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Mergers, Diversification, and Growth of Large Firms: 1948--1965

Raymond Piccini

MERGERS, DIVERSIFICATION, AND THE GROWTH OF LARGE FIRMS: 1948-1965†

RAYMOND PICCINI*

Economists have long shown substantial interest in corporate mergers and their ramifications. Their interest dates back to the first major merger movement which occurred from approximately 1887 to 1905. Since that time we have experienced two periods of heightened merger activity: the 1920's and the period since World War II. The basic purpose of this paper is to supplement our knowledge of the postwar period.

That the years under study witnessed a significant wave of corporate mergers can hardly be disputed. According to figures compiled by the Federal Trade Commission (FTC), the number of mergers and acquisitions (absorptions of whole companies, subsidiaries, or divisions) in the manufacturing and mining sectors of industry, after dropping sharply from about 400 in 1947 to one hundred in 1949, increased steadily to more than one thousand in 1965.[1] Concurrently, government officials, academicians, and the general public exhibited greater awareness and interest in corporate mergers. In particular, there has been greater concern about those mergers in which very large firms participated, inasmuch as many feel that these firms have attained undesirable amounts of "economic power." The first objective of this paper then, is to provide some quantitative measures of the extent to which large industrial corporations grew by merger during the postwar period.

The three merger movements have differed in direction as well as extent. The "turn of the century" movement of course was of the greatest magnitude and consequence for it created a much higher degree of industrial concentration than had existed previously. The direction of merger activity was for the most part horizontal — the movement was marked by the formation of the great industrial combinations or trusts. Jesse Markham notes that 71 of these early combinations obtained at least 40 percent control over their respective markets.[2] Observers of the period are in substantial agreement that the prospect of monopoly power was a major motive for

† This paper is based upon my recently completed unpublished doctoral dissertation entitled *An Analysis of the Merger Activity of Large Industrial Firms: 1948-1965* (Columbia University). This source contains more detailed information on the merger programs of the one hundred corporations sampled (including sources, measurement procedures, and a complete list of acquisitions and disposals) than could be included here.

* B.A., Hofstra University, 1962; Ph.D., Columbia University, 1970.

1 *See Hearings on the Status and Future of Small Business Before the Senate Select Comm. on Small Business*, 90th Cong., 1st Sess., at 489 (1967).

2 Markham, *Survey of the Evidence and Findings on Mergers*, in BUSINESS CONCENTRATION AND PRICE POLICY 161 (Nat'l Bureau Econ. Research ed. 1955).

many of these mergers. After a detailed study of the movement, Ralph Nelson summarized it as follows:

> In many respects it was the most important of the major merger waves. It transformed many industries, formerly characterized by many small and medium-sized firms, into those in which one or a few very large enterprises occupied leading positions. It laid the foundation for the industrial structure that has characterized most of American industry in the twentieth century.[3]

Although the merger wave of the 1920's exceeded the first movement in numbers, the total assets involved in mergers, when measured relative to the size of the economy, were far smaller during the 1920's. The mergers of the period did not result in huge amalgamations which would clearly dominate their respective industries, as had the earlier movement. Rather, the most notable merger programs were undertaken by firms which, although not the largest in their industries, were among the top few. George Stigler has seen the dominant pattern in the movement as the transformation of near-monopolies into oligopolies, as the already dominant firms were relatively inactive in the merger sphere, while firms just beneath the industry leaders engaged in substantial merger activities of their own.[4]

After carefully examining the evidence, Markham finds that while mergers in the 1920's did produce oligopoly in a few industries, the bulk of merger activity was not of this sort. The circumstances recurring in merger situations were quite diverse, permitting no broad generalization about a single pervasive direction or motivation for mergers. Markham states:

> [A] large portion of mergers formed in the 1920's brought together firms producing totally different lines of products, the same products in non-competing territories, or firms engaged in different stages of fabrication. They contributed to a concomitant increase in concentration of control of assets, but it is much less certain that, on balance, they measurably affected monopoly power in specific market areas.[5]

The postwar merger movement has been characterized by the "conglomerate" form of growth (a combination of firms in seemingly unrelated fields). A handful of firms whose main activity seems to be the absorption of dissimilar firms have generated abundant publicity. Consequently, without much empirical analysis, the view that mergers during this period typically have been entered into for the purpose of diversification has gained considerable acceptance. The second goal of this study is to ascertain the importance of diversification as a motive for merger across a more general and representative sample of industrial firms.

We have examined the merger activity of one hundred large industrial

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[3] R. NELSON, MERGER MOVEMENTS IN AMERICAN INDUSTRY, 1865-1956, at 5 (1959).
[4] Stigler, *Monopoly and Oligopoly by Merger*, AM. ECON. REV., May 1950, at 23.
[5] Markham, *supra* note 2, at 171.

firms, drawn at random from a composite list of the 300 firms with the greatest total assets in 1948, excluding those that were themselves acquired by other firms between 1948 and 1965, and the 300 largest in 1965 (see Appendix).[6] It should be noted that: (a) such firms comprise a very important segment of the industrial community; (b) mergers in which they engage are naturally of greater interest and significance than those of smaller firms; and (c) adequate data for such firms are available.

THE CONCEPTS OF INTERNAL AND EXTERNAL GROWTH

For purposes of this study, by the term "merger" we mean all those arrangements by which formerly independently controlled business units are brought together under the control of a single management. Thus defined, merger principally includes: (a) the formation of a new firm through the combination of two or more already existing firms; (b) the acquisition by a firm, which retains its identity, of all the stock or assets of a second firm; (c) the acquisition by a firm of 50 percent or more of the voting stock of a second firm; and (d) the acquisition by a firm of a subsidiary, division, or substanial operating unit of one or more other firms, or the acquisition of a majority ownership in such a subsidiary.

