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DIAMOND, Jr., William Montgomery, 1930—
CHANNELS IN THE DISTRIBUTION OF INDUSTRIAL MACHINERY, EQUIPMENT, AND SUPPLIES, WITH PARTICULAR EMPHASIS ON THE INDUSTRIAL DISTRIBUTOR.

The Ohio State University, Ph.D., 1962
Economics, commerce—business
University Microfilms, Inc., Ann Arbor, Michigan
CHAPTER I

INTRODUCTION

This study represents, first, an initial attempt to collect a body of empirical evidence concerning the distribution channel policies of manufacturers of industrial machinery, equipment, and supplies. Since these products, as represented by a number of specific product lines, are of particular importance to the industrial distributor, the study also deals specifically with gross margins provided industrial distributors under the manufacturers' pricing policies.

Empirical evidence relating to each of these areas as it applies to machinery, equipment, and supplies has not previously been available. The increasing emphasis placed upon the decision-making process in recent years, however, makes it imperative that present concepts be strengthened through empirical research. Not only industrial distributors, but all types of wholesalers, have borne the brunt of a great deal of criticism regarding their value in the marketing of manufactured goods. The portion of this study dealing with distribution channels for industrial machinery, equipment, and supplies illustrates not only the heavy reliance placed upon the distributor but also provides some insight into the rationale behind the manufacturers' choice of alternative channels.

Also, the most effective utilization of a particular channel of distribution by a manufacturer is greatly enhanced by the existence of sound, equitable relations between the various institutions in that
market coverage, costs, services offered, demonstrated sales volume, product knowledge, practice of competitors, and customer preference were all considered to be major factors entering into channel decisions. The frequency of mention as most important followed the order in which the various factors are listed above. However, three companies interviewed found it impossible to isolate any one of the factors as being particularly dominant, which serves to illustrate the inapplicability of a single criterion for selection. It should be noted that customer service normally has two distinct connotations; i.e., it may refer to non-technical service, the most important aspects of which are the ability to carry local inventories coupled with rapid delivery on customer orders; or the reference may be to technical services such as installation and maintenance. Frequently both connotations are considered applicable in the same instance, but in general the manufacturers of machinery and equipment items, when interviewed, placed greater emphasis upon technical service, while supply manufacturers tended to stress non-technical services.

From the survey following the interviews nine distinct major factors were listed by the respondents. In descending order of frequency of mention these factors consisted of the following: (1) ability to provide market coverage; (2) evidence of ability to secure sales volume; (3) willingness and ability to carry local inventories; (4) costs of distribution; (5) technical knowledge of the product line; (6) established contact with users; (7) an emphasis or area of specialization in the line or related lines; (8) normal trade or competitive practice; (9) character of the institution (including credit rating, financial strength, willingness to support manufacturer's pricing policies, reliability from the standpoint of
<table>
<thead>
<tr>
<th>PRODUCT LINE</th>
<th>Total Number of Manufacturers’ Responses</th>
<th>Per Cent of Total</th>
<th>DISTRIBUTION FACTORS</th>
<th>Number of Responses of Total</th>
<th>Per Cent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Factory to Distributor</td>
<td>Per Cent of Total</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>10</td>
<td>100.0%</td>
<td>5</td>
<td>50.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>2</td>
<td>15</td>
<td>100.0%</td>
<td>4</td>
<td>26.7</td>
<td>0.0%</td>
</tr>
<tr>
<td>4</td>
<td>8</td>
<td>100.0%</td>
<td>4</td>
<td>50.0%</td>
<td>12.5%</td>
</tr>
<tr>
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<td>15</td>
<td>100.0%</td>
<td>4</td>
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</tr>
<tr>
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<td>6</td>
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<td>33.3</td>
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<td>9</td>
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<td>18.2</td>
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<td>18</td>
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<td>100.0%</td>
<td>2</td>
<td>22.2</td>
<td>33.3%</td>
</tr>
<tr>
<td>19</td>
<td>11</td>
<td>100.0%</td>
<td>3</td>
<td>27.3</td>
<td>11.1%</td>
</tr>
<tr>
<td>20</td>
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<td>0</td>
<td>0.0</td>
<td>33.3%</td>
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<tr>
<td>21.5</td>
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<td>100.0%</td>
<td>0</td>
<td>0.0</td>
<td>50.0%</td>
</tr>
<tr>
<td>23</td>
<td>9</td>
<td>100.0%</td>
<td>2</td>
<td>22.2</td>
<td>33.3%</td>
</tr>
<tr>
<td>Other</td>
<td>24</td>
<td>100.0%</td>
<td>3</td>
<td>12.5</td>
<td>8.3%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>138</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>33</strong></td>
<td><strong>23.9%</strong></td>
<td><strong>20</strong></td>
</tr>
</tbody>
</table>
The primacy of market coverage for these industrial goods was demonstrated both through the interviews and through the survey results; cognizant of their broad, horizontal market, manufacturers tend to place emphasis on the inherent ability of a channel to provide adequate coverage of the potential users in a given market area. In addition to the basic need for coverage, there would appear to be a time element involved. It may be inferred from the fact that over one-quarter of the responses listed market coverage that this is a matter of continuing concern to the manufacturer, and the fact that his market area is very extensive in most cases implies that this coverage must be secured rapidly; therefore, the manufacturer is referring to the availability of existing structure for coverage.

While the patterns exhibited by the interview results and the questionnaire tabulations are not identical, there is a substantial degree of agreement between the importance attached to various factors by the interview respondents and the relative frequencies with which the factors were mentioned as most important in the survey. Thus, it is believed that the order shown in Table 10 represents a weighted hierarchy of the major criteria to be considered by a manufacturer of industrial machinery, equipment, and supplies.

Cost analysis as a factor in channel selection. Costs of distribution ranked fourth among the major factors brought out by the survey and the interviews. An additional question posed in both cases asked if the company "had ever undertaken a comparative cost analysis of possible alternative channels of distribution for any of its product lines."
<table>
<thead>
<tr>
<th>Major Factor in Channel Selection</th>
<th>Number of Manufacturers' Product-Line Responses</th>
<th>Per Cent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Coverage</td>
<td>56</td>
<td>25.4%</td>
</tr>
<tr>
<td>Ability to Secure Volume Sales</td>
<td>34</td>
<td>15.5%</td>
</tr>
<tr>
<td>Willingness to carry local inventories</td>
<td>33</td>
<td>15.0%</td>
</tr>
<tr>
<td>Cost of distribution</td>
<td>19</td>
<td>8.6%</td>
</tr>
<tr>
<td>Technical familiarity with product line</td>
<td>17</td>
<td>7.7%</td>
</tr>
<tr>
<td>Contact with trade</td>
<td>14</td>
<td>6.4%</td>
</tr>
<tr>
<td>Area of specialization in product line</td>
<td>13</td>
<td>5.9%</td>
</tr>
<tr>
<td>Trade custom</td>
<td>9</td>
<td>4.1%</td>
</tr>
<tr>
<td>Character of institution</td>
<td>5</td>
<td>2.3%</td>
</tr>
<tr>
<td>No response</td>
<td>20</td>
<td>9.1%</td>
</tr>
<tr>
<td>Total</td>
<td>220</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
The total of the responses was overwhelmingly negative. One of the firms interviewed, a single-line producer, indicated that such a study had been made, and two firms included in the survey replied affirmatively. In both of the latter cases, however, marginal notations made by the respondents on the questionnaire form pointed out that the analysis involved very little detailed consideration of individual cost items. Neither the specific nature of these studies, nor their findings, could be ascertained since permission to review them was not granted.

The inferences to be drawn from these figures regarding distribution costs are two-fold. The first is that costs, while always a factor in channel policy decisions, are often considered to be secondary in relation to other necessary conditions for effective marketing, such as market coverage, evidence of sales volume, and the necessity for stocks in sales areas. Second, the analysis of costs, even where they are of prime importance, would appear to be based upon rather fragmentary information. Certainly there is no indication of a concerted effort to develop comparative cost analyses for evaluating channel alternatives.

**Relative Importance of Decision Factors in Specific Product Lines**

The general emphasis on market coverage noted in the summary data was reflected in the breakdown of responses by individual product lines to the extent that in all but three of the lines this factor was listed most frequently or at least as frequently as any other. The three exceptions were abrasive products, fasteners, and mechanical rubber goods. In the former, evidence of the ability to secure sales volume was ranked slightly above market coverage and local inventories. Fastener manufacturers listed
local inventories most often with market coverage next in order of
frequency of mention.

Interviews with abrasive manufacturers brought out that a problem
in connection with marketing these products through distributors in
particular was a tendency for the distributor to carry small inventories
and not give as much selling effort to abrasive products as to other lines.
To avoid this common problem has led the manufacturers to select, insofar as possible, distributors willing to carry a fairly complete inven-
tory of varying models of the product and who are also interested in
promoting the line as a substantial contribution to their total sales
volume.

With fasteners, particularly on non-specialty items produced by a large
number of manufacturers, a prime element in securing orders from other than
original equipment manufacturers, who frequently buy direct from the
factory, is the availability of local supply for rapid delivery from
stock. While heavy market coverage is undoubtedly important for such
items, the consensus emphasizes the need for local inventories.

The reason for emphasis on trade custom by mechanical rubber goods
manufacturers cannot be directly inferred. However, two interrelated
conditions may be operative. One is the emphasis on particular channels
by the larger producers, and another the desire of the user for a partic-
cular type of supply source for these items.

The listing of technical knowledge of the product line, while not
the most frequently mentioned major factor for any line, tended to be
concentrated among the lines where the possession of such knowledge
would be expected as requisite to successful selling: machine tools,
materials handling equipment, metalworking accessories, portable power tools, and power transmission equipment. By way of contrast, no mention was made of this factor by manufacturers of hand tools, the line for which the greatest number of responses was received.

A less pronounced pattern of distribution among lines was found for the other listed factors. With the exceptions noted above, it may be concluded that the general similarity of these lines as part of the category of industrial machinery, equipment, and supplies more often than not transcends the particular differentiating characteristics of the individual lines when the factors in channel selection are considered.

**Location of Responsibility for Distribution Channel Determination**

As indication of the importance attached to the problem of determining distribution channels may be gleaned from an examination of the location of responsibility for channel changes. In this connection, interview and survey respondents were asked to identify the manager or managers having the responsibility for making the decision to change. The structure for this decision-making is a function of the size of the manufacturer and also reflects, within size-classes, something of the top management philosophy regarding delegation of responsibility and authority. It may be assumed that, in the interests of sound management, ultimate responsibility for a major decision of this character usually rests with a single individual. However, a significant majority of the responding firms or divisions responding indicated that more than one executive would participate in the decision to the extent of having some responsibility for it. Of the one hundred fifty-one respondents to this question in the survey, one hundred one, or slightly over two-thirds, were in this category, with the balance indicating only one executive involved.
The location of responsibility for decisions regarding change of channel among respondents in the largest sales volume classification reflects the tendency of giant industrial corporations to decentralize through divisionalization. Of the five respondents in this group, none indicated the channel decision as being the responsibility of one individual. Also, while the president was shown as a participator in two cases, he was in both instances ranked third in importance with the ultimate responsibility lying lower in the organization. The president, according to three respondents, would not be involved at all in the decision. The most important participator mentioned most frequently was the general sales or marketing manager who was so listed by three respondents. The product division manager and the product sales manager were listed as most important by one firm each. The greatest number of executives involved was five.

Interviews with firms in this sales size group brought out that such a decision was always at least a top level divisional responsibility and would often involve top corporate executives as well. Thus, the situation noted above, where a product sales manager held the prime responsibility, may be considered a highly unusual example of extreme delegation.

The extent of delegation in this group was slightly less than in the preceding one. The responsibility was that of a single individual in two of eight cases. Among the six firms or divisions where multiple participation was involved, the president was primarily responsible in two
instances and a participant in one additional case. The general sales or marketing manager was listed as most important in the remaining cases.

Location of Responsibility in Firms
with Under $50,000,000 Annual Volume

Among respondents with over $5,000,000 but under $50,000,000 annual sales volume the pattern of multiple participation in this decision area was much the same as in the $50,000,000 to $100,000,000 annual volume group, except that the involvement and degree of responsibility retained by the president increased substantially with decreasing size of the firm or decision.

Among the respondents with less than $5,000,000 sales annually there was a dramatic increase in the proportion of firms or divisions where sole responsibility for the channel decision was held by one individual. Also, of eighty-four firms or divisions in this group, in only ten instances was an executive other than the president or the general sales or marketing manager actually involved in the decision process to the extent of having any responsibility for the decision.

Conclusions Regarding the Importance to Management of the Channel Decision

Empirically, there is no doubt concerning the importance attached to the channel decision by manufacturers of industrial machinery, equipment, and supplies. The findings are substantially in line with the concept of marketing management which enumerates the channel decision as being among the major areas of policy determination.

The smaller the company, the greater the tendency for the final decision on channel change to be made by the president. Conversely, in
the largest corporations, there is evidence that the decision is delegated to the marketing manager. Because of the tremendously broad nature of the president's responsibility for corporate affairs in these very large firms, and also because the role of the marketing manager is probably more highly developed in these companies, this delegation would seem to be a logical extension of the management principle of delegation, rather than a refutation of the picture presented by the smaller firms.

Summary

The importance of secondary channels of distribution in the marketing of industrial machinery, equipment, and supplies is evidenced by the fact that over 60 per cent of the firms included in the study employed multiple channels in the distribution of their products. Also, on the basis of individual company-product-lines, only slightly under 60 per cent were distributed through more than one channel.

Some variation in channel usage was found to be associated with size of firm, extent of marketing area, using industry, and specific type of product line. In the latter instance in particular, however, it may be seen that the predominant use of the factory to distributor major channel leads to greater use of the available alternatives as secondary channels.

Major factors involved in the channel decision were found to be market coverage, ability to produce sales volume, willingness to carry local inventories, costs, technical familiarity with the product line, established contact with users, area of specialization in the product line, normal trade or competitive practice, and character of the institution. The above order represents the relative frequency of mention of each factor.
channel. Where manufacturers market their products through industrial distributors, an important aspect of the relationship is the compensation received by the distributor through the gross margin he earns on the manufacturer's product line. This study presents the results of an inquiry into the average gross margins provided by manufacturers for distributors on certain specific product lines in the category of industrial machinery, equipment, and supplies. In addition, the major factors which determine the policies of manufacturers in this regard have been investigated and are analyzed in order to discern something of the rationale involved in the determination of distributors' margins.

Definition of Industrial Machinery, Equipment, and Supplies

The product lines included in this study are listed in Appendix B, where a reproduction of the mail questionnaire used in the empirical research is presented. Robert D. Buzzell, in his work Value Added by Industrial Distributors and Their Productivity, defines industrial supplies, equipment, and machinery.

Industrial supplies are goods used in the operation of a business, which do not ordinarily become parts of physical products, and which are consumed and replaced in a relatively short period of time....

... Equipment items are products used in the operating of a business, which do not ordinarily become parts of physical products; which are durable, but are generally not regarded as part of fixed plant and are generally not used for machining raw or semi-manufactured materials....

... The term "machinery" is used here to designate mechanical devices used in the operation of a business for machining raw and/or semi-manufactured materials into finished products.

1Robert D. Buzzell, Value Added by Industrial Distributors and Their Productivity, Bureau of Business Research Monograph No. 96 (Columbus, Ohio: The Ohio State University, 1959), pp. 22-23.
by the respondents. Some differences in the importance attached to each factor appeared among individual types of product lines.

Analysis of the organizational location of responsibility for channel decisions sharply illustrated the fundamental importance of this area to individual companies. Choice of distribution channel is unquestionably considered to be a high-level management decision.
CHAPTER VI

BACKGROUND CONSIDERATIONS REGARDING MARGINS
PROVIDED INDUSTRIAL DISTRIBUTORS AND MANUFACTURERS’
METHODS OF QUOTING PRICES

Introduction

A number of elemental points underlie consideration of manufacturers' pricing policies as these relate to methods of price quotation and allowed margins where industrial distributors form an element in the distribution channel leading to the industrial user. The considerations revolve about the objectives and viewpoints of the manufacturer when he adopts any particular pricing policy. Also involved is the efficacy of the pricing policy from the standpoint of dealer relations and market penetration. Some of these considerations have been discussed in the literature while others have not received very extensive treatment.

Types of Price Quotations

Two principal types of price quotation are used for machinery, equipment, and supplies sold to industrial distributors. Thus, prices may be quoted on a net basis or on a list and discount basis. In the latter case, quotations are made in the form of a "list" price from which the distributor may make one or more authorized percentage deductions in arriving at his net price from the manufacturer. With the net price type of quotation no calculations of net price by the distributor are required since the quotation represents the actual
price to him (although not necessarily his total landed cost, as transportation charges may or may not be included in such price).

Both types of quotation are frequently used with a "suggested resale price" for the guidance of the distributor in reselling to his customers. Practically, depending upon the policy of the manufacturer, resale prices may represent a serious attempt at controlling the price at which his products are to be resold, or they may serve as only a vestigial remainder from such a policy but having no realistic connotation with respect to the current market situation in which the actual resale price is established by negotiation between distributor and customer. Also, the resale price suggested may correspond to the list price, and again manufacturers differ in their views as to whether such price policies are realistic or not.40

Finally, the pricing policy may or may not include a schedule of quantity discounts to distributors. Where quantity discounts are used they normally are applied to the basic price which is first secured from the net price or list and discount quotation. Not infrequently, however, where net prices are used, a series of prices are quoted which are directly applicable depending upon the quantity to be ordered by the distributor.

General Nature of the Literature

The content of the marketing literature over the years has dealt with several related theoretical and practical aspects of the pricing

40"Can Manufacturers Enforce Dealer Prices?" Industrial Marketing, XLII, March, 1957, p. 122. This article presents the views, both negative and positive, of a number of marketing executives regarding resale price enforcement. See also "Resale Price Maintenance...Can They Enforce it?" Industrial Marketing, XL, March, 1955, p. 68 for an affirmative statement by one manufacturer of industrial products.
problem. The theoretical framework of price determination is contained in the voluminous works on micro-economic theory. As noted later in this chapter, there has been some discussion of the methods of price quotation to distributors, dealing largely with the relative merits of list and discount pricing as opposed to the use of net price quotations.

The impact of the Robinson-Patman Amendment to the Clayton Act has brought about expanded treatment concerning the use of quantity discounts in establishing price differentials, but this material deals primarily with the legal aspects of the discounts rather than their effect upon the wholesaler's margin.

With respect to the particular problem of the determination of the gross margin to be provided for the distributor, one notable contribution has been made by Joel Dean in his development of a rational approach to the establishment of distributor discounts. While his attack is necessarily broad, since distributors are conceived to include wholesalers, jobbers, and dealers in both industrial and consumer goods, he nevertheless grapples directly with the problem, and the framework of his treatment deserves some exposition in the following section.

The Role and Determination of the Distributor Gross Margin

The particular issue at this juncture is that of gross margins allowed distributors on industrial machinery, equipment, and supplies. The concept of an allowed gross margin refers to the difference between

the distributor's purchase cost and resale price, expressed as a percentage of the resale price, which is granted or provided by the manufacturer to the distributor. Where suggested resale prices are used, gross margin allowed is based upon this selling price. Broadly considered, gross margins are also allowed by the manufacturer on products which do not carry suggested resale prices, since the cost to the distributor in relation to the price received by him establishes the gross margin, and this is subject to control by the manufacturer through his price to the distributor coupled with his knowledge of at least an average going market price for the product at the user level. In any case the margin allowed the distributor represents a discount from some concept of resale price, be that price known, assumed, or largely unknown by the manufacturer.

A recurrent problem faced by individual distributors is that of insufficient margins to yield satisfactory profits on certain lines. This problem may develop regardless of specific methods of price quotation and whether or not suggested resale prices are a part of the manufacturer's pricing policies.

**Basis for the Distributor Discount**

The distributor has historically received his discount (or has been allowed a gross margin) on the basis of recognition of functions performed, the incidence of which would otherwise be shifted elsewhere in the channel of distribution. Logically, the discount is provided to cover the costs of functional performance plus a fair
However, the process through which that logic is followed to its natural conclusion -- the establishment of a specific margin policy by the manufacturer -- is something else again. The post-World War II market, characterized by inflation with costs rising disproportionately with prices in many market sectors, has focused attention acutely upon the problem of adequate distributor margins. Joint efforts by manufacturers' and distributors' trade associations have resulted in sharpening the parameters to be considered in margin analysis and have contributed to a recognition of the need for sound margin policies which actually tend to reflect adequate coverage of the costs involved in the performance of marketing functions. This activity has taken the form of studies into the problem of determining the actual costs involved in handling varying order sizes by both the manufacturer and the distributor.

Factors in Margin Determination

Noting that "the economic function of distributor discounts is to induce independent distributors to perform marketing services," Dean has said that the determination of a discount structure with a sound economic basis requires the following known factors:

...(1) the objectives of the discount structure;
(2) distributors' operating costs; (3) discount structures of competitors; (4) effects of discounts on distributor

\[\text{From an economic standpoint, the net profit itself is a legitimate cost of functional performance. The distributor performs marketing functions which are essential economic activities involved in the distribution of goods. Since profits are necessary to maintain the existence of the firm, they become a valid cost of the performance of the distribution function.}\]

\[\text{Dean, op. cit., p. 519.}\]
Consideration of objectives. The need for an initial consideration of objectives is obvious, since the eventual result of the analysis will be a company policy regarding distributor gross margins, and the rational foundation for policy consists of objectives which are to be achieved through plans implemented within a framework of policy. In line with the economic function of an allowed gross margin, these objectives must be stated in terms of specific services desired from the distributor. The services required must be derived from a "broad, carefully thought-out distribution plan that fits the product, the competitive position of the seller, and the folkways of the industry." An initial decision in the process is the "allocation of marketing functions between the manufacturer and the distributing chain and among the links in the chain." Thus, the scope and content of functions to be performed must be established, and a determination made of what portion is to be the responsibility of the manufacturers and which are to be entrusted to the distributor.

The distribution plan must stem from the broader hierarchy of company marketing objectives relating to the product line. These objectives should be stated in terms of costs, volume, profitability, product image, market segments, and degree of market penetration. The objectives may then be translated into a plan specifying the functional requirements necessary for achievement. A thorough

\[\text{\bibliography{references}}\]

\[\text{\footnotesize\bibliographynote{\textsuperscript{44}Ibid.}}\]

\[\text{\footnotesize\bibliographynote{\textsuperscript{45}Ibid.}}\]

\[\text{\footnotesize\bibliographynote{\textsuperscript{46}Ibid, p. 521.}}\]
recognition of the nature of the distributor's operations is requisite at this point in order to know what activities will require supplemental effort on the part of the manufacturer. Since only a fractional proportion of the distributor's sales force effort, promotion, and physical handling resources can be devoted to a single line, the manufacturer must realistically appraise the contribution to be expected from the distributor in this light.

**Distributor's operating costs.** With a detailed functional analysis in hand, the next critical factor in margin determination analysis is that of consideration of the operating costs of distributors. It is at this point that the manufacturer may expect to encounter considerable difficulty in the pursuit of his analysis. It is not, unfortunately, a simple matter of securing the requisite data from distributors, primarily because at the present time such data is not readily available to the distributor except in terms of aggregate figures relating to overall operations. What is needed is cost information pertaining to individual products and product lines.

Even with identical functions, costs differ among individual distributors with variations in operating efficiency. Size economies are apparently quite pronounced in some distributor trades, though they are often obscured by correlated differences in functions (services)....

Should trade discounts be determined by the costs of the inefficient or by the costs of the efficient? One solution to this problem is to set trade discounts to cover estimated operating costs (plus normal profits) of the most efficient two-thirds of the dealers. When cost estimates are uncertain, a practical test of excessive margins is the extent to which rehandlers pass margins on by knocking down realized prices.

Another check on distributors' costs is an estimate of the manufacturer's cost of performing the distributive
function himself. Many companies periodically consider doing more of the marketing job themselves (e.g., bypassing the wholesaler), and such estimates are frequently available as by-products of these trade-channel policy studies. Moreover, some companies operate through different channels in different sections of the country, and thus have some cost experience in performing distributive functions.

When a distributor handles a variety of products, his costs vary among products. Consequently, his average cost for all products is a poor indication of the specific costs for a single product. The manufacturer must decide the extent to which distributor discounts should vary among products to conform to these cost differences....

If these cost differences are great, and if the distributor can determine them with some degree of accuracy, the distributor discount that will be sufficient to secure adequate distribution and induce the desired amount of sales assistance should differ among products....

While Dean's comments relate to the problems of manufacturers of all types of products and concern only the trade discount portion of the margin (quantity and other discounts being treated in succeeding sections), they are perfectly germane to the problem of the manufacturer of industrial machinery, equipment, and supplies approaching the broader area of determination of the entire allowed gross margin. The essential need for cost information is apparent since the prime purpose of the margin is to provide adequate coverage of the costs of functional performance.

Competitors' discount structures. The impact of custom and competition on margins and prices is another factor that must be considered and will place both a floor and a ceiling on the freedom which the manufacturer may have in adjusting margins allowed distributors. Below a point established by the actions of competitive rivals the margin will not get the job done; i.e., the distributor

\[\textbf{47}\text{Dean, op. cit., pp. 522-23.}\]
will not sell the item aggressively, if, indeed, he will carry it, or he will carry a competitive line with a more attractive margin. On the other hand, margins set too far above competitive levels will be largely passed on to users with little benefit to the manufacturer. In fact, if the manufacturer has cut his own profit margin substantially to provide that of the distributor he may suffer real loss of profits.

Dean has made the point that the structure of alternative channels should also be studied in this connection, since the costs of these alternatives may place the "selected channel at a disadvantage in terms of the ultimate price to the consumer for a comparable product-service combination." Actually, the price disadvantage may be critical even though the product and service combination is not directly comparable since buyers may prefer to absorb some functional costs themselves in order to secure the lower price.

**Effect on Distributor Population**

The particular needs of the industry with respect to numbers and strength of distributors required may have some bearing on the determination of margins for industrial distributors. Thus, a totally new product line may require very high margins in order to build rapidly a strong distributor organization, whereas older, more established lines may take low margins which substantially limit them to large, high-volume distributors. This would be more of an industry-wide practice than it would be for a single company, but the general tendency must be known by the firm contemplating the establishment of distributor margins.

[^48]: Ibid., p. 525.
Examples of supplies which are included in this study are abrasives, cutting tools, fasteners, and hand tools among others. Kinds of industrial equipment product lines included in this study are exemplified by materials handling equipment, power transmission equipment, and pumps and compressors. Machine tools are machinery products on which data were secured.

The difficulty of distinguishing precisely between supply, machinery, and equipment items in some cases should be noted. In particular, the line between machinery and equipment items is not always clear. This opinion has been expressed by executives of industrial distributor firms, of the Bureau of the Census, and of the Bureau of the Budget (Standard Industrial Classification section). For purposes of this study, however, it is believed that the above definitions serve to delineate the basic nature of the product lines on which data were collected.

Objectives and Limitations of the Study

Broadly considered, the major objective of this study is the making of a contribution to the knowledge of the marketing structure for certain types of industrial goods. Because of the importance of the industrial distributor as an element in the distribution channels for the specialized lines of industrial machinery, equipment, and supplies, additional emphasis has been placed upon the relations existing between manufacturers and distributors regarding the specific matter of the determination of distributor gross margins for particular
Costs of selling to different channels. In his treatment of the factors involved in margin determination, Dean includes the costs of selling to different channels as a major point primarily because of their possible involvement with the provisions of the Robinson-Patman Act regarding price discrimination. The issue is particularly important when the manufacturer is selling to different types of distributors — both specialty and general-line houses, for example, where there may be a desire to offer different discounts to each type of wholesaler. When not otherwise justified by the good faith meeting of competition or the changing market conditions proviso, it is probable that margin differentials established through different prices charged should be limited to recognizable cost savings. Even this may be a justification difficult to maintain where competing sellers are involved.

...the cost defense has proved largely illusory in practice. After one successful cost defense before the Commission in 1937, not until the B.F. Goodrich case seventeen years later did an accused seller in a fully contested proceeding succeed in establishing a complete cost defense to defeat every element in a discrimination charge. While in two other litigated and finally adjudicated proceedings a cost defense partially prevailed, the Federal Trade Commission in seven other recorded instances rejected attempted cost defenses out of hand.

Thus, the possibilities for justifying differential prices among different industrial distributors are questionable at best from the

49Dean, op. cit., p. 525.
legal standpoint. This condition places an important limitation upon
the freedom of the manufacturer to adjust margins at will through the
mechanism of differential prices. Practically, it is necessary to
arrive at average margins for all distributors in well-defined geo­
graphic areas or selling to specific user groups. In different
geographic areas or among differing types of users, prices may vary
so that margins may differ likewise. Also, some variation in margins
allowed may legally develop where price adjustments are necessary to
certain distributors in order to meet the lower prices offered by a
competitor.

Opportunities for market segmentation. This particular aspect of
margin determination is probably not so important for industrial
products in the category of machinery, equipment, and supplies sold
through distributors as it is in the case of consumer products such as
tires, batteries, and accessories for example, because the variety of
markets and sub-markets is probably not as great. Nevertheless, many
supply and equipment items are sold to a wide variety of using in­
dustries. A profitable market segmentation by the manufacturer might
be carried out by varying margins allowed among non-competing distri­
butors serving basically different industries. Such a policy could
take into consideration the structure and buying practices of unlike
users. While quantity discounts offered to distributors serve to
differentiate among principal users to some extent, they do not cover
automatically such varying user demands as service, frequent and ir­
regular ordering practices, or the inclination or disinclination to
negotiate prices carefully which may characterize certain segments of
the industrial market.
A Hypothetical Example of Margin Determination

As an example, a hypothetical case of margin determination will be developed for a manufacturer of abrasive products, principally general purpose grinding wheels sold through general-line industrial distributors. The current margins allowed distributors are assumed to follow the pattern of those granted by the industry leaders; i.e., a quantity discount schedule allowing margins from ten to fifty percent of suggested resale with an average for all distributors of twenty-four percent. The wide range of potential gross margins reflects the problem of securing distributor cooperation in stocking the wheels in the quantity believed by the manufacturer to be necessary to provide adequate service to the users as well as provide economic order shipments from the factory. Since demand for individual types of wheels is sporadic (shops rarely will carry a large inventory of replacement wheels), distributors try to keep their own inventories at the lowest possible point at all times. The higher margins possible through quantity ordering are offered as an incentive to the distributor to order in quantity and aggressively promote the sale of the line.

Marketing objectives are as follows: recognition of the product by users as a top quality item with excellent service; segmentation of the market to concentrate upon job-shop metal-working concerns and maintenance departments rather than continuous production applications; increasing market share in this segment from ten percent to twelve percent in the current year; and maintaining the current net profit ratio to sales and return on invested capital.
Since this is not a high margin line for the average distributor and because the objectives call for an increased level of service and promotion, it is necessary to determine the margin incentive required to secure the distributor's cooperation. From experience the manufacturer is aware of the level of promotion and advertising which distributors will actively support, and the added expense to be incurred this year will be borne by the manufacturer. From the distributors are secured the current costs of service, handling, and selling and the current net profit experience on the line. Cost of handling and processing increased inventory requirements are projected along with selling costs at the higher volume. These costs will cut the average distributor net profit by about one per cent but will yield about the same total dollar profit on the increased volume. However, the present situation provides no incentive for increasing volume of sales on the part of the distributor. To make provision for the incentive the manufacturer adjusts the discount schedule to yield an average of twenty-seven per cent return to the wholesaler.

