Gettell, op. cit., pp. 100-101.
advances of quoted prices more often than any other company...."\textsuperscript{151}

Analyists generally have attributed this element of greater aggressiveness to the greater importance of tire sales in the total operations of Goodyear and Firestone in comparison with Goodrich or United States Rubber, and to the fact that the former companies "grew from within" rather than by consolidations which played a more important role in the development of Goodrich and United States Rubber. \textsuperscript{152} The personality of Harvey Firestone and the preferred market position of the Goodyear brand have also been identified as contributing factors. \textsuperscript{153}

Generally, the leader in a formal price reduction has been one of the major companies, and invariably the leader of a price increase has been one of the larger manufacturers. \textsuperscript{154} Professor Heflebower, however, stressed the limited power of any one company and warned that it is easy to overrate the influence of any one firm in the industry. \textsuperscript{155} In developing this point, Heflebower emphasized the sensitive position of smaller manufacturers whose normally short inventory position led them to reflect changes in raw material prices in their costs and thus in their prices, especially to buyers of private brands. He also mentioned that the consumers' growing satisfaction with the

\textsuperscript{151}Heflebower, \textit{op. cit.}, p. 250.
\textsuperscript{152}Ibid., p. 249.
\textsuperscript{153}In regard to the importance of the personality of Harvey Firestone, see: Lloyd G. Reynolds, "Competition in the Rubber-Tire Industry," \textit{American Economic Review, XXVIII}, No. 3, September, 1938, pp. 460-461. In regard to the importance of the Goodyear brand, see: Heflebower, \textit{op. cit.}, p. 250.
\textsuperscript{154}Heflebower, \textit{op. cit.}, pp. 246 and 248.
\textsuperscript{155}Ibid., pp. 249-250.
quality of tires generally may have contributed to some decisions of large firms to cut prices or to put more emphasis on second-line tires to meet the lower prices of small manufacturers whose tires gained more acceptance with the general improvement of quality. 156 It appears to the present analyst that these points are quite valid and accurately reflect the intricate and complex influences which have contributed to market behavior within the industry.

Comments in regard to the general nature of competition, alliances, and conflicts in the tire industry were included in an earlier section. 157 Although these comments indicate some differences in opinion or evaluation, the earlier studies of the automotive tire segment of the industry generally emphasized the rivalry and conflict which has existed within the markets of the industry. Richard Gettell, for example, observed that, "in most instances, the tire companies have acted independently and their conflict has been bitter." 158 And, at another point he concluded that "it must be acknowledged..., however much the heterogeneous units in the tire industry recognize their mutual dependence, any alliance among them is precarious.

156 Ibid., pp. 250-251.
157 See pages 304-310.
158 Gettell, op. cit., p. 248.
159 For a longer quotation on the development of this same point by Gettell, see page 305 of the present analysis. Taken originally from Gettell, op. cit., pp. 395-396.
These observations and conclusions, however, do not mean that tacit alliance, active alliances, and cooperation have not existed at all or have not been attempted. In analyzing the nature of competition in the tire industry, Gettell divided the years from 1920 to 1940 into three periods, each representing the competitive situation existing at a certain point of time. These time periods are also helpful as points of reference in the present analysis. The nature of the time periods used by Gettell are shown in the following quotation selected from his study.

Since the early 1920's competition among tire manufacturers may roughly be said to have passed through three phases: The first, which reached its peak in about 1927, was a period of rapid growth when the tire companies cooperated only a little, but when those which survived the conflict enjoyed profitable operations. The second phase, at its climax in the years 1933 and 1934, was a period of chaotic conflict, marked by many disturbing elements beyond the power of the tire companies to control, in which sporadic attempts at cooperation broke down, and almost all units received little or no net revenues. The third phase, which has lasted since 1933, can be characterized as a period of more mature competition, in which the conflicts among the separate units are considerably tempered by cooperation, and in which most units are operating at a profit. 160

At this point of the present analysis, we are concerned primarily with the first of these three periods. This was a time when oligopsonistic buyers were active in the original equipment, commercial, and governmental markets, but before large retail organizations had gained a significant place in the replacement markets for sale of tires to consumers. In regard to the first of these markets, i.e., sales to oligopsonistic buyers, Gettell concluded that although the degree of alliance among sellers was not precisely known,

160 Gettell, op. cit., pp. 319-320.
"there was a strong likelihood of the existence at this time of what we may term 'tacit alliance'." 161 The only instance of active alliance noted at this time was an attempt in 1926 through the formation of the Rubber Institute, "which proposed to stabilize original equipment tire prices by the establishment of a system of open price filing..." 162 The first major violation of the agreement, however, brought the companies into "bitter conflict." For 1927, however, Gettell concluded that "...the conflict was not sufficiently intense for these sales to be absolutely profitless." 163 The "possible explanation" mentioned by Gettell was that the automobile manufacturers may not have chosen to exert their buying power to its utmost. Returning to the general point of tacit alliance in 1927, Gettell found evidence of such alliance in the tendency for tire manufacturers as sellers to separate the various oligopsonistic markets and the "disinclination" of the companies to "grant equally favorable terms to all classes of buyers." 164

In the replacement markets of 1927, Gettell also found some evidence of tacit alliance among manufacturers and among dealers, in the sense that dealer margins (except for commercial sales) were relatively stable. 165 In regard to the manufacture level, the nature of his conclusions