It should be noted that most of the transactions included in this study are not mergers in the legal sense. A statutory merger involves the combination of two or more firms, with one of the former independent firms as the continuing entity, in accordance with the legal procedures of the state or states of incorporation of the merging companies. Most transactions which pass control of a company from one group of individuals to another involve the formation of a parent-subsidiary relationship, rather than statutory merger. If one company acquires majority ownership of another, it will be able to elect the board of directors of the second company, and hence determine its policies. The parent and subsidiary can act as one economic unit, even though this unit is technically composed of separate legal entities. An independent source of economic decision-making ceases

6 The sample of firms was drawn from two sources: FTC, A LIST OF 1,000 LARGE MANUFACTURING COMPANIES, THEIR SUBSIDIARIES AND AFFILIATES, 1948 (1951), and *The Fortune Directory*, FORTUNE, July 1965, at 149. Inasmuch as we are concerned with ascertaining the relative extent of growth by merger, it is desirable to work with a sample of firms unbiased with respect to the proportion of total growth which was due to merger. If the sample were chosen from the list of largest firms in 1965, some firms, which were among the largest in 1948 but had since grown relatively slowly, systematically would be excluded. Inasmuch as merger is an important form of growth, such firms probably would have a relatively small amount of merger in the years preceding 1965. Hence, in analyzing the period we would be working with a sample which was biased in the direction of having a disproportionate number of firms with relatively high amounts of merger. Similarly, a sample drawn from the largest firms in 1948 would exclude firms which entered the list of largest firms after 1948. Such firms would probably have relatively high amounts of merger after 1948. Therefore, our sample would be biased in the direction of containing a disproportionate number of firms with relatively low external growth. By drawing the sample from a list of firms which were either among the largest in the beginning or terminal year or both, we avoid this difficulty.

to exist, with control over the uses of the acquired company's assets passed to the management group of the acquiring company. Inasmuch as we are concerned with the growth of firms in terms of their control over assets, no valid reason appears for distinguishing between such acquisitions and those acquisitions in which the steps for statutory merger have been taken.

Of course, it is quite possible for one firm to have less than 50 percent ownership of another firm and yet exercise a determining influence over its policies. This may well be the case when the ownership of the remainder of the stock is widely dispersed. We have decided upon the criterion of at least 50 percent ownership as constituting effective control, simply because it would be impossible in most cases to determine whether effective control existed when there was less than a majority ownership. For example, 25 percent ownership might constitute effective control in one case; while in another, the holder of 25 percent of the outstanding stock would merely be an important stockholder without the ability to determine policy. Inasmuch as the acquisition of majority ownership necessarily involves control, we have classified all such transactions as mergers. The terms "merger" and "acquisition" are used interchangeably to denote such transactions.

A firm's external growth then, is measured by the total assets added through merger minus the asset value of sales of subsidiaries, divisions, or substantial operating units.[7] (Sales are treated symmetrically, *i.e.*, as negative external growth.) Internal growth is the residual, the difference between total growth and external growth.

The use of total assets as the measure of growth is defensible on a practical basis, most mergers being stated in terms of total assets, and on a theoretical basis, inasmuch as total assets are a measure of all the resources of the firm regardless of their composition. Alternative measures such as net worth, tangible assets, or physical assets are deficient in that they do not provide a measure of the over-all contribution of an acquired firm to the size of the acquireror. That is, since firms with the same volume of assets might have their assets in different forms or have different debt to equity ratios, use of any of these alternative measures would give an inaccurate picture of an acquired firm's total contribution to the size of the acquiring firm.

The Classification of Growth Subsequent to Mergers

This procedure for measuring the two components of growth classifies all growth subsequent to a merger as internal growth, although, of course, some part of the subsequent growth may be attributable to the assets acquired in the merger. Procedures based upon assumptions about the contribution of acquired assets to company growth in later years conceivably

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[7] Our basic procedure has been to record the total consideration paid for an acquiree as positive external growth for the acquiring firm and to record the total consideration received from the sale of properties as negative external growth.

could be employed. For example, it might be assumed that the acquired firm would have grown independently at the same rate as its industry, and that therefore the growth of the acquiring firm properly attributable to the merger should include this pro-rated growth as well as the assets at the time of merger.[8] However, such procedures are difficult to apply in the case of a firm that has acquired many firms over a long time span, and also are based on quite arbitrary assumptions. As J. Fred Weston, whose study on the contribution of merger to the growth of large firms (discussed below) forms a background for the present study, observed:

> The direct and immediate effects of mergers on the assets of the acquiring firms may be measured or estimated. However, the effects of a merger on the subsequent growth of a firm may vary widely. . . .
>
> Concerning . . . the indirect as well as the direct effects of mergers on the growth of individual firms — it is difficult to make dependable measurements. In a specific firm or for the economy as a whole, mergers may have had either positive or negative effects on subsequent growth. Consequently, our data on the relative extent of external and internal growth in the development of firms may either understate or overstate the combined direct and indirect effect of mergers.[9]

While a procedure which measures only the direct effects of acquisitions on the growth of firms may either understate or overstate external growth, the bias is probably in the direction of an understatement of external growth. In most cases the growth of a firm after an acquisition is aided by a (positive) contribution from the operation of the acquired properties. However, as Weston points out, in some instances firms would have grown more rapidly without the addition of some acquired properties. Some mergers are unsuccessful and actually have a negative effect on subsequent growth. Inasmuch as we cannot know how a firm would have grown if it had not entered into a merger, we cannot determine the over-all effect of an acquisition. Although we suspect that mergers generally have had positive effects on subsequent growth and that our procedure, which measures only the direct effects of mergers, therefore may understate the contribution of mergers to the growth of firms, we have not employed any procedure which attempts to measure indirect effects because any such procedure would be based on unverifiable assumptions.

The Role of External Growth in the Expansion of Firms

During the 1948-1965 period the hundred firms covered by our study made 1,149 acquisitions totaling $10.38 billion in asset values. There were 131 sales of subsidiaries, divisions, or significant operating units accounting

[8] Another assumption might be that the acquired firm, if left independent, would have grown at the same rate as the acquiring firm after the actual merger.