Practically speaking, there would be no other realistic alternative in the above hypothetical situation or for any manufacturer operating under similar circumstances if the necessary performance is to be secured from wholesale institutions carrying a vast variety and assortment of products. In practice several of the factors considered, such as evaluation of the force and effect of competitors' reactions, would require exercise of delicate judgment subject to no quantitative analysis, but this in no way obviates the need for consideration.
The margin analysis approach to securing distributor cooperation has been largely dismissed by one authority as follows:

It might seem that an obvious method to get support within the distribution channel would be to increase reseller discounts, thus, in theory giving resellers a greater interest in the manufacturer's product line and a greater opportunity to do a better selling job. An increase in discounts, however, often proves to be an unsatisfactory solution. The additional margin tends to be passed on to customers in price reductions rather than to be used for developing or expanding sales and advertising effort. Furthermore, an increased discount is readily met by competitors, and so ultimately no real gain is achieved by the initiator of the increase. Sellers therefore do not usually rely upon larger discounts as a device for securing greater reseller attention. Certain exceptions should be noted. It is often true that when new products are introduced, somewhat larger discounts will be offered, but commonly this increased discount is no more than what the trade customarily receives and expects on new products. There are also cases where discounts will be increased for short or specific sales campaigns designed to move manufacturers' inventories. Finally, there are times when the manufacturer or distributor needs to enlarge discounts because his discounts are not so large as those of competitors.51

While this attitude toward distributor gross margins is also held by manufacturers as well, it would appear that it is more often the approach to margin determination that is faulty rather than the idea that properly established margins can be a definite aid in promoting dealer cooperation.

There is little evidence, either in the literature or in the results of the survey connected with this study, to indicate that margin policies are frequently established as a result of careful factor analysis, although subjective evaluation undoubtedly has been given to

the major factors as long as the middleman system has existed. There appear to be two major practical difficulties which have barred the way to a generally applicable, objective approach to the determination of margins for distributors. One of these difficulties relates to marketing strategy and the element of surprise. The other has to do with the current unavailability of essential cost and profit data at the distributor level; that is, cost and profit information useful to the manufacturer in determining distributor margins.

Pricing decisions are a major component of marketing strategy in a competitive market. The tactical element of surprise is essential to securing the greatest initial gain from changes in price policy. With the element of surprise lacking, competitors may adjust simultaneously and thereby destroy any immediate advantage which might otherwise accrue to the innovator. At the present time an isolated approach by a single manufacturer to study margin requirements by securing unusual information from distributors' operations probably could not be kept confidential and would lead to immediate speculation by competitors that policy changes were imminent.

This barrier to margin analysis would be swept away as manufacturers increasingly recognize the need for objective, analytical study of the gross margins needed to move products effectively through the distributor channel. Once such studies become routine practice their immediate purpose could not be ascertained by competitors since the information would be secured as a matter for periodic review with actual changes in margins allowed coinciding only at irregular intervals.
The simple fact that requisite information from distributors is not generally available to manufacturers for consideration is the more significant of the two problem areas. Detailed costing, even with the addition of data processing equipment, is probably not feasible or practical for the average general-line distributor due to the tremendous number of individual items normally stocked. Nevertheless, a manufacturer cannot undertake systematic review of margins allowed in an objective manner without specific information relating to his products. Products having relatively high sales volume and/or unit value may be subject to individual cost studies, but the bulk of supply and minor equipment items would require different treatment. Preferable alternatives would include the collection of cost information on a product line basis, separating the lines of individual manufacturers where feasible, or combining homogeneous products of several manufacturers into groups where applicable operating costs are identical or nearly so.

The traditional approach to cost and profit determination used by distributors does not provide the essential information.

The problem arises because of the large number of products sold in relation to the small value added by the enterprise. This condition has two implications: allocation of cost to each product becomes difficult and careful analysis and executive consideration to each choice of product is less justified. The result is that rough rules of thumb rather than precise information guide decisions concerning the individual items to be stocked.52

The problem, however, has been recognized by the distributor, as evidenced by the following statement:

We must each get our houses in order, and learn through costing the things that are causing our trouble so that we can discuss product profitability results with the manufacturer. We need the manufacturer's help, certainly. But to get any help from them, we must be able not only to present facts on his complete product line, but to show him how they are sold in our territories and purchased by our customers. Only then can the manufacturer help us, because only then are you presenting him with something concrete to discuss with you. He's interested in what it takes for you to get his product to the customer, and if you can present your problems to him in that manner and you need his help, you'll get it. I don't think it's necessary to poll the manufacturers in this room before making this statement. ASMMA leaders have told me directly, 'The manufacturer can, will, and wants to help us better our situation but they've got to have the facts from each of us.' Really, what can they do without such facts? They can give us a little more here and there, but if we turn right around and give it away, without knowing how this affects our net profit we'll still be on the same treadmill.\(^3\)

With both the manufacturer and distributor showing interest and concern over the problem of determining adequate margins, the probability is great that the near future will see an increasing trend away from the customary, static margin toward margins designed to fit the current requirements of the industrial distributor. Margins allowed distributors will become more important tactical weapons in the marketing strategy of manufacturers, and these margins as a result will exhibit a pattern of adjustment involving more frequent changes than is presently the case.

**List and Discount Vs. Net Pricing**

While the determination of margins allowed is of far more crucial import to both manufacturer and distributor, the way in which prices

\(^3\)Statement by Robert M. Fridrich in a paper delivered at the Triple Industrial Supply Convention in May, 1961.
are quoted has received increased attention in recent years. The issue has arisen primarily because of the time and cost involved in preparing orders. In general, manufacturers have preferred the use of list and discount price quotations, and this method of quotation also holds some advantages for distributors. The major reasons for its use are the following:

1. Cost savings to the manufacturer when making price changes. Changes in percentage discounts for groups of products are more easily published than individual changes in net prices for individual items requiring costly changes in the catalogue;

2. List prices may serve to indicate suggested resale prices that the manufacturer wishes to maintain;

3. A varying price policy may be implemented through the use of list prices, since distributors and dealers can determine actual net prices only if they possess the discount sheets in addition to the catalogue. Net prices may be more easily concealed from competition in the same way.

4. Manufacturers' catalogues may be shown to buyers without revealing the distributor's net price.\(^5\)\(^4\)

At the same time, the use of list and discount prices requires the distributor to perform a series of time-consuming calculations in order to determine his net price. It is this latter inherent disadvantage which has received the attention of cost conscious distributors. Pressure from these distributors has brought about a gradually developing trend toward the use of net prices by industrial goods manufacturers.

It's a matter of servicing an account, and the savings involved in clerical work could be a controlling factor in buying from one company or another. Actually there is no

difference in the end price of the product. But jobbers claim the net pricing method makes it easier for them to establish their resale levels.  

The trend, however, is by no means universal, and some manufacturers have pointed out that the use of net pricing depends upon the characteristics of the product and market requirements. Product lines characterized by many model variations and heavy service requirements necessitate list and discount pricing to actually facilitate the pricing of individual orders. For the great majority of lines handled by general-line distributors, however, net pricing is preferable and easily justified on a convenience basis, the traditional advantages of list and discount pricing notwithstanding.


57Ibid.
product lines. In pursuing these objectives, answers to the following pertinent questions have been sought:

1. What are the distribution channels currently used in the marketing of selected lines of industrial machinery, equipment, and supplies?

2. What trends appear since World War II in manufacturers' selection of channels for these product lines?

3. What are the major factors considered by manufacturers in the choice of distribution channels?

4. What are the average gross margins allowed industrial distributors by manufacturers of specific product lines?

5. Have the gross margins allowed been subject to change over time as costs and market factors have changed?

6. How do manufacturers determine the gross margins allowed distributors? To what extent is objective analysis a part of the process of formulating margin policies? What are the controlling factors in margin policy determination?

The study is limited to the channel and margin policies (and related policies regarding the use of quantity discounts and methods of price quotation) of manufacturers of a selected group of industrial product lines. The viewpoint, while that of the objective observer, is directed essentially to the practices of the manufacturers; i.e., the gross margins allowed distributors are those established by the manufacturers and may not correspond to the operating results of distributors, which is another area of potentially fruitful study. The fundamental factual material contained herein may serve as a
Summary

The increasing pressure of costs on profit margins has brought about a new awareness on the part of both manufacturers and distributors of the need for objective determination of the gross margins allowed industrial distributors on machinery, equipment, and supplies. The objective approach requires a careful consideration of the factors which enter into the margin policy of the manufacturer to the extent that distributor margins actually reflect the costs of the marketing functions performed. Economic analysis provides the basis for such consideration, and the extension from pure economic theory to the area of executive decisions has been covered admirably in the work of Joel Dean. This type of analysis strikes much closer to the root of a very real problem than do the statements of others to the effect that gross margins are infrequently a satisfactory solution to the problem of securing increased distributor cooperation and effort.

For the individual manufacturer, the greatest limiting factor at the present time is the unavailability of adequate cost and profitability information from the distributor. Such information, relating to specific product lines, must be available before meaningful gross margin analysis can be performed.

With respect to current practices of price quotation followed by manufacturers, there appears to be a definite trend toward the increased use of net prices rather than the traditional method of list and discount pricing. The former method provides important cost
savings for the distributor in order preparation and avoid the confusion surrounding an unrealistic structure of list prices bearing little or no relation to actual market prices.
CHAPTER VII

GROSS MARGINS PROVIDED INDUSTRIAL DISTRIBUTORS ON SELECTED PRODUCT LINES

Introduction

Chapter VI dealt with the conceptual framework established in the marketing literature concerning the policies of manufacturers in making provision for distributor margins. In this chapter and the next, the findings of the interviews and of the survey pertaining to the area of margin policies are presented and analyzed. As indicated in Chapters I and II, this portion of the study was designed to bring out the current practices of manufacturers in the determination of gross margins allowed industrial distributors. Specifically, Chapter VII reveals the current margins allowed for selected lines of industrial products and the pattern of changes in these margins since 1945. Chapter VIII deals with the factors involved in margin policy determination and the methods followed by manufacturers in establishing such policy.

Research Design

Two of the basic hypotheses are involved in this chapter. As stated previously, these are:

1. Average percentage gross margins allowed industrial distributors differ appreciably by (a) sales size of producer; (b) using industry; (c) specific product line; and (d) territorial extent of the market in which the product line is sold.
2. A discernible trend may be ascertained since 1945 regarding changes in average percentage gross margins allowed industrial distributors.

In order to test empirically the validity of these hypotheses, data were secured directly from the manufacturers by means of the interviews and mail questionnaires (the precise wording of relevant questions may be seen in Appendices A and B). The margin figures received were tabulated by product line and by sales size of producer, using industry, and on the basis of regional or national market for the lines of individual manufacturers. The mean and median margins allowed were used as measures of central tendency within classifications, and the range was used as a measure of variation.

**Nature of Margins Allowed**

Except where noted in Table 16 on page 139, margin allowed or provided refers to the average margin allowed on the basis of suggested resale prices given the distributor by the manufacturer. In Table 16 are included some data on a limited number of manufacturers' lines which did not have suggested resale prices. The average figure reported by a particular manufacturer is taken as his best estimate of the average, considering individual pricing policies (where quantity discount schedules, for example, may provide a number of different margins depending upon the size of purchase).  

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58 The figures on average margins and the range of margins allowed on specific product lines were shown to a number of executives of distributor firms after tabulation and were verified as being substantially correct in view of their experience. As far as actual gross margins earned by individual distributors on these lines are concerned, the experience of the various firms differed widely, depending upon their ability or willingness to follow suggested resale prices.
Current Margin Policies

Importance of Over-All Measures

Information pertaining to distributor margins is of value and interest to industrial users as well as to manufacturers and the distributors themselves. Users of industrial products require such information for purposes of evaluating the distribution policies of alternative suppliers as well as for a sound appreciation of the costs and value added associated with the entire production-consumption cycle of which their output forms a part. Of the various product lines represented in this study, industrial users and industrial distributors customarily will make purchases from among several of them in the course of normal operations, the former for maintenance and operational uses and the latter for purposes of resale by the trade. Few users or distributors engage in operations so narrow in scope that information pertaining to individual lines would be their sole concern.

The manufacturer producing industrial product lines is by necessity far more apt to specialize than the average distributor. However, the manufacturer must always bear in mind that he competes in a general sense with all other manufacturers selling through industrial distributors, and the margin available to the distributor may be an important factor in determining the amount of sales effort and promotional activity devoted to the line.

To the distributor, an over-all view of margins allowed by manufacturers is of even more importance because of the relatively large number of lines normally handled. Assuming a set of realistic resale prices, the average distributor should be in a position to experience
a higher gross margin on operations than the average that is indicated below for all lines, since through sales and purchasing policies he may concentrate on the higher margin lines. Conversely, an average margin for several lines can serve as a benchmark for analysis for the distributor whose operations have resulted in a lower average gross margin on these lines. Any deviation may be well founded if based upon policies designed to secure volume of total profit or if the distributor is operating in a local market where price competition is very strong. Nonetheless, where deviation exists its soundness should be proven through analysis rather than being assumed.

Finally, it should be noted that the general averages provide a view of a part of the total market structure for these industrial products that would not be apparent from looking only at each individual product line. Thus, comparison may be made with other groups of product lines, either industrial or consumer, when contrasting operating conditions for wholesalers in varying lines of trade.

**Average Margins for All Product Lines**

The average gross margin allowed distributors by the 156 manufacturers on twenty-four product lines for which they reported margin data was 28.2 per cent. The median margin allowed was 26.3 per cent, while the range of average margins allowed on all product lines was from 7.5 per cent to 50 per cent of suggested resale price. Reference to Table 12 indicates also that there was a heavy concentration of average margins allowed between 20 per cent and 35 per cent with the modal class, in which there were fifty-four items, being 25-30 per cent.
Table 11

Average Margins Allowed Industrial Distributors, 24 Product Lines, 156 Manufacturers

<table>
<thead>
<tr>
<th>Average Margin Allowed</th>
<th>Number of Manufacturers' Product-Line Responses</th>
<th>Per Cent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>5% but less than 10%</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>10% but less than 15%</td>
<td>4</td>
<td>2.1</td>
</tr>
<tr>
<td>15% but less than 20%</td>
<td>22</td>
<td>11.6</td>
</tr>
<tr>
<td>20% but less than 25%</td>
<td>36</td>
<td>19.0</td>
</tr>
<tr>
<td>25% but less than 30%</td>
<td>54</td>
<td>28.6</td>
</tr>
<tr>
<td>30% but less than 35%</td>
<td>46</td>
<td>24.3</td>
</tr>
<tr>
<td>35% but less than 40%</td>
<td>13</td>
<td>6.9</td>
</tr>
<tr>
<td>40% but less than 45%</td>
<td>7</td>
<td>3.7</td>
</tr>
<tr>
<td>45% but less than 50%</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>50% and over</td>
<td>6</td>
<td>3.2</td>
</tr>
<tr>
<td>Total</td>
<td>189</td>
<td>100.0</td>
</tr>
</tbody>
</table>
In general, it may be said that gross margins allowed tend to be related inversely to the sales size of the manufacturer. Table 12 indicates a definite tendency toward lower margins allowed exhibited by the larger firms. Analysis by product line reveals that this relationship tends to hold true irrespective of line with but one conclusive exception. Thus, the hypothesis that margins allowed differ appreciably by sales size of producer is accepted.

A number of plausible reasons for the existence of this pattern are suggested. One possibility is that the products of these large manufacturers offer comparatively high volume potential to the distributor such that he is willing and able to offset somewhat lower unit margins through more sales. Also, these products may be preferred by industrial users to the extent that less expenditure of time and effort is required of the distributor in order to sell them effectively.

Conversely, the small manufacturer may attempt to offset the lack of volume potential by offering the distributor a higher unit gross margin. This is dramatically borne out by the fact illustrated in Table 12 that the lines of manufacturers included in the study whose total annual volume was under $1,000,000 annually carried margins more than ten percentage points higher than the lines offered by firms or divisions with sales of over $50,000,000 per year.

Service or functional requirements of the manufacturers as these are the responsibility of the distributor should affect margins allowed, but the available data either from the literature or from this study

59 See p. 138.
Table 12

Average Margins Allowed Industrial Distributors
On 24 Product Lines, by Sales Size of Producer

<table>
<thead>
<tr>
<th>Sales Size of Producer</th>
<th>Number of Manufacturers' Product-Line Responses</th>
<th>Average Margin Allowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under $1,000,000</td>
<td>41</td>
<td>31.9%</td>
</tr>
<tr>
<td>1,000,000 - 4,999,999</td>
<td>64</td>
<td>28.6</td>
</tr>
<tr>
<td>5,000,000 - 9,999,999</td>
<td>26</td>
<td>28.8</td>
</tr>
<tr>
<td>10,000,000 - 19,999,999</td>
<td>26</td>
<td>27.9</td>
</tr>
<tr>
<td>20,000,000 - 49,999,999</td>
<td>16</td>
<td>23.8</td>
</tr>
<tr>
<td>50,000,000 - 99,999,999</td>
<td>10</td>
<td>21.0</td>
</tr>
<tr>
<td>$100,000,000 and over</td>
<td>5</td>
<td>21.5</td>
</tr>
<tr>
<td>Size not reported</td>
<td>1</td>
<td>--</td>
</tr>
<tr>
<td>Total</td>
<td>189</td>
<td></td>
</tr>
</tbody>
</table>
provide no quantitative basis for inference in this area. Certainly, the normally greater financial strength of the large firm would enable its management to consider assumption of some functions performed by the distributor as a matter of course for small manufacturers. Partial measure of possible variation between size groups could be obtained through a comparison of the proportion of drop shipments made through distributors. Since the storage and handling functions would be eliminated for the distributor in such cases, his gross margin requirement would be reduced as these activities are assumed by the manufacturer.

Average Margins According to Selected Using Industries

Another comparison of interest is that of margins allowed when classified by using industry, which refers to the broad kind-of-business group which ultimately purchases for use the major portion of the manufacturer’s product line. Table 13 presents the average, median, and range of margins allowed when classified by major using industry. While some variation among average and median values is readily apparent, it is not nearly so great as when the same data are classified by sales volume of the producers. When the category "Other" industry is excluded, the similarity among margins allowed distributors regardless of major using industry is striking, especially so because it extends through all three measures. The median margin in each case shows the mid-value of average margins allowed industrial distributors on company-product-lines sold primarily to the industry designated. In the case of metalworking users, for example, thirty-eight company-product-lines carried margins allowed greater than 27.5 per cent and an equal number were below that figure. The nearly identical mean average margin in this
basis for studies involving comparison between the policies of manufacturers and distributors' actual experience.

Methodology Employed

With the basic objectives relating to channel and margin policies defined, the immediately succeeding step in the research design required a thorough review of the marketing literature for substantive contributions to aid in the development of a conceptual framework from which the field research might proceed. The relative paucity of such contributions was noted at the outset of this chapter. Some background information was gained from a limited number of articles appearing in trade and professional journals, but the periodical literature provides only a very limited coverage at best. Textbooks in marketing, industrial marketing, wholesaling, and marketing management provided additional general discussion of the problems associated with channel and margin policy determination. However, no preceding empirical studies dealing with this area of the marketing of industrial machinery, equipment, and supplies, or related items were available to serve as models for the development of the research project.

Empirical data, the principal source of information for the study, were secured by means of depth interviews with top marketing executives of manufacturing firms and through the use of a mail questionnaire. The questionnaire was distributed to the entire membership of the American Supply and Machinery Manufacturers Association, Inc. and to an additional 100 manufacturers who were not members of that association. In all, nearly 500 firms received copies of the questionnaire, and usable returns were received from 156 companies. These returns comprised
Table 13

Average, Median, and Range of Margins Allowed Industrial Distributors on 24 Product Lines, by Major Using Industry

<table>
<thead>
<tr>
<th>Using Industry</th>
<th>Number of Manufacturers' Product-Line Responses</th>
<th>Average Margin</th>
<th>Median Margin</th>
<th>Range of Margins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>11</td>
<td>26.1%</td>
<td>25.0%</td>
<td>15 - 40%</td>
</tr>
<tr>
<td>Metalworking</td>
<td>77</td>
<td>27.6%</td>
<td>27.5%</td>
<td>15 - 50</td>
</tr>
<tr>
<td>Extractive</td>
<td>11</td>
<td>27.0</td>
<td>25.0</td>
<td>7.5 - 50</td>
</tr>
<tr>
<td>General Industry</td>
<td>73</td>
<td>28.8</td>
<td>27.9</td>
<td>15 - 50</td>
</tr>
<tr>
<td>Other</td>
<td>12</td>
<td>30.8</td>
<td>30.0</td>
<td>15 - 45</td>
</tr>
<tr>
<td>Not Reported</td>
<td>5</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
case shows that there was no appreciable concentration of margins allowed at either extreme of the relatively wide range of values. The great difference in extreme values shown in the range for each industry classification is probably due to two contributing factors. First, the differing approaches of individual manufacturers to the concept of suggested resale prices. As explained further in Chapter VIII, some resale prices are vigorously maintained by the manufacturer while others may be termed suggested resale prices but are actually purely nominal list prices that the distributor does not follow and that he is not expected to adhere to, such that highly unrealistic margins allowed may be adjusted by the distributor in his particular market. Second, the functions actually performed by the distributor will affect the size of the margin allowed. Much lower margins would be provided by manufacturers employing the distributor as a drop-shipper than would be granted to outlets carrying a full inventory of the manufacturers' lines out of which orders would be prepared and delivered at the expense of the distributor. That the range in each case is not essentially explained by differences in product lines included may be seen by reference to Table 15, page 133 where the range for each product line covered in the study is shown separately.

The classification of "Other" industry refers to those company-product-lines which were sold to several specific industry groups such as railroads and public utilities. The number of responses in each group was too small, however, to present them separately. Product lines sold to "general industry" are those so designated by the manufacturers; e.g., lines the bulk of which go to a variety of industries with no single industry being the major user.
From the data it may be concluded that, contrary to the hypothesis originally stated, average gross margins allowed do not differ appreciably by using industry.

**Average Margins for Nationally vs. Regionally Distributed Product Lines**

Information on areas of sales concentration was received for 184 company-product-lines of the participating manufacturers. More than 85 per cent of these lines were sold on a national scale; i.e., 75 per cent of the manufacturer's total sales of the line were made in a geographic area not limited to any one of six major regional areas of the United States. The summary data are shown in Table 1^4. Only 26 of the 184 company-product-lines could be classified as being regionally concentrated. This illustrates a broad generalization relating to the nature of these industrial products. Typical markets for the product lines covered in the study are very broad, and because purchases are often made in relatively small quantities a manufacturer must usually secure high sales volume by selling in a wide geographic area. This generalization even may be said to apply to regionally distributed products since in all 26 cases of this kind the major market consisted of three or more states within the region. Included in the study were a number of quite small manufacturers with sales of under $1,000,000 annually. Yet not a single case was found where 75 per cent of sales volume was secured from one or even two states. This characteristic of broad markets is reflected in the extensive use of industrial distributors to effectively serve them that was shown in Chapters IV and V.

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60 These six areas were defined as follows: (1) Northeast, including the New England and Middle Atlantic states; (2) South; (3) Mid-West; (4) Southwest; (5) Mountain; and (6) Pacific.
The data in Table 14 show identical average margins and quite similar median margin values for both nationally and regionally marketed manufacturers' lines. This is to be expected because regardless of the manufacturer's over-all pattern of distribution the operations of individual distributor establishments are essentially local in nature and similar in terms of functions performed. Hence, the compensation required for performance should be similar. The data show conclusively that this is the case, and the hypothesis that manufacturers' gross margins allowed differ appreciably with respect to the extend of market area is rejected.

Table 14

Average Margins Allowed Industrial Distributors, 24 Product Lines, by Regional vs. National Distribution

<table>
<thead>
<tr>
<th>Marketing Area</th>
<th>Total Manufacturers' Product-Line Responses</th>
<th>Mean Average Margin Allowed</th>
<th>Median Average Margin Allowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>National</td>
<td>158</td>
<td>28.2</td>
<td>29.6</td>
</tr>
<tr>
<td>Regional</td>
<td>26</td>
<td>28.2</td>
<td>27.7</td>
</tr>
<tr>
<td>Are not reported</td>
<td>5</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Margins Allowed Distributors
On Specific Product Lines

In the preceding section, attention was centered upon the margin policies of manufacturers of industrial machinery, equipment, and supplies in an overall context in order to show the effects on margins in general of certain market characteristics. This section deals with current margin and price quotation policies, changes in margins, and trends in margin policy on specific product lines having suggested resale prices when sold through industrial distributors.
Average Margins Currently Allowed

Table 15 presents the mean and median margins currently allowed industrial distributors on seventeen product lines. Also shown is the range of reported margins allowed for each of the product lines.

With the exception of safety equipment and supplies, and paints, the mean and median average margins allowed were between 22.5 per cent and 30 per cent of suggested resale price, with the individual product line values rather evenly distributed between the upper and lower of the two figures. Since the typical general line industrial distributor handles all or most of these product lines as the core of his operation, his annual operating results should indicate reasonably comparable gross margin figures. A study of general line distributors of industrial machinery, equipment, and supplies, conducted in 1958, reported a mean gross margin for 118 firms of 21.05 per cent of sales and a median of 22.70 per cent. The same study indicated that the larger and more diversified the distributor becomes, the more the gross margin earned tends to change inversely.

The lowest mean average gross margin allowed shown in Table 15, on precision measuring devices and tools, was 23.3 per cent of suggested resale price. The lowest median average margin was 22.5 per cent on cutting tools and steel products, respectively. There is, then, some discrepancy between the average margins quoted by manufacturers and the actual gross margins realized by industrial distributors. While a portion of this discrepancy may be attributable to additional low margin lines handled by distributors, the major

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61 Robert D. Buzzell, Value Added by Industrial Distributors and Their Productivity, Bureau of Business Research Monograph No. 96 (Columbus: The Ohio State University, 1959), p. 33.
62 Ibid., p. 53.
63 Ibid., p. 54.
Table 15
Average Margins Allowed Industrial Distributors and Range of Margins Allowed, 17 Product Lines

<table>
<thead>
<tr>
<th>Product Line</th>
<th>Number Of Manufacturers' Responses</th>
<th>Average Margin Allowed Distributor</th>
<th>Median Average Margin Allowed Distributor</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abrasive Products</td>
<td>12</td>
<td>25.5%</td>
<td>25.0%</td>
<td>15 - 35%</td>
</tr>
<tr>
<td>Cutting Tools</td>
<td>16</td>
<td>23.4</td>
<td>22.5</td>
<td>17 - 35%</td>
</tr>
<tr>
<td>Fasteners</td>
<td>3</td>
<td>29.3</td>
<td>30.0</td>
<td>25 - 30</td>
</tr>
<tr>
<td>Hand Tools</td>
<td>23</td>
<td>29.5</td>
<td>27.5</td>
<td>17 - 50</td>
</tr>
<tr>
<td>Materials Handling Equip.</td>
<td>18</td>
<td>27.0</td>
<td>27.7</td>
<td>17 - 33</td>
</tr>
<tr>
<td>Machine Tools</td>
<td>24</td>
<td>24.9</td>
<td>25.0</td>
<td>13 - 35</td>
</tr>
<tr>
<td>Mechanical Rubber Goods</td>
<td>9</td>
<td>29.5</td>
<td>27.5</td>
<td>15 - 50</td>
</tr>
<tr>
<td>Metalworking Accessories</td>
<td>12</td>
<td>25.8</td>
<td>25.0</td>
<td>15 - 37.5</td>
</tr>
<tr>
<td>Motors</td>
<td>3</td>
<td>27.3</td>
<td>30.0</td>
<td>22 - 30</td>
</tr>
<tr>
<td>Paints</td>
<td>3</td>
<td>34.0</td>
<td>37.0</td>
<td>25 - 40</td>
</tr>
<tr>
<td>Portable Power Tools</td>
<td>6</td>
<td>28.3</td>
<td>30.0</td>
<td>20 - 30</td>
</tr>
<tr>
<td>Power Transmission Equip.</td>
<td>16</td>
<td>29.4</td>
<td>30.0</td>
<td>15 - 40</td>
</tr>
<tr>
<td>Pumps and Compressors</td>
<td>4</td>
<td>25.6</td>
<td>26.5</td>
<td>20 - 30</td>
</tr>
<tr>
<td>Precision Measuring Tools</td>
<td>6</td>
<td>23.3</td>
<td>25.0</td>
<td>15 - 25</td>
</tr>
<tr>
<td>Safety Equipment &amp; Supplies</td>
<td>5</td>
<td>35.0</td>
<td>37.5</td>
<td>25 - 50</td>
</tr>
<tr>
<td>Steel Products</td>
<td>8</td>
<td>23.4</td>
<td>22.5</td>
<td>20 - 36</td>
</tr>
<tr>
<td>Valves and Fittings</td>
<td>12</td>
<td>23.6</td>
<td>25.0</td>
<td>7.5 - 36</td>
</tr>
<tr>
<td>Other *</td>
<td>9</td>
<td>24.7</td>
<td>25.0</td>
<td>15 - 35</td>
</tr>
<tr>
<td>Total</td>
<td>189</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Includes 7 product lines produced by fewer than 3 manufacturers in each case.
difference is probably due to the variation between the suggested resale prices of manufacturers and the actual prices realized by distributors. While there are no available data comparing the two sets of figures, it is common knowledge among manufacturers and distributors that such differences exist in the present industrial market, many comments to this effect having been received from both groups. This situation is especially true in the case of manufacturers' products sold under suggested resale prices that are actually only nominal list prices which do not reflect the current market condition.

The hypothesis that margins allowed differ appreciably by product line is rejected, but only in part; e.g., many lines carry the same or very nearly the same average margins, but some lines also show substantially higher or lower margins allowed than others.

**Effect of Sales Size of Manufacturer on Average Margins Allowed**

It has been noted previously that margins allowed tend to be inversely related to the sales size of the manufacturer. When margins are analyzed for individual product lines, however, some departures from this tendency are to be found. Among producers of thirteen of the seventeen product lines for which data were separately tabulated the highest average margins allowed were granted by companies with the smallest total sales volume. The following is an alphabetical list of the thirteen lines:

1. Abrasive products
2. Fasteners
3. Hand tools
4. Machine tools
5. Materials handling equipment
6. Mechanical rubber goods
7. Metalworking accessories
8. Motors
9. Power transmission equipment
10. Precision measuring devices and tools
11. Safety equipment and supplies
12. Steel products
13. Valves and fittings

The largest producers also reported the lowest average margin allowed in the case of eight of the above lines. This was not true for abrasive products, metalworking accessories, machine tools, and valves and fittings. The lowest average margins allowed on these four lines were attributed to firms whose total sales volume fell between the smallest and largest reporting companies.

The four lines in which the highest average margins were not allowed by the smallest firms were cutting tools, paints, pumps and compressors, and portable power tools. Even among these lines, however, there was only a single case of a direct relationship; i.e., where the firm with the least sales volume reported the lowest margin allowed and the highest margins were granted by the largest firms. This relationship existed for paints. The three remaining lines showed no determinable pattern in that highest and lowest margins allowed were scattered among companies of intermediate size.