161 Ibid., p. 344. "By this term is meant the situation in which the effect of alliance among sellers is attained, without formal organization among them, by their independent decisions to restrain their conflict."
162 Ibid., p. 334.
163 Ibid., p. 339.
164 Ibid., p. 345.
165 Ibid., pp. 352 and 361.
are shown by the following quotation:

Price competition among the tire manufacturers themselves was considerably tempered by tacit alliance. Under the leadership of the major companies, prices were initially set well above the competitive levels, with the smaller companies obliged by product differentiation to accept adverse differentials. But conflict among the manufacturers for retail outlets caused them to make extra concessions to their dealers, conflict for the favor of final consumers gave rise to other than price adjustments, and conflict among the dealers was in part transmitted to the manufacturers. These other forms of conflict increased costs or decreased revenues to the point where the short-run monopolistic profits of the large companies were sharply reduced, and many of the smaller companies were forced out of the industry. This decline of members and increase in concentration was checked at this time, however, by the concurrent decrease in production costs and expansion of tire demand. 166

Activities of Countervailing Power.--Earlier in discussing the power requirements for a countervailing force various tactics or weapons for invading positions of original power were suggested. 167 A review of the various studies of the automotive segment of the tire industry indicates that all of these tactics have been employed, at least to some extent. Before illustrating the important market activities arising from positions of countervailing power attention should be directed to the point that two types of activities may be included. Some of the activities of countervailing power may be designed to increase the importance of the buyer to his source of supply which possesses some degree of original power. In other words, they are designed primarily to aid in acquiring countervailing power. The second type of activity deals more directly with the exercise or use of the market.

166 Ibid., p. 361.
power developed in opposition to original power. A third type of activity which relates to the selling practices of the buyer as he resells the items purchased from positions of original market power might also be included. To the extent that these practices increase the size of the buyer and his importance to the seller with original power they would seem to be properly classified as activities of countervailing power. This type of activity, however, is included in the first of the two types mentioned above. Moreover, other aspects of the buyer's activities in selling are not of a countervailing nature to the positions of original power. For these reasons the selling activities of buyers exercising countervailing power are considered only indirectly in this section. In contrast, attention is directed primarily to the tactics employed by the buyer in the actual use of countervailing power, vis-a-vis the seller.

Methods or tactics for developing market importance and countervailing power are many and varied. Any practice which increases the market importance of the buyer tends to increase his market power and improve his bargaining position. Activities which increase size, decrease the number of buyers, or combine buyers into groups for buying action are clearly of this type. Earlier sections of the present analysis have outlined the growth and development of market power among the buyers of original equipment tires, commercial accounts, and mass distributors. And, the section which discussed the self-generating characteristic of the positions of market power called attention to several factors and "industry practices" which contributed to the development of countervailing forces. That phase of the analysis need
not be repeated. It should be supplemented, however, with two additional points.

First, it should be emphasized that within the markets for replacement tires there exists a number of segments of demand in addition to a large number of individual markets. The divergence in merchandising plans of manufacturers reflects a variety of adjustments or approaches to the markets and a variety in merchandising opportunities. Thus, some individual markets and some segments of demand are relatively more important in the plans of some manufacturers than in the plans of others. As a result the market importance to a manufacturer of a buyer of tires for resale depends upon the importance to the manufacturer of the individual market and the market segment which the buyer is in a position to tap; and it depends upon the importance of the particular buyer in the particular market segment. The logic of this argument appears obvious, but its significance should not be overlooked. The importance of countervailing power of a buyer is a relative concept. Moreover, for a manufacturer seeking to tap all market opportunities, adequate representation in each market segment becomes important. Thus, relatively small buyers judged by their national importance may have a degree of market power sufficient to invade, at least to some extent, positions of original power. Differentiation in selling activities or the building of strong patronage motives among customers of the buyer also increase the buyer's importance in the market. Two specific examples will illustrate the nature of the point being made. In Gettell's analysis of

168 Heflebower, op. cit., p. 180. Also see pages 278-293 of the present analysis.
competition in the industry for 1927, he observed that "the dealers' greatest protection at this time was the desire of each manufacturer to maintain and extend his outlets in order to meet the expanding demand for tires." 169

In 1927 there were a few large retail organizations selling tires, but Gettell referred to the dealers generally as "atomistic buyers." He concluded, however, that "the power of the manufacturers to enjoy the extra fruits of price discrimination was so restricted by the substitutability of their products, and by their ultimate dependence on retail dealers, that prices to dealers more nearly tended toward competitive levels." 170 In the analysis of tire marketing published by Alderson and Sessions in 1950, a somewhat different example is cited in discussing the balance of bargaining power which exists in the industry. The authors of this study pointed out that:

In the case of the differential which may exist between the dealers and the mass distributors supplied by a manufacturer, the manufacturer is effectively restrained from favoring the mass distributor with an excessive differential. He cannot possibly gain through the oil companies the business that he might lose among tire dealers. The two fields of retail service are quite distinct.... The manufacturer is obliged to meet his competitors in each field in order to obtain his maximum volume of sales. His prices to dealers are intended to place them in a position to compete for the dealer business rather than to put the dealer at a disadvantage as compared to the oil company.... 171

