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Industrial Organization: A Proposal for Research

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It is somewhat of an embarrassment to present a paper on the subject of industrial organization at a meeting sponsored by the National Bureau to celebrate its fifty years of service to the economics profession, and to the public at large. That the National Bureau has had an extraordinary—and beneficial—impact on our thinking and work in many areas of economics is something which cannot be disputed. But, and this is the source of my embarrassment, the National Bureau has carried out very little research directly concerned with problems of industrial organization. I should find it difficult to know how to proceed with this paper were it not that I believe that, in the future, the National Bureau ought to conduct much more research in the field of industrial organization. Indeed, it is just the kind of research which the National Bureau handles in so masterly a fashion: the careful collection of detailed information and its assembly to reveal the patterns of economic behavior, which seems to me essential if ever we are to make progress in understanding the forces which determine the organization of industry. So, if I have very little to say about the work of the National Bureau in the past, I am hopeful that what I (and others) have to say on this occasion will result in the National Bureau's conducting such an extensive program of research that those of you who are fortunate enough to attend the centenary celebrations will hear the National Bureau praised by the speakers for its achievements in the field, not of business cycles, but of industrial organization.

This neglect of industrial organization by the National Bureau is not a peculiarity of its own. It is, in large part, a reflection of what has been happening in economic research generally. Very little work is done on the subject of industrial organization at the present time, as I see the subject, since what is commonly dealt with under this heading tells us almost nothing about the organization of industry. You may remember the occasion on which Sherlock Holmes drew Dr. Watson's attention to the "curious incident of the dog in the nighttime." This brought the comment from Watson: "The dog did nothing in the nighttime." Holmes then remarked: "That was the curious incident." I could not help recalling this conversation when contemplating the present state of the subject of industrial organization.

What is curious about the treatment of the problems of industrial organization in economics is that it does not now exist. We all know what is meant by the organization of industry. It describes the way in which the activities undertaken within the economic system are divided up between firms. As we know, some firms embrace many different activities; while for others, the range is narrowly circumscribed. Some firms are large; others, small. Some firms are vertically integrated; others are not. This is the organization of industry or—as it used to be called—the structure of industry. What one would expect to learn from a study of industrial organization would be how industry is organized now, and how this differs from what it was in earlier periods; what forces were operative in bringing about this organization of industry, and how these forces have been changing over time; what the effects would be of proposals to change, through legal action of various kinds, the forms of industrial organization. Such a subject, solidly buttressed by the kind of research the National Bureau does so well, would enable us to appraise the worth of actions, and proposals for action, which have as their aim a modification of the way in which industry is organized.

This description of the organization of industry, which reflects the traditional view of the subject, is however almost certainly too narrow a conception of its scope. Firms are not the only organizations which undertake economic activities. Apart from associations of various sorts and nonprofit organizations (which may, however, be regarded as special kinds of firm), there are also a large number of governmental agencies which undertake economic activities—many of them of great importance. Almost all, if not indeed all, of these economic activities of government—whether it be police protection, garbage collection, the provision of utility services, education or hospitals—are also provided by firms (or other analogous institutions). It should surely be part of the task of studies on industrial organization to describe the economic activities which are performed by governmental agencies, and to explain why the carrying out of these economic activities is divided up between private organizations and governments in the way that it is.[1]

[1] I should like to refer here to an unpublished paper by Victor Fuchs, "Some Notes Toward a Theory of the Organization of Production," which examines this question and makes clear its significance.

Let us now look at how the subject is treated today. I will take as examples two of the most respected books on the subject: Stigler's *Organization of Industry* and Bain's *Industrial Organization.* Stigler has this to say in his first chapter: "Let us start this volume on a higher plane of candor than it will always maintain: there is no such subject as industrial organization. The courses taught under this heading have for their purpose the understanding of the structure and behavior of the industries (goods and service producers) of an economy. These courses deal with the size structure of firms (one or many, 'concentrated' or not), the causes (above all the economies of scale) of this size structure, the effects of concentration on competition, the effects of competition upon prices, investment, innovation, and so on. But this is precisely the content of economic theory—price or resource allocation theory, now often given the unfelicitous name of microeconomics." As to why there are industrial organization courses in addition to those on economic theory, Stigler gives two reasons. The first is that theory courses are very formal in character and cannot go into studies of the empirical measurement of cost curves, concentration, and so forth. The second is that theory courses cannot go into public policy questions, particularly antitrust and regulation; and, as Stigler phrases it, "the course on industrial organization takes on these chores." [2]

