

This PDF is a selection from an out-of-print volume from the National Bureau of Economic Research

Volume Title: Diversification and Integration in American Industry

Volume Author/Editor: Michael Gort

Volume Publisher: Greenwood Press

Volume ISBN: 0313-32442-5

Volume URL: <http://www.nber.org/books/gort62-1>

Publication Date: 1962

Chapter Title: Introduction to "Diversification and Integration in American Industry"

Chapter Author: Michael Gort

Chapter URL: <http://www.nber.org/chapters/c1933>

Chapter pages in book: (p. 3 - 7)

**DIVERSIFICATION AND INTEGRATION
IN AMERICAN INDUSTRY**

CHAPTER 1

Introduction

ENTERPRISES that produce diverse goods and services are not a recent phenomenon. In the early sixteenth century, the firm of Jakob Fugger II was engaged on a large scale in mining, real estate, banking, and the spice trades; and the famous trading companies, such as the British East India Company in the eighteenth century, embraced a vast range of activities. More recently, large American manufacturing firms had fairly varied product structures at the outset of the period covered by this study, 1929. In the 1950's there was some acceleration for these firms in the trend toward product diversification, but the basic phenomenon is of long standing.

Let us say that the primary industry of a company is one which accounts for more of a firm's output, or payrolls, than any other activity in which the firm is engaged. The greater the volume of output or payrolls within the primary industry relative to that outside it, the less diversified is the firm.¹ Thus for large firms the movement toward more diversified product structures can be placed in perspective by the fact that for 111 of the largest manufacturing companies the average ratio of payrolls within the primary industry to total manufacturing payrolls declined from 69 per cent in 1947 to 64 per cent in 1954. It is clear that this change did not radically transform the structure of the 111 firms. On the other hand, if the same rate of change continues, the cumulative effect over a longer period of time should prove substantial.

What are the consequences of diversification? These can be examined both for the individual firm and the economy as a whole. For the individual firm, one of the most important results is that its long-run growth becomes less dependent on the trend in demand for products within its primary industry. Thus the link between the fate of firms and the rise and decline of particular industries is—at least partially—severed. In addition, diversification increases the range of a firm's investment opportunities, since it permits a company to take advantage of the more profitable opportunities in sectors of the economy in which it has previously had no activities. However, as evidenced by the record of product abandonments (described later), firms sometimes diversify into markets in which they are unable to survive.

From the standpoint of the effects of diversification on the economy, the reduced dependence of firms on growth in demand in their primary industries has the effect of reducing changes in the composition of leading

¹ Alternative definitions of diversification are discussed in Chapter 2.

INTRODUCTION

firms. An important source of these changes is the rise and decline of particular industries. The broadening of the investment horizon of individual firms is also likely to increase the sensitivity of capital flows to differences in profit rates between industries. To the extent that a wider range of investment projects is examined, capital funds generated in one sector of the economy are rendered more likely to move into other sectors where investment opportunities are more attractive. An increase in the heterogeneity of the output of firms also tends to reduce those differences in the profit experience of firms that arise from the varying profitability of their primary industries.

Diversification diminishes the effect of adverse circumstances in one of a firm's activities on the firm's total performance. Thus it reduces the risks associated with unpredictable changes in the profitability of particular industries. The effectiveness of diversification as a countercyclical device, however, largely depends upon the cyclical stability of industries into which firms diversify. Since peaks and troughs in demand for several products normally will not coincide perfectly, a random selection of products for diversification will, on the average, tend to reduce the amplitude of fluctuations in sales. However, entry of a firm based in a stable industry into a cyclically volatile one may destabilize the firm's total sales. Our data show that firms did not systematically select the more stable industries as outlets for diversification.

This study shows that companies have diversified largely into industries characterized by rapid technological change. Entry into many of these industries requires substantial amounts of capital—a fact which frequently constitutes a barrier to newly formed firms. Thus it seems plausible that diversification by large firms has facilitated the flow of capital into these industries and in this way contributed to the latter's growth. Many instances of diversification have been initiated through merger. The acquisition of existing property in an industry does not in itself change the volume of resources therein; it merely alters the combination of properties under common ownership. However, mergers and purchases of property frequently initiate further subsequent expansion in the newly entered industries.

Many instances of diversification involved entry into industries in which a few firms accounted for a large proportion of total output and sales. Frequently, the new entrant grew to relatively large size, and in a significant proportion of these industries, the entering firm became a leading producer. Thus, to the extent that entry and growth were accomplished by means other than merger, diversification has proved to be an important source of new competition.

INTRODUCTION

In the 1929-54 period, the overwhelming majority of increases in number of products produced by a sample of 111 companies can be characterized as diversification. However, there were also frequent occurrences of integration—that is, the production of goods or services that are merely stages in the output of common final products. The effects of integration, important though they may be, are harder to assess than those of diversification. This is because the effects hinge upon a wide range of special circumstances. For example, the acquisition of sources of raw materials or of distribution facilities may render possible more orderly planning of production and a consequent reduction in costs. On the other hand, these advantages may be offset by possible diseconomies resulting from entry into activities in which the firm has had no previous experience.