[9] J. Weston, The Role of Mergers in the Growth of Large Firms 8 (1953). For further justification of this procedure, see *Hearings on S. Res. 61 Before the Subcomm. on Antitrust and Monopoly of the Senate Comm. on the Judiciary*, 84th Cong., 1st Sess., at 430-31 (1955) (testimony of J. Weston).

for $1.20 billion in assets. Thus, net external growth was $9.18 billion, or 11.1 percent of the combined asset growth of $82.84 billion (see Table I below).

Table I presents the time distribution of acquisitions and external growth.

TABLE I
TIME DISTRIBUTION OF COMBINED GROWTH OF 100 FIRMS: 1948-1965

Year	Growth in Total Assets ($ billions)	Number of Acquisitions	Total External Growth ($ billions)	External Growth as Percentage of Total Growth (percents)[a]
1948	3.88	32	.15	3.9
1949	1.04	9	.04	4.0
1950	3.91	31	.07	1.9
1951	5.31	41	.23	4.4
1952	3.03	34	.10	3.2
1953	3.22	46	.21	6.6
1954	3.24	60	.35	10.9
1955	6.26	72	.47	7.5
1956	4.35	71	.86	19.7
1957	5.72	54	1.00	17.4
1958	2.89	57	.30	10.5
1959	5.03	88	.70	13.9
1960	4.33	85	.78	18.0
1961	4.88	99	.98	20.0
1962	5.08	70	.45	8.8
1963	3.87	92	.79	20.5
1964	8.94	99	.68	7.6
1965	7.85	109	1.00	12.9
TOTALS[a]	82.84	1,149	9.18	11.1

[a] Figures for "totals" and "external growth as a percentage of total growth" may be off due to rounding.

Compared with the later years of the study, the first eight years comprised a period of fairly light external growth. During the 1948-1955 period there were 325 acquisitions which accounted for 28.3 percent of the total 1,149 acquisitions made during the entire 18 year period. However, the total external growth for these 8 years represents only 17.8 percent of the total external growth for all 18 years. A pivotal point was reached when the annual figure for external growth as a portion of total growth leaped from 7.5 percent in 1955 to 19.7 percent in 1956, after which the annual percentage remained higher than the 5.3 percent annual average for the first 8 years. The average yearly number of acquisitions during the last 10 years was 82, double the average of 41 for the earlier 8 years; while the average yearly portion of growth generated externally[10] was 14.9 percent during the last 10 years, nearly 3 times the average of 5.3 percent for the first 8 years.

The frequently made allegation that acquisitions by large firms occurred more often in the later years, therefore, is generally valid. The increase is more marked when the measure of the extent of external growth vis-à-vis internal expansion (external growth as a percentage of total growth) is analyzed. However, as a group the firms studied clearly realized the major portion of their expansion during the period through internal growth (88.9 percent). Even during the later years of the period, acquisitions played a relatively minor role in the over-all growth of these firms.

Although it is clear that mergers made a relatively small contribution to the combined growth of firms, the aggregate measures obscure the considerable variation which existed among individual firms. Table II presents

TABLE II
FREQUENCY DISTRIBUTION OF FIRMS ACCORDING TO PERCENTAGE GROWTH BY MERGER 1948-1965

Percentage Growth by Merger	Number of Firms	Cumulative Number of Firms
less than 0	7	7
0-4.9	23	30
5-9.9	17	47
10-14.9	9	56
15-19.9	10	66
20-24.9	7	73
25-29.9	11	84
30-34.9	2	86
35-39.9	2	88
40-44.9	3	91
45-49.9	2	93
50-54.9	2	95
55-74.9	0	95
over 75	5	100

the frequency distribution of percentage growth by merger. It exhibits a sizable range among firms in the extent of growth by merger. While seven firms actually had negative amounts of external growth, external growth accounted for more than 75 percent of growth for five firms. The median percentage was 12.4, compared with a mean of 18.3 percent. This difference results because of a clustering of firms near the lower end of the range, with relatively few firms at the upper end. External growth accounted for

[10] A note on terminology is in order here. In computing external growth we have, as indicated, included sales as negative external growth. However, when referring to the fraction of total growth accounted for by mergers and sales, it facilitates discussion to call it simply "percentage growth by merger" or "proportional growth by merger" without making the qualification each time that sales have been deducted from the amount of positive external growth brought about by mergers.

less than 15 percent of firm growth in 56 cases, and for less than 50 percent of firm growth in 93 cases.

The fact that the mean of the percentages for individual firms (18.3 percent) is greater than the percentage calculated by dividing the combined external growth for all firms by their combined growth (11.1 percent) indicates that the firms that grew the most in absolute terms had smaller percentages of growth by merger. The procedure, based on sums of amounts of external and total growth, in effect assigns a weight to the individual firm's percentage according to the fraction of the total growth of all sampled firms accounted for by the particular firm.[11] The discrepancy between the two figures occurs because the percentages for the firms which grew the most in absolute terms (generally the larger firms), thereby accounting for relatively large fractions of the combined growth of all firms (and carrying heavier "weights"), were on the whole smaller than the percentages for firms which grew less in absolute terms (generally the smaller firms).

Comparisons of Findings on Mergers and the Growth of Firms with Results of Earlier Studies

The effects of mergers on the growth of firms in the period before 1948 have been examined in two previous studies: J. Fred Weston's *Role of Mergers in the Growth of Large Firms*[12] and *Effects of Taxation: Corporate Mergers* by J. Keith Butters, John Lintner, and William L. Cary.[13] The measurement procedures used in both studies are very similar to our own, allowing valid comparisons of findings to be made.