Bain tells us that his book's general subject is "the organization and operation of the enterprise sector of a capitalist economy." He describes his approach as "external and behavioristic." He is concerned with "the environmental settings within which enterprises operate and in how they behave in their settings as producers, sellers and buyers." He gives "major emphasis to the relative incidence of competitive and monopolistic tendencies in various industries or markets." [3] What Bain produces is essentially a special sort of price-theory book, dealing with such questions as the effects of concentration and the significance of these supposed effects for antitrust policy. Bain suggests that an interest in what the firm does (its internal operations) is in some sense related to management science, and seems to link this with teaching how businesses ought to be run,[4] although it seems to me that the question could be studied without any such aim in mind. Bain's view of the subject (although not, of course, the way he handles it) is not essen-

[2] George J. Stigler, *The Organization of Industry,* Homewood, Ill., Richard D. Irwin, Inc., 1968, p. 1.

[3] See Joe S. Bain, *Industrial Organization,* New York, John Wiley and Sons, Inc., 1968, p. vii.

[4] *Ibid.*

tially different from that of Stigler. Essentially, both Stigler and Bain consider the subject of industrial organization as applied price-theory. Caves, in his book, *American Industry: Structure, Conduct, Performance,* is even more explicit: "The subject of 'industrial organization' applies the economist's models of price theory to the industries in the world around us." [5]

Industrial organization has become the study of the pricing and output policies of firms, especially in oligopolistic situations (often called a study of market structure, although it has nothing to do with how markets function). It has not helped, of course, that there is no theory of oligopoly or, what comes to the same thing, that there are too many theories of oligopoly. But leaving this problem aside—and without intending to suggest that the questions tackled are unimportant—it is clear that modern economists writing on industrial organization have taken a very narrow view of the scope of their subject.

Now, this was not always the case. If you go to a library, you will find shelves of books written in the 1920's and 1930's dealing in detail with the organization of particular industries. And there was a good deal of more general literature (particularly in the United States) dealing with the problems of what was termed integration, both horizontal and vertical. For example, there was the study published in 1924 by Willard Thorp, *The Integration of Industrial Operations.* And in the Cambridge Economics Series in England, there were such general books as D. H. Robertson's *The Control of Industry,* and Austin Robinson's *The Structure of Competitive Industry.* Earlier, of course, there had been Alfred Marshall's *Industry and Trade* (from which many British treatments took their inspiration). These works varied greatly in their range and treatment, from the discussion of workers' councils by Robertson to the historical account of industrial development by Marshall; from the casual empiricism of the English writers to the detailed statistical investigations of Willard Thorp. But they were all characterized by an interest in how industry was organized, in all its richness and complexity.

It was certainly works such as these which gave me my view of the subject of industrial organization. But what was lacking in the literature, or so I thought, was a theory which would enable us to analyze the determinants of the organization of industry. It was this situation which led me to write, in the early 1930's, my paper, "The Nature of the

[5] See Richard Caves, *American Industry: Structure, Industry, Performance,* Englewood Cliffs, N.J., Prentice-Hall, Inc., 1967, p. 14.

Firm" [6]—an article much cited and little used. This nonuse is not altogether surprising, since the problems that the theory was intended to illuminate have not been of much interest to economists in recent years. But if we are to tackle the problems of industrial organization seriously, a theory is needed.

What determines what a firm does? To answer this question, it is necessary to understand why a firm exists at all, since this gives us a clue as to the direction in which to look in order to uncover what determines what a firm does. In my day as a student (and perhaps this is still true today), the pricing system was presented as an automatic self-regulating system. In Sir Arthur Salter's words: "The normal economic system works itself." The allocation of resources was coordinated by the pricing system. Put as simply as this, it seemed to me then, and it still does, that this description does not fit at all what happens within the firm. A workman does not move from Department Y to Department X, because the price in X has risen enough relative to the price in Y to make the move worthwhile for him. He moves from Y to X because he is ordered to do so.