169 Gettell, op. cit., p. 351.
170 Ibid., p. 351.
These examples of the importance of smaller buyers do not depend upon a manufacturer's desire to avoid becoming too dependent on larger buyers. It rests upon the division of replacement markets on a geographical basis and the division of these markets into segments of divergent demands. Within these divisions buyers which are relatively small nationally may become relatively important locally. 172

Another addition to the earlier discussion on the development of countervailing power is needed to call attention to various types of cooperative action on the part of buyers. The first buying group for dealers of automotive tires was apparently attempted in 1924. 173 There were other early attempts, but the first to operate successfully was probably the American Tire Alliance which was formed in 1932. Dr. Leigh reported that in 1935 this organization had 35 contracting distributors who resold to some 600 retail accounts. 174 As a general observation, however, there have been only a few alliances among independent dealers without the sponsorship of tire companies. 175 Cooperation sponsored by tire manufacturers was designed for the mutual benefit of the company and the dealer, in part at

172 This line of argument is not intended to suggest that small independent establishments buying tires from distributors generally possess strong market positions as buyers of tires. In fact, a conclusion to the contrary was drawn earlier in this study. See pages 341-342.
174 Ibid., p. 208.
175 Gettell, op. cit., p. 287.
least, to meet the competition of the mass distributors. Thus, the cooperation was in the nature of a counteraction to countervailing activities or the results of these activities. In view of this aspect to their formation, reference will be made to this tactic at a later point in the present section of the analysis.

A second type of cooperative action was based upon a vertical relationship between a group of dealers and oil companies or chains acting as wholesalers. The nature of this cooperative action was discussed earlier in the present analysis. At that point the extent of control by the supplier, i.e., the chain or oil company, was the major point at issue. Now, however, it is appropriate to suggest that through the supplier the dealers may invade positions of original power held by the manufacturers.

A third type of cooperative action occurred at the consumer rather than the dealer level. The cooperatives handling tires in addition to other items were formed primarily among farmers. Many of these, in turn, cooperated to establish the National Co-ops, Inc. as a purchasing organization. Although this type of cooperative action increased rather rapidly from 1937 to 1947, it has represented a relatively small proportion of the total replacement sales of automotive tires and tubes.

---

176 See pages 334-339.
177 See page 339.
179 See Chart II, page 383.
Having supplemented the earlier discussion on the development of market power, it is appropriate to focus attention on the actual use or exercise of the power acquired. In considering the countervailing activities in the use of market power in the industry, it is important to keep in mind the production, product, distribution, and demand characteristics which have been discussed earlier in this study. Generally, with the exception of the period during and shortly after World War II, circumstances in the industry have been favorable to the use of countervailing power since about the mid-twenties.

The tactics identified by Galbraith for making countervailing power among buyers effective included: concentrating purchases with a single supplier to give him security in his volume and a reduction in selling and advertising costs; keeping the seller in a state of uncertainty as to the intentions of the buyer; playing one supplier off against another; and developing a source of supply independent of the manufacturer. Each of these weapons and combinations of them have been used by buyers in the automotive tire industry. And, the importance of the tactics has been recognized in the earlier studies of the industry.

1. Countervailing Activities in Original Equipment Markets. --In the original equipment markets, bargaining by the automobile companies has usually been based upon a spreading of business among various large tire

180 See especially pages 293-310 and 390-401.
181 See pages 237-238 of the present study.
manufacturers, the playing of one manufacturer against another, and the threat of developing an independent source of supply. The threat of producing their own tires took on added significance, because the automobile manufacturers might enter the tire replacement markets selling through their "ready-made" distribution organizations. In the bargaining situation, the buyers have been well informed in regard to tire prices and important elements of tire costs. Moreover, as Heflebower has pointed out, "the tire companies need particular orders more than the vehicle companies need particular suppliers." 182 From the tire companies standpoint, the original equipment sales provided a means of spreading overhead, aiding replacement sales by the indirect effect on consumer choice of brands, gaining a contact with a large organization of automobile dealers, and gaining an element of "planability" in production. 183 It appears that the buyers of original equipment tires have also been able to take advantage of these factors in their negotiations with the tire companies. The summation of these elements in the bargaining situation led Heflebower to conclude that "while the original equipment market shows bargaining between giants, represented by experts, the balance in bargaining position is with the vehicle manufacturers." 184

As mentioned above the original equipment buyers of automobile tires have usually not concentrated their purchases with a single supplier.

182 Heflebower, op. cit., p. 146.

183 This element of "planability" is cited by Heflebower as an important consideration in original equipment, commercial, governmental, and private-label contracts. (Ibid., pp. 148 and 210-211.).

184 Heflebower, op. cit., p. 147.
The contractual arrangements, however, have generally been rather continuous. Leigh has pointed out that "automobile manufacturers do change their source of supply; however, these changes are not frequent."\(^{185}\) This observation does not necessarily mean that the automobile manufacturers do not press their advantage. It could as logically mean that tire manufacturers have been willing to make any necessary concessions to hold these contracts.