1. Comparison with J. Fred Weston's Study

Weston examined the record of 74 large manufacturing corporations delving as far back into their histories as the availability of data would allow and ending in 1948. On the whole, the role of mergers in the growth of firms in our sample during the 1948-1965 period was significantly smaller than the contribution of mergers to the growth of similar large firms studied by Weston for the period before 1948. Our overall proportional growth

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[11] Let X = external growth, Y = total growth, and n = the number of firms in the sample. Then

$$\frac{\varepsilon X}{\varepsilon Y} = \frac{Xa}{\varepsilon Y} + \frac{Xb}{\varepsilon Y} + \ldots + \frac{Xn}{\varepsilon Y} = \frac{Xa}{Ya}\left(\frac{Ya}{\varepsilon Y}\right) + \frac{Xb}{Yb}\left(\frac{Yb}{\varepsilon Y}\right) + \ldots + \frac{Xn}{Yn}\left(\frac{Yn}{\varepsilon Y}\right).$$

Hence, the procedure based on sums of external and total growth weights the individual firm's percentage growth by merger $\left(\frac{Xa}{Ya}\right)$ by the fraction of the total growth of all sampled firms for which the particular firm is responsible $\left(\frac{Ya}{\varepsilon Y}\right)$.

[12] *See* J. WESTON, *supra* note 9.

[13] J. BUTTERS, J. LINTNER, & W. CARY, EFFECTS OF TAXATION: CORPORATE MERGERS (1951).

by merger of 11.1 percent is approximately one-half the corresponding figure of 22.3 percent derived by Weston; our average of individual percentages of 18.3 percent compares with Weston's 22.6 percent.[14]

The conclusion drawn by Weston from his finding of a negligible difference between the average of individual firm percentages and the overall percentage growth by merger was that "extreme size was associated with neither an unusually high nor an unusually low proportion of external growth."[15] Strictly speaking, what this negligible difference indicates is not that "extreme size" was unrelated to the proportion of growth by merger, but rather that absolute growth on the average bore no relationship to percentage growth by merger. The two statements may be equivalent if the period studied includes most of the lifetime of sampled firms, so that the firms which had the larger asset growth are generally the larger firms during most of the period. Inasmuch as Weston's study covered a period dating back to the origins of most of the firms analyzed, his conclusion of a lack of relationship between size and percentage growth by merger is, to all intents, a valid one.

Our results indicate a negative relationship between absolute growth and the percentage of growth by merger. This factor explains the larger difference between the percentages calculated from sums of external and total growth (our 11.1 percent as compared with Weston's 22.3 percent) than between the average percentages for individual firms (our 18.3 percent as compared with Weston's 22.6 percent).

Turning to a comparison of the distributions of firms according to the extent of growth by merger, both studies indicate substantial variation among firms. The range of external growth as a percentage of total growth for Weston's 74 firms ran from a negative 11.5 percent to a positive 75.8 percent; while our range was from a negative 24.1 percent to a positive 127.1 percent (internal growth being negative for this firm). The distributions are similar, with our distribution shifting moderately downward (with greater portions of sampled firms in categories characterized by relatively low percentage growth by merger) relative to Weston's distribution. Weston found that 51 percent of the 74 firms studied derived less than 15 percent of their growth from merger, and 85 percent had less than one-half of their growth from merger. Our study of the later period showed that somewhat higher portions of the hundred firms studied fell in each category — 56 percent in the former and 93 percent in the latter.[16]

Finally, 33 of the 74 firms studied by Weston were also included in our study. The average growth by merger for these firms for the period ending in 1948 was 23.4 percent, approximately equal to the average for all 74 firms. Their average percentage for the 1948-1965 period was 13.3 percent,

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14 *See* J. WESTON, *supra* note 9, at 14.

15 *Id.* at 15.

16 For Weston's figures, see *id.* at 20, 143-44.

as compared with the 18.3 percent average for all one hundred firms in our study. It should be noted that 28 of these 33 firms were in the upper half of the distribution of our hundred firms, ranked according to size of assets in 1948. Generally, the larger firms had relatively smaller percentage growth by merger during the 1948-1965 period. In any event, the experience of these 33 firms is consistent with our findings based on the entire samples of 74 and one hundred firms respectively — namely that, as compared with the period dating back to the origins of large firms in the late nineteenth and early twentieth centuries and ending in 1948, large firms relied less on merger as a source of growth during the 1948-1965 period.

It is appropriate to note the possible distortion caused by inflation in asset prices. If there is inflation in asset values during the period studied, analysis based on unadjusted data may understate or overstate the relative importance of merger for the entire period. If the ratio of external to total growth is fairly constant from year to year or if it varies randomly, adjustment of both external and internal growth for the upward trend in asset prices would not change the basic result derived from unadjusted data, *i.e.*, the ratio of external to total growth for the whole period would be the same in both cases. On the other hand, if the distribution of the annual ratio of external to total growth is skewed (the years with the higher ratios concentrated in the early part of the period when prices were generally lower or in the later part when prices were higher), analysis of the relative significance of merger based on unadjusted data would be misleading. Weston understated growth by merger because the period of relatively heaviest merger activity was before 1929 when asset prices were relatively low. Internal growth became important in later years when asset prices were higher. If both external and internal growth had been placed on a constant price basis, Weston's results would have shown that a larger percentage of "real" growth was due to merger.

Inflation has also existed during the 1948-1965 period covered by our study. While it would be desirable to adjust asset values for price changes, there are no figures that make this possible and it is doubtful that such figures could be devised. Total assets are composed of many different components such as cash, receivables, inventories, securities, physical assets, etc. Firms have varying proportions of these assets. Hence, the only method of deflating a total assets series would be to deflate each component separately. Even if information on components and their price variations were available for both the firms in our sample and the firms they acquired, which certainly is not the case, there could be no adjustment for the accountant's revaluation of assets which occurs periodically.[17]

If all asset values could have been placed on a constant price basis to

[17] For a fuller discussion of the difficulties involved, see B. Kemp, The Merger Component in the Growth of a Firm 55-57, 1957 (unpublished Ph.D. dissertation in Vanderbilt University Library). *See also* D. Creamer, Capital and Output Trends in Manufacturing Industries 1880-1948, at 28-29 (Nat'l Bur. Econ. Research, Studies in Capital Formation and Financing, Occasional Paper No. 41, 1954).

correct for inflation during the 1948-1965 period, the annual ratios of external growth to total growth would be the same as those derived from unadjusted data. This follows because the external growth and internal growth (and hence total growth) figures for a given year would be adjusted by dividing by the same price index,[18] leaving the yearly ratio of external to total growth unchanged. However, because the portion of all external growth that occurred in later years, during which asset prices were higher, was greater than the portion of all internal growth that occurred during these years, the adjustment would reduce external growth relatively more than internal growth. Hence, the 11.1 percent figure for the overall portion of growth by merger is something of an overstatement.