There is sufficient evidence here to validate the hypothesis that gross margins allowed vary appreciably with respect to the size of firm in the case of individual product lines as well as for the entire group, although some exceptions are to be found. Where this inverse relationship exists it may be explained by the attempts of smaller firms to secure aggressive promotion on the part of the distributor for products which are not as well known in the trade as those of the large manufacturer. Also important may be the difference in functions performed by
the distributor for small and large manufacturers. Bigger producers, by virtue of their financial strength and economies of scale may absorb or retain for their own operations certain functions that the small manufacturer cannot economically perform. An example would be the maintenance of inventories out of which drop shipments are made to users. Since this relieves the distributor of the costs associated with carrying and handling the product physically, the average gross margin allowed him can properly be reduced. This factor, while not directly determined could well explain the lack of the inverse relationship between margin policy and size of firm in the case of cutting tools, pumps and compressors, and portable power tools. The nature of user requirements for these items is such that unit sales may be relatively small but the need for quick delivery out of local stocks to meet emergency requirements is often very important. The direct shipment from the factory of orders taken by the distributor would not provide the requisite speedy delivery service.

In the case of paints, where a direct rather than inverse relationship exists between size of margin and size of firm, there is something of a special situation in existence. According to information secured from salesmen and representatives of paint manufacturers, small producers are often forced to compete solely on the basis of price. Little advantage can be gained from non-price competition such as quality and service for two reasons. First, the largest manufacturers each tend to offer two or more levels of quality in their line, blanketing both the high and low quality levels and price lines. Second, the manufacture of paint tends to be on a local basis in major market areas, regardless of whether the manufacturer is selling
nationally or only locally; thus, the small producer has little if any advantage in the efficient servicing of local accounts. Price then becomes the major avenue for securing competitive advantage. The small manufacturer may have lower overhead expenses, permitting him to charge a lower price. This is often at least partially offset, however, by less efficient plant operations so that some of the price reduction will come out of the distributor’s gross margin.

**Variation in Margins Allowed by Using Industry and Sales Region**

Tabulation of margins allowed distributors, by major using industry and by extent of marketing area, did not prove fruitful in either case when the data were reduced to an individual product line basis. It was found that many of the product lines tended heavily toward a single industry as the dominant user. For example, twelve firms manufacturing abrasive products provided information on margins allowed and major using industry. For ten of these firms the metalworking industry was the dominant purchaser, while one company stated that the construction industry was the major buyer and a second reported "general industry" with no single type of user dominant. The mean average margins allowed were 21.5 per cent, 17.5 per cent, and 12.5 per cent, respectively, but the range of margins in the metalworking group was from 10 per cent to 33 per cent of suggested resale price, making direct comparison meaningless.

In the case of extent of sales region, it has been noted previously that the vast majority of company-product-lines were sold in a national market with data provided on only thirty-five which were sold on a regional basis. Data on regionally marketed products were insufficient to make a valid comparison when classified by product line.
slightly more than twenty-six percent of the total number of firms receiving the questionnaire. In the case of large companies organized on a product division basis, replies were received in some instances from the division producing applicable product lines and in other cases from the top corporate marketing executives.

**Organization of the Study**

The detailed research design and methodology are contained in Chapter II following, which, with this Introduction, constitutes Part I of the study. Part II, consisting of Chapters III, IV, and V, deals with the background information on channel usage and determination available in the marketing literature, plus the research findings on this subject derived from the interviews and the mail survey of manufacturers. Similarly, Chapters VI, VII, and VIII make up Part III and contain the material relating to manufacturers' margin policies. Part IV consists of Chapter IX, containing the summary and conclusions for the entire study.
Manufacturers Estimates of Distributor Margins
On Products Sold Without Suggested Resale Prices

Because of the small number of responses received covering product lines sold without suggested resale prices, only a very limited analysis could be made of these margins. Manufacturers were asked to give their estimate of the average percentage gross margin earned by distributors handling their products and their basis for the estimate. The basis in all cases proved to be direct information received from distributors selling the companies' products. The seventeen returns covered ten product lines, and the margins ranged from a low of 10 per cent of sales to a high of 40 per cent. From the total of seventeen responses the computed average margin earned was 24.8 per cent. The wide range in this situation cannot be explained by the existence of unrealistic nominal resale prices. Rather, it must be due to the differences in functions required of distributors plus variations in total volume of sales which could reasonably be expected by the distributor such that the annual contribution to net profit would offset lower unit margins. The data in Table 16 summarize the comparative averages for each line where information covered both margins under suggested resale prices and margins earned without such prices. While some substantial differences are shown between the averages on individual lines, it must be noted that in all cases the figures given for company-product-lines without suggested resale prices fall within the range listed for each line in Table 15, page 133. There is insufficient basis for any conclusions regarding the possible significance of the differences indicated.
Table 16

Average Gross Margins Allowed Distributors On Ten Product Lines
With Suggested Resale Prices and Manufacturers' Estimates
Of Average Gross Margins Earned By Distributors on Ten Product Lines
Without Suggested Resale Prices

<table>
<thead>
<tr>
<th>Product Line</th>
<th>Number of Company-Product-Line Responses Total</th>
<th>Number of Company-Product-Line Responses With Suggested Resale Prices</th>
<th>Number of Company-Product-Line Responses Without Suggested Resale Prices</th>
<th>Average Margin Allowed When Sold Under Suggested Resale Prices</th>
<th>Average Manufacturers' Estimate of Gross Margin Realized By Distributors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fans and blowers</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>27.5%</td>
<td>20.0%</td>
</tr>
<tr>
<td>Fasteners</td>
<td>7</td>
<td>3</td>
<td>4</td>
<td>29.3</td>
<td>21.0</td>
</tr>
<tr>
<td>Hand Tools</td>
<td>25</td>
<td>23</td>
<td>2</td>
<td>29.5</td>
<td>29.0</td>
</tr>
<tr>
<td>Materials Handling Equipment</td>
<td>20</td>
<td>18</td>
<td>2</td>
<td>27.0</td>
<td>21.5</td>
</tr>
<tr>
<td>Motor Controls</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>--</td>
<td>30.0</td>
</tr>
<tr>
<td>Pipe</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>--</td>
<td>20.0</td>
</tr>
<tr>
<td>Power Transmission Equipment</td>
<td>16</td>
<td>15</td>
<td>1</td>
<td>29.4</td>
<td>27.0</td>
</tr>
<tr>
<td>Safety Equipment and Supplies</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>35.0</td>
<td>40.0</td>
</tr>
<tr>
<td>Steel Products</td>
<td>11</td>
<td>8</td>
<td>3</td>
<td>23.4</td>
<td>21.7</td>
</tr>
<tr>
<td>Valves &amp; Fittings</td>
<td>13</td>
<td>12</td>
<td>1</td>
<td>23.6</td>
<td>35.0</td>
</tr>
</tbody>
</table>
Trends and Changes in Margins Allowed Distributors.

In addition to determining what the current margin policies of manufacturers were, the relative dynamic or static nature of these policies was investigated in order to ascertain the trend in margins allowed and the changes in policy which had taken place between the end of World War II, when normal trade relations were resumed, and the present time.

The following hypothesis was established for this portion of the study: a discernible trend may be ascertained since 1945 regarding changes in average percentage gross margins allowed industrial distributors.

In general, the data in this section reveal, first, the high degree of rigidity which exists in manufacturers’ policies regarding average percentage gross margins allowed industrial distributors on products with suggested resale prices. Second, some insight is provided into the reasoning behind decisions to change margin policies when such adjustments are made.

Length of Time Current Margins in Use

That manufacturers do not change the percentage gross margins allowed distributors with any great frequency is readily shown by the data presented in Table 17. Of the 189 company-product-lines on which information was received, only 7.8 per cent had gross margins allowed which were in existence less than five years in 1960, and an additional 10.0 per cent had margin policies in use between five and ten years. In 82 per cent of the cases the same margins have been in effect over ten years, and in actual fact they were in existence for over fifteen years since no changes in margins were reported for the years between 1945 and 1960, as will be shown later.
Table 17

Number of Years Current Margins in Effect
17 Product Lines, 156 Manufacturers

<table>
<thead>
<tr>
<th>Product Line</th>
<th>Total Number of Manufacturers' Product-Line Responses</th>
<th>Under 5 Years</th>
<th>5 to 10 Years</th>
<th>Over 10 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>Abrasive Products</td>
<td>12</td>
<td>0.0</td>
<td>2</td>
<td>16.7</td>
</tr>
<tr>
<td>Cutting Tools</td>
<td>17</td>
<td>23.5</td>
<td>2</td>
<td>11.7</td>
</tr>
<tr>
<td>Fasteners</td>
<td>3</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Hand Tools</td>
<td>22</td>
<td>4.6</td>
<td>4</td>
<td>18.2</td>
</tr>
<tr>
<td>Machine Tools</td>
<td>24</td>
<td>4.2</td>
<td>5</td>
<td>20.7</td>
</tr>
<tr>
<td>Materials Handling Equipment</td>
<td>18</td>
<td>5.6</td>
<td>1</td>
<td>5.6</td>
</tr>
<tr>
<td>Mechanical Rubber Goods</td>
<td>9</td>
<td>11.2</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Metalworking Accessories</td>
<td>12</td>
<td>0.0</td>
<td>1</td>
<td>8.3</td>
</tr>
<tr>
<td>Motors</td>
<td>3</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Paints</td>
<td>3</td>
<td>0.0</td>
<td>1</td>
<td>33.3</td>
</tr>
<tr>
<td>Portable Power Tools</td>
<td>6</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Power Transmission Equipment</td>
<td>16</td>
<td>6.3</td>
<td>1</td>
<td>6.3</td>
</tr>
<tr>
<td>Pumps and Compressors</td>
<td>4</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Precision Measuring Tools</td>
<td>6</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Safety Equipment and Supplies</td>
<td>5</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Steel Products</td>
<td>8</td>
<td>25.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Valves &amp; Fittings</td>
<td>12</td>
<td>33.3</td>
<td>1</td>
<td>8.4</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total</td>
<td>189</td>
<td>15</td>
<td>19</td>
<td>155</td>
</tr>
</tbody>
</table>
Greater rigidity of gross margins allowed is indicated in some lines than in others. For example, twelve firms supplied information on gross margin policies in each of the product lines of metalworking accessories and of valves and fittings. In the former line only one manufacturer indicated a change in margin policy, and that change had been in existence at least five years by 1960. In valves and fittings, on the other hand, four manufacturers reported policies on gross margins allowed less than five years old and one indicated a change made between five and ten years prior to 1960. In six lines no changes in margins allowed had been made for at least ten years. Included in this group are fasteners, motors, pumps and compressors, precision measuring devices and tools, safety equipment and supplies, and portable power tools.

These are percentage gross margin policies, of course, and do not reflect changes in absolute dollar margins through adjustments in dollar prices over the same period of years.

The general pattern of rigidity in gross margins allowed for all product lines may be attributed to a number of factors. Probably the single most important of these factors would be the lack of collective demand for change coming from distributors themselves. It seems likely that a margin which was inadequate for the average distributor to operate at a reasonable profit would bring about sufficient pressure on the manufacturer to force a change. Also, as noted in Chapter VI, there may be insufficient cost information available to determine whether a change is called for or not. Finally, in the absence of careful review by the manufacturer, the gross margin allowed may be assumed adequate when it actually is not sufficient to secure maximum desired performance by the distributor.
Age of Margins and Firm or Division Sales Size

Margins allowed on lines produced by firms or product divisions with total sales of under $10,000,000 exhibited greater flexibility over time than did those of larger producers. No changes in percentage margins allowed had been made by companies in the two largest sales size class intervals during the preceding five years. The data on changes, by sales size of firm or division, are shown in Table 18.

Since smaller manufacturers place greater reliance upon distributors in making the bulk of their sales, their concern with distributor margins is probably greater. Also, the smaller firm may look upon the gross margin allowed as more of a competitive weapon to be used in gaining active promotion by the distributor.

Because most changes in margins allowed have been increases, the greater activity of the smaller firms in this respect would tend to continually widen the difference now shown to exist between margins allowed by small and large manufacturers (see Table 12, page 126).

Age of Margins and Proportion of Sales Volume

The proportion of a firm's sales volume accounted for by a single product line had no significant bearing on the number of years a given margin policy is maintained. Information on both age of margins and proportion of firm or division sales volume was received on 170 company-product-lines. Of these, 54.7 per cent accounted for less than 50 per cent of the firm or division total sales volume. A total of thirty-one company-product-lines were shown to have margins allowed in existence ten years or less. These newer margins were divided almost evenly between lines accounting for more than 50 per cent of total sales volume and those contributing less than one-half of the total firm or division
<table>
<thead>
<tr>
<th>Sales Size Of Manufacturing Firm or Division</th>
<th>Total Number of Manufacturers' Product-Line Responses</th>
<th>Per Cent Of Total</th>
<th>Under 5 Years</th>
<th>5 to 10 Years</th>
<th>Over 10 Years</th>
<th>Unclassified</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under $1,000,000</td>
<td>41</td>
<td>100.0</td>
<td>4</td>
<td>9.8</td>
<td>7</td>
<td>17.1</td>
<td>30</td>
<td>73.2</td>
</tr>
<tr>
<td>$1,000,000 - 4,999,999</td>
<td>65</td>
<td>100.0</td>
<td>8</td>
<td>12.3</td>
<td>3</td>
<td>4.6</td>
<td>54</td>
<td>83.1</td>
</tr>
<tr>
<td>5,000,000 - 9,999,999</td>
<td>26</td>
<td>100.0</td>
<td>0</td>
<td>0.0</td>
<td>6</td>
<td>23.1</td>
<td>20</td>
<td>76.9</td>
</tr>
<tr>
<td>10,000,000 - 19,999,999</td>
<td>25</td>
<td>100.0</td>
<td>2</td>
<td>8.0</td>
<td>2</td>
<td>8.0</td>
<td>21</td>
<td>84.0</td>
</tr>
<tr>
<td>20,000,000 - 49,999,999</td>
<td>16</td>
<td>100.0</td>
<td>1</td>
<td>6.2</td>
<td>0</td>
<td>0.0</td>
<td>15</td>
<td>93.8</td>
</tr>
<tr>
<td>50,000,000 - 99,999,999</td>
<td>10</td>
<td>100.0</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>10.0</td>
<td>9</td>
<td>90.0</td>
</tr>
<tr>
<td>$100,000,000 and over</td>
<td>5</td>
<td>100.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>5</td>
<td>100.0</td>
</tr>
<tr>
<td>Unclassified</td>
<td>1</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>1</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>189</td>
<td>100.0</td>
<td>15</td>
<td>7.9</td>
<td>19</td>
<td>10.0</td>
<td>154</td>
<td>81.5</td>
</tr>
</tbody>
</table>
sales. Thus, the relative importance of a line to company business volume appears to have no effect on the frequency with which changes in margin policies are made.

Age of Margins and Extent of Market Area

While the data on regionally marketed products were insufficient to generalize with respect to individual product lines, the data for all the lines included in the study are shown in Table 19. The lines sold only on a regional basis showed a somewhat lower proportion of margins maintained unchanged for ten years or over.

Also, among the margins in effect less than ten years, the regionally marketed company-product-lines had a much higher proportion in the "under 5 years" category than did the nationally marketed lines. The latter, by way of contrast, had a higher proportion in the "5-10 years" group. The data indicate that, while both national and regional lines show little tendency to change rapidly, the producers selling on a regional basis saw little need for adjustment of margins in the period 1950 to 1955 but have made more changes in the last five years than manufacturers selling their products on a national scale.

Specific Changes in Margins Allowed Industrial Distributors

Table 20 provides a breakdown of the actual direction of margin changes for each product line where this information was given. The data show only those changes specifically reported as increases or decreases. Eight additional changes are implied from the data in Table 19, but no information was received regarding the previous margin so that the direction of the adjustment could not be determined.
### Table 19

**Number of Years Current Margin in Effect, Regionally Marketed vs. Nationally Marketed Lines**

<table>
<thead>
<tr>
<th>Marketing Area</th>
<th>Number of Manufacturers' Product-Line Responses</th>
<th>Under 5 Years</th>
<th>5 to 10 Years</th>
<th>Over 10 Years</th>
<th>Unclassified</th>
</tr>
</thead>
<tbody>
<tr>
<td>National</td>
<td>157</td>
<td>10 (6.4%)</td>
<td>18 (11.5%)</td>
<td>129 (82.2%)</td>
<td></td>
</tr>
<tr>
<td>Regional</td>
<td>26</td>
<td>5 (19.2%)</td>
<td>1 (3.8%)</td>
<td>20 (76.9%)</td>
<td></td>
</tr>
<tr>
<td>Unclassified</td>
<td>6</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>6 (100.0%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>189</td>
<td>15 (7.9%)</td>
<td>19 (10.0%)</td>
<td>149 (78.8%)</td>
<td>.6 (3.2%)</td>
</tr>
<tr>
<td>Product Line</td>
<td>Total Number of Changes</td>
<td>Number of Increases</td>
<td>Number of Decreases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------</td>
<td>-------------------------</td>
<td>---------------------</td>
<td>---------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abrasives</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cutting Tools</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fans and Blowers</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fasteners</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hand Tools</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machine Tools</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials Handling Equipment</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mechanical Rubber Goods</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metalworking Accessories</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motors</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor Controls</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
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<tr>
<td>Paints</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipe</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portable Power Tools</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Transmission Equipment</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Precision Measuring Tools</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pumps and Compressors</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety Equipment &amp; Supplies</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steel Products</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valves and Fittings</td>
<td>7</td>
<td>5</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>26</td>
<td>21</td>
<td>5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER II
RESEARCH DESIGN AND METHODOLOGY EMPLOYED

An initial survey of the published and unpublished literature available on distribution channels and on distributor margins revealed no study treating the subjects from the standpoint of specific industrial product lines. Consequently, the development of the research design and methodology for this study was predicated upon the assumption that empirical or primary source research would be required.

Hypotheses Formulated

The broad questions set down in Chapter I served as the basis for the formal statement of hypotheses. The basic purpose of the hypothesis is to inject a definite order into the research project. It provides a specific focal point for the collection, analysis, and interpretation of data through the statement of a proposition which may be subjected to an empirical test. The questions raised in Chapter I suggest the areas of study toward which the research is directed. What is required in addition is a statement, or series of statements, of such a character as to propose the existence of certain conditions relating to the distribution channel and gross margin policies of manufacturers. These statements may then serve as the basis for empirical tests of their validity. The evidence provided by the data collected may show the hypothesis to be either correct or incorrect, but whether it is correct or incorrect is immaterial from the standpoint of objectivity which is implicit in the study. The true
In one instance at least (abrasive products) the changes by individual firms were made in response to identical action by an acknowledged price leader. While this case was substantiated in the course of interviews, the general extent or impact of price leadership for these product lines is not known.

Where increases in margins allowed were indicated, these twenty-one increases were of two types. The first type (eight cases) involved product lines on which no quantity discounts were granted to distributors so that the change amounted to a specific increase as a percentage of suggested resale price for all distributors handling the line. Thirteen of the increases involved lines on which quantity discounts were available to distributors, and the increases in average margins allowed were the result of shifting the discount schedule to a higher level.

The reported decreases in margins allowed were also of two types. Three of these changes were the result of a downward adjustment of an established quantity discount schedule, while the two other reductions involved a single adjustment of the gross margin allowed on lines not carrying quantity discounts.

It is interesting to note that the changes in gross margins allowed distributors which involved reductions were, on the average, of much greater magnitude than the changes involving increases. Increases averaged approximately 5.0 per cent of suggested resale price, whereas the reported decreases averaged 12.0 per cent of suggested resale. The difference is explained by the reasons given for each kind of change. The manufacturers granting increases reported that these changes were made either to secure greater cooperation in selling effort from the distributor or to meet similar changes already made by competitors. The two explanations are, of course, very closely related.
Four of the five manufacturers reporting reductions, on the other hand, indicated the changes were made because the previous margins allowed were "unrealistic". This may be interpreted as unrealistic with respect to current trade practice since the margins before change in all four cases were much greater than the average allowed by other producers of the same lines.

The fifth reported reduction involved a slight change in a quantity discount schedule, and this had resulted in an average gross margin for the distributor five percentage points lower than had previously been the case. No reason was given for the change.

Acceptance of Hypothesis

The hypothesis that a discernible trend may be ascertained since 1945 regarding changes in average percentage gross margins allowed must be accepted on the grounds that there is a very obvious trend toward rigidity in the structure of manufacturers' gross margin policies.

It must be said also that when changes have been made, there has been a strong trend toward increasing the margin allowed rather than decreasing it.

Summary

Gross margins provided industrial distributors on the general class of machinery, equipment, and supply items covered in this study was 28.2 per cent of suggested resale price, while the median margin allowed was 26.3 per cent. The range of these margins was extremely broad, running from a minimum average of 7.5 per cent to 50.0 per cent of suggested resale price. Primary reasons for this range are believed to be in some cases that quoted resale prices are unrealistic in
relation to actual market price while in other instances the functions which various manufacturers assign to distributors may vary greatly. In the latter situation wide variation could occur as a natural result of differences in compensation for services performed.

Margins allowed were found to differ appreciably by sales size of manufacturer and extent of market area, but not with using industry. In the case of specific product lines, variation was found to occur in margins allowed with the sales size of the producer, but the pattern was not as sharp as for all lines grouped together. For particular product lines no conclusive evidence could be gathered to support the hypotheses that margins allowed would vary with respect to major using industry and the extent of marketing area. This lack of relationship may well have been due to insufficiency of data to make a real analysis of specific lines on these bases.

In general, it was found that a great deal of rigidity exists in the structure, over time, of gross margins allowed industrial distributors. Such changes as had been made tended to reflect increases in the margin allowed with decreases being made primarily to adjust what were termed "unrealistic" policies.
CHAPTER VIII

THE PROCESS AND PRACTICE OF MARGIN POLICY DETERMINATION

Introduction

Of major concern to manufacturers, distributors, and students of marketing are the processes whereby the manufacturer arrives at the average margin to be allowed distributors under a policy of suggested resale prices. Included in this area of pricing policy are two major problems. One of these problems concerns the establishment of the resale price and the other deals with the determination of the gross margin to be earned by the distributor selling the product at the suggested price.

The role of resale prices and margins allowed. In the absence of laws making resale prices enforceable, suggested resale prices must be valid in light of market conditions to be considered realistic. If the resale price is set too high, the distributor, if he is to sell the product, is not in a position to abide by that price. Instead, he must operate on a lower gross margin and sell in the market at a price somewhere below that suggested by the manufacturer. At the opposite extreme, of course, is the possibility of a resale price that is too low, when coupled with the manufacturer's price to the distributor, to allow the distributor a reasonable margin. In this case it would be practically impossible for the distributor to raise the price in order to increase his own gross margin because the manufacturer's suggested price
is usually known by the customer. As pointed out in Chapter VI, the function of the gross margin allowed is to compensate the distributor for the desired level of performance of marketing functions. When the spread between resale price and the distributor's purchase price is too low to provide an adequate gross margin, one of two situations will occur. Depending upon the importance of the product to his line, the distributor must either carry it at a loss or at an unreasonably low net profit, or he may refuse to carry the item and stock a substitute in its place. Even where the distributor is forced to carry the product because of trade requirements, the manufacturer is likely to lose sales volume since the distributor will not willingly promote it or devote extensive sales effort to it.

The true complexity of the pricing problems of the manufacturer, however, becomes apparent only upon examination of the typical situation which exists somewhere between the two extreme cases mentioned above. Realized gross margin is an important factor in manufacturer-distributor relations. Maximum sales volume will be attained by the manufacturer selling through distributors only when his pricing policies are such that he gains the fullest possible support from the distributor.

It would seem, then, that the logical approach to margin policies would be highly analytical in nature -- that the manufacturer would attempt to establish a realistic resale price and couple this with an allowed gross margin for distributors that would stimulate aggressive promotion and general selling effort.

**The nature of resale price policies.** Resale price policies of manufacturers are of three basic types. First, a company may purposely avoid any statement of resale prices. Under this type of policy the
distributor is left entirely alone to establish his selling prices in the light of local market conditions. Second, a manufacturer may state suggested resale prices for distributors. Whether or not these prices are in fact realistic market prices will depend upon the approach to their maintenance taken by the manufacturer. In some cases, strong moral suasion is used to induce the distributor to support the suggested prices. In other cases little attempt is made to secure the continued cooperation of the distributor, and the prices may, in effect, be only nominal and not generally followed. In fact, the distributor may not be expected to follow them. In this latter instance, suggested resale prices may really refer to list prices used as a convenient base for quoting discounts in order to establish the prices at which the distributor may purchase from the manufacturer. Third, in states where such laws are applicable, fair trade or legally enforceable resale prices may be utilized on identified or trade-marked products. In the interviews conducted with manufacturers prior to the development and mailing of the survey questionnaire for this study, no instances of the use of such resale price maintenance were found, and it was the consensus of the respondents that such price policies were not employed to any significant extent by manufacturers of industrial machinery, equipment, and supplies.

**Hypothesis relating to margin determination.** Because of the importance to both manufacturer and distributor of the gross margin allowed, the following hypothesis was selected for testing: manufacturers' policies regarding average percentage gross margins allowed industrial distributors are generally established through the use of distinguishable
methods of objective analysis. In light of the general absence of fair trade pricing, manufacturers were asked how average distributor gross margins were determined on their product lines for which suggested resale prices were determined. Usable replies were received from fifty-five manufacturers. In addition, twenty-five of the earliest respondents to the questionnaire who did not reply to the question on margin determination were sent letters asking for information on that specific point. A 100 per cent response was received on this follow-up in the form of personal letters. Considerably more detail was contained in these letters on the margin determination procedures of particular manufacturers.

The Major Factors Determining Average Gross Margins Allowed

The major determinants of average gross margins allowed distributors are indicated in Table 21. Some extensive interpretation is required in order to develop the true meaning behind the various classifications, and it is important to note at the outset that while the categories are mutually exclusive the selection by a respondent of a single reason or factor as determining does not imply that it was the sole and only determinant involved. No manufacturer of industrial machinery, equipment, or supplies can formulate marketing policies in a vacuum; thus, trade custom, competition, costs, distributor requirements, and user desires will affect price and margin policies of all producers in some degree. However, the controlling factor in determining margin policies will differ among manufacturers in accordance with management philosophy and the conscious or unconscious subjective weighting applied. The data in Table 21 represent the thinking of manufacturers regarding the most important factors in their approach to determining the margins allowed industrial distributors on product lines carrying suggested resale prices.
Table 21

MAJOR DETERMINANTS OF MARGINS ALLOWED INDUSTRIAL DISTRIBUTORS

<table>
<thead>
<tr>
<th>Factors Listed As Determining</th>
<th>Number Of Firms Responding</th>
<th>Per Cent Of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade custom</td>
<td>31</td>
<td>38.8%</td>
</tr>
<tr>
<td>Competition</td>
<td>23</td>
<td>28.7%</td>
</tr>
<tr>
<td>Cost of manufacture</td>
<td>10</td>
<td>12.5%</td>
</tr>
<tr>
<td>Distributor costs</td>
<td>8</td>
<td>10.0%</td>
</tr>
<tr>
<td>Direct sale experience</td>
<td>8</td>
<td>10.0%</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Trade custom as a determining factor. Over one-third of the respondents indicated that distributor margins were the result of trade custom or long usage by the manufacturing firms. The basis for customary margins may differ. In some instances such practice may be due largely to the presence of an industry leader among the companies involved. In the absence of change by the firm which is recognized as the pace-setter, no action to readjust margins allowed is initiated by other members of the group. While no explicit statements documenting a condition of this sort were received from any of the respondents, it is not unlikely that it does exist in one or more product lines. In fact, the presence of leadership dictating changes in margins was noted in connection with one product line in Chapter VII.

Manufacturers tend to relate the determination of gross margins allowed to trade custom when the same average margin has been in effect for over ten years. It would appear, however, that the continued existence of the margin in the trade is not due so much to the inertia of custom as it is due to the general adequacy of the margin with respect to securing distributor cooperation. Thus, what may seem customary may really be what is necessary to get the distributor to handle the product line at all or to perform on it reasonably expected functions. What is apparent is the over-all stability of the structure of margins, indicating
that this area of pricing policy is not subject to change, and it is not employed as a competitive weapon by manufacturers seeking improved share-of-market positions.

Some indication of the stability which may appear in margin policies may be gleaned from the reply of one long-established, single-line manufacturer who stated that the percentage margin allowed distributors had been in use for over forty years. Not a single firm in the entire group listing trade custom as the determining factor had made any change in margin policy since 1945, the year marking the beginning of the period for which they were asked to report any changes.

**Competition as a factor determining margin policies.** Second in frequency of mention as the determining factor for average gross margins allowed was competition. Manufacturers indicated competition as determining for over one-quarter of the total of 80 firms from which information on this item was received. Again, as in the case of trade custom, the nature of competition in this area is difficult to define in terms of evidence of competitive practice. In a limited number of individual cases where competition was mentioned, additional support for this factor was provided by the fact that changes had been made in recent years in the margins allowed distributors. Competition or meeting competition was, on occasion, given as the reason for which the change in policy had been made. In these situations the direct impact of competition could easily be seen, and there was no doubt that the resulting margin allowed was due to either initiation of the action on the part of the respondent or to the reaction to policy changes made by competing manufacturers.

The fact that changes in margins occur, however, cannot be taken as the sole criterion for the existence of competition. The situation
actually illustrates just one possible indicator of competition; e.g., where adjustments in margins allowed may be used as a competitive device by manufacturers to improve their relative position in the market served by distributors. However, even with evidence of changes the nature of the competitive situation may be obscured since the change in margins actually might have resulted from the activities of an industry leader or from a gradual attempt on the part of the manufacturers to bring archaic margin policies more in line with true market conditions. Either of these situations is far from the picture of a market where margins allowed distributors are changed in an attempt to gain competitive advantage.

Left unanswered is the question regarding manufacturers who state explicitly that competition is the determining factor for average gross margins allowed but who give no indication of any change in policy over a long period of years. Are these margins allowed actually the result of competition? The logical answer in most cases must be yes, at least in the long run. Margins allowed become customary by virtue of not being changed, but this would seem to be due to the absence of any demand for adjustment. Since the markets for industrial machinery, equipment, and supplies contain a large number of producers competing on the basis of quality, service, and price, the situations where demand for change could be ignored by manufacturers would appear to be very limited if they exist at all. Thus, even though the average margin allowed may not have changed over a long period of years it probably would be adjusted in response to sufficient reaction by distributors to existing policies. In the absence of such reaction no changes occur, but this in no way implies that the conditions for competition in this policy area do not exist. Rather,
The objectives of the study are the results of the tests of the propositions set forth in the hypotheses. Thus, while one may have some interest in the probable correctness (or incorrectness) of the statement, objectivity requires full explanation of either result.

The following hypotheses were deemed to be the major statements to be tested:

1. The use of a specific distribution channel is associated with (a) sales size of the producer; (b) industries which are the primary users of the product line; and (c) territorial extent of the market in which the product line is sold.

2. The distribution channels employed by manufacturers of industrial machinery, equipment, and supplies (as previously defined) differ appreciably by product line.

3. The pattern of distribution channels used for industrial machinery, equipment, and supplies has changed materially since 1945.

4. For a given product line, the manufacturer tends to follow the established pattern of distribution channels, giving little or no deliberation to channel choice or comparison of alternatives.

5. Average percentage gross margins allowed industrial distributors differ appreciably by (a) sales size of producer; (b) using industry; (c) specific product line; and (d) territorial extent of the market in which the product line is sold.

6. A discernible trend may be ascertained since 1945 regarding changes in average percentage gross margins allowed industrial distributors.

7. Manufacturers' policies regarding average percentage gross margins allowed industrial distributors are generally established through the use of distinguishable methods of objective analysis.
such a situation indicates only that manufacturers are not employing margin changes as a competitive weapon.