As D. H. Robertson picturesquely put it, we find "islands of conscious power in this ocean of unconscious cooperation like lumps of butter coagulating in a pail of buttermilk." Outside the firm, price determines the allocation of resources, and their use is coordinated through a series of exchange transactions on the market. Within the firm, these market transactions are eliminated, and the allocation of resources becomes the result of an administrative decision. Why does the firm assume the burden of the costs of establishing and running this administrative structure, when the allocation of resources could be left to the pricing system? The main reason for this occurring is that there are costs that have to be incurred in using the market, and these costs can be avoided by the use of an administrative structure. If transactions are carried out through the market, there are the costs of discovering what the relevant prices are; there are the costs of negotiating and completing a separate contract for each market transaction; and there are other costs, besides. Of course, the firm is attached to the market, and all contracting is not eliminated. But the owner of a factor of production does not have to make a series of contracts with the owners of the other factors of production with whom he is cooperating within the firm.

[6] *Economica,* New Series, 386 (1937). Reprinted in *Readings in Price Theory,* 331 (1952).

The source of the gain from having a firm is that the operation of a market costs something, and that by forming an organization and allowing the allocation of resources to be determined administratively, these costs are saved. But, of course, the firm has to carry out its task at a lower cost than the cost of carrying out the market transactions it supersedes, because it is always possible to revert to the market if the firm fails to do so. And, of course, for the individual firm, the alternative is some other firm which can take over the task if its costs are lower.

The way in which industry is organized is thus dependent on the relation between the costs of carrying out transactions on the market and the costs of organizing the same operations within that firm which can perform this task at the lowest cost. Furthermore, the costs of organizing an activity within any given firm depends on what other activities it is engaged in. A given set of activities will facilitate the carrying out of some activities, but hinder the performance of others. It is these relationships which determine the actual organization of industry. But having said this, how far ahead are we? We know very little about the cost of conducting transactions on the market or what they depend on; we know next to nothing about the effects on costs of different groupings of activities within firms. About all we know is that the working out of these interrelationships leads to a situation in which viable organizations are small in relation to the economic system of which they are a part.

We are, in fact, appallingly ignorant about the forces which determine the organization of industry. We do, it is true, have some idea of why it is that an increase in the activities organized within the firm tends to produce strains within the administrative structure which raise the costs of organizing additional operations (even if similar to those already undertaken): the rise in cost occurs both because the administrative costs themselves rise, and because those making decisions make more mistakes and fail to allocate resources wisely. This is, more or less, the conventional treatment of the management problem in economics.[7] But as firms expand their functions, it seems to me that they are likely to embrace activities which are more widely scattered geographically, and which are, in other ways, more diverse in character. This, I think, must play its part in limiting the expansion of the firm. This is, in fact, a special case of the effect on costs of the combining of different activities

[7] See Oliver E. Williamson, *Corporate Control and Business Behavior,* Chapter 2, "Internal Organization and Limits to Firm Size," Englewood Cliffs, N.J., Prentice-Hall, Inc., 1970, pp. 14–40.

within a single firm—not all of which will be adverse. But the existence of such interrelationships suggests that an efficient distribution of activities between firms would involve particular (and different) groupings of activities within the firms (which is, indeed, what we observe). We would not expect firms to be similar in the range of activities that they embrace; but, so far as I am aware, the distribution of activities between firms is not something on which we have much to say.