The difficulty caused by the use of data unadjusted for price changes is by no means as serious as it was in Weston's study. Firstly, such an adjustment would serve to strengthen our conclusion that mergers were a relatively minor source of the combined growth of firms during the 1948-1965 period. On the other hand, the correction for price changes would have increased Weston's 22.3 percent figure for growth by merger for all firms combined. Weston's conclusion that "as a group, and irrespective of measurement assumptions, the firms studied achieved the major extent of their growth through internal development"[19] would therefore have been weakened. Secondly, the disparity between the relative importance of mergers in periods of high and low prices is not nearly as sharp in the present study. The inclusion by Weston of many of the early twentieth century mergers on an unadjusted basis resulted in an understatement of the percentage of growth by merger "of considerable magnitude."[20] To the contrary, use of adjusted data in our study would have reduced the overall percentage of growth due to merger negligibly.[21]

2. Comparison with Study by Butters, Lintner, and Cary

Butters, Lintner, and Cary have studied the merger activity of large firms during the 1939-1946 period.[22] They found that during this period the portion of the asset growth brought about through merger for the

[18] Technically speaking, the same price index should be used to adjust the external and internal growth for a given year only if both types of growth consisted of the various asset components (*e.g.* cash, receivables, fixed assets, *etc.*) in the same proportions. This assumption of like proportions appears reasonable.

[19] J. Weston, *supra* note 9, at 15.

[20] *See* Nutter, *Growth by Merger*, 49 J. Am. Stat. Ass'n 448 (1954). Nutter points out that "in spite of the understatement, Weston's data on all firms as a group show that a large share of growth by merger occurred in early years: 8 percent before 1911, 21 percent before 1921, 71 percent before 1931, and 89 percent before 1941." *Id.* at 452.

[21] As a rough indicator, if asset prices were on an average of 50 percent higher during the 1956-1965 period than during the earlier 8 years, the adjustment for price changes would reduce the proportional growth by merger for the entire 18 year period from 11.1 percent to 9.4 percent. The external growth for the first 8 years would then equal 29.8 percent rather than 17.8 percent of the total external growth for all 18 years, with the portion of all external growth which occurred in the last 10 years reduced correspondingly.

[22] *See* J. Butters, J. Lintner, & W. Cary, *supra* note 13.

hundred, 200, and 500 largest firms (ranked according to the total assets at the end of 1946) was 8.3, 11.2 and 13.8 percent respectively. Of the 3 groups, the group of 200 largest firms is most similar to our sample of a hundred firms in terms of asset size relative to other firms within the economy during the respective periods. Compared with the groups of 500 and one hundred firms, the relationship between the average size of firm within the leading 200 in 1946 and the average size of all industrial firms during the 1939-1946 period is probably closest to the relationship between the average size of firm in our sample and the average of all firms during the 1948-1965 period. The group of 500 contained a disproportionately large number of firms which were smaller than our hundred firms in terms of relative size, while the firms in the largest hundred were on the whole considerably larger in terms of relative size. Of the 3 figures cited for percentage growth by merger during the 1939-1946 period, the figure for the largest 200, 11.2 percent, is the closest to our figure of 11.1 percent for the later period. All three figures are close to our own figure. It appears safe to state, therefore, that the relationship between external and internal growth in large firms was roughly the same for the 1939-1946 period as for the later period.

THE DIRECTIONS OF MERGER ACTIVITY

Our second task is to examine the directions of the merger activity of sampled firms, and in particular to ascertain the prevalence of the "conglomerate" or diversification form of merger.[23] This was made possible by a government report on the acquisitions of large manufacturing corporations which contained information on the products of the firms acquired during the 1951-1961 period by the hundred firms studied.[24]

The Meaning and Measurement of Diversification

Company diversification is commonly thought of either as the production of products not previously provided by the firm, or as an increase in the number of industries in which a firm is active. The meaning of the term "diversification" then depends upon the grouping of particular commodities into "product" and "industry" classifications. There can be no absolute meaning for the term because the grouping of particular goods into product or industry classifications will vary depending upon the criteria of the grouping process. This explains why Brunswick Corporation, for example, is wont to emphasize that production of such seemingly dissimilar products as outboard motors, automatic pinsetters for bowling alleys, and golf clubs does not involve unrelated lines of business because all three products are in the field of "leisure-time activities." On the other hand, the Continental Can Company, a producer of metal, plastic, and paper con-

[23] The terms "conglomerate merger" and "diversification merger" are used interchangeably.

[24] STAFF OF HOUSE COMM. ON SMALL BUSINESS, 87TH CONG., 2ND SESS., MERGERS AND SUPERCONCENTRATION (1962).

tainers, claims that it was diversifying when it acquired the Hazel-Atlas Glass Company, a producer of glass containers. Similar criteria of product classification are not being used, with resultant ambiguity in defining the extent of diversification in these two firms.

Since we wish to generalize about mergers and diversification within our sample of a hundred firms, we are confronted with this complex problem of what constitutes diversification. Suppose that a one-product firm is acquired, and we wish to decide whether the acquiring firm is diversifying its product line. Conceivably, we could state that this move represents diversification only if the acquiring firm does not already produce the identical product — identical in all particulars. To go to the other extreme, we might decide that diversification exists only if the product is totally unlike any product of the acquiring firm — made from different raw materials, by different processes, sold to different customers, *etc.* Obviously, a system of classification which groups products into industries according to consistent criteria will reduce arbitrary judgments. Using such a system we could state that our acquiring firm is diversifying if the acquired firm's product falls into an industry other than those in which the acquiring firm already engages.