Finally, other factors weigh against frequent changes in margins, making the use of such changes as a continuing competitive weapon questionable. First, the ability of the manufacturer to adjust margins upward is limited. Increasing the price to the user in order to make provision for greater distributor margins may be impossible because of the danger of pricing the line out of the market. Reducing the price to the distributor to allow him a wider gross margin is limited by the effect of this action upon the gross profit of the manufacturer and his own profit objectives. Cost cutting to permit price reduction can be carried only so far, since there will be an optimum combination of input costs in terms of the productive factors in order to make the product. To go below this point would involve the elimination of services or elements of the product itself which would change the basic characteristics of the system of production and distribution. A manufacturer, for example, might eliminate or reduce the amount of credit offered to distributors. This appears to reduce costs, but since the financing of inventories cannot be avoided, this action would merely shift the financing forward to the distributor, thereby changing his cost structure and absorbing more of his gross margin.

Second, there is a strategic problem connected with the attempt to continually or frequently adjust margins allowed. This problem is created through the preference of most users and middlemen for some stability in the prices of vendors. When stability is not present and frequent price fluctuations occur, buyers find it difficult to make plans for forward buying or to make reasonably accurate forecasts of costs and profits.
For this reason, a legitimate attempt by the manufacturer to serve his customers by changing prices and margins allowed at different points in the channel of distribution may ultimately cost him the goodwill and business of those whom he is attempting to aid.

**Other Major Factors Determining Average Gross Margin Policies**

In addition to trade custom and competition, several other factors were noted by manufacturers as being major determinants of the average gross margin allowed distributors under suggested resale price policies. Included were cost analyses of distributor operations, cost-plus pricing policies, and direct sale experience.

**Cost analysis of distributor operations.** Margins allowed distributors were established by nine firms primarily through a process of analyzing the costs involved in the performance of specific functions or services by the distributor. Consideration was typically given to such factors as inventory investment, turnover, and costs of handling and servicing accounts. Actually this approach does not imply, as was indicated by some respondents, that the margins are determined by what the distributor's functions are worth through attempting to apply some criteria of economic value. Rather, it is a pragmatic method of determining through analysis what these functions require in the form of compensation in order to secure distributor cooperation. Indications are that such analyses when performed concentrate on a few services considered to be of critical importance by the manufacturer; e.g., there was no evidence provided that manufacturers using this approach attempted comprehensive cost studies of distributor operations. Nevertheless, analyses of this type represent
the best and most objective approach to the problem of establishing distributor margins, and the necessary information for this purpose is usually available from the distributor. By reviewing carefully the actual functions performed and the costs associated with their performance, the manufacturer should be in a position to determine objectively a reasonable margin policy. It appears that any other approach is less apt to produce the optimum margin allowed.

Cost-plus pricing and distributor margins. Cost-plus pricing policies were noted as the major determinant of distributor margins in about eleven per cent of the cases. In this situation the emphasis is upon the establishment of a price to the distributor which will yield a desired return to the manufacturer over and above his own costs. The distributor's margin is then set in relation to the suggested resale price to users. Here the emphasis is upon the manufacturer's costs with other factors being of secondary consideration.

The cost-plus approach may be quite satisfactory in specific instances where the company's product line is sufficiently differentiated to obviate the necessity of direct resale price competition. In such cases considerable latitude in setting resale prices to users would permit the establishment of adequate distributor margins even where the manufacturer's own operations were relatively costly and inefficient. However, where price competition is important in the user market, cost-plus pricing policies may lead to inadequate distributor margins. In order to sell to users at the competitive price and at the same time maintain his own gross return per unit, the manufacturer may be forced
to shrink the margin allowed distributors to a point below that which is requisite to secure satisfactory distributor performance.

**Direct sale experience of the manufacturer.** Where direct sale to the end user of the product is a major channel of distribution for the manufacturer and a lesser volume is moved through distributors, the direct selling experience of the manufacturer may serve as the starting point for setting the margin allowed. Manufacturers using this approach tend to equate their costs of distribution with the anticipated expenses of the distributor. Thus, the distributor is billed at the same price as the user of the product less an established percentage which largely reflects the cost experience of the manufacturer. Emphasis on this factor does not guarantee an equitable margin for the distributor where it is not coupled with an analysis of his costs and value added. It is possible, however, when the manufacturer's direct contact is sufficient to include a wide variety of types of users, for knowledge of what the distributor's margin actually is to be quite accurate. In general, though, it is doubtful that such information is as pertinent as might be concluded because under these circumstances the manufacturer would usually be selling to big customers, while the distributor would sell mostly to small users. Thus, basing margins allowed on this type of information may well fail to reach the real heart of the problem which is to provide a return to the distributor in line with the job he is expected to perform.

Quite aside from the issue of determining a really adequate margin allowed, this approach may suffice for a manufacturer who sells only a very small part of his total volume of business through distributors.
In this special case, the manufacturer is not vitally concerned with the problems of distributors since he relies on them largely for incidental sales. Even here the practice cannot be recommended since, without analysis, the amount of potential sales volume lost because of poor margin policies will never be known.

**Supplemental Findings From Interviews and Follow-Up Inquiries**

The returns from the mail survey tended to emphasize single factors of major importance in the determination of distributor margins. In the course of the original depth interviews it was found, without exception, that the margin policies of the various manufacturers were established through rather non-critical consideration of a hierarchy of factors which generally included some attention to each of such factors as costs, trade custom, competition, and assumed distributor requirements. None of the companies interviewed actually had made any kind of formal study or review of the gross margins which they currently allowed distributors.

As noted previously, the first twenty-five returned questionnaires containing no answer to the question on margin determination were selected for special attention through individual letters asking for a frank discussion of the problems faced by the manufacturer in establishing gross margins allowed distributors. A 100 per cent response was received to these requests and the replies shed considerable additional light on the methods of margin determination.

**General Results of Follow-Up.**

Three basic generalizations may be made from this part of the study concerning the views of manufacturers. First, there is some recognition
that an analytical approach to margin determination based upon the distributor's contribution to the distribution function is requisite and desirable for good relations and meaningful, accepted, and supported resale prices. Second, the competitive situation in the market for industrial machinery, equipment, and supplies has many facets difficult to analyze objectively. Third, a corollary to the last, there is in most cases in this market a thin line between custom and competition when it comes to assessing controlling factors in margin determination.

Specific Explanations From Follow-Up

The following quotation from one of the replies is presented here as an illustrative example of the manufacturer's approach to margin policies:

The average gross profit margins allowed our industrial distributors are based on three factors:

1. Whether or not the product can be stocked and re-sold by the distributor. In this case, a wider gross margin is established to cover the investment of the distributor, taxes, and other distributor overhead costs.

2. When products are basically engineered types and factory shipment is the normal channel of distribution and in which the total invoicing figure is generally greater than $1,000 per item, the gross margins are adjusted somewhat downward. Since the distributor has no stocking or distribution investment on his part, the gross margins are necessarily readjusted to show a more favorable margin on the manufacturer's side of the ledger.

3. Margins are based on customs in our line of trade which go back quite a number of years. However, for several years in the past we have endeavored to increase the distributor's gross margins at times of price increases. We give them an increase in their gross margin feeling that when it is necessary for us to increase prices because of additional costs, it is also necessary to increase their margin. At such a time, however, the rate may not necessarily be equally distributed. It is usually in the favor of the manufacturer.
The first two points in the above letter reflect the impact of functions performed on the gross margin allowed the distributor. When the distributor operates as a drop shipper and does not physically handle the product, the margin allowed is reduced to make it commensurate with services actually provided the manufacturer. The third point indicates the possibility that when distributor margins are increased to cover increasing costs of operation the change may be purposely insufficient to maintain the percentage gross margin previously earned. This action would provide some relief to the distributor, of course. However, if the previous margin was only just adequate to cover properly operating expenses and net profit, the adjusted gross profit would be insufficient. The distributor may be able to restore the margin by curtailing services which would probably hurt the manufacturer by shifting costs of performance back to him. Or, the distributor might be able to protect his total net profit by the necessary increase in sales volume, but this may be possible only in certain individual cases.

Two companies reported that their margin policies for distributors had recently been reviewed through a process of analyzing their distributors' cost-profit position in relation to services performed. Three additional firms indicated they thought such an approach desirable but had not actually undertaken it. This recognition of the need to examine margins allowed from the standpoint of distributor requirements is the only wholly satisfactory way of attacking the problem of margin determination. The margin, to be adequate, must compensate the distributor for costs incurred on functions performed as well as provide a reasonable profit. The sole way of insuring this is properly accomplished is to ascertain the actual costs incurred and establish a margin which will provide the necessary coverage.
Generalizations Warranted by Results of Follow-Up

The current practice of twenty-three of the firms may be summed up as judgment decisions arrived at through subjective distillation of experience, custom, and competitive factors, although there is considerable variation in the method of evaluation and the weight attached to specific criteria.

There are two broad aspects of the competitive situation. In the first place, there are the margin policies of directly competing manufacturers of similar products. The individual firm cannot establish margins significantly below the prevailing level on the line and still secure the services of distributors. Neither is the producer in a position to set distributor margins significantly above the industry pattern. Where this is attempted, the result is a lack of support for the suggested resale price on the part of the distributor. Five of the companies reported similar experience in this matter. Their attempts to provide the distributor with margins well above trade averages led, in each case, to price cutting action by the distributor. While this was a matter of some concern to four of the five, one company felt that price cutting was a normal situation and encouraged it by setting the suggested resale at a point where only the most aggressive selling could achieve it. If the distributor preferred to cut the margin, the manufacturer felt he should have that alternative.

In general, all the replies indicated that maintenance of the resale price was considered a desirable goal for the distributor, but only three respondents stated that they required full support of the price. Implicit in the thinking of these marketing executives, however, was a continued belief in the efficacy of resale price policies. The basic
problem was how to establish the proper price and distributor margin since not one company indicated an intent to drop the practice of using suggested resale prices.

The second aspect of competition is that of a line's position with respect to all products handled by a distributor. Regardless of the physical characteristics of a product which differentiate it from others, all lines sold through a given distributor are competing for a share of the distributor's selling effort. Recognition of this leads the manufacturer to adjust margins for incentive purposes, as reflected in this quote which followed a statement that an additional margin was added above the average for the trade: "Back of all this is our keen desire for a place in the distributor's sun."

As noted in the previous discussion of the survey results, customary margins and competitive margins are difficult to separate. Time and again it was reiterated that the margins allowed were both customary and competitive. They are competitive in that no manufacturer feels able to deviate from the established pattern for the trade, but at the same time the adherence to the pattern does not permit much variation for purposes of gaining competitive advantage. These margins are also customary in that the general level for any single line has been in effect for so many years that the original basis for establishing it is lost in antiquity.

**Little Variation by Line of Product**

It should be noted that the specific product line manufactured makes little difference in the approach used in establishing margins
allowed distributors. The manufacturer of several product lines follows the same basic methodology for all, though specific ways of quoting prices may differ for each line in accordance with trade practice. The following extracts, taken from the replies of several manufacturers producing different lines, show the similarity of problems regardless of line of trade:

In the main, I would say that these are the three things we consider in order of importance in establishing distributor margins:

1. Margins offered by competitors for comparable products.
2. The minimum operating margin or profit, which distributor associations indicate is required.
3. The actual function a distributor will perform in marketing of the particular product.

As indicated, margins offered for competitive products are probably the first most important element in setting our prices. We do vary from established profit margins on occasion where we feel that the distributor is being paid either too little or too much for the service he renders. Our experience has shown that it does not seem to do much good to generally offer distributors higher profit margin than is prevalent on competitive items. To do so only invites price cutting at the ultimate consumer level in some cases or, more often, indifference or unawareness on the part of the distributor to the fact that he can obtain better profit on a particular line ....

A second manufacturer says:

While it would be complimentary to say that distributor gross margins are determined by scientific methods, this is not the situation. The ---- Corporation, like other manufacturers in the industry, have had the same distributor gross profit margins allowed under industrial products since World War II and even before. In our industry the top margin happens to be 30%. Actually, distributors in most geographic areas operate upon a smaller margin than this and do pass a discount to their customers. This discount can range anywhere from 5 to 15% depending upon the size of the customer and the size of the purchase....In pricing our products, we usually consider only what we will sell the product for and then add the distributor margin to arrive at a catalog price.
Methodology Employed

To test the validity of the above hypotheses, specific data were required from manufacturers of product lines in the category of industrial machinery, equipment, and supplies. The first step involved a thorough search of existing literature and U.S. Census data. With no extensive specialized studies of margin and channel policies available, the search of the literature served to establish the existing conceptual framework as well as to provide some basic statistical information, particularly with respect to the number of specific marketing institutions involved in the distribution of industrial products.

Use of personal interviews. For the purpose of gaining some insight with respect to the attitudes and positions of manufacturers on the subject matter under consideration, a series of depth interviews was scheduled with thirty manufacturers in the Fourth Federal Reserve District, comprising all of the State of Ohio and portions of Kentucky and Pennsylvania. In addition, the geographic area covered was broadened to include the State of Michigan. The area was selected for two major reasons, the least important of which was its convenience. Vastly more important was the fact that this area is a widely diversified region of heavy industrialization, providing a large number of firms producing a great variety of products.

The interviews were designed also to test the basic format of the projected mail survey questionnaire in order to add points which the manufacturers felt were cogent and to delete items found to be too unwieldy or of too proprietary a nature to expect the companies to reply. Finally, the information actually secured in the course of the interviews
A third comments as follows:

On the majority of lines channeled through our distributors, gross margins are the result of practices established in the past and are questionable, in view of modern management. We believe studies of the many factors affecting gross margins are overdue.

Our line of ... was recently subjected to a more enlightened approach, and after studies of manufacturing costs, distributors' contributions, etc., a schedule of suggested resale prices was established, bearing in mind the relationship of volume. This schedule provides our distributors with attractive profits relative to services rendered.

And finally, one respondent explains:

Actually, there are three factors involved in setting margins for distributors; (1) Custom, (2) Demands of the Distributors, and (3) Competition. (1) and (2) parallel each other; the margin must be high enough to cover the distributor's expenses plus a reasonable profit. (3) By competition we mean not only companies manufacturing similar products, but any company that manufactures any product which is sold through the same distribution channels.

In the small company manufacturing a standard product also manufactured by numerous other companies, some of which are larger, cost plays very little part in the setting of selling prices or distributor's margins. If the manufacturer cannot compete with the market, he goes out of business.

Hypothesis Rejected

The weight of evidence collected regarding the process of margin determination as currently practiced is sufficient to reject the hypothesis involved. That is, manufacturers' policies regarding average percentage gross margins allowed industrial distributors are not generally established through the use of distinguishable methods of objective analysis.
Use of Quantity Discounts and Net Pricing
Vs. List and Discount Pricing

Because of recent discussion concerning the advisability of list and discount pricing, each manufacturer in the survey was asked to indicate which type of price quotation was used in selling each line produced to distributors. Also, respondents were requested to note whether or not quantity discounts were granted distributors. The quantity discount is important in any consideration of average margins allowed distributors because of the responsibility that is placed upon the distributor for determining the size of the percentage gross margin to be earned.

Use of quantity discounts. The use of quantity discounts was a somewhat more prevalent pricing policy than the non-use of such discounts on lines sold to industrial distributors. One hundred sixteen individual product lines were sold on a quantity discount basis, while 105 lines were sold to distributors with no discount based upon quantity purchased. Table 22 illustrates the extent of use of such pricing policies for each product line.

From the data in Table 22 it may be seen that for some lines quantity discount pricing is apparently established trade practice, but in most cases some producers follow one policy and some the other. Discounts were offered by all manufacturers of abrasive products, fasteners, mechanical rubber goods, and paints. On all other lines there was at least one reported use of each policy, although producers of machine tools and safety equipment heavily favored the non-use of quantity schedules. For the remaining lines, there is little evidence to indicate that one policy or the other could be considered general trade practice.
Table 22

USE OF QUANTITY DISCOUNT PRICING TO INDUSTRIAL DISTRIBUTORS, 17 PRODUCT LINES, 156 MANUFACTURERS

<table>
<thead>
<tr>
<th>Product Line</th>
<th>Total Number Of Reports</th>
<th>Quantity Discount Used</th>
<th>Quantity Discount Not Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abrasive Products</td>
<td>13</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>Cutting Tools</td>
<td>17</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Fasteners</td>
<td>9</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>Hand Tools</td>
<td>26</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>Machine Tools</td>
<td>25</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>Materials Handling Equipment</td>
<td>21</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>Mechanical Rubber Goods</td>
<td>9</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>Metalworking Accessories</td>
<td>14</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Motors</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Paints</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Portable Power Tools</td>
<td>8</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Power Transmission Equipment</td>
<td>17</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Pumps and Compressors</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Precision Measuring Tools</td>
<td>6</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Safety Equipment &amp; Supplies</td>
<td>6</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Steel Products</td>
<td>12</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Valves and Fittings</td>
<td>13</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Other</td>
<td>15</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>221</strong></td>
<td><strong>116</strong></td>
<td><strong>105</strong></td>
</tr>
</tbody>
</table>
On those lines where both the use and non-use of quantity discounts were reported, the decision did not appear to be related to size of firm, using industry, the extent of marketing area, or whether or not the company was a multi- or single-line producer. Thus, except in the few cases where quantity discounts are definitely established trade practice, a company is largely free of external pressures and is apparently able to choose successfully either pricing policy.

**Net price vs. list and discount pricing.** The mild controversy regarding the potential advantages of net pricing vs. the traditional list and discount method of price quotation has apparently had little effect upon manufacturers of industrial machinery, equipment, and supplies. List and discount price quotations were used on 169 product lines in this study, while net prices were quoted to distributors on 52 lines. With the exception of steel products and hand tools, list and discount pricing is heavily favored for all individual product lines. In the case of the two lines mentioned, there appears to be no pronounced preference for either type of price quotation. Table 23 summarizes the data for each product line.

**Summary**

Two major problems face the manufacturer selling industrial goods under a policy of suggested resale price. One problem concerns the establishment of the resale price itself. The other area requiring sound decisions is that of determining the gross margin to be allowed distributors selling the product at the suggested resale price.

Manufacturers' policies regarding resale prices may take several different forms which vary principally in the degree to which attempts
Table 23

USE OF LIST AND DISCOUNT PRICING AND NET PRICE QUOTATION IN SELLING TO INDUSTRIAL DISTRIBUTORS, 17 PRODUCT LINES, 156 MANUFACTURERS

<table>
<thead>
<tr>
<th>Product Line</th>
<th>Total Number Reporting</th>
<th>Number Reporting Use of List and Discount Pricing</th>
<th>Number Reporting Use Of Net Prices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abrasive Products</td>
<td>13</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Cutting Tools</td>
<td>17</td>
<td>14</td>
<td>3</td>
</tr>
<tr>
<td>Fasteners</td>
<td>9</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
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<td>26</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>Machine Tools</td>
<td>25</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>Materials Handling Equipment</td>
<td>21</td>
<td>17</td>
<td>4</td>
</tr>
<tr>
<td>Mechanical Rubber Goods</td>
<td>9</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Metalworking Accessories</td>
<td>14</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>Motors</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Paints</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Portable Power Tools</td>
<td>8</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Power Transmission Equipment</td>
<td>17</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>Pumps and Compressors</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Precision Measuring Tools</td>
<td>6</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Safety Equipment &amp; Supplies</td>
<td>6</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Steel Products</td>
<td>12</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Valves and Fittings</td>
<td>13</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>15</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>221</strong></td>
<td><strong>169</strong></td>
<td><strong>52</strong></td>
</tr>
</tbody>
</table>
are made to force resellers to adhere to the resale price. At opposite ends of the continuum in this respect are those who utilize where possible legally supported resale price maintenance and those to whom published resale prices are nominal only. In the latter case, suggested resale price may bear no relation to actual market prices currently received.

The most commonly mentioned major factors involved in the determination of average gross margins allowed distributors were trade custom and competition. Both of these determinants exhibit a number of different facets that make definition and interpretation difficult. Because of the generally competitive nature of markets for industrial machinery, equipment, and supplies, it is believed that customary margins, even though in effect for a long period of years, are also competitively determined in many cases. The absence of frequent changes in margins allowed indicates that such adjustments are not used often as competitive weapons, but such a condition does not demonstrate lack of competition as a major factor in the determination of margin policies.

The evidence garnered through interviews, survey, and follow-up inquiries disclosed that very few firms follow an analytical approach to margins allowed distributors. Such an analysis, based upon the purpose of the margin to adequately compensate distributors for functions performed, logically would require the study of at least average distributor costs for the marketing of specific product lines.

The use of quantity discounts as a part of the pricing policy of machinery, equipment, and supply manufacturers was slightly favored over the non-use of such schedules, although some specific lines showed
a great preference for one such policy over the other. List and discount pricing, on the other hand, is heavily favored over net prices in nearly all lines, despite some pressure by buyers in recent years to force a change to the latter method of price quotation.
CHAPTER IX

SUMMARY AND CONCLUSIONS

Existing marketing literature up to the present time contains relatively little specific information regarding channels employed by manufacturers for the distribution of particular groups of products. There has been increased attention given to the general problems of channel selection in line with the emphasis in recent years upon managerial decision making in marketing. Contributions in this area have delineated the requirements for an analytical approach to the channel decision. However, one of the major limitations to the potentially greater development of analytical tools and their application is the lack of empirical data relating to available channels, their utilization, and the requisite conditions for effective relations between the manufacturer and the various channel institutions. Also, considerable criticism has been leveled at the wholesaler over the years with the general implication, based upon little factual information, that such an institution is wasteful and largely an unneeded anachronism in a modern economic system.

With the above two basic problems or conditions in mind, this study was undertaken to assemble empirical evidence relating to the distribution channel policies of manufacturers of industrial machinery, equipment, and supplies. As an important aspect of the relations between manufacturer and industrial distributor, gross margins allowed distributors under the manufacturers' pricing policies were also
brought within the purview of the study. This emphasis on the role of the industrial distributor is a reflection of the tremendous importance of that particular middleman in the marketing of industrial machinery, equipment, and supplies of the types treated in this study.

Specific objectives of the investigation included the determination of the alternative channels currently used in the marketing of particular lines of industrial products, the delineation of trends appearing in channel usage, and the isolation of factors considered by manufacturers in the selection of distribution channels. With respect to gross margins allowed industrial distributors, the objectives involved finding the current level of gross margins allowed on specified lines of machinery, equipment, and supplies; determining the extent to which margin policies are subject to change over time; and the factors and processes considered in the establishment of this portion of the manufacturers' pricing policies.

With the objectives of the study recounted, it is now proper to summarize the principal findings of the investigation and the conclusions drawn therefrom.

**Distribution Channels for Industrial Machinery, Equipment, and Supplies**

**Major Channels Used**

Six distinct channels of distribution were found to be in current use, in varying degrees, for the marketing of the twenty-four types of industrial product lines. These six channels consisted of factory to distributor to user, factory through sales branches to user, factory to manufacturers' agent to distributor to user,
factory through sales branches to distributor to user, direct from factory to user, and factory to manufacturers' agent to user. No other institutions or channel combinations were involved in either major or secondary channels for the product lines covered. From this it may be concluded that, despite the existence of other institutions, these six channels represent the maximum practical number of alternatives available to a manufacturer of like products. It also follows that in selecting a channel these six should be given due consideration until effectively eliminated through careful analysis of the specific situation. It is dangerous, in fact wholly false, to conclude that these channels are completely interchangeable, for each has its particular characteristics that may or may not fit the requirements of an individual case. The institutions that make up the channel, by virtue of their methods of operation, offer varying types and amounts of services. The manufacturer must select the combination most nearly meeting his needs as indicated by product characteristics, the desires of users, the nature of the market, and his own capabilities in the performance of marketing functions.

The preponderant major channel used for the product lines covered in this study was factory to distributor to user. Nearly one-half, or 48.7% of the company-product-lines of the manufacturers surveyed employed this particular major channel. The next most commonly used, through manufacturers' agent to industrial distributor, was utilized as a major channel for only 16.8% of the individual company-product-lines. The remaining four alternatives appeared still less frequently. The least important major channel from the
was to provide a broader base for interpretation of the rationale behind the policies and practices followed by manufacturers of industrial machinery, equipment, and supplies.

To insure that the respondents consisted of manufacturers whose product lines fell within the intended scope of the study, the universe, as in the case of the major portion of the mail survey to follow, was established as the membership of the American Supply and Machinery Manufacturers Association. From the ninety-six members of the Association located in the chosen area, a systematic random sample of forty-six firms was developed. This was accomplished, first, by arranging the original ninety-six firms in alphabetical order to avoid any size, product line classification, or geographic bias. The first name to be included was chosen at random. Every second firm in the list beyond this point was then selected until the total of forty-six potential respondents was achieved.

Contact with each of the firms was established through the offices of the National and Southern Associations of Industrial Distributors, requesting cooperation in the interviewing process. Where affirmative responses were received, a request for a specific interview date was made by the writer with the top marketing executive of each firm. Thirty interviews were eventually scheduled and completed, consisting of firms located in each state of the selected area. Seven additional interviews were scheduled but could not be completed because of the unavailability of the executive at the time originally established.

**Format of the interview.** An interview format was developed, designed to permit maximum latitude on the part of the respondent in order to secure interpretive answers that could be used for developing a mail
standpoint of frequency of use was manufacturers' agent to user since
this was used for only eight of the 220 individual company lines.

The overwhelming importance of the industrial distributor in
the channel structure for machinery, equipment, and supplies reflects
that institution's particular capability and value for the distribu-
tion of such products. The range of services offered and the market
coverage provided are ideally suited to standardized products sold
to a broad horizontal market.

Variation in major channel usage by size of firm. In the cases
of most of the six channels there is a rather strong association be-
tween the use of a given channel and the sales volume size of the
manufacturing firm or division. The use of industrial distributors,
for example, is much more frequent among small manufacturers than
the larger firms, even though substantial use is made of the distribu-
tor by companies of all sizes. Conversely, the sales branch to user
channel is employed much more by large firms than small ones.

The only exception to the general pattern of variation by sales
size was found in the case of the sales branch to distributor chan-
nel. Similar degrees of use of this channel were found in all size
firms except the very smallest with sales under $1,000,000 annually.

In general, it may be said that the larger firms make proportion-
ally greater use of more direct channels of distribution than smaller
manufacturers and the former are in a position to do so effectively
where their volume of sales is great enough to enjoy economies of
scale in the performance of marketing functions.
Variation in major channel usage by size of market area. Use of particular major channels was also found to differ appreciably between company-product-lines sold on a regional basis and those sold in a national market. In particular, greater use of the factory to distributor route was made by national sellers, while those selling in regional markets used direct sale methods proportionally more. As a market broadens geographically it becomes increasingly difficult to serve it economically without the use of middlemen and, in the case of these industrial products, there would seem to be a need for middlemen who can provide facilities for maintaining local inventories.

Variation in major channel usage by using industry. The data on major channels employed to particular using industries indicated that only minor differences are to be found among broad industry groups where many different types of the general kind of business are placed in the same classification. Thus, there was little difference found in channel usage for company-product-lines sold to the metalworking industry and those lines sold to general industry where no broad functional class was dominant. Respondents were asked to indicate the principal using industry for each of their product lines. A large number of firms were unable to do this because their lines were sold to a cross section of industry such that no particular group could be listed as the principal user. As a result, the detailed industry classification anticipated did not develop in the responses.

Variation in major channel usage by product line. There are many points of similarity among the patterns of major distribution
channels exhibited for specific lines of machinery, equipment, and supplies, but some substantial differences in usage also appear. All lines, for example, made considerable use of the factory to distributor channel, but there still existed some appreciable variation in the degree of use among the lines. Overall, major channels selected tend to differ more sharply among groups of product lines than between individual lines because of the similarity of market characteristics which may exist for two or more otherwise unrelated items. For example, product lines in the general classification of industrial supplies will exhibit some variation in channels employed by the manufacturers, as will the pattern for lines of equipment; however, channels utilized for equipment in general tend to show more variation from those used for supplies than appears within lines in either classification.

**Changes in major channels of distribution.** The selection of a particular channel is generally a matter of long-run company policy because of the time and effort required to develop effective operations and relations between links in the channel. As would be expected, then, the policies for lines included in this study exhibited considerable stability. Nevertheless, twenty-four company-product-lines, or 10.9 per cent of the sample, showed that a change has been made since 1945. Usually, a change in major channel does not involve an immediate and complete shift from one channel to another. Instead, the transition is normally a gradual change in emphasis, with the original major channel being retained as a secondary outlet for the product line.
Such changes as were made in major channels tend to reflect the basic value of the distributor for these product lines. One-half of the twenty-four changes reported involved the addition of that institution as a new link in the manufacturer's channel. Thus, the trend in changes greatly favors the distributor. The most important reason given for the selection of distributors was the ability thus to secure greater market coverage.

Use of Secondary Channels of Distribution

The importance of multiple channels in the distribution of industrial products is borne out by the fact that nearly 60 per cent of the manufacturers used more than one channel and slightly over 60 per cent of their lines were sold through more than one channel. Multiple channels may be dictated by geographic considerations or because of the need to reach widely different types of users with the same line of products. A manufacturer of materials handling equipment, for example, who is located in a concentrated market area may find it economical to sell direct to users in the local market. In a less concentrated area, or one in which he is a marginal competitor, the use of agents or distributors may be required because the costs of direct selling are too great to be borne by the limited volume of sales available.

Variation in secondary channel usage. Overall variation in secondary channel usage is not so apparent as with major channels. Because of its dominance as a major channel, factory to distributor to user does not appear as frequently in secondary channels. With many more firms using this major channel than any other, the secondary outlets of these companies consist of other alternatives.
Actually, many secondary channels are extensions or modifications of the major channel. For example, a manufacturer utilizing factory to distributor to user as the major channel may well adopt the secondary outlet of direct from factory to user, especially in the area surrounding his plant location where a substantial, concentrated market may exist.

In general, it may be concluded from the data in Chapter V that different patterns of usage for secondary channels of distribution are associated with size of firm, extent of market area, major using industry, and specific product line. The relationship between these factors and channel choice is believed to be causal in nature as well because these are broad characteristics of the market environment to which the distribution channel must be tailored.

**Distribution Channel Determination**

All indications are that analysis of channel alternatives is neither a continuing nor an organized activity on the part of most manufacturers of machinery, equipment, and supplies. This seems to be true despite the fact that the channel decision is generally recognized as being of sufficient importance to the firm that authority for it is rarely delegated below the level of the marketing or product division manager and is often retained by the president or chief operating executive of the organization.

Nevertheless, an awareness of the importance of channels to effective marketing is reflected in responses to an inquiry seeking to ascertain the most important factor in selecting distribution
channels for individual company-product-lines. In order of frequency of response, the following nine criteria were indicated by the participating firms:

1. Market coverage  
2. Proven ability to secure sales volume  
3. Willingness to carry local inventories  
4. Costs of distribution  
5. Technical knowledge of the product line  
6. Established contact with users  
7. Area of specialization in the product line  
8. Normal trade or competitive practices  
9. Character of the institution  

It is believed that these factors, while they were given in the nature of single most important determinants for the lines of individual respondents, also depict as a group a hierarchy of elements to be considered by manufacturers in screening alternative distribution channels. The relative importance of each in a specific situation would be largely conditioned by the type of product line for which the selection of channel is to be made. Thus, technical knowledge of the product line would assume a position of much greater importance in the case of special purpose machine tools than it would for standardized items of industrial supplies. Product knowledge is always requisite to the successful selling of industrial goods, but the lack of it may be overcome through minimal training for many uncomplicated, non-specialty items. Yet the same lack of knowledge could be a major disqualifying factor for the institutions in a channel under consideration for the distribution of a highly technical item.