Writing in 1940, Gettell observed that:

> For many years Firestone and Ford have been very close, but this has not resulted in complete control by Firestone of original equipment on Ford cars. It is estimated that Firestone has supplied from 50 to 60% of the Ford tires, but Ford, in addition to manufacturing some of its own, also purchases tires from Goodyear and U. S. Rubber.... \(^{186}\)

In discussing the problems of the industry in 1936, *Fortune* magazine observed that "the Detroit magnates are hard buyers; contracts have reportedly changed hands over a matter of seven cents on a set of tires."\(^{187}\) To balance this point somewhat it is appropriate to note a comment by Richard Gettell in his analysis of competition in this market in 1927. Gettell observed that at that time the conflict was not sufficiently intense to make these sales absolutely profitless. He added that "one possible explanation may be found in the fact that the automobile manufacturers did not choose to exert their oligopolistic power to its utmost, since tires constituted only a small part of the total cost of an automobile, and, as such, could be passed on without much

---

186 Gettell, *op. cit.*, pp. 252-253.
difficulty to the automobile buyer. Gettell estimated, however, that in 1927 the prices on original equipment tires were approaching the point where variable costs on this production were barely covered. In his analysis, Gettell also pointed out that the upper limit of price on original equipment tires has evidently been approached only twice. The nature of this conclusion is shown by the quotation which follows:

In the bargaining on any single contract for original equipment sales, the upper limit would be the price at which it would be cheaper for the automobile manufacturer to produce his own tires, or to subsidize plant expansion by one of the smaller companies. This limit has evidently been approached only twice, when Ford started production and when other automobile manufacturers formed the Ajax Company. Subsequent developments lead one to believe that in the case of Ford, at least, the limit was not reached, but that this company started small-scale tire production as a matter of bargaining strategy. At any rate, the possibility of further action of this sort offers an ultimate threat which is of grave concern to tire manufacturers, and which would place a ceiling over original equipment tire prices even under conditions of alliance.

2. Countervailing Activities in the Replacement Markets. -- In the replacement markets, the use of countervailing power developed primarily from two sources or market positions, buyers purchasing directly from tire manufacturers for purpose of resale and buyers purchasing tires for commercial use. Among buyers purchasing for resale, the principal manifestation of countervailing activities has appeared in the form of extended contracts for distributors' or private brands of the buyers. The first such

---

188 Gettell, op. cit., p. 339.
189 Ibid., p. 338.
190 Ibid., pp. 335-336.
contract between a manufacturer of a nationally known line of tires and a mass distributor was the Sears-Goodyear contract in 1926. Others soon followed, but this contract and modifications of it which were in effect for about ten years was probably the most important single countervailing activity in the replacement markets during this period.

The details of the original contract and those which superseded it have been made available through the findings of the Federal Trade Commission and the analysis of various writers. It is not within the scope of the present study to analyze or summarize the details of the contracts. It is appropriate, however, to call attention to some of the major features, because they are helpful in understanding countervailing activities.

The original contract was for a three-year period. It was "superseded by two others, one in 1928 and another in 1931." Under the contracts, tires were to be billed at cost of production plus a percentage of profit. Cost of manufacture was not to include selling, advertising expense, and interest on borrowed money. Also, costs were to reflect "current" market prices for crude rubber. In addition, Goodyear agreed to maintain in its warehouses a thirty days' supply of tires and tubes of the Sears' brand.


193 "A falling rubber market attended the making of the first contract; at that time Goodyear agreed not to include within costs rubber purchased or contracted for prior to March 15, 1926." (Ibid., p. 109). It is reported that this provision cost Goodyear $400,000 in June and July 1926. See: Howard and Ralph Wolf, op. cit., p. 469.
In the second Sears-Goodyear contract (1928), Sears was assured of the erection of a new tire plant by Goodyear in the South. As an element in the bargaining, it is interesting to note the debate concerning the erection of this new plant at Gadsden, Alabama. In the story of the company under the title, *The House of Goodyear*, the author pointed out that the company recovered so rapidly after the depression of 1920 that it had to expand by this time; that any major expansion in Akron was out of the question because of the lack of water and manpower; and that the company's big customers (identified as car manufacturers) "were reluctant to give all of their business to one tire company, lest an emergency of fire, flood or Act of God leave them short of tires for new cars ready to take the road." Thus, a location outside of Akron added bargaining strength for the company in selling tires for original equipment. This account is somewhat in contrast with the one given by Howard and Ralph Wolf quoted below:

In dickering over ... renewal in early 1928, Litchfield found himself up against the cagey General Wood. A study of their correspondence leaves one with an extremely strong impression that Sears now was powerful enough imperiously to dictate the building of a Goodyear plant in the South in order that the mail order house might effect freight rate savings. This is something that Litchfield denies, his contention being that he had taken up the matter of a southern plant with his board of directors before Wood urged it. At any rate Goodyear picked a site at Gadsden, Alabama, in 1928. ... and in June 1929, was building cheap labor tires. And by December 9th, 1930, Litchfield was writing Wood, "As you know we erected our Gadsden plant at an expense of many millions of dollars, largely on account of our contract with your company, and its capacity has never been needed since it was finished...."

---

The point of view expressed in this quotation is also somewhat in contrast
with that expressed by Richard Heflebower. In commenting upon the ad-
vantages of private-label sales to manufacturers, he observed that stronger
companies, in contrast to those fighting for their existence, "could use
private-label volume to help support new plants located in consuming areas."
As one example of this he cited the Gadsden plant of Goodyear.