Why is it that we seem to have so little to say? In part, it can be explained by the character of the economic analysis which apparently deals with the organization of industry—by which I mean the treatment of the optimum size of the firm and of economies of scale. This analysis, which sounds as if it is dealing with the organization of industry (although it does not), tends to reassure those who might be worried by a more conspicuous gap. It is not difficult to see what is wrong with the theory of the optimum size of firm, as presented in economics. First of all, what is wanted is not a statement about *the* optimum size of the firm (presumably with a different optimum for each industry), but a theory which concerns itself with the optimum distribution of activities, or functions, between firms. Second, the theory of the optimum size of the firm is not about the size of the firm, in the sense of dealing with the activities carried out by the firm, but is concerned with the determination of the size of its output. Moreover, even here, current theory is only concerned with the output of particular products, or a generalized product, and not with the range of products produced by the firm. This last statement is somewhat overbold, since economists may also use value of assets or number of employees to measure the size of the firm—but I am, at any rate, correct in saying that there is very little discussion about what firms actually do.

The discussion of economies of scale is largely concerned with the relation of costs to output (the derivation, in effect, of the cost schedule). Such discussion tells us nothing about the effect on costs of conducting one activity, of undertaking another activity, or about the relative costs to different kinds of firms of undertaking particular activities. Still less does it deal with the extent to which there is "contracting out" as the output of a product (or generalized product) is increased. What has happened is that the character of the analysis in which economists have engaged has not seemed to demand an answer to the questions I have been raising.

I would not, however, wish to omit mention of the one paper which does attempt to deal with these questions, namely, Professor

Stigler's article, "The Division of Labor Is Limited by the Extent of the Market." [8] As we all know, this statement of Adam Smith's, although correct (all of Adam Smith's statements are correct), has caused some perplexity, since it did not seem to be consistent with the existence of competitive conditions. In the course of resolving this problem, Professor Stigler discusses the conditions which lead to the emergence of specialized firms, and which influence the extent of vertical integration. Professor Stigler does not take us very far, but he takes us as far as we have gone.

I have said that the character of the analysis used by economists has tended to conceal the fact that certain problems in industrial organization are not being tackled. But I think there is a much more important reason for this neglect: interest in industrial organization has tended to be associated with the study of monopoly, the control of monopoly, and antitrust policy. This is not a recent development. When in the late nineteenth century, economists came to be interested in problems of industrial organization, they were confronted with the problem of the trust in the United States and the cartel in Germany. It was, therefore, natural that with the development of antitrust policy in the United States, interest in antitrust aspects of industrial organization came to dominate the subject.

This has had its good and its bad effects but, in my opinion, the bad by far outweigh the good. It has, no doubt, raised the morale of many scholars working on problems of industrial organization, because they feel that they are engaged on work which has important policy implications. It has had the salutary result of focusing these scholars' attention on real problems concerning the way in which the economic system operates. It has also led them to utilize some sources of information which might otherwise have been neglected. Still, in other respects, the effects seem to me to have been unfortunate. The desire to be of service to one's fellows is, no doubt, a noble motive, but it is not possible to influence policy if you do not give an answer. It has therefore encouraged men to become economic statesmen—men, that is, who provide answers even when there are no answers. This tendency has discouraged a critical questioning of the data and of the worth of the analysis, leading the many able scholars in this field to tolerate standards of evidence and analysis which, I believe, they would otherwise have rejected. This association with policy—and antitrust policy in particular

[8] See George J. Stigler, footnote 2 above, pp. 129–141.

—gave a direction to the study of industrial organization which prevented certain questions from being raised or, at any rate, made it more difficult to do so. The facts as stated in antitrust cases were accepted as correct (or substantially so). The ways in which the problem was viewed by the lawyers (judges and advocates) were accepted as the ways in which we should approach the problem. The opinions of the judges often became the starting point of the analysis, and an attempt was made to make sense of what they had said. This so tangled the discussion that most economists were, apparently, unaware of having failed. It is true that this is beginning to change, as a result of the work of, among others, Adelman and McGee,[9] but the dominant approach is still, I think, as I have stated it.

One important result of this preoccupation with the monopoly problem is that if an economist finds something—a business practice of one sort or other—that he does not understand, he looks for a monopoly explanation. And as in this field we are very ignorant, the number of ununderstandable practices tends to be rather large, and the reliance on a monopoly explanation, frequent. Of course, more recently, the desire to reduce the burden of taxes has become another way of explaining why businesses adopt the practices they do. In fact, the situation is such that if we ever achieved a system of limited government (and, therefore, low taxation) and the economic system were clearly seen to be competitive, we would have no explanation at all for the way in which the activities performed in the economic system are divided between firms. We would be unable to explain why General Motors was not a dominant factor in the coal industry, or why A & P did not manufacture airplanes.