For a given instance of channel selection, broad consideration of such criteria should suffice to eliminate most channel possibilities leaving, perhaps, a choice between two feasible alternatives.
At this point, profitability becomes the ultimate criterion for choice of channel. Successful application of this criterion requires detailed, factual information on cost levels and cost behavior for the alternatives in question under a range of operating situations. It is at this stage in particular that present practices of manufacturers in channel analysis, almost without exception among participants in this study, appear to break down. This seems to be due to two major reasons. First, the general lack of emphasis on channel analysis prevents the collection and analysis of adequate cost information. Second, the general unavailability of such information in readily usable form from the various channel institutions greatly increases the difficulty and often practically obviates the possibility of such analysis. It is believed, however, that an increased demand for this information on the part of manufacturers would do much toward bringing it forth.

Margins Allowed Industrial Distributors On Products With Suggested Resale Prices

The gross margin provided an industrial distributor is intended to compensate him adequately for all the functions performed in connection with the sale of the manufacturer's product line. Most of the products of the manufacturers included in this study that were sold through distributors had suggested resale prices quoted by the manufacturer for the guidance of the distributor. However, the true nature of such suggested resale prices may differ widely among similar product lines of different manufacturers. The differences are accounted for in terms of the extent to which suggested resale prices
reflect actual market prices. At one end of the scale are resale prices which the manufacturer seriously intends the distributor to follow. In these cases strong pressure and frequent surveillance may be used to ensure in so far as possible that distributors adhere to the suggested prices. At the opposite end of the scale are what may be termed nominal suggested resale prices which are not followed by the distributor and which the manufacturer does not really expect him to follow. In this case suggested resale prices may be nothing more than list prices used as a convenience in quoting prices to distributors in the form of discounts from these nominal resale prices. These list prices may also be used to avoid disclosing true resale prices to competitors, and the expense of catalogue revision may be significantly reduced since changes need be made only in the discount list.

**Average Gross Margins Currently Allowed Under Suggested Resale Prices**

The mean average gross margin allowed distributors on all company-product-lines included in the study was 28.2 per cent of the distributors' selling prices as provided by the manufacturer. The median average margin allowed was 26.3 per cent of suggested resale price. The range of individual values reported was extremely broad, running from 7.5 per cent of suggested resale price to 50 per cent. The wide range was characteristic of even the same product lines and is probably due to two major factors. First, the difference among manufacturers in their concept of suggested resale price, as noted in the section above, would account for some unrealistic margin figures in cases where resale prices were not actually in line with market prices.
received by distributors. These figures would tend to be at the upper end of the range. Second, because the margin represents compensation for services performed, substantial differences among the margins allowed by the manufacturers of the same type of product line would be expected as functions required of or performed by the distributor differed. Of particular significance in this matter would be the relative amount of drop shipments made through distributors by the various manufacturers since many of the normal functions of the distributor are not performed by him on sales of this kind.

Variation in Margins Allowed Distributors

With the data arrayed by sales size of manufacturer, it was found that margins allowed tend to vary inversely with sales volume. Such differences among producers of varying size are believed due, first, to the greater absorption of services by the large manufacturer that would normally be performed by the distributor. A second reason is the fact that small manufacturers tend to attempt to offset any potential disadvantage relating to their size by offering distributors larger margins in order to secure more aggressive promotion of their line. These products are perhaps less well known than those of larger manufacturers and require more selling effort.

Little variation in average margins allowed is found between lines of manufacturers marketed on a regional basis and those distributed nationally. This appears to be largely due to the fact that regardless of the overall distribution pattern of the manufacturer the operations of individual distributors' establishments are similar, being largely local in nature, and would require like amounts of compensation.
Similarly, no appreciable differences in margins allowed were found on the basis of the major using industry for company-product-lines. A major contributing factor to this situation would appear to be the relatively broad nature of the markets for most lines of machinery, equipment, and supplies. Even though a line is sold primarily to the metalworking industry, for example, so many types of manufacturers in that category would be covered that the margin needs of distributors would not tend to reflect special functional requirements.

In general, it was found that, with but a few exceptions, the margins allowed do not tend to differ among types of product lines. A line of equipment is, of course, quite different from a line of supplies or equipment. Variation among these groups in physical characteristics, value, and emphasis on particular marketing functions are apparent. Because of this variation, differences among product lines would be expected in terms of their profitability for the distributor when margins allowed are similar. Nevertheless, it appears that these margins tend to reflect average distributor requirements for machinery, equipment, and supplies.

**Length of Time Margins in Use**

The percentage gross margins allowed distributors were found to exhibit considerable rigidity over time. Only 7.8 per cent of the individual company-product-lines carried gross margins in effect less than five years, while an additional 10 per cent had gross margins allowed distributors which had been in use between five and ten years.
CHANNELS IN THE DISTRIBUTION OF INDUSTRIAL MACHINERY, EQUIPMENT, AND SUPPLIES

With Particular Emphasis on the Industrial Distributor

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

William Montgomery Diamond, Jr., B.Sc., M. B. A.

*****

The Ohio State University
1962

Approved by

Theodore N. Beekevan
Adviser
Department of Business Organization
questionnaire. A number of questions not directly related to the final results of the study were included in the interview for the primary purpose of yielding a background familiarity with the industry. Information requested in this group of items included specific descriptions of the marketing organization, authority relationships, relative current and projected industry position of the firm, extent of patent protection on the product line, and nature of distribution cost accounting methods.

In the course of conducting an interview with a specific company the interview format was followed as closely as possible. Particular emphasis, however, was placed upon those portions of a specific interview which indicated that the respondent's organization had given considerable attention to the determination of policies in the areas of channel selection and distributor margins. On several occasions it was found that the size of the company precluded detailed discussion of the entire breadth of the product mix. This situation occurred where the company was organized on a product division basis and where these product divisions were of sufficient size to be thoroughly decentralized in terms of marketing management. In these cases the interview was conducted on a more general basis, with the discussion centered about the problems of margin determination and channel choice for a general class of products rather than for particular product lines.

The time required for completion of an interview averaged about two and one-half hours. However, there was a considerable range involved, from slightly under one hour to somewhat over six hours, depending in part upon the size of the firm involved and the breadth of the product mix and in part upon the available time of the individual executive.
years. In 82 per cent of the cases the same margins were reported as being in effect over ten years, and in actual fact they had been in use over fifteen years. This pattern of margin rigidity in the face of continuing changes in general economic conditions and using costs of doing business appears highly unrealistic. If margins allowed are to reflect costs incurred in functional performance they must be subject to periodic review and adjustment in light of current conditions.

At the present time the most logical explanation of this rigidity in margins allowed would appear to be the absence of collective demand by distributors that changes be made, since it would be unlikely that a manufacturer could arbitrarily refuse to make adjustments and still maintain the goodwill and effective cooperation of his distributors. Additionally, even though a margin is inadequate, the distributor may not have sufficient cost information on a single manufacturer's line to be really sure that such a situation exists. From the manufacturer's standpoint a margin may be assumed to be adequate, but in the absence of careful review it may not be at the level required to secure the maximum effort of the distributor.

Changes in Margins Allowed

What few changes as actually were made in the margins allowed distributors were most frequently in the direction of increases. Two explanations were generally given by the manufacturer. The increase either represented an individual attempt of a manufacturer to secure greater effort from the distributor or the change was made in response to similar adjustments by competitors. Though not
specifically stated, these changes probably also implied a change in
the cost-profit position of the distributor on the line since the end
of World War II. Widening the gross margin allowed would serve to
compensate the distributor for the increased costs of functional
performance.

While the increases granted distributors averaged approximately
5.0 per cent of suggested resale price, the five reported decreases
in margins allowed averaged 12.0 per cent. This greater magnitude
is believed due in most cases to the attempt to bring quoted margins
and prices into line with actual market conditions. It is possible
that in some instances the role of the distributor had changed to
the extent that he was no longer performing a major function, such
as the carrying of substantial inventories, for which he had been
previously compensated. In the absence of either of the above situa­
tions downward adjustment of margins allowed may be forced upon the
distributor by manufacturers of products with an unusually high
level of brand insistence among users, or by manufacturers whose
size provides them with a position of unusual power.

Use of Quantity Discounts, Net, and
List and Discount Pricing

As a subsidiary point of information regarding manufacturers' pricing methods the extent of use of quantity discounts in price quotations to distributors was determined. Also, because of some discussion which has appeared in the literature regarding the relative merits of the two methods, manufacturers were asked to indicate whether they used list and discount pricing or flat (net) price quotations.
In the matter of quantity discounts, it was found that slightly over one-half of the total number of company-product-lines were quoted with quantity discounts. In general, manufacturers using both methods were found in the same type of product line, although in the cases of abrasive products, fasteners, mechanical rubber goods, and paints quantity discounts were used by all respondents.

Despite increasing objections on the part of buyers to list and discount pricing because of the additional time and effort which must be devoted to ascertaining the actual price at which to order, this method of price quotation is still most prevalent among manufacturers of machinery, equipment, and supplies. Of the total of 221 individual company-product-lines included in the study, 169 were sold to distributors under list and discount prices while only 52 were sold on a net price basis.

**Determination of Distributor Margins**

Major factors in the determination of gross margins allowed distributors, as given by the manufacturers involved, were the following:

1. Trade custom
2. Competition
3. Cost of manufacture
4. Distributor costs
5. Direct sale experience

Particularly difficult to analyze are the factors of custom and competition, especially when indicated for margins which have been in effect for some years. It is believed, however, that most markets for lines of industrial machinery, equipment, and supplies exhibit a rather high degree of competition and that, therefore, margins become
customary because of long usage but are actually basically determined by the pressure of competition. Adjustments in margin policies are not made frequently as a device for gaining competitive advantage, but the fact that they remain stable is not an indication of lack of competition.

However, since the margin allowed is intended to compensate the distributor for the costs absorbed in the performance of marketing functions as well as provide a reasonable profit, the real basis for setting adequate margins should be specific cost information. At the present time this is not the general practice in the trade, partially because the majority of manufacturers appear not to have approached the problem from this standpoint and partially because sufficient information has not been available to them.

General Conclusions and Recommendations

The findings of this study are of significance in three important respects. First, they are a contribution to general knowledge of marketing and economic processes. Second, they are of direct significance to manufacturers of industrial machinery, equipment, and supplies. Third, they are of importance to industrial distributors and other wholesaling institutions.

As a contribution to general knowledge, the data on distribution channels provide information on the institutional arrangements employed in the transfer of title from producer to industrial user. The pattern of channels used for industrial machinery, equipment, and supplies is generally limited to six feasible alternatives. However, the employment of a particular channel is conditioned by such factors as size of
of firm, extent of market area, broad type of product line, and major using industry. These factors coupled with consideration of the need for market coverage, distribution costs, and other characteristics associated with particular alternatives, determine the channel selected to achieve optimum results.

The various margins allowed industrial distributors by manufacturers reflect the relative costs of distribution for different types of industrial products at this stage in the channel of distribution. The fact that a wide range of margins allowed exists for most product lines demonstrates the varying functional demands placed upon distributors. Where functional requirements do not differ, variation in margins allowed illustrates the presence of an imperfect market system.

For manufacturers the feasible alternatives among channels for machinery, equipment, and supplies are documented. The presence of such alternatives implies that they should each be carefully considered in the channel selection process. This is especially important in view of the fact that the channel decision is ordinarily long run in character.

The nature of the gross margin allowed, which is to compensate the distributor for functions performed, suggests that the policies of manufacturers in this area should be based upon factual knowledge of the distributors' costs. The high degree of rigidity in margins allowed over the period of time since 1945 which is illustrated by the data in this study indicates that margins allowed distributors probably have been too insensitive to changing business conditions.

For industrial distributors and other wholesaling institutions, the data on distribution channels illustrate the current practices of
manufacturers in this phase of the marketing of industrial machinery, equipment, and supplies. The factors involved in channel determination reflect the requirements of these manufacturers which may be reviewed and incorporated or emphasized in the services offered by middlemen.

The data on margin policies of manufacturers provide a basis of comparison with operating results for distributors. More important is the indication of a need for cost information to be supplied to manufacturers, such that a factual base is established for the review of margin policies and for the establishment of reasonable and adequate margins allowed.
APPENDIX A

OUTLINE OF DEPTH INTERVIEW
A. **GENERAL INFORMATION**

1. Name of Company ________________________________________________________

2. Location of Manufacturing Operations:
   ____________________________________________________________
   ____________________________________________________________

3. Total Annual Sales
   
   a. 1958 $__________
   
   b. 1957 $__________

4. Total Number of Employees in Firm of Division _______________________

5. Total Number of Employees in Marketing Activities ____________________

6. Product Lines Manufactured: 1958 Sales Geographic Area In Which Sold
   
   a. _______________  __________  ____________________
   
   b. _______________  __________  ____________________
   
   c. _______________  __________  ____________________
   
   d. _______________  __________  ____________________

7. Brand Names Utilized: Product:
   
   ______________________________________________________________
   
   ______________________________________________________________

8. Patent-protected products:
   
   ______________________________________________________________
   
   ______________________________________________________________
   
   ______________________________________________________________

9. Sales Territory Breakdown (attach separate sheet)
B. MARKETING OBJECTIVES

1. Realistic Desired Industry Position and Total Sales (1965)
   a. Industry Position: Current ___________ Projected ___________
   b. Projected Total Sales ________________

2. Number of Tentative New Products by 1965:
   __________________________________________
   __________________________________________

C. ORGANIZATION FOR MARKETING

1. Chart of Existing Marketing Organization (Attached)

2. Responsibilities of Key Positions:
   a. ______________________________________
   b. ______________________________________
   c. ______________________________________
   d. ______________________________________

3. Anticipated Changes in Marketing Organization (dated)
   _______________________________________
   _______________________________________

D. RESPONSIBILITY FOR DISTRIBUTION CHANNEL SELECTION

1. Executive or Executives Responsible:
   _______________________________________
   _______________________________________
   _______________________________________

2. Basis for Location of Responsibility: (Product Line, Gen'l Sales, etc.)
   _______________________________________
   _______________________________________
E. EXTENT OF USE OF ALTERNATIVE CHANNELS OF DISTRIBUTION:

1. Alternative Channels Available (Opinion):


2. Changes in Channels Since 1945:


3. Is More Than One Channel of Distribution Utilized? ______________________

a. By Product:

   1. __________________________  Reason __________________________
   2. __________________________  Reason __________________________
   3. __________________________  Reason __________________________
   4. __________________________  Reason __________________________

b. By Type of Customer:

   1. __________________________
   2. __________________________
   3. __________________________
   4. __________________________

c. By Territory:

   1. __________________________
   2. __________________________
   3. __________________________
   4. __________________________
interviewed.

At all times the interviews were approached on a semi-directive basis; i.e., the respondent was asked two general types of questions. The first type of question involved material of a strictly factual nature, requiring no interpretation on the part of the respondent. Sales volume, number of employees, products manufactured, brand names utilized, location of manufacturing plants, executive titles, and market areas are examples of the specific questions requiring no judgment on the part of the interviewee. The information from these questions served two purposes. It aided in developing background information on the industry and it served to establish bases of classification for the tabulation requirements of the mail survey to follow.

The second type of question was purposely designed to evoke spontaneous discussion by the respondent in areas of policy that required a high degree of executive judgment. Essentially, these questions covered the determination of company policy on (a) distribution channels and (b) distributor margins. A major unknown factor in this part of the study was the part judgment actually played in these decisions. How much objective, factual material the average marketing executive had at his disposal or actually used when making these decisions was a significant objective of the field interviews because the results would color the type of question to be asked in the mail questionnaire.

In answering the interpretive questions, the respondent was permitted to discuss at any length he chose the particular problems he felt were most important when establishing channel and margin policies. The interviewer made as few notes as possible during the
F. Bases Used by Manufacturer for Channel Selection

1. Factors Affecting Channel Choice:
   a. Qualitative Factors in Decision:
   b. Quantitative Factors in Decision:

2. Have Cost Studies Been Made of Possible Alternative Channels?

3. If answer to (2) is affirmative, reconstruct cost schedules below:
   a. Costs of Selling Direct:
   b. Costs of Selling Through Industrial Distributors:
   c. Costs of Selling Through Other Channels (Specify):

G. Margins Granted Industrial Distributors

1. Are Industrial Distributors Used?

2. How Are Margins Established for Distributors?

3. What Margins are granted Distributors? (by Specific Product)

<table>
<thead>
<tr>
<th>Product</th>
<th>Distributor's Margin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3. Specifically, what changes have occurred in the margins granted distributors since 1945, and why were these changes made?
APPENDIX B

QUESTIONNAIRE EMPLOYED IN SURVEY
TO INDUSTRIAL SUPPLY AND MACHINERY MANUFACTURERS:

Since 1958 The Ohio State University has been pursuing a program of basic research in industrial distribution. This program is co-sponsored by the National Industrial Distributors' Association and the Southern Industrial Distributors' Association and is carried out with the cooperation of their Research Committee.

The first of a series of OSU, BBR projects, ("Value Added by Industrial Distributors and Their Productivity"), has been completed and was recently published by the OSU Bureau of Business Research.

The second study in the series is to deal with channels of distribution used by manufacturers in order properly to appraise the industrial distributor's position from the manufacturer's viewpoint. Much work has already been done on this study by Mr. William M. Diamond, now Assistant Professor at the University of Detroit, by the Bureau staff at Ohio State, and by the Chairman of the Faculty Committee on Industrial Distribution Research, but very much more remains to be done.

At this time we need certain information from you and solicit your cooperation. For this purpose, we are submitting a questionnaire, on pages 1, 2, and 3 of this folder. Please complete this form as soon as possible and return it to us in the attached envelope.

We realize that some of the information requested is of a confidential nature. You may be assured that it will be held in the strictest confidence. Furthermore, it is not essential that you identify your company although it will be helpful in our work to do so.

When the results of the information collected for this study have been properly analyzed and interpreted, we anticipate publishing them and you will have an opportunity to obtain the final product. Such studies, and the publicity given to them in the trade press and elsewhere, should contribute to a better understanding of all factors involved in the effective and efficient distribution of industrial machinery, equipment, and supplies,
especially of the type normally carried by the industrial distributor. Moreover, they should contribute greatly to more effective public relations and to a fuller cooperation among all parties concerned. We appreciate your cooperation in this study. If you would like any further information about it, please write us at the above address.

Sincerely,

/s/ Theo. N. Beckman

Theodore N. Beckman
Professor of Business Organization
(Chairman, Faculty Committee on
Industrial Distribution Research)
I. PRODUCT LINES

Please group your products according to the following "standardized" list of product lines. Show approximate percentage of your total sales in each of the product lines your company may have.

<table>
<thead>
<tr>
<th>Code</th>
<th>Product Classification</th>
<th>Per Cent Of Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Abrasive Products (grinding wheels, coated abrasives, etc.)</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Cutting Tools (drills, taps, dies, etc.)</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Fans and Blowers</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Fasteners</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Lubricants</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Lubricating Devices</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Materials Handling Equip.</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Mechanical Rubber Goods</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Metalworking Accessories (other than &quot;Cutting Tools&quot;)</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Motors</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Motor Controls</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Paints</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>Pipe</td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td>Pumps and Compressors</td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td>Precision Measuring Devices and Tools</td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td>Safety Equip. &amp; Supplies</td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>Steel Products (bars, nails, wire, etc.)</td>
<td></td>
</tr>
<tr>
<td>19.</td>
<td>TOOLS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hand Tools—Mechanics' and Contractors'</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(files, saws, hammers, etc.)</td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td>Portable Power Tools</td>
<td></td>
</tr>
<tr>
<td>21.</td>
<td>Light Machine Tools</td>
<td></td>
</tr>
<tr>
<td>22.</td>
<td>Heavy Machine Tools</td>
<td></td>
</tr>
<tr>
<td>23.</td>
<td>Valves and Fittings</td>
<td></td>
</tr>
<tr>
<td>24.</td>
<td>Welding Machines (arc or gas)</td>
<td></td>
</tr>
<tr>
<td>25.</td>
<td>Welding Supplies</td>
<td></td>
</tr>
<tr>
<td>26.</td>
<td>OTHER LINES (Please specify)</td>
<td></td>
</tr>
<tr>
<td>27.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>
II. BRAND POLICIES AND MARKETS, By Product Line

<table>
<thead>
<tr>
<th>Product Line</th>
<th>1. BRAND POLICY (Check principal policy for product line)</th>
<th>2. INDUSTRIES TO WHOM SOLD (Give name of principal using industry)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code No. (see list at left)</td>
<td>Mfr's Distributor's Brand Unbranded</td>
<td></td>
</tr>
</tbody>
</table>

---

III. DISTRIBUTION CHANNELS, By Product Line

Coded List of Possible Channels: CODE

1. Direct from factory to user
2. Through own sales branch to user
3. Through manufacturers' agent to user
4. Through manufacturers' agent to industrial distributor
5. Direct from factory to industrial distributor
6. Through own sales branch to industrial distributor
7. Other; such as: 7a Broker; 7b Commission Merchant; 7c Selling Agent who takes entire output; or 7d (specify)

Product Line A. PRESENT channels

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Coded Major Secondary Reason for Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Code as Above)</td>
<td>(Code as Above)</td>
</tr>
</tbody>
</table>

---
### 5. METHOD OF QUOTING PRICES

<table>
<thead>
<tr>
<th>Product Line</th>
<th>B. Channels BEFORE 1945, if changed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code No.</td>
<td></td>
</tr>
<tr>
<td>Major</td>
<td>Secondary Reason for Change</td>
</tr>
<tr>
<td>(Code as Above)</td>
<td>(Code as Above)</td>
</tr>
</tbody>
</table>

### 6. QUANTITY DISCOUNTS?

<table>
<thead>
<tr>
<th>Product (Check one)</th>
<th>(Check one)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line</td>
<td>List and Flat Other</td>
</tr>
<tr>
<td>Code No.</td>
<td>Discount Price (Please specify) Yes No</td>
</tr>
</tbody>
</table>

### 7. SUGGESTED RESALE

<table>
<thead>
<tr>
<th>Product LINE a.</th>
<th>PRICES/ b. if &quot;yes&quot;, c. if &quot;yes&quot; d. if &quot;yes&quot;, how long</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line</td>
<td>a. Yes No average % how in use? (check one) gross margin allowed.</td>
</tr>
<tr>
<td>Code No.</td>
<td>% of resale price</td>
</tr>
</tbody>
</table>

### 8. CHANGES SINCE 1945, IF ANY, IN GROSS MARGINS INDICATED

<table>
<thead>
<tr>
<th>Product Line</th>
<th>IN QUESTION 7b:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code No.</td>
<td>a. % Margin before Change</td>
</tr>
<tr>
<td></td>
<td>b. Year c. Reason for Change Changed</td>
</tr>
<tr>
<td></td>
<td>% of resale price</td>
</tr>
<tr>
<td></td>
<td>% of resale price</td>
</tr>
<tr>
<td></td>
<td>% of resale price</td>
</tr>
<tr>
<td></td>
<td>% of resale price</td>
</tr>
</tbody>
</table>
9. PRODUCTS WHICH DO NOT HAVE SUGGESTED RESALE PRICES:

Line Code No. a. Your estimate of industrial distributors' margins
b. Basis for your estimates

<table>
<thead>
<tr>
<th>% of distributor's sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of distributor's sales</td>
</tr>
<tr>
<td>% of distributor's sales</td>
</tr>
</tbody>
</table>

V. SELECTION OF DISTRIBUTION CHANNELS

10. For each of your product lines, please indicate what you consider to be the most important factor in choosing a channel of distribution:

<table>
<thead>
<tr>
<th>Product Line Code No.</th>
<th>Most Important Factor</th>
</tr>
</thead>
</table>

11. In the event of a basic change in the channel of distribution for one of your product lines, who would have the responsibility for making the decision to change? (If more than one executive is involved, number 1, 2, 3, etc. in order of importance.)

President or Chief Executive Officer  Product Division Mgr.
General Sales or Marketing Manager  Product Sales Mgr.
Other (please specify)  

VI DISTRIBUTION COSTS

12. a. Has this company ever undertaken a comparative cost analysis of possible alternative channels of distribution for any of its product lines?

Yes  No

b. If "yes" when was this cost analysis made? (Please give year)

c. If "yes" did this result in a decision to change channels of distribution?

Yes  No
d. If "yes" would you be willing at a future date, to release the results of this cost analysis, or parts of it, to The Ohio State University Bureau of Business Research on a confidential basis for analysis without revealing data for individual concerns or for specific products?

_____ Yes  _____ No

VII  CLASSIFICATION INFORMATION

13. Does the information you have supplied above relate to your entire company ______; or to a division or divisions only ______?

14. Sales Size of Company (or division) in 1959. Please check one.

- Under $1,000,000
- $1,000,000-$4,999,999
- $5,000,000-$9,999,999
- $10,000,000-$19,999,999
- $20,000,000-$49,999,999
- $50,000,000-$99,999,999
- $100,000,000 and over

15. Company name ____________________________

Division or Divisions covered above ____________________________

Name of Person Answering ____________________________

Title ____________________________

Please return to: Bureau of Business Research, 1775 S.
College Rd.
THE OHIO STATE UNIVERSITY, Columbus 10, Ohio
course of the discussion in order to avoid hesitancy on the part of the respondent. Occasional, very brief notations were made on the interview form to serve as a later guide for interpretation. Immediately after completion of an interview, time was taken to record the remarks of the respondent concerning his own decision-making process in the area of channel and margin policy. It is believed that this process of interviewing yielded much more valuable information than would have been the case had any obvious attempt been made in the course of the interview to structure the response or to record the discussion systematically.

Characteristics of respondents. The thirty companies covered in this part of the study exhibited wide diversity in two respects. The sales volume of the individual firms ranged from a low of slightly in excess of $500,000 to a high of nearly $1,500,000,000 annually. These sales volume figures are only approximations since five participating firms were closed corporations and considered sales figures to be proprietary information. The average sales volume was approximately $15,000,000 per firm when the three firms at the upper end of the range were excluded.

Fifteen different product lines were represented in the interview sample, as follows:

1. Abrasive products
2. Brass and copper valves, tubing, and fittings
3. Chain
4. Conveying equipment
5. Electrical insulation
6. Fasteners
7. Machine tools
8. Manila, sisal, and jute rope and twine
9. Mechanics' and contractors' hand tools
10. Power transmission equipment
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BIBLIOGRAPHY

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facters' Agents." Industrial Marketing,
October, 1952, p. 46.
I, William Montgomery Diamond, was born in Akron, Ohio, August 11, 1930. I received my secondary school education in the public schools of Huron, Ohio, and my undergraduate training at Miami University and The Ohio State University, which granted me the Bachelor of Science degree in 1956. I received the Master of Business Administration degree at The Ohio State University in 1958. After serving two years at that university as an Assistant Instructor, I was employed by the University of Detroit as Assistant Professor of Marketing. I held this position for three years while completing the requirements for the Doctor of Philosophy degree.
11. Steel pipe and pipe fittings  
12. Steel products (basic)  
13. Railway maintenance equipment  
14. Welding supplies  
15. Woodworking power tools

Of far greater importance, however, than the differences in size among firms and the variety of product lines manufactured, was a single factor of homogeneity shared by all thirty companies. Each of these firms manufactured industrial machinery, equipment, or supplies of a type that could quite conceivably be sold through industrial distributors and other alternative channels, such as direct from factory to user or through manufacturers' agents. None of these firms manufactured only a product line of such a highly technical nature or specialized construction that direct contact with the user was an absolute necessity in the sale of the product. This factor was extremely important because it meant that distribution channel policies for each company involved a choice from among several possible alternatives.

Tabulation and interpretation of interview results. Because of the relatively small number of interviews involved and the qualitative nature of the majority of the items on which information was sought and obtained, tabulation was a minor problem in this phase of the study. Where required, it was accomplished through the use of a simple tally taken from each interview schedule. Items subject to tabulation included the usage of distribution channels by product lines, factors involved in channel selection, methods of price quotation used by individual manufacturers, average gross margins allowed industrial distributors, factors involved in the determination of distributor margins, extent of market area, size of firm, and the level of the location within the organization of the authority to formulate distribution channel policies.
Analysis and interpretation of the interview findings did not require the use of any special statistical techniques. Particular emphasis was centered upon individual product lines and no more than four firms were involved in any particular line; thus, the analysis and interpretation could be handled through direct inspection along with the use of ranges, arithmetic means, and medians where applicable, as in the case of distributor margins.

Development of the Mail Questionnaire

The mail questionnaire, a copy of which is attached as Appendix B, was developed directly out of the results of the initial personal depth interviews. The specific content of particular questions reflected problems encountered in the course of the interviews as well as modifications dictated by the practical limitation on the size of the questionnaire. For example, Section I of the questionnaire requested information pertaining to the product lines produced by the manufacturer. In the interview phase, information was secured on individual products; e.g., instead of merely "paints" the basic types of paints produced were enumerated. This detail could be secured on an interview basis without great difficulty since the number of product lines as indicated on the questionnaire that would be produced by one firm would rarely exceed three or four, and within these lines a rather limited number of products is usually found. However, to include the same question on the mail questionnaire would have required a detailed, hand-written response. It was felt that this type of question, if used too frequently, would reduce the number of questionnaires returned; hence, the listing of product lines rather than products. Also, written answers would require an exceptional amount of valuable space on the questionnaire, extending its length to
additional pages which would similarly tend to cut the number of responses.

Emphasis was centered upon the product lines in order to test whether or not manufacturers' policies regarding distribution channels and margins allowed industrial distributors varied appreciably from line to line. Subsidiary classifications included per cent of total sales accounted for by the line (also included in Section I) and the items in Section II which covered brand policy, using industry, and the states in which seventy-five per cent or more of the sales of a line were made. The items covered by Sections III through VI are self-explanatory.

Finally, Section VII requested an indication of the sales size of the respondent, providing an additional classification criterion. Thus, the use of a particular distribution channel or margin policy could be related to any one or a combination of the above factors for a particular product line, and the tabulation of responses was run in this fashion, although the relatively small number of responses actually received prevented the presentation of most of the detailed cross-tabulations in the completed study.

Several questions were purposely designed to require written explanations since it was felt that only this type of response would yield much insight into the particular area. Specifically, these questions involved the reasons for any change in major and secondary channels of distribution; reasons why feasible alternative channels were not used at the present time; how percentage gross margins allowed distributors were determined; reasons for changes in margin policy where such changes occurred; the basis of estimates of gross margins earned by distributors where suggested resale prices were not used; and the most important factor involved in choosing a channel of distribution for each product line.
Distribution of the questionnaire. The questionnaire was mailed to 385 members of the American Supply and Machinery Manufacturers Association, comprising the entire membership in the manufacturing category, plus an additional 100 firms producing industrial products whose names were supplied by the editors of Industrial Distribution magazine. The first response comprising only sixty-nine replies or 14.2 per cent of the total, two follow-up mailings were made, and as a result 156 usable questionnaires were ultimately received. This number represented 32.2 per cent of the original mailing list.

Editing and coding of the questionnaire. Each questionnaire was edited as received and follow-up letters were sent to the respondents where deemed necessary to clarify certain points. Particular difficulty was encountered with the item pertaining to how distributor gross margins were determined. This difficulty appeared to be due to the wording of the particular item, since a 100 per cent response was received to the follow-up correspondence requesting additional information. Each item, with the exception of the explanatory questions noted above, was coded for transfer to punched cards from which the tabulations were then prepared.