The interesting point from these statements, which appear to be
somewhat in conflict, is that the provision in the contract assuring the buyer
of the erection of the new plant had advantages for both the buyer and the
seller. Thus, from one point of view it is the result of a countervailing
activity. From another standpoint it represents a counterattack by the
manufacturer to offset one argument by big buyers for spreading their
purchases. It also represents a competitive move by the manufacturer with
the so-called countervailing activity assisting the development.

The third contract (1931) also illustrates interesting counterc-
vailing activities. The second contract was cancellable on a year's notice,
and Sears Roebuck announced its intention of terminating the agreement. "The
stated reason was that better terms could be secured from other large
companies or from a group of small companies."197 Howard and Ralph
Wolf reported, however, that Goodyear had evaded the proposal by Sears
that the tire company sell a block of stock under advantageous terms to the
mail order house, on the theory that this would bind the two companies more

196 Heflebower, op. cit., p. 120.
closely together. The extent of the demands by General Wood of Sears Roebuck and the nature of the settlement are summarized in the quotation given below:

Wood demanded ... that Goodyear either cut to cost plus four per cent or come across with fifty thousand shares of stock. Finally, then, there was chewed out an arrangement for a ten-year non-cancellable contract which was approved at a meeting attended by a bare majority—nine—of Goodyear's seventeen directors. And the details never were given to the stockholders, of course. As one consideration for receiving the business, Goodyear handed Sears 18,000 shares of common stock carried on the books at $450,000 and which had cost Goodyear $1,050,000 in 1929 and 1930. As another consideration, tire company gave mail order house a check for $800,000 with the understanding that it be used for buying in the open market the 32,000 shares of Goodyear common to make up the fifty thousand it wanted. Buying smartly with the $800,000 Sears obtained the 32,000 shares and had $34,181.14 left over, which it cheerfully pocketed. 199

In 1933, the Federal Trade Commission started an investigation of the Sears-Goodyear contract. Three years later it issued a cease and desist order, but litigation of the case did not end until 1939. 200 During this period, shortly after the passage of the Robinson-Patman Act in 1936, Goodyear cancelled the contract. In response, Sears turned to smaller tire companies for its supply of tires under its private brand, and bought an interest in a tire factory in the south. 201

The weapons or tactics in the bargaining for these and similar

198 Howard and Ralph Wolf. op. cit., p. 472.
199 Ibid., p. 473.
200 Further consideration of this case is presented in the section on policy aspects of countervailing power which follows.
201 See page 289—footnote.
contracts appear to be about the same as those discussed above for negotiations on the purchase and sale of original equipment tires. In these contracts there is a concentration of purchases to give the supplier an element of security in his volume and a reduction in selling and advertising costs. In the replacement markets, however, this element is aided by the production and sale of private brands. In fact, this particular point is probably the most important element in the contracts between tire manufacturers and mass distributors.\footnote{202}{See page 392.} Other elements of similarity with original equipment markets include the threat of changing the source of supply, spreading of purchases, playing one supplier off against another, and the threat of developing a source of supply independent of the manufacturer. From the standpoint of the individual tire manufacturer contracts for private brand tires were welcomed. The contracts provided one method of adding volume at a time when excess capacity was a problem. For some companies it was attractive because the distributor purchased the molds; financed the purchase of raw materials, and assumed the risk of cost fluctuations.\footnote{203}{Heflebower, \textit{op. cit.}, pp. 119 and 123.} As mentioned earlier, such contracts also helped some companies support new plants in consuming areas. Private brands also provided a means by which the individual tire company competed against other manufacturers with the distributors' brands having a price advantage, in part, through saving in distribution costs. Some small companies sold private brands exclusively, or nearly so, because they had not succeeded in establishing favorable
market positions for their own brands. Then, there was the element of "planability" with its influence on manufacturing costs through better scheduling of production. Finally, if the individual manufacturer refused the order, there was always the possibility that some other company would accept it. Taken collectively, however, the decisions to produce private-label tires and to grant the concessions accompanying their production introduced an important new element of competition in the replacement markets for automotive tires.

Several factors contributed to the competitive battle which followed the invasion of distributors' brands into the replacement markets. As pointed out earlier, only a part of this competition resulted from the price concessions won through countervailing activities. At this point it is not necessary to review these factors, but in considering private brands as a new element of competition and price leadership one should not conclude that the change was due to the development of power positions per se. It seems logical to argue that the countervailing power was one factor which aided the mass distributor or contributed to his ability to compete with manufacturers' brands, but one can hardly conclude that it was this power which caused them to compete. This topic falls more properly within the organization of the next section, and will be expanded somewhat at that point.

The so-called new element of competition became an important contender for price leadership. Several analysts have called attention to this point. Leigh, for example, pointed out that by 1930-1931 the extent to

---

204 Ibid., p. 121.
which the mail order house had become a major factor in the market was
due primarily to their aggressive price leadership and the quality of their
tires.\textsuperscript{205} Leigh added that on the downward movement of prices, the mail
order houses had led most of the reductions. On a similar note, analysts
have commented that 1927 can be described as the last year in which the
large tire manufacturers enjoyed "practical dominance of the industry."\textsuperscript{206}

Although individual manufacturers accepted private-label contracts,
the industry did not accept the invasion of the renewal market without a strug-
gle. During much of this time the struggle was led by the Firestone Tire and
Rubber Company, which did not accept private-label contracts and which was
primarily dependent upon tires for its survival. Other manufacturers, how-
ever, were also active in the "counterattack."