The widely used Standard Industrial Classification System of the Census Bureau provides such a classification of goods and services. It divides all economic activities into broad industrial divisions, then into major industry groups (assigned two digits), industry groups (assigned three digits), and finally into detailed industries (assigned four digits). For example, major industry group 20 is food and kindred products, industry group 201 is meat products, and industry 2011 is meat packing plants. The System also provides finer levels of detail for individual products.

A total of 425 4-digit industries are classified, each defined in terms of a group of related products. The products in each group are usually made of similar materials and by similar processes. While the closeness of relationships among products is not uniform in every 4-digit category, inasmuch as some industries appear to include a greater diversity of products than others, the System is quite consistent, considering the problems of classification involved. It provides the best complete classification in existence with which to measure diversification.

We have classified each acquired firm by the particular 4-digit industry in which the firm produced the greatest portion of its output. We have chosen the 4-digit level because firms generally report their products at least at this level of detail. This serves to eliminate the ambiguity that might result because of variations in the detail in which firms report their products.

Each acquisition by our hundred sampled firms during the 1951-1961 period was classified in one of three categories: diversification (outside the acquirer's 4-digit industries in 1951), horizontal (within any of the 4-digit industries in which the acquirer engaged in 1951 except the distribution of the acquirer's products), and forward vertical (distributors of the acquirer's products). It should be noted that this procedure classifies as horizontal and diversification some mergers that might properly be called backward integration. For example, a relatively large steel company, which owns a small ore company but buys most of its ore requirements from others, might acquire another ore company in order to integrate production more fully. Our procedure would classify the acquisition as horizontal, inasmuch as the acquired firm was in a field in which the acquiring firm was already active. Similarly, our steel company might acquire a firm producing acid *X*, a chemical used in steel production, which was not formerly produced by the steel company. Inasmuch as the chemical would be classified in a 4-digit industry other than those in which the steel company already engages, our procedure would classify this acquisition as one for diversification. While it is not difficult to determine accurately whether or not a given product falls into a 4-digit industry, detailed knowledge of the production structures and processes of a hundred industrial giants would be required to make accurate judgments on backward integration. Hence, we have followed the practical alternative of classifying the products within the industries of the acquirer as horizontal, and those outside the industries of the acquirer as diversification. Because we are not able to determine the extent of mergers involving backward integration, we do not know the relative degree to which our figures for horizontal and diversification mergers would have been affected by the classification of all vertical mergers. All that can be stated is that our figures for both horizontal and diversification mergers are higher than they would have been if all vertical mergers were classified separately.

The Over-all Data on Types of Merger

During the 1951-1961 period there were 707 acquisitions by the hundred firms studied, of which 157 or 22 percent represented diversification. Assets acquired in conglomerate mergers were $2.0 billion, which equaled 30.8 percent of the total acquired assets of $6.5 billion. Horizontal mergers accounted for 501 of the 707 acquisitions, or 71 percent. Assets acquired in horizontal mergers were $4.1 billion, or 62.9 percent of acquired assets of

TABLE III

CLASSIFICATION OF ACQUISITIONS BY 100 LARGE FIRMS ACCORDING TO HORIZONTAL, FORWARD VERTICAL, AND DIVERSIFICATION TYPES: 1951-1961

Type of Acquisition	Number of Acquisitions	Percent of Total
Horizontal	501	71
Forward Vertical	49	7
Diversification	157	22
Total	707	

all sorts. Forward vertical mergers (acquisitions of firms distributing the products of the acquiring firm) were a minor source of growth. Only 49 of the 707 acquired firms or 7 percent were distributors of goods produced by the acquireror, and those 49 firms accounted for only $.4 billion, or 6.4 percent of acquired assets.

The firms acquired in diversification mergers were, therefore, on an average, larger than firms acquired in horizontal or forward vertical mergers; averaging $12.7 million as compared with $8.1 million in horizontal mergers and $8.5 million in forward vertical mergers. However, as the data

TABLE IV
CLASSIFICATION OF ACQUISITIONS BY LARGE FIRMS IN WHICH THE ACQUIRED FIRM'S ASSETS EXCEEDED $10 MILLION: 1951-1961

Type of Acquisition	Number of Acquisitions	Percent of Total
Horizontal	90	74
Forward Vertical	8	7
Diversification	23	19
Total	121	

presented in Table IV above indicates, diversification accounted for 19 percent of acquisitions in which the acquired firm's assets exceeded $10 million, as compared with 22 percent of all acquisitions. Horizontal mergers constituted 74 percent of acquisitions in which the acquired firm's assets were over $10 million, as opposed to 71 percent of all mergers. Furthermore, of the 28 acquisitions in which acquired assets were $50 million or more, 17 were horizontal and only 8 represented diversification. The seeming contradiction results from the fact that the very small acquisitions (under $2 million), which constituted the majority of all acquisitions, were predominantly horizontal.

The FTC has classified all acquisitions recorded during the 1940-1947 and 1951-1954 periods according to "advantages provided the acquiring company." These advantages included diversification, which other than to state that "the principal advantage to be anticipated as a result of diversification is a reduction of important business risks,"[25] was not specifically defined by the Commission. Presumably, if this element of risk-reduction was judged to be present in a merger, the acquisition was classified as diversification. As indicated in Table V, the portions of acquisitions involving diversification were very similar for the 1940-1947 and 1951-1954 periods. In the former period, 21 percent of all mergers involved diversification, while in the latter period 23 percent involved diversification.