Analysis of the data. Statistical analysis of the data was limited to the use of frequency distributions and simple averages and ranges where applicable. The absence of more quantitative measures in the analysis is to be explained by the relatively small size of the sample. It was felt that the use of a variety of statistical measures and tests would add more confusion than clarity to the interpretation of the general data applicable to all product lines. Also, the small number of responses within each product line precluded the use of extensive
cross-tabulations and the resulting analysis of relationships which might have been facilitated otherwise by the use of more advanced statistical techniques. Inferences are nonetheless drawn from the data received and other information obtained and are believed valid within the framework of limitations applicable to this study as an initial step into empirical research concerning channels and margins for industrial machinery, equipment, and supplies.

Tabulations relating to product lines were performed according to the number of responses received for that product line. Since a number of multi-line firms are included, the number of product line responses indicated in the tables in succeeding chapters exceeds the number of firms involved by a considerable margin. This basis of tabulation was employed because of the desire to emphasize the product line rather than the reporting unit. Thus, the individual responses tabulated for each kind of product line represent individual firms or divisions, but a manufacturer will appear again in the data for another product line if he is a multi-line producer. For example, thirteen responses are tabulated for abrasive products. One of these manufacturers also produced cutting tools so the company is represented again in the data for that line. For this reason the terms company-product-lines and manufacturers' responses are employed to avoid the impression that each tabulated response indicates a separate kind of product line or a different manufacturer.
CHAPTER III
THE THEORY AND PRACTICE OF DISTRIBUTION
CHANNEL DETERMINATION: EXISTING STUDIES

The great body of marketing literature implicitly recognizes the fundamental importance of distribution channel policies to manufacturers of consumer and industrial goods. If anything, the emphasis has increased in very recent years with the development of the concepts of marketing management, in which the analytical framework for major marketing decisions is a prime element. Authors on marketing management generally include channels as one of the principal broad decision areas. An exception is Kenneth R. Davis, who in his *Marketing Management* recognizes marketing channel determination as an important non-routine decision, but treats channels as a variable in broader decisions involving product, promotion, and price.

Treatment of channel policy has tended to emphasize the consumer goods area, particularly with respect to essential facts concerning channels used for specific products of manufacturers' product lines. Little explicit information is available concerning actual practices of producers in particular product areas. What is extant of significance is believed to be documented herein. Also, there is a great deal of general material relating to the nature of distribution channels and channel choice which is an important part of the conceptual framework of this study.

Principal sections of this chapter are devoted to the character
of specific institutions available in the market structure for the
distribution of industrial goods, with particular emphasis on insti­
tutions adaptable to industrial machinery, equipment, and supplies; to
the managerial prospective for channel decisions; and to the available
studies on channel usage.

The Character of Channel Institutions

The principal channel institutions practically available for the
distribution of industrial goods include industrial distributors and
other wholesalers, manufacturers' own sales branches, manufacturers' 
agents, selling agents, and commission merchants. In choosing a channel
for his products the manufacturer may have a much wider variety of
alternatives from which to choose, involving combinations of the above,
plus the channel of direct from factory to user where no intermediate
institutions are involved.

Injecting additional complexity in the decision-making process,
quite apart from the fact that a number of differing institutions
exist, is the necessary recognition that the determination of channel
policies is not a unilateral action for the manufacturer. The
established preferences of users may be a powerful limiting factor in
that they believe a particular channel is more advantageous from the
buyer's standpoint and will direct their purchases to producers using
that channel. Also, the middleman is rarely a neutral factor in that
he may or may not be willing to add the product or product line of a
particular manufacturer to those that he is currently selling. The
attitude of the middleman may well be negative, for example, when the
ACKNOWLEDGMENTS

The writer gratefully acknowledges the unstinting assistance of many people in the completion of this dissertation. Thanks are extended to Professor Theodore N. Beckman, Chairman; Professor Robert B. Miner; Professor Paul E. Pertig, and Professor James C. Yocum of the committee for their constructive guidance.

A particular debt of gratitude is owed Professor Edward D. Wickersham of the University of Detroit for his kind and generous assistance.

A financial grant from the National and Southern Associations of Industrial Distributors to The Ohio State University greatly facilitated the completion of the study. The cooperation of the American Supply and Machinery Manufacturers Association, Inc. is also gratefully acknowledged. The Ohio State University Bureau of Business Research provided invaluable assistance in the preparation and distribution of the questionnaire as well as in the tabulation of results.

This work is dedicated to my wife. Her patience, understanding, and sacrifice have made this dissertation possible. My debt to her cannot be adequately expressed.
producer is attempting to secure representation for a product line which is duplicated by a strong competitor. If the competitor's line is already carried by the middleman whose services are being sought, and if the competitive line has been profitable, it would be extremely difficult for the second manufacturer to get his line accepted as a substitute or as an additional parallel line.

**Industrial Distributors**

The controversy which still surrounds the proper definition of the industrial distributor as a specific type of wholesale institution has been well documented in a recent publication. In that study, dealing directly with the operations of distributors, the following definition was developed on the basis of products carried, functions performed, and type of customers served:

An industrial distributor is a regular (full-service) distributor primarily engaged in the sale of industrial supplies, equipment, and machinery (but not including those specializing primarily in machinery) to industrial users, including manufacturers, transportation firms, extractive industry, communication firms, service industries, and governmental bodies; OR a distinct division of a wholesale concern primarily engaged in some related line of business such as machinery distribution, steel warehousing, or hardware wholesaling, which division fits the above definition.

Such a definition is ideally suited to the purpose of this study, since the manufacturers and manufacturing divisions included are only those producing industrial supplies, equipment, and machinery. However, a major factor inherent in this study obviates the possibility of

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2Robert D. Buzzell, *Value Added by Industrial Distributors and Their Productivity*, Bureau of Business Research Monograph No. 96 (Columbus, Ohio: The Ohio State University, 1959).

3Ibid., p. 20.
the above definition being precisely applicable throughout. Manufacturers' definitions or concepts of their distributors are bound to differ somewhat, and reliance was placed upon the judgment of the producer in defining the nature of the distributor handling his line. While greatly facilitating the ease of collection of information, this did not impose a serious debility or inject a major element of bias into the study because all the lines produced are defined as lines normally handled by industrial distributors. There is no distinction attempted between general-line or limited-line industrial distributors, although there is strong evidence that most of the manufacturers using distributors implied the use of general-line houses. This statement is based upon additional comments made regarding relations with distributors and upon the care taken by a few firms using limited-line houses to designate them specifically as such.

Regardless of the difficulty of defining the distributor on the basis of specific lines handled, there are certain explicit criteria which differentiate the distributor from the other institutions mentioned above. These are further defined later in this chapter.

The industrial distributor is first of all a wholesaler, meaning that he takes title to the goods that he sells. While some consignment sales may be made in the case of machinery in particular, the distributor generally purchases for his own account the supplies, equipment, and most of the machinery he sells.

Industrial distributors are full-service wholesalers, performing for manufacturers and users the widest variety of marketing functions and services among the available wholesaling institutions.
As such, the distributor undertakes the performance of most, and sometimes all, of the marketing functions of buying, selling, transportation, storage, standardization, market finance, risk-bearing, and marketing information and research. None of the other institutions mentioned above, being either functional middlemen who do not take title or owned outlets of manufacturers, provide such functional coverage. The distributor's position as a full service institution has brought him recognition as an expert in the performance of marketing functions. It has been noted, too, that distributors compare favorably with manufacturers' sales branches and agents as far as costs of distribution are concerned while at the same time offering a more complete line, providing better market coverage, and aiding in the development of small accounts.

A number of market characteristics may be delineated which serve as qualitative criteria leading to the choice of distributors as the most economical and effective channel for the marketing of any given product. The authors of a basic book on the subject have noted the following:

When the number of potential users of a given product is large, the market is scattered, the unit of sale low, prompt delivery of major importance, economies in shipment possible, little or no technical sales service required, repair service essential, the manufacturer operates on a small scale or needs financial assistance, and relatively little sales promotional effort produces satisfactory results; then the distributor channel is the most economical

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means, provided, of course, that the distributor operates with a reasonable degree of efficiency."

Not all of these conditions need exist, obviously, for the use of distributors to be logically considered. Nor does the presence of even several necessarily dictate the use of the distributor. In view of the known characteristics of alternative institutions, however, it would appear that the existence of a broad horizontal market, relatively low market potential, small unit sales to users, little need for technical service, prompt delivery a necessity, and purchase by users on a brand name or standard specification basis would be the most strategic factors in choosing the distributor channel. A combination of these factors would generally rule out sales branches or agents on either a cost or service requirement basis in selling to users.

Manufacturers' Agents

The most comprehensive treatment of the nature and functions of the manufacturers' agent is that in which this institution is defined as follows:

A manufacturers' agent in wholesale trade is an individual or firm selling part of the output of two or more client manufacturers whose products are related but non-competitive. The agent is in business for himself on an entrepreneurial basis, and does not take title to the goods which he sells. Orders are obtained on a commission or fee basis for respective clients with whom continuous contractual relations are maintained. The agent generally sells in a given or limited territory for which he has exclusive rights to the products he sells. He usually has little to say regarding prices and terms dictated by the manufacturer, who ships and bills orders directly to the

'Manufacturers' Agent,' as the term is used here, includes only those agents primarily engaged in selling at wholesale—that is selling to buyers who customarily purchase for resale or for business use.

The manufacturers' agent is of particular significance in this study since industrial machinery, equipment, and supplies is the most important area in which the agent operates from the standpoint of sales volume. The most common type of agent carries no stocks out of which deliveries may be made to customers with the frequent exception of small amounts for emergency orders. This type constituted slightly over seventy-one per cent of the total of 8,720 establishments reported in the 1954 Census, with the balance of 2,482 establishments designated as agents with stocks.

With or without stocks, the primary function of the agent is selling, although he may frequently perform a number of additional marketing services for his clients, especially that of providing information on the market in the particular area which he covers. Aside from the fact that he does not take title, and regardless of the auxiliary services provided, the agent cannot be considered a full-service institution in the sense that one thinks of industrial distributors or other regular wholesalers.

It has been stated that it is not a matter of choice between

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6 Thomas A. Staudt, The Manufacturers' Agent as a Marketing Institution (Washington, D.C.: U.S. Government Printing Office, 1952), p. 4. This characterization has been used in some of the basic books in marketing for some years prior thereto and that was the basis for defining the manufacturers' agent for the first Census of wholesale trade.

distributors and agents; that, in fact, they do not compete as alternative outlets for products. One author found, for example, that "the manufacturers' agent seldom directly competes with merchant wholesalers." Rather than a choice between agents and distributors, he indicated that one decision would involve the use or non-use of wholesalers, whereupon the choice would then lie between the use of salesmen or agents to sell to the wholesaler. Similarly, from an article appearing in Sales Management:

It must be understood that industrial distributors are not used to replace either a manufacturers' sales force or manufacturers' agents. They are used in addition to them.

However, Census data giving the distribution of the sales of manufacturers' agents by classes of customers indicate that substantial areas of direct competition between agents and distributors probably do exist. In 1939, for example, it was found that 35.8 per cent of the sales of agents and brokers were made to industrial users. In 1948 sales to industrial, commercial and similar users amounted to 41.8 per cent of the total sales, and in 1954 the corresponding proportion was 43.7 per cent. Lest these increasing and impressive percentages be

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8 Staudt, op. cit., p. 115.
9 Ibid., p. 115.
12 Ibid., p. 18
13 Ibid.
construed as utter refutation of the preceding citations emphasizing the lack of competition between distributors and manufacturers' agents.

It should be noted that the Census classification of agents and brokers is not synonymous with manufacturers' agents. The former group consists of a great variety of functional middlemen and may not be representative of manufacturers' agents that account only for about 20 percent of the total business volume of all agents and brokers. However, it seems likely that a significant degree of competition does in fact exist, particularly in lines of machinery and equipment where agents may provide more specialized technical knowledge than the average distributor.

While the questions of using or not using wholesalers and, if they are used, how the firm will sell to them are important decisions in the area of channel determination, there is sufficient evidence presented in Chapters IV and V of this study to indicate that in the realm of industrial machinery, equipment, and supplies at least, the channel decision is much more complicated. This is true because for given product lines, distributors, manufacturers' agents, sales branches, and direct selling can be substituted and are frequently substituted for one another as alternative channels of distribution by different manufacturers.

Generally accepted as conditions under which the use of manufacturers' agents should be considered are the following:

1. Limited financial strength on the part of the manufacturer, such that he cannot organize and maintain his own sales force;
2. A single product or narrow product line of low unit value produced by the manufacturer;

3. A product subject to wide cyclical fluctuations in demand;

4. A distant market, making direct sales cultivation too expensive;

5. Widely scattered prospects and customers contributing to excessively high travel costs for a manufacturer's sales force;

6. A new product being marketed or a new market entered where the agent's established contacts and prestige may be immediately used;

7. Where expansion of territorial coverage is desired but potential is too low to justify adding to the manufacturer's sales force;

8. Technical knowledge of the product is essential but not available in employees;

9. Where an entrance to a particular group of customers is desired but cannot be secured because of inaccessibility of buying executives;

10. Where continuous representation in the market is necessary so that brokers cannot be used advantageously.¹⁴

Specific advantage which may accrue to manufacturers making use of agents in place of direct sale include the following:

1. Selling expense, based upon commissions, is predictable;

2. Little or no cost until sales are forthcoming;

3. Economical by comparison with the use of manufacturer's own sales force;

4. Intensity of territorial coverage in that the agent is able to make a profit in a smaller territory because of the additional lines he carries;

5. Ease of sales administration since the agent is independent and not an employee.¹⁵

¹⁴ Beckman, Engle, and Buzzell, op. cit., pp. 228-9

¹⁵ Thomas A. Staudt, "How to Know When to Use Manufacturers' Agents," Industrial Marketing, XXVII (October, 1952), p. 46.
Among the disadvantages which may develop are these:

1. Lack of control over the agent since he is not an employee;

2. Only partial representation is secured because of other lines carried;

3. Direct contact with buyers is more difficult for the manufacturers;

4. Instability of representation since the agent may sever relationship, leaving manufacturers with no contact in the territory.\textsuperscript{16}

It should also be noted that costs may be much greater than just the commission charge since extra services such as inventory carrying require additional compensation.

One factor which may become of increasing importance in succeeding years in shaping the role of agents and distributors is the application of electronic data processing to the order handling activity. Communications systems between the manufacturer and his market which integrate order processing with production and inventory control could reduce dramatically the lead time required for delivery to the customer. It appears that some product lines or segments of these lines, where lead time has been a critical reason for the use of distributors carrying local stocks, may in the future be sold by agents or non-stocking distributors at a much greater distance from the factory than is currently feasible.

On the other hand, it seems reasonable that application of data processing by industrial users to inventory problems will result in a reduction of required safety stocks against shortages and in a shrink-

\textsuperscript{16} Ibid.
ing of total inventories to the extent these are dependent upon
information lags and procurement lead time. Increased emphasis on
quick delivery for replenishment of these minimal inventories may
require additional use of local distributors in the distribution
channels of supplies.

While by no means subject to empirical test in the business field
as yet, the possibilities of such developments as the above may be seen
at least to some extent by noting the dramatic reduction in regional
stocks and total inventories achieved by the military services when
centralized electronic inventory control methods were adopted several
years ago. At the same time, substantial inventories of critical items
are still carried on a geographically dispersed basis in order to opti-
mize delivery times and costs.

Manufacturers' Sales Branches

Manufacturers' sales branches are simply wholesale establishments
owned and operated by manufacturers and as such they represent only a
more highly developed and specialized form of direct selling. However,
they are distinguished here and in the marketing literature from direct
selling where no branch system is used because as separate establish-
ments they perform similar activities to those of a variety of middle-
men, and not to treat them separately would disguise the true nature of
a substantial segment of the wholesaling structure. The logic of this
distinction is also carried through in the Census data, where the sales
of such establishments are included in wholesale trade statistics.
Implicit in this treatment by the Census is the recognition that sales
branches of manufacturers are performing marketing functions on the
## CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Definition of industrial machinery, equipment, and supplies</td>
<td>2</td>
</tr>
<tr>
<td>Objectives and limitations of the study</td>
<td>3</td>
</tr>
<tr>
<td>Methodology employed</td>
<td>5</td>
</tr>
<tr>
<td>Organization of the study</td>
<td>6</td>
</tr>
<tr>
<td>II. RESEARCH DESIGN AND METHODOLOGY EMPLOYED</td>
<td>7</td>
</tr>
<tr>
<td>Hypotheses formulated</td>
<td>7</td>
</tr>
<tr>
<td>Methodology employed</td>
<td>9</td>
</tr>
<tr>
<td>Development of the mail questionnaire</td>
<td>15</td>
</tr>
<tr>
<td>III. THE THEORY AND PRACTICE OF DISTRIBUTION CHANNEL DETERMINATION: EXISTING STUDIES</td>
<td>19</td>
</tr>
<tr>
<td>The character of channel institutions</td>
<td>20</td>
</tr>
<tr>
<td>Studies in marketing channels</td>
<td>36</td>
</tr>
<tr>
<td>The managerial perspective for channel decisions</td>
<td>43</td>
</tr>
<tr>
<td>Summary</td>
<td>51</td>
</tr>
<tr>
<td>IV. MAJOR CHANNELS OF DISTRIBUTION FOR INDUSTRIAL MACHINERY, EQUIPMENT, AND SUPPLIES</td>
<td>53</td>
</tr>
<tr>
<td>Major channels of distribution for all product lines</td>
<td>54</td>
</tr>
<tr>
<td>Major channels of distribution for particular product lines</td>
<td>68</td>
</tr>
<tr>
<td>Changes and trends in major channels of distribution</td>
<td>73</td>
</tr>
<tr>
<td>Summary</td>
<td>80</td>
</tr>
</tbody>
</table>
wholesale level and the fact that the branches are wholly owned operations of the manufacturers does not obscure the essential nature of their activities.

Two types of sales branches are generally distinguished—those carrying inventories and those functioning as sales offices with deliveries made direct from the factory. This distinction is consistent with the treatment by the Census. The existence has been noted of a hybrid from wherein limited inventories are carried at the branch location, usually through the use of public warehouses. The large, stock-carrying branches tend to parallel the full-service operations of industrial distributors and, in fact, may serve as substitutes for the latter institutions. On the other hand, a significant proportion of the total sales of all stock-carrying sales branches is made to wholesalers. In 1939 this portion amounted to 24.2 per cent of the sales of these establishments which were analyzed by the Census for that year.

Thus, an important part of the operations of these sales branches is devoted to serving as an intermediary between manufacturers and wholesalers. In many cases the branch is a regional supply center for regular wholesalers who sell the product to users and fill their orders from the manufacturers' branch stocks rather than from their own inventories. The non-stock carrying and limited-stock branches function much as do comparable middlemen from the standpoint of services rendered for the manufacturers,

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17 Beckman, Engle, and Buzzell, *op. cit.*, p. 197.


although the services (such as technical advice and assistance to the user) may be more highly emphasized and more carefully tailored to the needs of the particular seller. Census data also indicates that these sales offices make a considerable number of sales to wholesalers, the 1939 Census showing that 19.6 per cent of the total sales analyzed were made to wholesalers. Since it is apparent that no type of branch system is always adopted for the sole purpose of displacing the wholesaler, the primary reason for the use of branches is probably the ability provided the manufacturers more fully to control the operations performed.

Economy of operations cannot be the basic motivation behind the establishing of a branch system for most manufacturers since there is no evidence to support the achievement of dramatic cost savings through the substitution of branches for middlemen serving the same market and providing the same type of services. As noted above, it is control over the entire marketing operation that justifies the branch system. This control is manifested in a variety of ways. Full time representation by the salesman devoting all his selling effort to the products of his employer is a prime factor. The provision of highly trained technical specialists to serve customers is another. Maintenance service on equipment and delivery service on supply items may be improved over that made available by middlemen, and the branch may serve as a better source of local market research information.

\[20\] U. S. Census of Business, 1939, op. cit., p. 122.

\[21\] Ralph S. Alexander, James S. Cross, and Ross M. Cunningham, Industrial Marketing (Homewood, Ill.: Richard D. Irwin, Inc., 1956), p. 229, from which the succeeding discussion is developed.
For many manufacturers the use of a branch system is simply not a feasible alternative to the use of middlemen.\(^{22}\) A market area in which buyers are widely scattered and where purchases are normally made in small quantities cannot economically support the costs of direct selling. Small manufacturers producing only limited quantities normally do not possess adequate financial resources to maintain branch warehouses or sales offices. Also, particularly in the case of newer producers, the problems associated with the making of the product may absorb the time and talent of the organization to the extent that the marketing functions are better left to the wholesaler. Highly specialized operations, characteristic of most manufacturers, require that the full costs of direct selling be borne by a single item or a limited number of items. Under these conditions the cost of direct distribution as applied to each unit of sale can be discouragingly high. Management personnel can be a limiting factor as when their ability and experience are oriented to the manufacturing phase of operations rather than to marketing. Finally, the nature of the product itself may rule out the use of a branch system. Of particular importance here is the unit value of the items involved. Sales of products of low unit value in small quantities require the absorption of high selling costs on individual small orders which may make direct distribution uneconomical.

Additionally, there is the problem of user preference for a particular type of outlet which may effectively prevent the use of branches in specific cases where all other factors are favorable.

\(^{22}\)Beckman, Engle, and Buzzell, op. cit., pp. 188-190. The follow-discussion of limiting factors in direct distribution is developed from a consideration of conditions favorable to direct manufacturer-retailer contacts in the work cited.
Also, if the product is highly standardized it may not derive much benefit from the possible increased promotion and personal selling effort.

In the matter of costs there is a degree of certainty in distribution expense outlay per unit of product involved when selling through middlemen that is not present when branch warehouses or sales offices are used. The manufacturers' agent, for example, is paid a commission on sales made and the industrial distributor operates on his gross margin. In both cases the manufacturer is not faced with the problem of absorbing operating costs of distribution to users since these are assumed by the middleman in his standard margin or commission. With a branch system, all gains and losses are taken by the producer and in periods of low sales volume the continuing costs of operating the branches must be absorbed by fewer units of product.

**Other Available Wholesale Institutions**

Among the additional institutions potentially available for the distribution of industrial machinery, equipment, and supplies are selling agents, brokers, and commission merchants. They are treated briefly in this section, primarily because of their relatively unimportant position in the trade structure for machinery, equipment and supplies.

**Selling agents.** Because both manufacturers' agents and selling agents represent only sellers, are compensated on a commission basis, and maintain continuing contractual relationships with their principals, there is some degree of similarity in their operations. However, the selling agent normally sells the entire output of his principal in an unlimited geographical area. Also, the selling agent assumes a much
broader range of marketing activities for the producer than does the manufacturers' agent, such that the former is given a great deal of authority concerning price determination, terms of sale, customers contacted, and other matters of marketing policy.⁴³

Brokers and commission merchants. Brokers and commission merchants do not represent their principals on a continuing contractual basis as do manufacturers' agents and selling agents. Manufacturers and users in the industrial goods area prefer well established trade relations. Thus, the producer looks for continuing representation and the user desires sources of supply that are continuously available. For this reason the broker and commission merchant are of limited value as channels of distribution in the industrial market. The commission merchant physically handles the goods he sells, while the broker does not, and this is the primary difference between the two. The function of the commission merchant is probably more satisfactorily handled by selling through manufacturers' agents who carry stocks on a consignment basis while continually representing their principal.

Brokers, on the other hand, can provide a valuable auxiliary function in the disposal of occasional lots of surplus or by-product materials. By remaining in contact with sellers in a particular market, the broker secures information on specific lots of goods which producers wish to sell and which for some reason cannot be moved through regular distribution channels. Similarly, he solicits inquiries from buyers on goods which they require but cannot locate through their regular suppliers. By bringing buyer and seller together, the broker arranges for the sale of the particular goods. In order to have

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⁴³Beckman, Engle, and Buzzell, op. cit., p. 229.
brokers available to perform such services many manufacturers will continually sell a very minor part of their volume through them.\textsuperscript{24}

\textbf{Studies in Marketing Channels}

Unfortunately, it must be noted at the outset of this section that available comprehensive studies of marketing channels for industrial machinery, equipment, and supplies are non-existent. There are several plausible reasons why this situation prevails. Foremost among them is the difficulty of securing specific information concerning channel policies. There are no periodic reference sources currently published which provide this information, either by public or private agencies, such as exist for many other areas of market information. Much valuable data may be gleaned from Census of Business reports, but these data primarily illustrate changes in the character of institutions existing within trade channels for broad categories of product groups and provide only limited insight into channel structure for product lines as specific as those treated in this study.

A second reason for the lack of channel studies may be a by-product of the nature of Census data, which tend to obscure the complexity of channel relationships through the relatively broad treatment of the institutional structure of marketing. Along this line, one critic has stated that:

\begin{quote}
The Census method of counting, whereby each separate establishment is assigned to a single traditional category on the basis of a major-portion-of-dollar-volume rule, tends to produce more orderliness in the picture than probably exists. It tends to obscure a great deal of "promiscuous distribution" and channel-jumping. The Census rule, like the Procrustean bed of Greek mythology, effectively reduces the number of categories
\end{quote}

\textsuperscript{24}Alexander, Cross, and Cross, and Cunningham, \textit{op. cit.}, p. 222.
into which firms are sorted, and avoids hybrid, nondescript classifications.\textsuperscript{25}

Finally, also directly related to the above, has been the tendency to gloss over the channel decisions involved in industrial marketing situations in favor of the admittedly more complex relationships which frequently exist in the field of consumer goods marketing. Thus, as will be shown later, the structure and theory currently outstanding concerning channel choice for the most part revolves about consumer goods manufacturers and middlemen.

\textbf{A Classic Study of Distribution Channels}

The \textit{Marketing of Automotive Parts}\textsuperscript{26} represents a classic study in distribution channels for a particular broad product line. This study deals with the entire process of marketing automotive parts but recognizes the delineation of marketing channels as a major aspect of the analysis. In fact, the study was based upon the premise that anyone called upon to evaluate an industry price structure must first become familiar with the marketing structure and the patterns of competition existing in that industry.\textsuperscript{27}

Included in the study was a carefully detailed treatment of major and secondary channels of distribution for seven major groups of auto-


\textsuperscript{27}Ibid., p. vii.
motive parts. While Census data served to provide numerical intelligence on the number of institutions of various types which handled, as a major portion of their volume, automotive parts, the full picture of channels used by manufacturers of specific lines could only be secured through direct contact with the firms involved.

Basically, and the point is germane to this study, the findings revealed an inherent complexity in channels used, although the complexity largely involved variations in emphasis rather than fundamental differences in channels among the various product groups. 28

Channel Studies of Specific Industrial Goods

While the Davisson study is voluminous and detailed in its exploration of channels for automotive parts, it is highly atypical of the existing literature, particularly with reference to the industrial market. There are some studies of specific middlemen and their operations in a given line of trade which provide valuable information on the role of certain institutions, but they do not as a rule provide the broad picture of available channels and channels actually used.

1958 Census of Manufacturers. To be incorporated as a section of the U. S. Census of Manufacturers, 1958, are the results of a special survey of distribution channels used by a large sample of companies engaged in the manufacture and sale of a wide variety of product lines.

28 Ibid., p. 15
Included were nearly 50,000 establishments involving approximately 30,000 of the nearly 270,000 manufacturing companies covered in the 1958 Census. Even these data, however, do not reveal the complete vertical structure of channels. What is shown is the distribution of sales and shipments to the succeeding link in the channel for both manufacturing companies and, where applicable, the sales branches and offices of these firms, by product line. The actual number of links in the channel from producer to user is revealed only where sales are made directly from the manufacturer to the user. Since the data for sales branches include products bought for resale without further processing, prior links in the channel are not determined for all the sales of these outlets.

Also, since the Census data involves only sales and shipments, the extent of use of functional middlemen is not shown because no transfer of title is involved.

Within the above limitations, this 1958 Census survey provides at least a partial picture of the initial stages of distribution channels for approximately 300 groups of products. The channels of large companies (defined as multi-unit companies with any manufacturing plants of 100 employees or more and single-unit companies of that size) are shown separately from small companies which serves to illustrate the variation in channel choice between these classes. As an example, the data for machine tools are shown in Table 1. The data for large companies represent, in effect, a census of those manufacturers.

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### TABLE 1

**Machine Tool Manufacturers' Sales, by Class of Customer, 1958**

<table>
<thead>
<tr>
<th>Class of Customer</th>
<th>All Companies</th>
<th>Per Cent</th>
<th>Large</th>
<th>Per Cent</th>
<th>Small</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>$ 593</td>
<td>100%</td>
<td>$ 529</td>
<td>100%</td>
<td>$ 63</td>
<td>100%</td>
</tr>
<tr>
<td>By manufacturing establishments,</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$ 593</td>
<td>100%</td>
<td>$ 529</td>
<td>100%</td>
<td>$ 63</td>
<td>100%</td>
</tr>
<tr>
<td>Sales offices, sales branches, and administrative offices of the same company</td>
<td>50</td>
<td>8</td>
<td>50</td>
<td>9</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Separate merchant wholesale establishments of the same company</td>
<td>(1)</td>
<td>(2)</td>
<td>(1)</td>
<td>(2)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Individuals and farmers</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other Plants of the same company</td>
<td>9</td>
<td>1</td>
<td>9</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other manufacturers</td>
<td>286</td>
<td>48</td>
<td>273</td>
<td>52</td>
<td>13</td>
<td>30</td>
</tr>
<tr>
<td>Industrial, commercial, institutional, State and Local Governments</td>
<td>58</td>
<td>10</td>
<td>41</td>
<td>8</td>
<td>17</td>
<td>27</td>
</tr>
<tr>
<td>Wholesalers</td>
<td>93</td>
<td>16</td>
<td>62</td>
<td>12</td>
<td>30</td>
<td>48</td>
</tr>
<tr>
<td>Retail stores of same company</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>All other retail stores</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Federal government</td>
<td>32</td>
<td>6</td>
<td>31</td>
<td>6</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Exports</td>
<td>48</td>
<td>8</td>
<td>47</td>
<td>9</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Other and not specified</td>
<td>17</td>
<td>3</td>
<td>16</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

(1) Less than one million dollars, (2) Less than one per cent.

**Source:** U. S. Census of Manufacturers, 1958.
V. SECONDARY CHANNELS OF DISTRIBUTION FOR INDUSTRIAL MACHINERY, EQUIPMENT, AND SUPPLIES AND FACTORS ASSOCIATED WITH CHANNEL DETERMINATION ............................................ 82

The influence of sales volume size on choice of secondary channel ................................................. 82

The influence of extent of market area on choice of secondary channel ......................................... 85

Influence of major using industry on choice of secondary channel ............................................. 86

Influence of product line on choice of secondary channel .................................................. 87

Major factors associated with distribution channel determination for selected product lines ................ 87

Relative importance of specific factors to industrial machinery, equipment, and supplies .................... 88

Relative importance of decision factors in specific product lines ................................................... 92

Location of responsibility for distribution channel determination ............................................. 94

Location of responsibility in firms or divisions with over $100,000,000 annual volume ..................... 95

Location of responsibility in firms or divisions with $50,000,000 to $100,000,000 annual volume ............ 95

Location of responsibility in firms with under $50,000,000 annual volume ..................................... 96

Conclusions regarding the importance to management of the channel decision .................................... 96

Summary ................................................ 97

VI. BACKGROUND CONSIDERATIONS REGARDING MARGINS PROVIDED INDUSTRIAL DISTRIBUTORS AND MANUFACTURERS' METHODS OF QUOTING PRICES ............ 99

Introduction ............................................. 99

The role and determination of the distributor gross margin .................................................. 101

List and discount vs. net pricing ............................................. 115

Summary ................................................ 118
For small companies, however, the data are from a probability sample of the firms in that class, and the possible variability due to sampling is quite high for the estimates given. The customer patterns are nonetheless believed to be valid.  