May I give an illustration taken from a recent article in the *Journal of Law and Economics?* The article is by Professor John L. Peterman, "The Clorox Case and the Television Rate Structures." [10] Procter and Gamble acquired Clorox and the merger was challenged under the antitrust laws. A large part of the case against Procter and Gamble was that they were able to obtain discounts for television advertising of the order of 25 to 30 per cent—discounts which were not available to smaller firms. This led many to the conclusion that this was a manifestation of monopoly in the television industry and an example of price discrimina-

[9] See, for example, Morris A. Adelman, "The A and P Case: A Study in Applied Economic Theory," *Quarterly Journal of Economics* (May, 1949), and John S. McGee, "Predatory Price Cutting: The Standard Oil (N.J.) Case," *Journal of Law and Economics* (October, 1958).

[10] *Journal of Law and Economics* (October, 1968), pp. 321–422.

tion. However, a careful study by Professor Peterman showed that the discount structure was, in fact, designed to compensate for the fact that those who purchased advertising time in the way that Procter and Gamble did, obtained, on the average, worse time (time with a smaller audience). In fact, if the amounts paid were related not to time but to the audience size, the advantages which Procter and Gamble were alleged to have, disappeared.

This is, I think, a common situation. There is some unusual feature —in this case, large discounts. The conclusion is immediately drawn: monopoly. What people do not normally do is inquire whether it may not be the case that the practice in question is a necessary element in bringing about a competitive situation. If this were done, I suspect that a good deal of supposed monopoly would disappear, and competitive conditions would be seen to be more common than is now generally believed. In a similar fashion, vertical integration (let us say, a manufacturer acquiring retail outlets) is often thought of as foreclosure, a means of keeping out other manufacturers, rather than as a possibly more efficient method of distribution. Similarly, mergers tend to be thought of as methods of obtaining monopoly, or are related to the business cycle, and the possibility that they may bring economies, although not ignored, tends to receive less attention.

I have given instances of the way in which the association of the study of industrial organization with antitrust policy has created a disposition to search for monopolistic explanations for all business practices whose justification is not obvious to the meanest intelligence. But, surely, you will ask, economists have not confined themselves to the role of camp followers to the judges and the antitrust lawyers in the Department of Justice and the Federal Trade Commission. The answer is that they have not so confined themselves—but it is questionable whether what else they have done has been more useful. During the last twenty years, a major preoccupation of economists working in what is called industrial organization has been the study of concentration in particular industries and its effects. The effects they looked for were monopolistic, and the way they expected them to be manifested was in higher profits. As it seems to me (and I must confess that this is not a field with which I have great familiarity), the results obtained flattered only to deceive. There was a relationship between concentration and profitability, weak it is true, but, we are told, statistically significant. On theoretical grounds, it was rather puzzling. If the elasticity of supply to the industry was high, or the elasticity of demand for its products was high, one would not expect any relation between concentration and profitability. And if fewness of producers is supposed to bring greater profits as a result of collusion, there are many factors other than fewness of numbers which affect the likelihood of successful collusion. So, it was rather strange that there was any detectable relationship at all. There were other puzzling features of the results, such as that the relationship became worse, the more sharply defined the industry. But, perhaps, we should cease worrying over the significance of these concentration studies. I say this because of an article entitled "The Antitrust Task Force Deconcentration Recommendation," which has recently appeared. (It is a critique of a proposal which took the conclusion of these studies seriously and tried to do something about it.) [11] The author, Professor Brozen, claims that the results achieved in these concentration studies reflect disequilibrium conditions in the periods in which the studies were made. If the calculations are reworked for later periods, high profit rates tend to decline, low rates tend to rise. If the results reported by Professor Brozen hold up after the criticism to which they inevitably (and rightly) will be exposed, there can, I think, be little doubt that this article brings an era to an end. The study of concentration and its effects will be in shambles. Should this really turn out to be the position, the present may well be a good time to pick up the pieces and start again.[12] That some rethinking of our theory is called for seems to me clear. But just as important, at the present stage, would be the gathering in a systematic way of new data on the organization of industry so that we can be better aware of what it is that we must explain.