Before turning to some of the methods of the "counterattack", atten-
tion should be directed briefly to the markets for sale of tires to commercial
buyers. Price cutting has been common in sales to these buyers since the
ergy part of the twenties. By 1925, prices were so low that many dealers
did not elect to enter the market.\textsuperscript{207} During this period manufacturers
and their branches played an increasing role in supplying these buyers.

\textit{Company stores also played an important role in these markets.}\textsuperscript{208}

\textsuperscript{206} See page 388.
\textsuperscript{207} Gettell, \textit{op. cit.}, p. 271. Leigh, "Some Marketing Problems of the
\textsuperscript{208} See page 381.
addition, dealers were frequently induced to remain in the markets by offers of extra discounts, frequently 10 per cent, to handle commercial accounts. In other cases, the dealer merely called on his manufacturer for support in underwriting the price cuts made to these buyers. Thus, the supply side of the markets frequently presented a picture of overlapping participants. On the demand side, the size and importance of tire buyers enabled them to play one supplier against another, invite competitive bidding, and when prices were particularly favorable, to contract for tires over a period of time at the current low prices. Competition in these markets, at times, has been referred to as chaotic or as a "mad" scramble. "Account stealing" has also been noted, and various subterfuges for price cutting observed -- for example, "selling first quality tires as blemishes, giving all types of free service, making phony adjustments and so on." In addition, analysts have called attention to the fact that competition in these markets has been "highly contagious" with discounts and price cutting spreading into other replacement markets.

Elements of Counteraction. -- The elements of counteraction or "the counterattack" from positions of original power were varied. For some of the activities the majority of the companies took part. In other cases, the methods adopted or the adjustments made varied among the manufacturers. For the purposes of the present analysis, the task is to indicate the nature of the principal adjustments and the possibilities for variation in the


210 This point will be expanded somewhat in the section on results of market power which is included in the next chapter.
individual company's approach to the changing market conditions.

In reviewing these activities, one may receive the impression that many of them were in the nature of a frantic search for volume. Total sales of replacement tires reached a peak in 1928 of about 51,800,000 units. After that time sales declined each year until reaching a low point of 29,400,000 in 1935. Several factors in addition to the depression itself contributed to this decline. For example, the practice of retreading expanded considerably after about 1928. The practice, of course, was given impetus by the depression. Also, during this period (from about 1926 to 1934) the sale of spare tires was shifted from the replacement to the original equipment market. In the meantime, tire quality also improved. Following the low point in 1935 for the sale of replacement tires, there was only little recovery (except during 1939 and 1941, when volume got back to about thirty-eight to forty million units) until after World War II. The decline in replacement sales following 1928 led Fortune magazine to characterize competition in the industry as follows:

...The tiremakers make their money on replacement sales; and the market is shrinking, steadily and alarmingly. If you put a group of men into a sealed chamber and slowly withdrew the air you would produce the same effect. And their actions would provide an analogy to the actions of the tiremakers.

The analogy would be, perhaps, a touch strong. But it would serve to make the idea graphic....

The point of the illustration emphasizes the fact that this period was very

---

211 Leigh, Automotive Tire Sales by Distribution Channels, p. 23.
favorable for the exercise of countervailing power. It should not imply, however, that the activities were in the nature of a "scramble" without logic or planning. With new competitive factors entering the market and with volume shrinking at the same time, the impact was certain to be significant. Change was inevitable.

In the paragraphs which follow, the major developments which were in the nature of counteractions to these problems will be identified and discussed briefly. In part, the activities represent attempts by the manufacturers to hold their shares in the replacement market or to prevent loss of volume in consumer sales to mass distributors. In a sense, such activities are an indirect attack on countervailing power, because they restrict its growth.

Also, in part, the activities represent more direct attempts to offset the power of the buyers by building more security and independence in the various markets. Several of the activities or developments have been mentioned earlier in the present analysis. Repetition here is to stress the relationship between the activities on each side of the markets.

1. Lower Prices and the Development of Additional Price Lines...

Second line tires made their appearance shortly after the first World War. Most companies were producing such lines by 1922. In 1927, Goodyear, followed by Firestone, brought out a third line, primarily to meet the mail-order house competition. From this point, the lines were extended

In writing this point, the present analyst recalls, in way of contrast, the protests and complaints of commercial buyers of tires during World War II, because these purchasers were protected from higher prices only by the retail ceiling prices established by the Office of Price Administration.
with many companies selling five or six grades or qualities of tires. In the developments, the private-label sellers also introduced lower priced lines. Manufacturers also attempted through product development to bring out new product ideas and higher-quality lines which would help them to avoid in part the price competition of mail order houses. In regard to all these changes, Heflebower observed that prior to 1926 "...the introduction of lower level tires was primarily an offensive move by the tire companies as they began to explore the volume possibilities which could be achieved thereby." After 1926, however, the changes reflected the competitive struggle among the tire companies and the "aggressively developing private-label sellers." With the establishment of a variety of price lines, the consumer was provided with a means of adjusting price to income without any additional price action by management.