From these and similar data relating to the 300 product groups the complexity of distribution channel arrangements may be seen, especially since the above data reveal only the beginning stages of a particular channel in most cases. In machine tools, as in the case of most other industrial lines, the variation in channels used by large and small companies is substantial. For example, over 50 per cent of the sales of large manufacturers are direct to other manufacturers while only 20 per cent of the small manufacturers' dollar volume is sold this way. By contrast, nearly one-half of the small firms' shipments are to wholesalers, but only one-eighth of the large companies' volume is sold to these institutions. Thus, usage of a particular channel appears to be closely related to size of firm at least within broad product groups.

Additional channel studies of industrial goods. A few special studies on channels used for specific industrial goods have appeared from time to time in the periodical literature or in collections of readings. While these studies deal with product lines other than industrial machinery, equipment, and supplies as herein defined, and their particular findings

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30 Ibid., p. 3.

and conclusions are therefore not directly applicable, certain pertinent generalizations may be made from them.

The inescapable conclusion to be derived from all such detailed exposition of channel usage is that channel decisions must be considered critical to the successful marketing of any product. The nuances involved in such decisions may be appreciated through an examination of the channels involved in the distribution of the common grades and types of steel products. Basically, steel mill products are moved to the industrial user through two broad distribution channels: direct sale and through steel warehouses or distributors. Direct sale to user commonly involving the use of sales branches without stocks, or sales offices, accounts for about 85 per cent of total steel output. This figure was established in the course of interviews with a number of executives of major steel producers. Sales through various types of distributors account for the balance. The real complexity of the channel structure can be seen only when the different types of distributors are noted and when the differences in channel usage for specific steel products are examined.

One authority has noted four major types of steel distributors: industrial steel warehouses, oil field supply companies, standard pipe jobbers, and hardware wholesalers. Each of these institutions serves a particular market or concentrates on the distribution of a particular kind of steel product. In addition, other types of wholesalers sell some of the basic steel products as a minor part of their total volume of business. Included in this group are dealers in building materials

and electrical supply distributors. Not all of the steel products sold through these institutions go directly from them to users. The 1958 Census data on 3,247 wholesalers engaged primarily in the distribution of iron and steel products show 14.4 per cent of the total sales of these establishments for resale, possibly to additional wholesalers as well as to users.

The study of distribution channels for steel illustrates a fact that is common to the general category of industrial machinery, equipment, and supplies. There is a variety of channels available for all such products, such that a carefully considered choice of specific channels is requisite to successful distribution.

The results of the survey connected with this study which are presented in Chapters IV and V uncovered six basically different channels among the twenty-four product lines. Thus, a definite pattern is readily seen to exist. However, most, and in some cases all, of the six channels were in use for each of the product lines. When the pattern of secondary channels is considered as well, the resulting structure becomes exceedingly complex. Individual product differences, emphasis on different groups of end users, size of the manufacturing firm, and geographical extent of market area are all at times contributing factors to variation in channel usage, but some differences are undoubtedly due largely to management decisions hinging on the seldom verified belief that a unique channel may secure for the firm a competitive advantage in the market.

The Managerial Perspective for Channel Decisions

The end result of distribution channel studies, the general lack of

\[\text{Ibid.}, \ \text{p. 313.}\]
which has been noted above, is the provision of factual information which may be utilized by management in making rational policy decision. The theoretical and practical framework for decision-making has received increasing emphasis in recent years in the marketing literature to the extent that the basic approach to channel determination which should be used by a manufacturer has been rather well established. Unfortunately, however, the decision framework is predicated upon the assumption of availability of facts, and the transition from theory to practice currently founders, for many manufacturers, on the absence of these facts. Examination of the requirements for sound channel decisions should serve to stimulate increased research activity in order to provide the requisite factual background.  

Factors Involved in Manufacturers' Channel Decisions

The major factors entering into the channel decision are currently both qualitative and quantitative in nature. The quantitative factor is essentially that of long-run profitability as determined through forecasts of cost and revenue relationships for alternative channel proposals. The qualitative factors have to do with the characteristics of product, firm, competitive structure, and users of the product. An analysis of qualitative factors should precede any attempt to project profitability in order first to establish reasonable limits on the number of potential alternative channels.

Qualitative factors in channel decisions. Inherent characteristics of the product line will have an important bearing on the choice of distribution channel or channels. The fact that the product is essentially bulky in relation to value will tend to dictate certain requirements in physical distribution. If it is a capital good of relatively long life, high unit value and not standardized in nature, the channel requirements would differ considerably from those of a nondurable expense item produced to recognized engineering standard throughout the industry.

Internal characteristics of the firm having a bearing upon channel decisions are financial strength, breadth of product line, marketing management capability, and the physical location of producing facilities in relation to market area.

The competitive structure of distribution can affect channel decisions in two major ways. First, the channels used by larger competitors may literally force a firm to adopt a similar pattern in order effectively to reach a market. Second, where middlemen are used, competitors may have largely pre-empted the most effective distributors or agents for their lines, thereby forcing the development of a new or modified channel by a company attempting to enter the market or increase its current market share.

The size and financial strength, relative concentration or dispersion, average order quantities, and preferred supply outlets are the major characteristics of industrial users which are part of the qualitative determinants in channel decisions for selling manufacturers.

Obviously, the crucial element in evaluating these factors is the relative weight to be attached to each. For some product lines of given manufacturers the problem is relatively simple since one or two factors
may be of such strategic significance that all other considerations are of little or no importance; hence, the problem of alternative channels is eliminated. This situation apparently does not generally exist for producers of industrial machinery, equipment, and supplies. The multiplicity of channels used for different product lines suggests that in most cases some choice of alternatives is available.

The profitability factor in channel selection. Judicious consideration of the qualitative factors mentioned above will, under average conditions, probably reduce the number of feasible alternatives to two or three at the most. The problem is then resolved to the point of forecasting the cost and revenue potentials of each separate channel. At the present time this is a major limiting element in the logical approach to channel decisions. Because the forecast deals with futurity, the probability of error can never effectively be eliminated. However, given that limitation, the primary problem currently is the inadequacy of factual information on which estimates may be based.

Ideally, the contribution to profit would be applied, which would bring together the estimates of volume and costs. Typically at this stage, however, the estimates are so rough that it is unwise to attach great importance to a profit figure derived from them.35

Nevertheless, the ultimate criterion in the process of analysis should be that of contribution to profit. Such an analysis based upon known facts concerning operating characteristics of the alternatives will serve to show the effects of changes in sales volume on company profits. Differing ratios of fixed to total distribution expense, for example, will be encountered with the different alternatives. These expense figures coupled with the projection of attainable sales volume

35Howard, op. cit., p. 278.
serve to heighten the contrasts between the various possible channels.

Given two (or any number) alternatives selected as feasible in line with the qualitative criteria and given a predetermined market potential and sales objective for a particular market area, the problem is that of assessing costs necessary for achieving the objective through each alternative with the overall criterion of profitability determining the ultimate decision. Needed, then, are reasonable estimates of total costs by categories or cost elements for each channel. The analysis should involve long-run as well as short-run considerations. Available data will be historical in nature, but for purposes of long-range planning the possible effect of large, sustained changes in volume of sales on each channel's performance should be checked. This is true since substantial changes in volume may make a currently unprofitable channel into the most profitable alternative, owing to the changing relationship between sales and costs.

For illustrative purposes it will be assumed that the two alternatives to be compared are --

1. Manufacturer-Distributor-Industrial User and

2. Manufacturer-Manufacturer's Agent-Distributor-Industrial User.

If alternative 1 is currently being used by the manufacturer full cost data is available at hand, covering the behavior of cost over a range of sales volume. The essential problem is the comparison of expense outlay when a factory sales force is substituted for the manufacturers' agents. Major functional expense classifications which would reflect the change from agents to direct sales are:

1. Direct personal selling expenses: substitution of salesmen's compensation and expenses for percentage commission of agents on sales made.
2. Sales overhead or indirect expenses
   a. Sales supervision salaries and expenses
   b. Sales training
   c. Occupancy costs for sales facilities
   d. Engineering and technical services
   e. Sales personnel and employment expense

In this case, since an entire change in channel is not being considered, and in particular nothing is to be done to adjust or eliminate the role of the distributor only the one area of direct and overhead sales expense is involved. Had circumvention of the wholesaler also been involved, other major functional costs affected would have been order processing and physical assembly, billing and accounts receivable maintenance, advertising and sales promotion, inventory investment and storage, and shipping and transportation expenses. A graphic illustration of the cost and profit relationships involved in our hypothetical example is presented in Figure 1.

Fig. 1. Comparative Behavior of Manufacturer's Fixed and Variable Selling Expenses in Relation to Sales with Different Channels of Distribution.
Sharpening the channel analysis. It is unwise to assume that all the difficulties associated with profitability analysis which were mentioned above must continue to exist. Likewise, it should be taken for granted that the qualitative factors must always be evaluated on the basis of fragmentary factual information. It is doubtful that the techniques of sales forecasting and cost analysis already available have been extensively applied to channel evaluation, and the techniques themselves are continually being strengthened and improved. The problem of analyzing qualitative factors is also potentially subject to reduction through the application of research to provide a factual framework for analysis.

Offering the greatest potential contribution in the foreseeable future to the problem of distribution channel determination are the concepts of operations research and systems analysis. Precise definition of operations research is currently a matter of some dispute. As a relatively new field of endeavor, having received its real impetus during World War II, the problem of definition is understandable, especially because of the very rapid expansion of the areas of inquiry and methodology employed. Early definitions that emphasized "the application of scientific methodology to the solution of business problems" were certainly not adequate in that this terminology may be applied just as validly to many areas such as marketing research, for example, or to the sixty-year-old concept of "scientific management." Without belaboring

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36 Russell L. Ackoff, Progress in Operations Research, Vol. 1 (New York: John Wiley & Sons, Inc., 1961), pp. 3-32. In this recent volume one of the most respected contributors to the growing body of operations research literature carefully surveys the problem of an inclusive definition.
unduly the problem, the following definition may be said to illustrate the flavor of operations research:

... O.R. is applied decision theory. Operations research uses any scientific, mathematical, or logical means to attempt to cope with the problems that confront the executive when he tries to achieve a thoroughgoing rationality in dealing with his decision problems.37

Inherent in the operations research approach to decision-making is the concept of a complete system or operation such that a model (usually mathematical) of it may be constructed and tested by observing the effect of changes in input values on the effectiveness of the system with the objective of determining the optimum combination of input factors under a given set of conditions.

The distribution channel is illustrative of a system. Input variables are represented by the costs associated with the manufacturers' channel policy decisions and output is represented by market performance in terms of sales and profits. As an interconnected chain of institutions, the channel is capable of providing the necessary information flow from user to manufacturer and return which demonstrates the completed model or system.

Unfortunately, the range of decisions required and the presence of purely qualitative decision criteria of great importance appear to place the development of a complete mathematical model of the distribution channel beyond the pale of even the most sophisticated operations research techniques currently available. Present efforts deal with one

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>VII. GROSS MARGINS PROVIDED INDUSTRIAL DISTRIBUTORS ON SELECTED PRODUCT LINES</td>
<td>120</td>
</tr>
<tr>
<td>Introduction</td>
<td>120</td>
</tr>
<tr>
<td>Current margin policies</td>
<td>122</td>
</tr>
<tr>
<td>Margins allowed distributors on specific product lines</td>
<td>131</td>
</tr>
<tr>
<td>Manufacturers' estimates of distributor margins on products sold without suggested resale prices</td>
<td>138</td>
</tr>
<tr>
<td>Trends and changes in margins allowed distributors</td>
<td>140</td>
</tr>
<tr>
<td>Summary</td>
<td>149</td>
</tr>
<tr>
<td>VIII. THE PROCESS AND PRACTICE OF MARGIN POLICY DETERMINATION</td>
<td>151</td>
</tr>
<tr>
<td>Introduction</td>
<td>151</td>
</tr>
<tr>
<td>The major factors determining average gross margins allowed</td>
<td>154</td>
</tr>
<tr>
<td>Supplemental findings from interviews and follow-up inquiries</td>
<td>162</td>
</tr>
<tr>
<td>Use of quantity discounts and net pricing vs. list and discount pricing</td>
<td>169</td>
</tr>
<tr>
<td>Summary</td>
<td>171</td>
</tr>
<tr>
<td>IX. SUMMARY AND CONCLUSIONS</td>
<td>175</td>
</tr>
<tr>
<td>Distribution channels for industrial machinery, equipment, and supplies</td>
<td>176</td>
</tr>
<tr>
<td>Margins allowed industrial distributors on products with suggested resale prices</td>
<td>187</td>
</tr>
<tr>
<td>X. APPENDIX A</td>
<td>194</td>
</tr>
<tr>
<td>XI. APPENDIX B</td>
<td>200</td>
</tr>
<tr>
<td>XII. BIBLIOGRAPHY</td>
<td>208</td>
</tr>
<tr>
<td>XIII. AUTOBIOGRAPHY</td>
<td>212</td>
</tr>
</tbody>
</table>
of two areas: (1) sub-systems found in the marketing process\(^\text{38}\) or (2) the system of physical distribution or optimum movement of the physical product, wherein channel considerations involving decisions relating to the non-physical flow of title are eliminated.\(^\text{39}\)

While the requirements of the system exist, the duplication in model form of a distribution channel will be extremely difficult to achieve, though it would be folly at this point to state categorically that it cannot be done. Certainly the channel model would be of inestimable value to the problem of analysis.

**Summary**

The institutional framework for marketing channels is well defined in terms of the operating characteristics of individual middlemen and manufacturer-owned facilities. The principal channels for industrial machinery, equipment, and supplies involve, either singly or in combination, direct sale from the factory, manufacturers' sales branches, and industrial distributors. Participating to a much lesser degree are selling agents, brokers, and commission merchants.

\(^{38}\)Robert D. Buzzell, et. al. (ed.), *Mathematical Models and Methods in Marketing* (Homewood, Ill.: Richard D. Irwin, Inc., 1961). Included in this volume are a number of models of the type mentioned, involving customer behavior, promotional effort, and inventory management.

\(^{39}\)Edward W. Smykay, Donald J. Bowersox, and Frank H. Mossman, *Physical Distribution Management* (New York: The MacMillan Company, 1961). Also see Jay W. Forrester, *Industrial Dynamics* (New York: John Wiley & Sons, Inc., 1961), Chapter 15. Illustrated is the development of a simulation model of a production-distribution system. The author notes in connection with this model and another that "neither of these two models incorporates the more subtle factors that are often significant in industrial system behavior. Such factors are beyond the scope of this present volume and also would require the presentation of models that have not yet been sufficiently refined to justify their inclusion." (p. 135). The system presented essentially involves that of the physical product.
Studies in channel usage for specific industrial products are extremely limited in number and scope at the present time. Much information on the degree to which types of institutions are used is obtainable from Census data, but such data do not reflect the vertical arrangement of channels for various product lines.

The marketing management approach to decision-making has suggested a system of factor evaluation leading to channel determination. Factors to be considered are both qualitative and quantitative in nature, the former dealing with attributes of product, producer, competition, and users, and the latter with determination of profitability.

The rational selection of channels, however, is predicated upon factual analysis, and much needed information is still lacking.
CHAPTER IV

MAJOR CHANNELS OF DISTRIBUTION
FOR INDUSTRIAL MACHINERY, EQUIPMENT AND SUPPLIES

This chapter presents some of the findings of the empirical research bearing on channels of distribution. The data were secured through the use of interviews with major executives of manufacturing firms and through a questionnaire distributed to 585 producers of various lines of industrial machinery, equipment, and supplies. Attention is focused at this juncture upon the variety of major channels of distribution utilized in getting these product lines to the industrial user. The principal subject areas covered are major channels used; the company, market, and product line characteristics which appear to influence channel decisions; and changes occurring in major channels since 1945.

Because so many of the manufacturers make use of multiple channels in the distribution of their products, treatment of the data concerning secondary outlets for these lines has been reserved to Chapter V. Also included in Chapter V are the discussions of factors considered by manufacturers in making channel decisions and the organizational location and structure of authority for making channel decisions.

The orientation of the material proceeds from the general to the particular; that is, presentation and analysis of the findings applicable to the general class of products is presented first. This is
followed with analyses relating to selected individual product lines where enough firms are represented to avoid disclosure of information pertaining to a particular firm. This plan of organization is followed throughout.

The tabulations in this chapter, as noted previously in Chapter II, reflect the presence of multi-line firms or divisions. Column headings in the tables are titled "company-product-lines" or "number of manufacturers' responses" in order to avoid confusion with distinct kinds of product lines, of which there are only twenty-four included in the study.

**Major Channels of Distribution**

**For All Product Lines**

The term major channel of distribution refers to the chain of marketing institutions (including the maker of the product at one end and its user at the other) through which the greatest portion of the volume of a product line is moved through title transfers to the user of the item. It should be noted that the process of transfer of title is the real essence of the channel of distribution. Thus, the various types of agent middlemen discussed in Chapter III are a part of the channel of distribution for a product when they are used even though they do not take title to the goods they sell nor physically handle the product. The assistance of such middlemen in the process of title transfer is the fundamental criterion for their inclusion in a channel of distribution.

Many firms are committed to the use of only one channel for
the distribution of their products. However, the use of more than one channel for the same product line of a company is also frequently found in both the consumer and industrial goods areas in order to secure adequate coverage of different customer classes and geographic market segments. The product lines included in this study, while known to be of particular importance among the lines normally carried by general line industrial distributors, are not limited to this single channel of distribution. In fact, it will be shown subsequently that a substantial number of individual company product lines in the area of industrial machinery, equipment, and supplies are sold through channels which do not involve the use of industrial distributors at all.

Current Major Channels of Distribution For All Product Lines

Table 2 reveals the relative preference of the 156 manufacturers covered by this study for particular major channels of distribution. The figures in Table 2 refer to the number of individual company product lines in each case whose major or total volume is sold through a particular channel. The percentage figures themselves do not refer to the actual volume or proportion of business moving through these channels.

Nearly one-half of all the product lines of the various producers was sold direct from factory to industrial distributors for resale; hence, this channel included three links and was from maker through a wholesaler to the user of the product. Distributors were involved, in one combination or another, in the marketing of 74.1
TABLE 2

Major Channels of Distribution for Product Lines of 156 Manufacturers of Industrial Machinery, Equipment, and Supplies

<table>
<thead>
<tr>
<th>Major Channel of Distribution</th>
<th>Number of Company Product-Lines Reported Using</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct from factory to industrial distributor</td>
<td>107</td>
<td>48.7%</td>
</tr>
<tr>
<td>Through manufacturers' agent to industrial distributor</td>
<td>37</td>
<td>16.8%</td>
</tr>
<tr>
<td>Direct from factory to user</td>
<td>28</td>
<td>12.7%</td>
</tr>
<tr>
<td>Factory sales branch to user</td>
<td>21</td>
<td>9.6%</td>
</tr>
<tr>
<td>Factory sales branch to distributor</td>
<td>19</td>
<td>8.6%</td>
</tr>
<tr>
<td>Through manufacturers' agent to user</td>
<td>8</td>
<td>3.6%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>220</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>
per cent of all the 220 lines of the 156 manufacturers. This proportion points out the importance of the distributor in the overall distribution pattern for machinery, equipment, and supplies. However, the fact that over 25 per cent of the company product lines were marketed through major channels in which the distributor was not used at all indicates that these channels should always be considered by the manufacturer as possible alternatives in making channel decisions until eliminated or accepted through objective analysis relating to his specific situation.

The six distribution channels shown in Table 2 and illustrated in Figure 2 were the only ones reported in the survey results with one exception, which has been eliminated from the data. The line in question was essentially a consumer goods sold through retail hardware dealers with a very small proportion of industrial sales occasionally made through these same outlets. Thus, it would appear that the potential channels available to a manufacturer of any product lines similar to those included in this study are rather effectively limited to the six channels shown.

Current Major Channels by Sales Size Of Producing Unit

The data in Table 2 reveal the influence of sales volume size of the producing unit upon choice of the major distribution channel. Since a variety of different kinds of product lines appear in all but the very largest size classifications, the variation in channel usage among the various groups is related to sales volume. For example, while the factory to distributor channel is used by all size groups, it was relatively less important for the smallest and the
Fig. 2. The Six Principal Channels of Distribution for Industrial Machinery, Equipment, and Supplies.
<table>
<thead>
<tr>
<th>Annual Sales Volume of Producer</th>
<th>Total No. of Manufacturer Responses</th>
<th>Per Cent of Total</th>
<th>Current Major Channel of Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Factory to Distributor</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Number of Responses</td>
</tr>
<tr>
<td>Under $1,000,000</td>
<td>48</td>
<td>100.0%</td>
<td>20</td>
</tr>
<tr>
<td>$1,000-4,999,999</td>
<td>69</td>
<td>100.0%</td>
<td>36</td>
</tr>
<tr>
<td>$5,000-9,999,999</td>
<td>32</td>
<td>100.0%</td>
<td>16</td>
</tr>
<tr>
<td>$10,000-19,999,999</td>
<td>32</td>
<td>100.0%</td>
<td>18</td>
</tr>
<tr>
<td>$20,000-49,999,999</td>
<td>19</td>
<td>100.0%</td>
<td>10</td>
</tr>
<tr>
<td>$350,000-99,999,999</td>
<td>10</td>
<td>100.0%</td>
<td>4</td>
</tr>
<tr>
<td>$100,000, and over</td>
<td>9</td>
<td>100.0%</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>220</td>
<td>100.0%</td>
<td>107</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
two largest groups of producers. The sales size class of under $1,000,000 tended to make greater use of manufacturers' agents as a substitute for sales branches or a factory sales force selling to industrial distributors. This bears out well some of the general conditions for the advantageous use of agents noted in Chapter III, particularly with respect to small producers with limited financial resources selling in wide geographic markets. It should be emphasized that the agent is used primarily by these small firms in selling to distributors who in turn handle the sale of the product to users. When coupled with the 41.6 per cent of the product lines of firms with annual volume under $1,000,000 whose major channel was direct from factory to distributors, these data illustrate the overwhelming importance of the distributor to small manufacturing companies. Considering all combinations, the distributor was involved in some way in the distribution of 87.3 per cent of the company product lines produced by firms or divisions in the smallest sales size classification.

Conversely, no agents were used in the major channel of distribution of any firm or division with an annual sales volume greater than $10,000,000. As noted in Chapter V, agents are used by large firms as an element in secondary channels for their product lines, but among the larger firms included in this study the manufacturers' agent was totally excluded from the channel through which the greater portion of a line's volume was sold. When used, agents supplement rather than form a part of the major channel.

Use of the distributor in selling to the industrial user is
<table>
<thead>
<tr>
<th>TABLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>40</td>
</tr>
<tr>
<td>2</td>
<td>56</td>
</tr>
<tr>
<td>3</td>
<td>59</td>
</tr>
<tr>
<td>4</td>
<td>64</td>
</tr>
<tr>
<td>5</td>
<td>67</td>
</tr>
<tr>
<td>6</td>
<td>69</td>
</tr>
<tr>
<td>7</td>
<td>83</td>
</tr>
<tr>
<td>8</td>
<td>87</td>
</tr>
<tr>
<td>9</td>
<td>90</td>
</tr>
<tr>
<td>10</td>
<td>91</td>
</tr>
<tr>
<td>11</td>
<td>124</td>
</tr>
<tr>
<td>12</td>
<td>126</td>
</tr>
<tr>
<td>13</td>
<td>128</td>
</tr>
<tr>
<td>14</td>
<td>131</td>
</tr>
</tbody>
</table>
also clearly related to the sales size of the producer. The following listing indicates the generally declining importance of the distributor with relation to the size of the producing firm or division:

<table>
<thead>
<tr>
<th>Sales Volume of Producing Unit</th>
<th>Percentage of Company-Product-Lines Handled by Distributor at Last Stage of Channel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under $1,000,000</td>
<td>87.3%</td>
</tr>
<tr>
<td>$1,000,000 to $4,999,999</td>
<td>78.3</td>
</tr>
<tr>
<td>$5,000,000 to $9,999,999</td>
<td>75.0</td>
</tr>
<tr>
<td>$10,000,000 to $19,999,999</td>
<td>63.7</td>
</tr>
<tr>
<td>$20,000,000 to $49,999,999</td>
<td>68.6</td>
</tr>
<tr>
<td>$50,000,000 to $99,999,999</td>
<td>50.0</td>
</tr>
<tr>
<td>$100,000,000 and Over</td>
<td>44.4</td>
</tr>
</tbody>
</table>

Thus, like the manufacturers' agent, the industrial distributor is used in the major channel of distribution of proportionally more of the lines of small producers. The similarity, of course, ends here, since it is apparent from the above data that the distributor retains substantial importance as a major channel for even the largest manufacturers. The value of the distributor in reaching industrial users is reflected in this use of the channel by manufacturers of great size. The non-use of agents in the major channels of large producers, however, and the declining importance of the distributors as the size of firm increases requires acceptance in both cases of the hypothesis that channel usage is associated with sales size.

There is also a strong relationship between sales size of producers and the adoption of sales branch to user as a major channel, with an increasing proportion of the lines of larger producers being moved to the user through this form of direct sale with the exception
of the very largest classification where the proportion drops off. Nevertheless, it should be noted that only 9.5 per cent of all the manufacturers' product lines had sales branch to user as a major channel, and the lines of producers with under $10,000,000 annual sales showed a percentage use substantially under that figure. On the other hand, the lines of manufacturers who had more than $10,000,000 annual sales were all substantially above the 9.5 per cent figure in the proportional use of the sales branch to user channel. The hypothesis that use of a channel of distribution is associated with sales size of the producer is again accepted in the case of the sales branch to user channel.

An interesting pattern is seen in the use of the direct from factory to user channel. Here there is an increasing use of the channel for the lines of manufacturers with up to just under $10,000,000 annual volume. Above $10,000,000 and up to $100,000,000 the use of factory to user drops off. This is explained by the sharply increased use of the sales branch to user channel when volume exceeds $10,000,000 annually. In this case the return to proportionally greater use of factory to user by producers with over $100,000,000 annual volume is no doubt due to the nature of the lines involved. The two company product lines shown in this class in Table 2 are both produced by large steel manufacturers whose major volume of product goes to large processors. The general pattern of usage nevertheless shows a relationship between the channel and the sales size of the manufacturer providing ample basis for the acceptance of the hypothesis.
In the case of the sales branch to distributor channel the hypothesis relating to sales size is rejected since no apparent relationship between the use of this channel and sales size of manufacturer is exhibited in the data, except that there is no use of this channel for the lines of the smallest class of producing units. No explanation for this lack of relationship is found in the data. However, a plausible inference is suggested, and that is that the sales branches used to sell to distributors probably are sales offices carrying no stocks since this would normally be expected of the distributor. Thus, except for the smallest firms, such sales offices could be established economically by manufacturers of all sales size classes.

**Major Channels of Distribution According To Selected Industries of Ultimate Use**

With the data on major channels arrayed by major using industry, it may be seen from Table 4 that the factory to distributor channel was heavily favored by manufacturers selling primarily to the construction and extractive industries. Of eighteen manufacturers' product lines where construction was the dominant using industry, none were sold through sales branches as a major channel. Also, none of the lines were sold through the agent to user major channel. These product lines consist primarily of relatively small unit value items such as hand tools, and the quantity purchased at one time by users is small. The industry involves a large number of these buyers, however, and the ability of the distributor to secure additional sales from other lines enables him, normally, to sell to
<table>
<thead>
<tr>
<th>Major Using Industry</th>
<th>Total No. of Manufacturer Responses</th>
<th>Per Cent of Total</th>
<th>Factory to Distributor</th>
<th>Agent to Distributor</th>
<th>Factory to User</th>
<th>Sales Branch to User</th>
<th>Sales Branch to Distributor</th>
<th>Agent to User</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Number of Responses</td>
<td>Number of Responses</td>
<td>Number of Responses</td>
<td>Number of Responses</td>
<td>Number of Responses</td>
<td>Number of Responses</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Percent of Total</td>
<td>Percent of Total</td>
<td>Percent of Total</td>
<td>Percent of Total</td>
<td>Percent of Total</td>
<td>Percent of Total</td>
</tr>
<tr>
<td>Construction</td>
<td>18</td>
<td>100.0%</td>
<td>12</td>
<td>66.7%</td>
<td>3</td>
<td>16.7%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Metalworking</td>
<td>92</td>
<td>100.0%</td>
<td>42</td>
<td>45.6%</td>
<td>16</td>
<td>17.4%</td>
<td>4</td>
<td>4.3%</td>
</tr>
<tr>
<td>Extractive</td>
<td>11</td>
<td>100.0%</td>
<td>7</td>
<td>63.6%</td>
<td>3</td>
<td>27.3%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>General Industry</td>
<td>79</td>
<td>100.0%</td>
<td>38</td>
<td>48.1%</td>
<td>10</td>
<td>12.6%</td>
<td>6</td>
<td>7.6%</td>
</tr>
<tr>
<td>Other(^{1})</td>
<td>14</td>
<td>100.0%</td>
<td>5</td>
<td>21.4%</td>
<td>2</td>
<td>14.3%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>214</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>104</strong></td>
<td><strong>48.6%</strong></td>
<td><strong>34</strong></td>
<td><strong>15.9%</strong></td>
<td><strong>28</strong></td>
<td><strong>13.1%</strong></td>
</tr>
</tbody>
</table>

\(^{1}\)Includes companies selling to specialized industry groups.
the industry economically by spreading marketing costs across the multiple lines. The manufacturer, of course, can concentrate his sales from the factory by selling to distributors, and this concentration of effort makes it possible to use the factory to distributor channel economically, as was done for two-thirds of the lines going primarily to the construction industry.

Product lines sold to metalworking industries were distributed through all six channels, although the major channel for over 45 percent of these lines was factory to distributor. Again, if lines sold predominantly to the extractive industry and to general industry (where no single group of producers was in the majority as a user but rather the lines were sold to many different types of users, cutting across industry lines) are considered, 90.9 percent and 60.7 percent of the lines, respectively, were sold from factory to distributor or through agents to the distributor.

Among these four industry classifications this writer believes, despite the presence of some absolute differences in percentages, that the basic hypothesis that the use of distribution channels is related to using industry must be rejected on the basis of the data secured. This conclusion was reached because of the strong similarity in the pattern of channel usage for each industry group. It should be noted, however, that this similarity is believed due to the broad nature of the industry classification which may tend to obscure the predominance of a particular channel for reaching a
segment of one of these industries. This qualification is prompted by the appearance of the data on the classification of "other" industry. Here the factory to distributor channel was used for only 21.4 per cent of the lines, the same proportion as for the sales branch to user channel. Also, sales branch to distributor was used for the same number of lines as agent to distributor. This industry classification includes lines sold to highly specialized industries such as railroads and public utilities. The lack of a truly dominant channel is believed due to the diverse nature of the users represented in the class. Thus, if metalworking, for example, were broken into sub-classes such as electrical machinery, metal furniture, machinery (except electrical), transportation equipment, etc., it is quite possible that highly differentiated patterns of channel usage would appear among the various types of metalworking users. Such a detailed breakdown was not obtained through the survey, nor was it secured in the case of the initial interviews.