The most widely discussed effects of integration are those upon competition. While a discussion of this subject is largely outside the scope of the present study, it may be noted briefly that these effects vary greatly with circumstances. Generally, if integration leads to substantial control of scarce resources by a few producers, entry into industries employing these resources is rendered more difficult. Competition, actual or potential, may thus be reduced. Without control over scarce resources the effects of integration on competition are difficult to predict and, doubtless, are frequently negligible. There is also some discussion in theoretical literature of the effect of integration on final prices when competition is absent at each of several successive stages of production. However, even under this highly restrictive assumption, there has been no general agreement about probable effects.

The demand for goods and services at each of several stages of production must ultimately depend upon the demand for the final product, and hence will fluctuate in response to fluctuations for the latter. Thus integration cannot reduce the instability in a firm's earnings by generating offsetting increases in sales for random or cyclical contractions in primary industry demand. Exceptions, however, may arise if alternative markets exist for component or auxiliary goods and services. Moreover, special circumstances can alter the consequences of integration for the problem of instability. For example, if all marketing outlets were owned by competing producers, a manufacturer who did not own marketing outlets would be in a weak competitive position during periods of falling demand and widespread excess capacity in the industry. As another aspect of the relation of integration to instability in demand, the acquisition of supplies of raw materials may protect a manufacturer against rapid rises in raw-materials prices during periods of peak demand. On the other hand, it

INTRODUCTION

deprives him of the opportunity to shift backward, in the form of lower prices for raw materials, the effects of temporary declines in demand for final products.

Integration is sometimes undertaken simply as an investment outlet for accumulated business savings. In this respect, the data show that the more integrated firms tend to diversify less than those with a smaller volume of integration activities. Thus, integration appears to compete with diversification for capital or managerial resources.

Except for the work of Thorp and Crowder,² studies of diversification and integration have concentrated largely on individual industries. Both the data used and the focus of Thorp's and Crowder's work differ materially from ours. Their data relate entirely to single points in time; in contrast, a substantial part of our information concerns changes over time. A major effort in the work of both Thorp and Crowder is devoted to developing a detailed breakdown of the nature of relations between products found under common ownership. In our own analysis, most of these are subsumed in the categories of technical propinquity and integration.³ The primary focus of our work, apart from measuring trends in diversification, was that of defining two sets of relationships. First, what are the economic characteristics of diversifying firms? Second, what are the economic characteristics of industries that are frequently entered by diversifying firms?

A rapidly growing industry tends to attract resources from existing firms based primarily in other sectors of the economy as well as from new firms or from those within the industry. This result is supported by the relatively high growth of most industries used as diversification outlets by our sample of firms. Also, in most instances, firms diversified into industries with a higher growth rate than that of their primary activities. Thus capital funds generally moved from the less to the more rapidly growing sectors of the economy. The most decisive influence in the choice of an industry as a diversification outlet, however, was not its growth rate but its rate of technological change. Diversifying activities were heavily concentrated in industries associated with rapidly changing technologies. These industries usually require highly specialized managerial and technical skills. In consequence, firms that employed in their main activities a relatively large number of technical personnel were in a stronger position

² Willard L. Thorp, *The Integration of Industrial Operations*, U.S. Bureau of the Census, 1924; Walter F. Crowder, *The Integration of Manufacturing Operations*, U.S. Temporary National Economic Committee, Monograph Number 27, 1941.

³ However, our categories and those of Thorp and Crowder do not altogether overlap. For example, we have attempted to deal with a class of technical propinquity not examined in the two earlier studies—namely, that of common technical and managerial skills required for two or more products.

INTRODUCTION

to enter industries that had proved most attractive as diversification outlets, and thus diversified more frequently than other firms.

For reasons indicated in Chapter 8, it is easier for a firm to grow faster than industry demand in an industry in which all sellers are small than in one in which the leading firms account for a large proportion of total sales. In consequence, firms whose managers seek rapid growth will be more prone to diversify if their primary activities are in industries with a relatively high degree of large-seller dominance. The data show that the degree of large-seller dominance⁴ in a firm's primary industry was positively associated with the extent to which the firm diversified.

In the twenty-five years from 1929 to 1954, the trend for large manufacturing firms was unmistakably in the direction of more diversification. This trend proceeded at a somewhat higher annual rate in the 1930's than in the 1940's, but appeared to accelerate again in the 1950's. However, it cannot be firmly established from our data that firms in manufacturing as a whole became more diversified on the average, as it is possible that greater diversification for existing companies was offset by entry of new single-industry firms into manufacturing.

In manufacturing, all measures of diversification point to a strong relation between a manufacturing firm's primary industry and the extent to which it diversifies in manufacturing operations. (For example, firms primarily based in the electrical machinery industry diversified far more than those based in tobacco or food products.) On the other hand, the frequency with which manufacturing firms entered into *nonmanufacturing* activities was independent of their primary industries.

Size of firm played a somewhat surprising role in diversification. It was positively related to one measure of diversification—the number of industries in which companies maintained activities; however, it was not related to another measure, namely, the relative magnitude of nonprimary activities.⁵ Size of firm showed little relation to measures of integration. Of importance also is the fact that the ratio of a company's administrative employees to its other employees was no greater for the larger than for the smaller firms. (Indeed, when certain statistical biases are considered, the data are not inconsistent with a hypothesis of a negative relation between size of firm and relative number of administrative employees.) This conflicts with a widely held belief that as a firm grows, it incurs diseconomies arising from increasing administrative costs.

⁴ Large-seller dominance was measured by the proportion of total shipments contributed by the leading four producers.

⁵ The relative magnitude of nonprimary activities was measured by the ratio of employment in these activities to that in the primary ones.