The competition between manufacturers and private brand distributors and the competition among firms in each group for their share of the replacement volume led to numerous price reductions in the official list prices of the various lines of tires. It is reported that such reductions averaged "... two a year for eight years running after the Goodyear-Sears contract went into effect." In addition to the general reductions in list prices, the manufacturers frequently changed the price differentials among the various

\[214\] Fraser and Doriot, op. cit., p. 98.
\[215\] Heflebower, op. cit., p. 198.
\[216\] Ibid., p. 199.
lines of tires. Moreover, "behind the reductions in list prices, disguised price cuts and discounts rained down steadily." 218

Everyone gave fantastic guarantees against everything, free tubes with all tires purchased, trade-in allowances of awesome proportions. But all the variations were the same thing -- price cuts in one form or another. 219

2. Advertising and Distribution Effort. -- Advertising in the tire industry did not start with the invasion of markets by countervailing power as new forces of competition. 220 Aggressive advertising and selling, however, became more important in maintaining dealer organizations and market shares. Moreover, with the aggressive entry of mail order houses into the replacement markets, they too advertised extensively.

Frequently the advertising of the manufacturer resulted in superlatives being applied even to fourth and fifth line tires. Some of it was "comparative advertising" inviting consumers to visit dealers to compare the manufacturer's brand and private-label brands. In the opinion of Harvey Firestone, such a campaign by his company in 1931, based upon "Six Ways to Compare Tire Values," brought more direct results than all the magazine

218 Ibid., p. 142.
220 Goodyear, for example, started advertising extensively in 1909. "The first advertisement in February, 1909, took a full page in the Saturday Evening Post, the first in the history of the tire industry." (Allen, op. cit., p. 317.)
advertising the company had ever done. The general importance of advertising in building market position for specific brands in the tire industry is indicated by the comment of Lloyd Reynolds. Writing in 1938, he observed that "the Big Four owe their continued dominance in the industry largely to consumer preference developed through advertising." Although Reynolds did not advance this opinion in discussing the manufacturers' competitive struggle with private-label sellers, advertising was certainly an important competitive tactic in the battle of the brands.

A second element under the general heading of distribution effort, was the attempt by manufacturers to control their distribution costs more closely to keep them in line with the narrowing margins available for tire marketing. Leigh reported that the manufacturers "used the pruning hook freely" to control selling expenses. The number of branches was reduced; cuts were made in personnel and salaries; and, as one of the most effective measures, company stores and dealers were utilized by the manufacturers as distributors to serve small stores within the vicinity. In spite of these steps, the declining volume and the need for aggressive selling resulted in mounting distribution costs as a percentage of the manufacturers' net sales.

224 Ibid., pp. 98 and 105.
225 Ibid., pp. 103-104.
3. Protection of Independent Dealers. -- The importance of the dealer market varied among the tire producers, but it was too large to be disregarded by the manufacturers. Volume selling required adequate representation in each market and market segment. Moreover, the difficulty of obtaining adequate representation was increased by the fact that a large number of tire dealers went out of business after 1928. Industry estimates on the extent and nature of this decrease differ. Howard and Ralph Wolf, writing in 1936, estimated that the 120,000 independent tire dealers of 1927 had been cut in half. Hugh Allen, writing the *House of Goodyear* in 1949, painted a much different picture. His conclusions are quoted below:

The chain stores, including Montgomery Ward, Western Auto Supply and others, largely drove out the gyp dealers and fly-by-night bargain shops, furnished hard-up customers with dependable low price merchandise, but did not put the independent tire dealer out of business.  

Alfred Lief, in the *Firestone Story*, estimated that "approximately 25,000 independent dealers disappeared from the industry in 1929 and 1930, lost to all tire manufacturers."  

Regardless of the extent of the loss in dealerships, the independent dealers had to be helped. As a result, "the net billing list became a bewildering array of preferential items with discounts for cash, discounts for special price sales, discounts for special brand tires, and discounts for 'cutbacks' to 'meet competition.'"  

Other concessions which have been

---

226 Howard and Ralph Wolf, op. cit., p. 471.
228 Lief, op. cit., p. 187.
made frequently include price guarantees, advertising allowances, assistance in sales promotion, advice on store layout and sales techniques, sale of supplies and advertising specialties at reduced prices, and financial assistance.  

A few of the tire companies promoted cooperation among their dealers, designed to further the mutual interests of the manufacturer and dealer. The B. F. Goodrich Company and the Gates Rubber Company were particularly active in this development.  

The percentage of replacement sales made through distributors and dealers declined considerably, especially after 1928. In this decline, it appears that the first impact of the new elements of competition was upon dealers of the small companies. Leigh reported that the dealer business of the Big Four as a percentage of renewal volume increased from 1926 to 1930, while the share for the smaller companies decreased. Between 1930 and 1933, however, the pattern was reversed. Several factors were cited to explain this variation. The following seem appropriate to the present discussion.

1. The change in the level of economic activity favored the well-known brands in the first period and the lower priced tires in the second one.

2. The decline in rubber prices, particularly in the second period, favored the smaller manufacturers, because their inventory positions were usually shorter.

---

230 For example, see Gettell, op. cit., pp. 283-286.
3. Particularly in the second period, the smaller manufacturers moved in to protect their large urban dealers, the backbone of their distribution system, with exclusive franchises and special discounts.