I should now like to return to the undertaking of economic activities by organizations other than firms and, particularly, by governmental organizations. Somewhat surprisingly, this is not a subject with which economists have been much concerned. Insofar as they have considered this topic, it was as part of a discussion of what the government *ought* to do, whether by taxation, regulation, or operation, to improve the working of the economic system; of these three policies, the least attention has been given to government operation. In any case, the discussion had two weaknesses. First, no serious investigation was made of how

[11] *Journal of Law and Economics* (October, 1970), pp. 279–292.

[12] It has been suggested to me that the lack of any significant relationship between concentration and profitability does not imply that there may be a significant relationship between concentration and other aspects of industrial organization. This may well be true. However, I doubt whether we will understand the reasons for these relationships until we make a direct attack on the problem.

the policies advocated would work out in practice. To justify government action, it was enough to show that the "market"—or perhaps more accurately, private enterprise—failed to achieve the optimum. That the results of the government action proposed might also fall short of the optimum was little explored, and in consequence, the conclusions reached have little value for appraising public policy.

The discussion, however, has a further weakness which is more relevant to my main theme here. It seems to have been implicitly assumed that the same considerations which led welfare economists to see the need for govenment action would also motivate those whose active support was required to bring about the political changes necessary to implement these policy recommendations. In this, we are wiser than we were, in large part because of the new "economic theory of politics." We are beginning to perceive the nature of the forces which bring about changes in the law—and there is no necessary relationship between the strength of forces favoring such changes and the gain from such changes as seen by economists. It suggests that economists interested in promoting particular economic policies should investigate the framework of our political system to discover what modifications in it are required if their economic policies are to be adopted, and should count in the cost of these political changes. This presupposes that the relationship between the character of the political institutions and the adoption of a particular economic policy—in our case, government operation of industry—has been discovered. We do not know much about these relationships, but uncovering them seems to me a task to be assumed by students of industrial organization. It is easy to observe that the extent of government participation in industry has varied over time, has varied between industries, and has varied between various geographical areas. I have no doubt that as a result of research on this aspect of industrial organization, the factors which have contributed to these differences will be uncovered. It is my hope that the National Bureau will participate in this work.

I have suggested that what is wanted is a large-scale systematic study of the organization of industry in the United States. I have also suggested that this would yield best results if conducted in an atmosphere in which the scientific spirit is not contaminated by a desire (or felt obligation) to find quick solutions to difficult policy issues. Where else could such conditions of scientific purity be found than in the National Bureau? This proposal for more research is founded on my belief that it is unlikely that we shall see significant advances in our theory of the organization of industry until we know more about what it is that we must explain. An inspired theoretician might do as well without such empirical work, but my own feeling is that the inspiration is most likely to come through the stimulus provided by the patterns, puzzles, and anomalies revealed by systematic data-gathering, particularly when the prime need is to break our existing habits of thought.

I said that the National Bureau had done very little in the field of industrial organization. But the subject has not been completely ignored and, as Professor Stigler has indicated (no doubt correctly), there is much to be learnt about industrial organization in National Bureau studies on finance, taxation, and technological advances.[13] But there are works sponsored by the National Bureau which deal squarely with industrial organization, and I should say something about them. That they are works of high scholarship, dealing with topics of great importance, is not in dispute; but, given the present state of the discipline, it is hardly surprising that these works should have ignored, or touched only lightly upon, certain issues, or that the treatment was, in other respects, incomplete.