The FTC also provided data on types of acquisitions for firms with assets exceeding $10 million during the 1951-1954 period. During this period

25 FTC, REPORT ON CORPORATE MERGERS AND ACQUISITIONS 51 (1953).

TABLE V
CLASSIFICATION OF ALL ACQUISITIONS[a] BY HORIZONTAL, VERTICAL, AND DIVERSIFICATION TYPES: 1940-1947 AND 1951-1954

Type of Acquisition	Acquisitions During the 1940-1947 Period		Acquisitions During the 1951-1954 Period[b]		
	Number	Percent of Total	Number	Percent of Classifications	Percent of Actual Acquisitions
Horizontal	1,278	62	1,148	62	74
Vertical	351	17	336	18	22
Diversification	433	21	364	20	23
Total	2,062		1,848	(number of classifications for 1,553 acquisitions)	

[a] Includes only acquisitions of whole companies.

[b] For the 1951-1954 period, the Federal Trade Commission has classified some acquisitions in more than one category. Hence, although there were 1,553 acquisitions, there were 1,848 classifications. Diversification by the acquiring firm was judged to be a major result in 364 of these 1,553 mergers, or 23 percent, while it constituted 20 percent of all 1,848 classifications. If each acquisition had been classified in only one of the three categories as in the 1940-1947 period, some portion (indeterminable from information provided by the Federal Trade Commission) of these 364 acquisitions would have been classified as horizontal or vertical, thereby reducing the 23 percent figure. This strengthens the contention that diversification did not become a noticeably more prevalent motive for merger in the later period.

SOURCE: FTC, REPORT ON CORPORATE MERGERS AND ACQUISITIONS 51 (1955); FTC, THE MERGER MOVEMENT: A SUMMARY REPORT 18, 30 (1948).

21 percent of these acquisitions involved diversification.[26] Our figure of 22 percent as the portion of acquisitions by the hundred large firms, 1951-1961, which represented diversification, is then very similar to the corresponding percentages for (a) all firms during the 1940-1947 period, (b) all firms during the 1951-1954 period, and (c) large firms during the 1951-1954 period.

Differences Among Firms in the Extent of Merger for Diversification

Table VI presents data on the distribution of firms according to the portion of acquired assets which were added in diversification mergers. Of the hundred firms studied, 89 acquired at least one firm during the 1951-1961 period. Conglomerate mergers accounted for less than 10 percent of acquired assets for 50 of these firms. While the arithmetic mean of the individual firm percentages was 25.2 percent, the median was only 5.2 percent. Thirty-eight of the 89 firms that completed at least one acquisition during the period did not make any acquisition involving diversification. On the other hand, assets added in conglomerate mergers accounted for more than one-half of acquired assets in 21 cases. Although diversification formed a very small part of the merger activity of most firms, it apparently was a major motivation in the merger activities of a smaller group of firms studied.

[26] *Id.*

TABLE VI
FREQUENCY DISTRIBUTION OF FIRMS ACCORDING TO THE PORTION OF ACQUIRED ASSETS ADDED IN DIVERSIFICATION MERGERS: 1951-1961

Assets Acquired in Diversification Mergers as Proportion of All Acquired Assets (Percents)	Number of Firms	Cumulative Number of Firms
0-9.9	50	50
10-19.9	8	58
20-29.9	2	60
30-39.9	6	66
40-49.9	2	68
50-59.9	3	71
60-69.9	3	74
70-79.9	5	79
80-89.9	4	83
90-100	6	89

The median of individual firm percentages of 5.2 percent indicates that mergers for diversification formed a very minor part of the merger programs of a majority of firms. The considerably higher mean of 25.2 percent suggests that diversification was a major motive for merger for a minority of firms. Finally, the fact that total assets added in diversification mergers accounted for 30.8 percent of the asset growth by merger for all 89 firms combined indicates that the firms that had the greatest growth by merger (measured by the volume of acquired assets) had, on average, higher proportions of this growth accounted for by diversification. (The 30.8 percent figure represents a weighted average of individual firm percentages, the weight for each percentage being determined by the fraction of all acquired assets which was accounted for by the individual firm.) The firms with substantial merger programs sought diversification through their merger activities to a greater extent than did firms which were relatively inactive in the merger sphere.

CONCLUSION

Our basic finding with regard to the contribution of mergers to firm growth is that mergers generally have been a minor source of growth during the 1948-1965 period for the hundred large firms studied, although they have been an important source of growth for a small portion of firms. Comparisons of our results with studies of earlier periods indicate that for large firms the percentage growth by merger was less during the 1948-1965 period than it was during the approximately 50 year period before 1948, but about the same as it was during the 1940-1947 period.

We found that diversification probably was not a significantly more prevalent motive for mergers during the 1951-1961 period than it had been earlier. However, the firms acquired in conglomerate mergers were on average larger than other acquired firms. We also found that the firms with the larger, more noticeable merger activities diversified through merger to a greater extent than the firms that engaged in smaller amounts of acquisition.

It is appropriate to note the probable reasons for our major finding of a relatively small overall percentage growth by merger, 1948-1965.

(a) Our sample contained only a few firms that would be considered "conglomerates," as the term is generally used. Of course, all firms are diversified to some extent — the designation "conglomerate" has no exact boundaries. However, only a few firms of the hundred studied are known for their predilection for acquiring firms in diverse fields. The reason for the relative lack of conglomerates in our sample is that most of these firms had not blossomed sufficiently to reach the list of largest firms in 1965. Of course, if more conglomerate firms had been included in our sample, our findings for both the overall percentage growth by merger and the fraction of acquisitions which involved diversification would have been larger.

(b) The period 1948-1965 has been one of general economic expansion in the United States (as well as in most foreign countries in which the sampled firms operated). *Ceteris paribus,* such a period favors internal rather than external growth. To illustrate this point, let us consider the opposite case of general stagnation or decline. Firstly, there would be pressure upon firms to merge in order to alleviate the perhaps ruinous consequences of falling demand and declining prices that would prevail in the existent, more competitive situation. Secondly, since internal growth adds supply which must compete for weak demand, while growth through merger in itself does not increase the total supply of goods, the only way for a firm to grow without aggravating the already adverse effects upon its profits may be via the merger route.