**Major Channels of Distribution Used By National and Regional Sellers**

Manufacturers of products sold in a national market showed a much stronger preference for the factory to distributor route as a major channel than did those selling on a regional basis. The summary data are shown in Table 5. Product lines with sales concentrated in the smaller geographic area were more often sold direct from the factory to the user. Also, producers of regionally marketed lines made greater use of sales branches as an intermediate step.
TABLE 5

Major Channels of Distribution for Nationally and Regionally Marketed
Industrial Machinery, Equipment, and Supplies

<table>
<thead>
<tr>
<th>Marketing Area</th>
<th>Total No. of Manufacturer Responses</th>
<th>Per Cent of Total</th>
<th>Major Channel</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Factory to Distributor</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Number of Responses</td>
</tr>
<tr>
<td>National</td>
<td>177</td>
<td>100.0%</td>
<td>95</td>
</tr>
<tr>
<td>Regional</td>
<td>35</td>
<td>100.0%</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>212</td>
<td>100.0%</td>
<td>105</td>
</tr>
</tbody>
</table>


between both sales made direct to users and sales made through distributors.

Since the data refer to major channels of distribution only, it is very probable that the greater total volume of sales going through distributors or nationally marketed lines obscures the importance of direct sales of these product lines in areas surrounding producing facilities. This is borne out by the fact, illustrated in Chapter V, that a large proportion of the national lines have a secondary distribution channel of direct sale to the user. Also, the interviews with marketing executives of manufacturers brought out that it is common practice to reserve the immediate territory about the plant for the company salesmen or even sales executives while distributors are used in more distant areas.

However, the data do indicate a logical similarity with consumer goods channels, in that the tendency to use wholesaling institutions increases with an increase in the size of the geographic market areas.

Major Channels of Distribution
For Particular Product Lines

While information on manufacturers' channel policies was received for twenty-four distinct product lines, the number of individual responses for several of these lines was so small that little separate analysis was possible. As a result, Table 6 shows a detailed breakdown of major channel usage for only twelve lines. Some comments are made in the section concerning individual lines included
<table>
<thead>
<tr>
<th>PRODUCT LINE</th>
<th>Total Number of Manufacturers' Responses</th>
<th>Per Cent of Total</th>
<th>MAJOR CHANNEL OF DISTRIBUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Factory to Distributor</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Number of Responses of Total</td>
</tr>
<tr>
<td>Abrasive Products</td>
<td>13</td>
<td>100.0%</td>
<td>3 23.1%</td>
</tr>
<tr>
<td>Cutting Tools</td>
<td>17</td>
<td>100.0%</td>
<td>8 47.1%</td>
</tr>
<tr>
<td>Fasteners</td>
<td>9</td>
<td>100.0%</td>
<td>2 22.2%</td>
</tr>
<tr>
<td>Materials Handling Equipment</td>
<td>21</td>
<td>100.0%</td>
<td>10 47.7%</td>
</tr>
<tr>
<td>Mechanical Rubber Goods</td>
<td>9</td>
<td>100.0%</td>
<td>2 22.2%</td>
</tr>
<tr>
<td>Mechanical Rubber Goods</td>
<td>9</td>
<td>100.0%</td>
<td>2 22.2%</td>
</tr>
<tr>
<td>Metal Working Accessories</td>
<td>14</td>
<td>100.0%</td>
<td>8 57.1%</td>
</tr>
<tr>
<td>Power Transmission Equipment</td>
<td>17</td>
<td>100.0%</td>
<td>7 41.2%</td>
</tr>
<tr>
<td>Steel Products</td>
<td>12</td>
<td>100.0%</td>
<td>7 58.3%</td>
</tr>
<tr>
<td>Tools - Hand</td>
<td>26</td>
<td>100.0%</td>
<td>16 61.6%</td>
</tr>
<tr>
<td>Tools - Portable Power</td>
<td>8</td>
<td>100.0%</td>
<td>7 87.5%</td>
</tr>
<tr>
<td>Tools - Machine</td>
<td>25</td>
<td>100.0%</td>
<td>7 28.0%</td>
</tr>
<tr>
<td>Valves and Fittings</td>
<td>12</td>
<td>100.0%</td>
<td>8 66.7%</td>
</tr>
<tr>
<td>Other Lines</td>
<td>37</td>
<td>100.0%</td>
<td>22 59.5%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>220</td>
<td>100.0%</td>
<td>107 48.7%</td>
</tr>
</tbody>
</table>
in the category "Other Lines" in Table 6, especially where the survey data are supported by interview findings, but in general the following material relates largely to the lines listed separately in the table.

The data do not show conclusively that the choice of a major channel of distribution is directly related, in all cases, to the particular product line for which the channel is to be used because there is a strong preference for the factory to distributor channel shown for a majority of the lines. Neither is it indicated that the channel is not related to the specific product line since in some instances the general emphasis on the factory to distributor channel does not appear. Note that less than 30 per cent of the manufacturers' lines in each of the following cases are moved through the factory to distributor major channel: abrasive products, fasteners, mechanical rubber goods, and machine tools.

The fact that in all other cases over 40 per cent of the manufacturers' lines have the factory to distributor major channel points up the basic similarity of the product lines; i.e., they are supply and equipment items sold in markets having similar characteristics and are especially suited to the operations of the industrial distributor.

The reasons behind the relative unimportance of the factory to distributor channel for abrasive products and the other lines mentioned above may be explained on an individual basis. In the case of abrasive products two important segments of the market are considered to be not best served through distributors. The first, and
TABLE

15 Average Margins Allowed Industrial Distributors and Range of Margins Allowed, 17 Product Lines .................................................. 133

16 Average Gross Margins Allowed Distributors on Ten Product Lines with Suggested Resale Prices and Manufacturers' Estimates of Average Gross Margins Earned by Distributors on Ten Product Lines without Suggested Resale Prices ........................................ 139

17 Number of Years Current Margins in Effect, 17 Product Lines, 156 Manufacturers ............................................................... 141

18 Number of Years Current Margin in Effect, 24 Product Lines, by Sales Size of Manufacturer .................................................. 144

19 Number of Years Current Margin in Effect, Regionally Marketed vs. Nationally Marketed Lines .................................................. 146

20 Number of Changes in Margin Allowed Distributors, 20 Product Lines, Period 1945-1960 ......................................................... 147

21 Major Determinants of Margins Allowed Industrial Distributors ............................................................... 155

22 Use of Quantity Discount Pricing to Industrial Distributors, 17 Product Lines, 156 Manufacturers .................................................. 170

23 Use of List and Discount Pricing and Net Price Quotation in Selling to Industrial Distributors, 17 Product Lines, 156 Manufacturers .................................................. 172
most important, of these market segments involves the sale of special-purpose grinding wheels or coated abrasives to producers who require them in large manufacturing operations. A second market segment involves producers of grinding machinery who install the abrasives as original equipment on their products. The number of these buyers is relatively limited. Also, the need for technical service on orders and the large volume sales involved dictate and facilitate the use of the factory to user, sales branch to user, and agent to user channels. It should be noted that where sales branches are used their major volume is sold to distributors rather than to users but a substantial amount of the latter type of sale is usually involved.

Sales to original equipment manufacturers in large volume on a continuing basis accounts for the fact that five of the nine manufacturers of fasteners used either the sales branch to user or the factory to user major channel. When original equipment sales are of lesser importance, the larger proportion of sales as supply items involves the use of the distributor in the major channel. In general the same comments apply to the channel structure for mechanical rubber goods, although, as in the case of abrasive products, the sales branch to distributor channel is more important.

The distributor is extremely important in the final sale of machine tools to the users. However, this line exhibits a greater use than any other of the manufacturers' agent in selling to the distributor. This appears to be attributable to three factors. First, the very small manufacturer who is not capable of developing and
maintaining a factory sales force uses the agent as an economical means of reaching the distributor. Second, for the manufacturer of a single item or small number of items constituting only a limited portion of a line, the manufacturers' agent provides an economical way of contacting the distributor with a full line in direct competition with full-line producers. Third, the agents operating in this field can supply the technical knowledge needed regarding the application of machine tools to the special processes of the user.

It may be noted that the use of the factory to distributor channel is greatest for those lines where original equipment sales and sales of special orders made to customer specification are least important. Hand tools, portable power tools, and valves and fittings are lines shown in Table 6 which illustrate this point particularly well. The opportunities for direct sale to the user of substantial quantities of these items on a regular basis are very limited relative to the large number of small replacement orders constituting the bulk of the market. Portable power tools, of course, require continuing service, but unlike large machinery items the service necessary is not highly technical in nature nor is the dollar volume large. An industrial distributor is in an ideal position to provide such service locally to numerous small accounts.

The hypothesis stated that the use of a particular channel was related to the product line. The data do not provide for conclusive acceptance or rejection of this hypothesis. Actually, it appears that channel usage is in general related to the broad type of product
line. Since the lines included in this study consist of supply, equipment, and machinery items normally handled by industrial distributors as part of their line, the importance of these institutions is reflected in the data for all lines, where factory to distributor was the major channel used for nearly one-half of the total of two hundred twenty manufacturers' product lines. Exceptions to the general pattern, such as those mentioned above, are explained on the basis of particular market characteristics or characteristics of the producer.

Changes and Trends in Major Channels of Distribution

The policy of a specific manufacturer regarding the use of a particular channel of distribution is ordinarily long-run in nature such that once the commitment is made it is expected that the channel will be retained over a considerable number of years and perhaps indefinitely. There are exceptions to the general rule, of course, as when an agent is initially retained with the intent of switching later to the use of a factory salesman when the territory has been built up sufficiently to warrant the change. However, the examination of channel policies in force for any group of products over a period of years would anticipate results exhibiting a pattern of relative stability. This condition would appear to be related to a number of interconnected factors. Not the least among these factors, probably, is that of success as measured by profitable operations. Under such conditions there is little incentive for change, especially since known success with one channel must be compared with
uncertain projections of probable degrees of success that might be achieved with other channels. Thus, uncertainty is also a factor since the risks attendant with failure are so potentially great; i.e., the possibility that a change in channel policy could be utterly ruinous to the firm's total marketing effort.

A number of other important considerations are also involved. The actual dollar costs of building up effective relations with various elements of the channel are great enough to require serious consideration before any decision to change is made. The abandonment of a channel means the abandonment of these sunk costs and any future returns on them. The intangible goodwill of users and middlemen alike may be lost irrevocably. The preponderance of trade custom favoring a particular channel and the general unawareness of available alternatives also may be seen as major factors limiting the frequency with which channel changes are made.

Also, as subsequently shown in Chapter V, channel policies are at the very least major marketing policies formulated by the top echelon of that functional area within the firm. More frequently the channel decision is considered a top corporate policy area requiring the approval of the president of the company. Top level policy of this sort is directed at achieving long-run major organization objectives, and stability is requisite in the policy itself if these objectives are to be met. Finally, therefore, the very nature of channel policies implies a condition where only occasional infrequent adjustment will be undertaken by the individual firm.
Of the total of 221 manufacturers' product lines, twenty-four showed a different major channel of distribution prior to 1945 from that which was currently in use. While this number represents only 10.9 per cent of the sample, it might be considered rather large in view of the preceding discussion. However, one important qualification should be noted. The change in major channel is not always a swift and dramatic one. Rather, it often reflects a gradual transition from one major channel to another with the original dominant channel being retained as a secondary outlet for the manufacturers' product line.

The twenty-four changes were distributed among twelve separate lines of equipment and supplies. These lines included abrasive products, cutting tools, fans and blowers, fasteners, hand tools, materials handling equipment, metalworking accessories, motors, portable power tools, power transmission equipment, pumps and compressors, and valves and fittings. No changes of major channel of distribution were indicated for the remaining twelve lines on which channel information was gathered. This latter group included some of the lines where a relatively large number of responses were received such as machine tools and steel products. Other lines where no changes were indicated and where five or more manufacturers were represented included mechanical rubber goods, precision measuring devices and tools, and safety equipment and supplies.
Considering the fact that the determination of distribution channels involves a policy decision at the top organizational levels, it may be concluded that the number of changes in major channel is indeed significant for the product lines in which the changes occurred, providing a basis for rejection of the hypothesis that the pattern of distribution channels for industrial machinery, equipment, and supplies has not varied significantly since 1945.

However, the available evidence concerning those lines mentioned above where no changes in major channel were indicated over the fifteen year period suggests a degree of stability in the structure of major channels such that the hypothesis is accepted; i.e., there is apparently no tendency toward the adoption of alternative major channels for machine tools, mechanical rubber goods, precision measuring devices and tools, safety equipment and supplies, and steel products. These lines do not exhibit greatly different patterns of channel usage from the other product lines included in the study with the exception of machine tools where manufacturers' agents are involved to a greater degree, on the average, than is the case with the other product lines. Three probable, inter-related explanations for this stability may be inferred. First, as in the case of all lines, detailed analysis including the use of comparative cost studies is not used for the purpose of isolating potential alternatives. Thus, some potential changes may be overlooked for lack of study of the problem. Second, it is doubtful that manufacturers of these lines have encountered any serious administrative problems connected with their use of a
particular major channel such that the search for alternatives would be stimulated. Third, it would seem likely that the nature of the market for each of these product lines has not undergone sufficient change to call for different major channels in order for the individual producers to reach their market effectively. Such changes in the nature of the market would include, for example, shifts in major geographic market areas, change in size and number of users, and changes in the attitudes and purchasing policies of users regarding buying through existing institutional arrangements. It is implicit in the succeeding discussion of the trends in channel usage and the reasons underlying the changes that are made that the changing character of a market may influence strongly the use of a particular channel.

Trends Reflected by Channel Changes

The basic importance of the industrial distributor as an element in the major channels of distribution for industrial machinery, equipment, and supplies has been documented at the outset of this chapter. While most of these relationships between manufacturers and distributor have been in effect for many years, it is important to note that where changes have been made by individual manufacturers since 1945, the trend continues to favor the adoption of distributors as a new element in the major channel of distribution. Of the twenty-four changes reported, twelve, or fifty per cent of the total, involved the addition of the distributor where this institution had not been used before. In no case was the distributor dropped from the major
channel. Of the remaining twelve changes, the distributor had previously been involved and continued to be used, after the change in policy had been made, in five cases. The distributor was retained as the final link with the user with the changes being made in the structure of the channel between the factory and the distributor. These involved, specifically, three changes from "direct from factory to distributor" to "agent to distributor," one change from "agent to distributor" to "direct from factory to distributor," and one change from "direct from factory to distributor" to "through own sales branch to distributor." The balance of seven changes, wherein the distributor was involved neither before nor after, included six adjustments in direct selling from "direct from factory to user" to "through own sales branch to user," and one change from "direct from factory to user" to "agent to user."

Where sales branches were used no changes were reported which showed their use being discontinued. While the principal reason is probably successful operating experience that would preclude any change, it should also be noted that it would be comparatively more difficult to make such a change than would be the case where agents or distributors were dropped because of the relatively large amount of fixed capital involved in a branch system and because of the problem of relocating or terminating the employment of large numbers of sales, administrative, and clerical personnel. The inference, then, is that manufacturers committed to branch distribution do not
possess the flexibility for change that would characterize other channel arrangements.

The reasons given by respondents for having changed their channel policies were fairly consistent within each type of change. The most frequent reason cited for the addition of industrial distributors as the contact with the user was the ability to secure more complete market coverage with distributors. This consideration far outweighed the local inventory factor which was mentioned only twice. One firm gave no reason for having added distributors.

The addition of agents in place of factory sales forces selling direct to the distributor or to the user was made either to secure immediate sales increases through the use of better qualified agents or to improve relations with distributors and users because agents were considered able to provide more product knowledge and market information (presumably leading to increased sales volume in the long run).

Sales branches had been added in all cases (eight in number) to provide regional or local inventories and/or to improve service to users and distributors over what had previously been accomplished with a factory sales force or agents. While these two reasons might also logically be associated with distributors, it was pointed out above that market coverage rather than local stocks or service was most important to users of channels involving distributors.
Summary

The dominant major channel of distribution for the industrial product lines included in this study was direct from factory to industrial distributor. In fact, the industrial distributor was involved in the major channel of distribution for 74.1 per cent of the 220 product lines of 156 manufacturers. In all, however, six distinctly different major channels were used in one degree or another, indicating that for the majority of these product lines there are probably alternatives always available that should be thoroughly considered before a commitment is made.

The sales size of the manufacturer appears to have a strong bearing on the channel chosen for a particular product line. The smallest producers, for example, tended to make greater use of the manufacturers' agent than did larger firms. In fact, no agents were used by firms or divisions with annual sales volume in excess of $10,000,000 annually. Likewise, there was a definite relationship between kind of major channel adopted and both using industry for the product line and the extent of the marketing area for the line.

Within individual product lines the relative importance of particular channels varied rather strikingly in some cases, although in general the patterns of channels used tended to be similar for the broad types of lines included in the categories of machinery, equipment, and supplies.

Changes in major channels since 1945 were concentrated in
# FIGURES

<table>
<thead>
<tr>
<th>FIGURE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Relationship of Fixed and Variable Costs for Two Alternative Channels of Distribution</td>
<td>48</td>
</tr>
<tr>
<td>2. Six Principal Channels of Distribution for Industrial Machinery, Equipment, and Supplies</td>
<td>58</td>
</tr>
</tbody>
</table>
twelve lines, with an equal number of lines indicating no changes at all having occurred. Thus, it would seem that some lines tend to show a much greater pattern of stability than others due to a lack of any pressing reason for change.

The pattern of changes was strongly in favor of the adoption of the distributor, reinforcing the already strong position of that institution in the marketing of the particular lines of products included in this study. The reason most frequently cited for the addition of the distributor to the major channel was the desire of the manufacturer for more complete coverage of his potential market. By way of contrast, agents were selected primarily for their superior knowledge of the class of product as opposed to factory salesmen; and sales branches were established to provide local stocks and to improve service to the user of the product.
CHAPTER V
SECONDARY CHANNELS OF DISTRIBUTION FOR INDUSTRIAL MACHINERY, EQUIPMENT, AND SUPPLIES AND FACTORS ASSOCIATED WITH CHANNEL SELECTION

It may be noted at the outset that the extent of use of secondary channels varies rather sharply by product line in some instances. None of the product lines covered exhibited one hundred per cent adoption of secondary channels by the manufacturers producing the line. In fact, slightly over 37 per cent of the two hundred twenty lines of the one hundred fifty-six manufacturers included in the study were marketed wholly through a single channel. In terms of individual respondents a slightly higher proportion, or 42 per cent, made no use of secondary channels for any of their product lines. This indicates a slight, though hardly significant, tendency for multi-line producers who are using a single channel for one line to do so for all the lines they manufacture.

However, the fact remains that nearly three-fifths of the manufacturers and slightly over three-fifths of their lines were represented in the market by more than one channel of distribution. It is this fact which illustrates the importance of multiple channels in the distribution of industrial machinery, equipment, and supplies.

The Influence of Sales Volume Size On Choice of Secondary Channel

An overview of the data on secondary channel usage, as represented by the "Total" row in Table 7, does not reveal the preponderant preference
for a particular secondary channel that was evident in the data regarding major channels of distribution for these lines of products. It may also be seen from Table 7 that little in the way of a consistent increase or decrease is evident for most of the channels as the size of the respondents' sales volume increases or decreases. In terms of the greatest proportional usage, however, each of the first four sales size classes exhibits a different channel through which the greatest number of company-product-lines is marketed. Thus, for firms or divisions in the under $1,000,000 group, factory to distributor was used slightly more often than factory to user, and together the two channels accounted for 70 per cent of the lines in the group. In the $1,000,000 to $4,999,999 class, agent to distributor was most commonly used, followed rather closely by factory to distributor and sales branch to distributor. Over 72 per cent of the lines of manufacturers in this class which had secondary channels were marketed through the three channels mentioned.

Nearly 60 per cent of the lines of manufacturers in the $5,000,000 to $9,999,999 class using secondary channels were distributed through factory to user and sales branch to user. In the next largest class sales branch to distributor alone represented over one-half of the total of seventeen responses in that group. Of the thirty-one lines marketed by firms or divisions with over $20,000,000 annual volume of sales, nearly one-third used the secondary channel of sales branch to distributor, and a somewhat smaller proportion was distributed through each of factory to user and factory to distributor.

The use of secondary channels involving agents is greatly restricted among manufacturers doing over $10,000,000 worth of business annually.
TABLE 7
Secondary Channels of Distribution for Industrial Machinery, Equipment, and Supplies,
by Sales Volume of Reporting Firm or Division

<table>
<thead>
<tr>
<th>Sales Size of Respondent</th>
<th>Total No. of Manufacturer Responses</th>
<th>Per Cent of Total</th>
<th>Secondary Channel of Distribution</th>
<th>Number of Responses</th>
<th>Percent of Total</th>
<th>Number of Responses</th>
<th>Percent of Total</th>
<th>Number of Responses</th>
<th>Percent of Total</th>
<th>Number of Responses</th>
<th>Percent of Total</th>
<th>Number of Responses</th>
<th>Percent of Total</th>
<th>Number of Responses</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under $1,000,000</td>
<td>30</td>
<td>100.0%</td>
<td>Factory to Distributor</td>
<td>11</td>
<td>36.7%</td>
<td>4</td>
<td>13.3%</td>
<td>10</td>
<td>33.3%</td>
<td>1</td>
<td>3.3%</td>
<td>1</td>
<td>3.3%</td>
<td>3</td>
<td>10.0%</td>
</tr>
<tr>
<td>$1,000-4,999,999</td>
<td>38</td>
<td>100.0</td>
<td>Agent to Distributor</td>
<td>9</td>
<td>23.7%</td>
<td>11</td>
<td>28.9%</td>
<td>2</td>
<td>5.3%</td>
<td>4</td>
<td>10.5%</td>
<td>8</td>
<td>21.1%</td>
<td>4</td>
<td>10.5%</td>
</tr>
<tr>
<td>$5,000-9,999,999</td>
<td>22</td>
<td>100.0</td>
<td>Sales Branch to User</td>
<td>2</td>
<td>13.6%</td>
<td>3</td>
<td>13.6%</td>
<td>3</td>
<td>31.8%</td>
<td>6</td>
<td>27.3%</td>
<td>2</td>
<td>9.1%</td>
<td>1</td>
<td>4.5%</td>
</tr>
<tr>
<td>$10,000-19,999,999</td>
<td>17</td>
<td>100.0</td>
<td>Sales Branch to User</td>
<td>1</td>
<td>17.6%</td>
<td>0</td>
<td>0.0%</td>
<td>2</td>
<td>11.8%</td>
<td>0</td>
<td>0.0%</td>
<td>9</td>
<td>52.9%</td>
<td>3</td>
<td>17.6%</td>
</tr>
<tr>
<td>$20,000-49,999,999</td>
<td>12</td>
<td>100.0</td>
<td>Agent to User</td>
<td>2</td>
<td>16.7%</td>
<td>2</td>
<td>16.7%</td>
<td>3</td>
<td>25.0%</td>
<td>0</td>
<td>0.0%</td>
<td>4</td>
<td>33.3%</td>
<td>1</td>
<td>8.3%</td>
</tr>
<tr>
<td>$50,000-99,999,999</td>
<td>10</td>
<td>100.0</td>
<td>Factory to User</td>
<td>3</td>
<td>30.0%</td>
<td>0</td>
<td>0.0%</td>
<td>3</td>
<td>30.0%</td>
<td>0</td>
<td>0.0%</td>
<td>3</td>
<td>30.0%</td>
<td>1</td>
<td>10.0%</td>
</tr>
<tr>
<td>$100,000, and over</td>
<td>9</td>
<td>100.0</td>
<td>Sales Branch to Distributor</td>
<td>2</td>
<td>22.2%</td>
<td>0</td>
<td>0.0%</td>
<td>3</td>
<td>33.3%</td>
<td>1</td>
<td>11.1%</td>
<td>3</td>
<td>33.3%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Total</td>
<td>138</td>
<td>100.0%</td>
<td></td>
<td>33</td>
<td>23.9%</td>
<td>20</td>
<td>14.5%</td>
<td>30</td>
<td>21.7%</td>
<td>12</td>
<td>8.7%</td>
<td>30</td>
<td>21.7%</td>
<td>13</td>
<td>9.4%</td>
</tr>
</tbody>
</table>
This is also true of the use of the sales branch to user channel, but the reasons for non-use in each case appear to be substantially different. For firms of this size the appearance of manufacturers' agents in secondary channels represents a substantial difference from the pattern of major channels shown in Table 3, page 59. In the latter case, no agents appeared in the major channels of firms doing over $10,000,000 annual business volume. Their use to some extent in the secondary channels, however, demonstrates recognition of a valuable service offered by the manufacturers' agent. That service is the provision of economical representation in markets that cannot be efficiently covered by a full-time factory sales force. Also, it is quite possible that the agent may be employed to secure penetration of a market segment with which he already has contact but which would be difficult to reach through salesmen unknown to the buyers. This type of situation exists in the market consisting of automobile manufacturers. It is sometimes very hard for new salesmen to make effective contact with buyers responsible for purchasing a particular product or product line. For this reason many companies selling to the original equipment manufacturers in large quantities will use manufacturers' agents who already have immediate access to those who make the buying decisions.

A manufacturer, however, would rarely establish sales branches for purposes of handling a minor portion of his sales volume because the expenses of branch operation would ordinarily prohibit it. When employed in secondary channels, sales branches are normally also a part of the major channel of distribution. Thus, many firms having sales branch to user or sales branch to distributor as a major channel would use the alternate for
the secondary channel. Sales branches may also be employed in markets located at some distance from the manufacturing facilities when the major volume is sold through a factory sales force in the prime market areas.

The hypothesis that channel of distribution usage is associated with sales size of the manufacturer is not as clearly supported as in the case of major channels. It is, however, substantially correct in the specific instances of agent to distributor and sales branch to distributor.

The Influence of Extent of Market Area On Choice of Secondary Channel

Table 8 shows that the most used secondary channels for regionally marketed company-product-lines are clearly factory to distributor, factory to user, and sales branch to distributor. Those lines marketed nationally demonstrate no such preference for particular channels. Only sales branch to user and agent to user are represented to a substantially lesser degree than the four other alternatives.

Factory to distributor and factory to user sales are particularly well suited to regional distribution surrounding producing facilities even for relatively small manufacturers since few salesmen would be required for the limited territory. Because of the geographical constraint, the regional marketer appears to be able to employ a factory sales force and prefers this over the use of agents to reach either users or distributors. While products of manufacturers who sell in the broader national market are also frequently sold by factory sales forces, the greater area of distribution also favors the use of the agent to distributor secondary channel.
The sales branch to distributor channel is used substantially for both types of markets, but there is probably an appreciable difference in the number of these establishments involved in each case. A regional seller might employ, for example, one or two branches to service outlying distributors, while the manufacturer distributing nationally may have a considerable number of branches to serve substantially the same purpose.

In general, with reference to the hypothesis relating to this area, it may be said that the use of a specific secondary channel of distribution is associated with the territorial extent of the market.

**Influence of Major Using Industry On Choice Of Secondary Channel**

Choice of a particular secondary channel of distribution is quite pronounced for company-product-lines sold primarily to the extractive and construction industries. In the former case in particular, one-half of these lines sold to the extractive group, for which secondary channels were employed, made use of factory to user. This is undoubtedly due to a particular concentration of the industry close by the manufacturers' plant location. For the construction industry sales branch to distributor provides a means of reaching geographically dispersed distributors who, in turn, supply a large number of accounts, many of them small.

In metalworking and the extremely broad general industry group no special channel is particularly important above other alternatives. This is believed to be due to the more diverse nature of the members of these two groups. A further breakdown of each category might well show preferences for particular channels by specialized types of business operations.

The construction and extractive industry examples tend to illustrate that choice of secondary channel is associated with the major using industry.
### TABLE 8

Secondary Channels of Distribution for Nationally and Regionally Marketed
Industrial Machinery, Equipment, and Supplies

<table>
<thead>
<tr>
<th>Size of Market Area for Product Line</th>
<th>Total No. of Manufacturer Responses</th>
<th>Per Cent of Total</th>
<th>Factory to Distributor</th>
<th>Agent to Distributor</th>
<th>Factory to User</th>
<th>Sales Branch to User</th>
<th>Sales Branch to Distributor</th>
<th>Agent to User</th>
</tr>
</thead>
<tbody>
<tr>
<td>National</td>
<td>105</td>
<td>100.0%</td>
<td>22 (21.0%)</td>
<td>18 (17.1%)</td>
<td>20 (19.0%)</td>
<td>11 (10.5%)</td>
<td>24 (22.9%)</td>
<td>10 (9.5%)</td>
</tr>
<tr>
<td>Regional</td>
<td>29</td>
<td>100.0%</td>
<td>9 (31.0%)</td>
<td>2 (6.9%)</td>
<td>9 (31.0%)</td>
<td>1 (3.5%)</td>
<td>5 (17.2%)</td>
<td>3 (10.3%)</td>
</tr>
<tr>
<td>Market Area Not Reported</td>
<td>4</td>
<td>100.0%</td>
<td>2 (50.0%)</td>
<td>0 (0.0%)</td>
<td>1 (25.0%)</td>
<td>1 (0.0%)</td>
<td>1 (25.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Total</td>
<td>138</td>
<td>100.0%</td>
<td>33 (23.9%)</td>
<td>20 (14.5%)</td>
<td>30 (21.7%)</td>
<td>12 (8.7%)</td>
<td>30 (21.7%)</td>
<td>13 (9.4%)</td>
</tr>
</tbody>
</table>
Influence of Product Line on Choice of Secondary Channel

In Table 9 are shown the summary data on secondary channel usage for specific product lines. In the case of the factory to distributor channel in particular it may be said that the manufacturers of these lines who do not employ this channel for the bulk of their sales do tend to use it as a secondary channel when one is adopted. The reverse is also true, of course, so that factory to distributor, which for most lines is the predominant major channel, is relatively less important as a secondary channel for industrial machinery, equipment, and supplies.

The deemphasis on the role of the factory to distributor channel is reflected in the proportionally greater utilization of the alternatives as secondary channels. The pattern of choice differs somewhat among the individual lines, but it is believed that use of a particular secondary channel is largely predicated upon one particular condition. That is, where a relatively long or indirect channel is used for the major volume of a line, the balance of the volume is sold through a direct channel. Conversely, when direct distribution is the major channel, agents and/or distributors are employed in the secondary channel when one is used. This would be expected as a natural result of the selection of the major channel.

The data in Table 9, while not as clear-cut as in the case of major channels of distribution, do in general support the hypothesis that channel choice is associated with the product line.

Major Factors Associated with Distribution Channel Determination for Selected Product Lines

While the final determination of the distribution channel and of specific outlets within the channel is far from being a unilateral
decision on the part of the manufacturer, the initial survey of feasible alternatives requires some framework of criteria against which the manufacturer may compare different potential channels. It is obvious that no single criterion can alone serve as a basis for decision; instead, a veritable milieu of factors have some bearing on the adequacy of a particular channel for the specific product line of a given manufacturer. The nature of these considerations, along with the characteristics of channel institutions, was the subject of Chapter III of this study.

The essential purpose of the research having been to document and analyze existing channel practices, a full-scale survey into the attitude structure of individual manufacturers regarding channel selection was not undertaken, except where actual interviews were involved. However, in order to secure some information on this area, each manufacturer was asked to indicate, for each of his product lines, the most important factor in choosing a channel of distribution. In this fashion, depending upon their relative frequency of notation by respondents, the general importance of a factor in channel selection for a product line was ascertained.

Relative Importance of Specific Factors to Industrial Machinery, Equipment, and Supplies

Two hundred product line responses were received. No response was received for twenty additional company-product-lines. In the case of the field interviews the full gamut was run with respect to securing manufacturers' statements of all the factors which they felt must be considered in channel policy decisions. The interviews disclosed that