4. The manufacture of private brands "became an issue and militated against certain of the large companies."

5. The company owned stores of the large manufacturers "replaced, absorbed or alienated" a number of large dealers. 233

4. Vertical Integration and the Opening of Company Stores. --

Vertical integration by the tire manufacturers into the distributive system for their tires did not start with the new elements of competition being considered at this point in the present analysis. In the early history of the industry the manufacturers opened branch houses and assumed an active role in the wholesaling of tires. Many companies also sold at retail through their branches, but this practice was discontinued by most companies before the first World War.

Before turning to the "revival" of company retail stores, it is interesting to note that one reason for the development of the branch system of wholesaling was the element of dependence on distributors and the uncertainty of their continued patronage. The start of the Goodyear branch system illustrates this particular point. In 1907, the Detroit distributor for the company dropped the Goodyear line, started selling Michelin tires, and in the process took two big accounts, Buick and Reo, with him. 234

233 The list of factors was summarized from Dr. Leigh's analysis. In general the material is paraphrased except for the phrases placed in quotation marks. (Ibid., pp. 193-195.).

234 Allen, op. cit., p. 315.
Goodyear moved quickly to establish a Detroit branch, but it took two years to win back the two accounts. This particular point is brought out here to illustrate that vertical integration was used early in the industry to give more aggressive selling and to give more market security.

In the twenties, renewed interest in company retail stores developed from the struggle for sales to commercial accounts and the aggressive competition from the mail order houses. One of the most active in this development was the Firestone Tire and Rubber Company.

...1926 marked the beginning of a price war and of another outgrowth: the Firestone store program. The company invested with three dealers who had asked for financial help.... The next year six other cities were added, including Chicago, the lair of the mail-order houses. Firestone's idea grew: that dealers must attract motorists with an all-inclusive, one-stop service if they wished to remain factors in the tire business in their communities. 239

By 1928, Firestone took a definite position favoring company stores, on a cooperative basis where possible. The development of the idea was the program under which... the company owned a majority interest, the dealer a minority interest, on a 51-49 basis. 236 In his account of the company's history, Lief pointed out, however, that... inevitably, wholly owned stores... came into view, in localities where no partnership arrangement was feasible, where there was no one who sensed the opportunity, and where business was being lost for want of aggressive merchandising. 237

235 Lief, op.cit., p. 179.
236 Ibid., p. 180.
237 Ibid., p. 186. In 1930, 192 of the 430 company controlled stores were wholly owned. In contrast, by 1934, 322 of the 423 company stores were wholly owned. (Ibid., pp. 187 and 204.)
Several other companies joined the trend to company stores. The list included the Dunlap Tire and Rubber Corporation, Goodyear Tire and Rubber Company, B. F. Goodrich, United States Rubber, Lee Rubber and Tire Corporation, Fisk Rubber, and General Tire and Rubber Company. Some of the companies bought dealerships, staffed the stores with company employees, but continued them, at least for a time, under their former names. Others took over stores of dealers who were delinquent in their accounts without identifying the stores with the company name. Other companies, in comparison, opened stores identified with the name of the manufacturer.

The Big Four companies, with the exception of the United States Rubber Company, have continued their company store policies. Today these companies, each operating from 500 to 700 retail stores, account for all or practically all of the sales of tires through company stores. Recently in evaluating these outlets Leigh pointed out:

Manufacturers' owned stores have proved effective tools to buttress weak markets, a strong competitive force against mail-order houses, chains, and petroleum companies, able truck tire sellers and very useful laboratories for testing and developing of dealer merchandising programs.239

A Reminder. -- The present and the preceding chapter of the present study have been concerned primarily with an analysis of countervailing power.


in the tire and tube industry. In addition, the chapters have provided a re-
view of earlier industry studies, emphasizing the major characteristics of
the industry, the structure of the manufacturing level for tires and tubes, and
the distributive pattern for the automotive tire segment of the industry. More
specifically in regard to countervailing power, markets for automotive tires
were classified, and the extent of market power within individual markets was
discussed. This led to tentative conclusions in regard to the identification
of positions of power. Following this identification, attention was turned to
consideration of the development of market power among tire companies,
automobile manufacturers, and mass distributors. This step, in turn,
set the stage for further consideration of the self-generating characteristic
claimed by Professor Galbraith for countervailing power. The discussion
of countervailing power in the industry was concluded with an analysis of
the use or exercise of market power by firms in countervailing positions
and the use of certain counteractions by firms on the other side of the markets.

The concluding chapter in the present study considers two additional
topics in the analysis of countervailing power. The first major section of
the chapter, Results of Countervailing Power, expands earlier discussions
of this aspect of Galbraith's concepts through reference to the automotive
segment of the tire industry. From the standpoint of results, attention is
focused upon the influence of countervailing power on tire prices, and the
means by which any gains from countervailing activities by distributors are
passed on to consumers. In the second major section, Public Policy Aspects
of Countervailing Power, emphasis is placed upon a few selected cases
and upon certain general areas of public policy as they are related to the
tire and tube industry. These general areas include: the Clayton Act and the
Robinson-Patman Amendment, resale price maintenance, and proposed
limitations on the use of certain distributive channels and practices in the
sale of tires and tubes. The last major section of the chapter is one set
aside for Concluding Comments. Although a number of the preceding chapters
include sections for summary and conclusions, it is appropriate to add a few
concluding comments based primarily upon the empirical phase of the
analysis. These topics, then, represent the assignment for the chapter
which follows.