The chief works published by the National Bureau on industrial organization would seem to be: Solomon Fabricant, *The Trend of Government Activity in the United States Since 1900;* Ralph L. Nelson, *Merger Movements in American Industry;* and Michael Gort, *Diversification and Integration in American Industry.*

I will first say something about Professor Fabricant's work, since it deals with government activity, an aspect of industrial organization which seems to me to have been somewhat neglected. This book does not confine itself to questions of public finance or regulation, which is important, revealing as it does an interest on the part of the National Bureau in the role of government as an organizer of economic activity. The discussion is, however, largely concerned with analyzing the composition of government employment and expenditures, with relating these to the totals for the economy as a whole, with discovering trends in the aggregates, and with similar questions. Of itself, the study does not throw much light on the factors which cause the government to operate economic enterprises, but it does provide a good deal of data which would be useful in an investigation which had this as its aim. I would hope that in some future study, the National Bureau will collect detailed informa-

[13] See George J. Stigler, Foreword to Michael Gort's book, *Diversification and Integration in American Industry*, New York, National Bureau of Economic Research, 1962, p. xxi.

tion about government operations in such a form that, as a result of analysis, we will discover the factors which cause government operation to be chosen as against other methods of economic organization. In this connection, I would hope that the National Bureau makes a study of government contracting, since the question at issue is not simply one of government versus private enterprise, but also of government operation versus "contracting out" for products and services which the government itself demands.

Next, let us consider the books of Professors Nelson and Gort, which deal with problems of industrial organization of a more traditional kind. Professor Nelson's impressive work is mainly concerned with the development of time series for mergers in the United States; with relating merger movements to business cycles; and with testing, insofar as his data allow this, the main explanations advanced to account for the variations in merger activity. Professor Nelson does not give many details of the kind of organization created by the mergers (the kind of activities that were brought together within the same organization), nor does he deal with what happened after the merger was consummated. As a consequence, we are not able to judge what the role of the various merger movements was in shaping the industrial structure of the United States, or how far they were a response to fundamental changes which required such modifications in organization to promote efficiency. All this, I may add, is recognized by Professor Nelson, who concludes: "The important and interesting job of producing answers remains to be done." [14]

Of the three works that I have mentioned, that by Professor Gort comes closest to what I have in mind when I speak of the research on industrial organization that we need today. Professor Gort does deal with the question of the range of activities organized within the firm, and there can be few problems of importance in industrial organization on which he does not touch. However, Professor Gort abandoned the more straightforward methods of earlier investigators, such as Willard Thorp. He makes the central theme of his book a study of diversification. He measures trends in diversification, and seeks to discover the economic characteristics of diversifying firms, and of the industries entered by diversifying firms. Degrees of diversification are not, however, easy to define or to measure, and the results which Professor Gort presents are

[14] See Ralph L. Nelson, *Merger Movements in American Industry*, New York, National Bureau of Economic Research, 1959, p. 126.

difficult to interpret without knowledge of the underlying industrial structure. An approach to the organization of industry via a study of diversification is not without interest, but it presents a strange first step. It is as if we started an investigation of eating habits by measuring the degree of diversification in the foods consumed by each individual, rather than by discovering what the patterns of food consumption actually are.

In my view, what is wanted in industrial organization is a direct approach to the problem. This would concentrate on what activities firms undertake, and would endeavor to discover the characteristics of the groupings of activities within firms. Which activities tend to be associated and which do not? The answer may well differ for different kinds of firm; for example, for firms of different size, or for those with a different corporate structure, or for firms in different industries. It is not possible to forecast what will prove to be of importance before such an investigation is carried out; which is, of course, why it is needed. In addition to studying what happens within firms, studies should also be made of the contractual arrangements between firms (long-term contracts, leasing, licensing arrangements of various kinds including franchising, and so on), since market arrangements are the alternative to organization within the firm. The study of mergers should be extended so that it becomes an integral part of the main subject. In addition to a study of the effects of the rearrangement of functions between firms through mergers, we also ought to take into account "dismergers" (the breaking up of firms); the transfer of departments or divisions between firms; the taking on of new activities and the abandonment of old activities; and also —which tends to be forgotten—the emergence of new firms.

Studies such as those I have just outlined would bring under review the whole of the organization of industry in the United States, and would put us in a position to start the long and difficult task of discovering what the forces are which shape it. It is my hope that the National Bureau will play a major role in bringing about this renaissance in the study of industrial organization.