On the other hand, if demand is expanding, a firm can develop internally, adding to the supply of goods, without producing effects on prices seriously injurious to itself and competing firms. Within a framework of economic buoyancy, rapid corporate expansion, which may well be an important *desideratum* of big business, can be brought about through internal development. The large firms studied, which themselves comprise a major segment of the entire industrial community, on the whole have attained quite rapid rates of growth predominantly through internal development.

While it is realized that the rates of growth in particular industries are the important factors influencing the merger decisions of a firm or of a particular group of firms, we are here emphasizing that retardation of industry growth rates is naturally more prevalent within a relatively stagnant or declining economy. High and increasing industry growth rates, which naturally accompany high aggregate economic growth to a greater degree, are generally more conducive to internal growth vis-à-vis external expansion than are low or declining industry growth rates.

(c) Antitrust enforcement, aided by the strengthening of section 7 of the Clayton Act in 1950, has been fairly stringent during the 1948-1965 period. The hundred firms studied are conspicuous by virtue of their absolute size and because of the leading positions most occupy in their principal industries. Antitrust authorities have scrutinized the acquisitions of such firms for possible anticompetitive effects even more closely than acquisitions by smaller firms. Writing in 1961, Donald Dewey observed:

> [T]he drift of the law in the direction of greater federal control [of mergers] has been fairly steady. It has now reached the point where no industrial firm numbered among the two hundred largest will be allowed to buy a major competitor. Indeed, any firm in this select company will probably provoke an anti trust suit if it tries to buy a major supplier or customer.[27]

Although our study of the 1951-1961 period indicates that 71 percent of the acquisitions by firms in our sample were horizontal, and that these acquisitions accounted for 62.9 percent of all assets acquired by these firms, it should be emphasized that there were very few important or sizable mergers of any type during the entire 1948-1965 period. Only 45 of the 1,149 acquisitions covered by our study, or approximately 3.9 percent, involved acquired firms with total assets of $50 million or more. Twenty-nine of these 45 mergers were vertical or horizontal, representing only about 2.5 percent of all 1,149 mergers. Furthermore, 82 percent of all acquired firms had assets of less than $10 million. Our analysis of the 1951-1961 period also demonstrated that firms acquired in horizontal and vertical mergers were, on average, smaller than firms acquired in conglomerate mergers. Unable to combine with other large firms related horizontally or vertically to itself without provoking antitrust difficulties, apparently the large firm settled for the acquisition of smaller firms so related. By discouraging sizable horizontal and vertical mergers, therefore, antitrust enforcement probably has been an important factor accounting for the relatively small role of mergers in the growth of large firms.

Finally, it is interesting to note that while the acquisitions by the hundred firms studied accounted for $10.38 billion in assets, it does not follow that if these firms had been prohibited from making any acquisitions, their assets in 1965 would have been reduced by an equal amount. First, cash acquisitions only increase the assets of the acquirer by the amount of liabilities assumed from the acquired firm. Our measurement procedure has been to include as external growth both the cash purchase price for stock or net assets plus the liabilities assumed. Hence, if a cash acquisition had not occurred, the total assets of the firm would not be smaller by the amount we have recorded as external growth, but only by the amount of the liabilities assumed from the acquired firm. Secondly, if merger were impossible, a company might very well have raised additional funds to

27 Dewey, *Mergers and Cartels: Some Reservations About Policy*, AM. ECON. REV., May 1961, at 255, 257.

be used for the purchase of new assets rather than for an existing business. Most mergers were horizontal, and it is far easier to build and to operate successfully new facilities in a field in which a firm has expertise than in a field removed from its past experience. A considerable part of mergers, therefore, represents growth that would have been generated internally had mergers been barred. That is, even if legislation had been passed before 1948 prohibiting acquisitions by firms as large as those in our sample, the absolute size of our firms would not have been reduced sharply.

APPENDIX

BASIC DATA ON MERGER ACTIVITY OF 100 LARGE FIRMS[a]

Firm	External Growth as Percentage of Total Growth (1948-1965)	Assets Acquired in Horizontal Mergers (Percentage of Total, 1951-1961)	Assets Acquired in Forward Vertical Mergers (Percentage of Total, 1951-1961)	Assets Acquired in Diversification Mergers (Percentage of Total, 1951-1961)
Allied Chemical Corp.	26.2	24.3	0	75.7
Allis-Chalmers Mfg. Co.	29.4	64.5	0	35.5
American Can Co.	42.4	78.4	0	21.6
American Cyanamid Corp.	8.5	88.6	4.1	7.3
American Home Products Corp.	26.5	90	10	0
American Metal Climax Corp.	27.2	1.3	0	98.7
American Smelting & Refining Co.	−24.1	80.6	0	19.4
American Sugar Co.	27.3	0	0	0
American Tobacco Corp.	−14.5	0	0	0
Anaconda Corp.	6.2	14.5	0	85.5
Armco Steel Co.	16.6	11.5	0	88.5
Armour & Co.	84.4	91.8	8.2	0
Armstrong Cork Co.	2.8	11.4	6.8	81.8
Babcock & Wilcox Corp.	5.6	82.8	0	17.2
Bethlehem Steel Co.	2.3	100	0	0
Boeing Co.	3.5	100	0	0
Brunswick Corp.	23.8	34.8	0	65.2
Burlington Industries Inc.	53.1	57.4	24	18.6
Burroughs Corp.	13.6	37.9	0	62.1
Cannon Mills Inc.	1.5	100	0	0
Caterpillar Tractor Co.	5.0	100	0	0
Cluett, Peabody & Co.	35.5	52.1	47.9	0
Container Corp.	18.2	96.1	0	3.9
Continental Baking Co.	25.3	61.8	1.8	36.4
Continental Can Co.	28.8	82.2	.2	17.6
Corn Products Co.	19.9	85.6	14.4	0
Crane & Co.	105.5	97.8	0	2.2
Crown Cork & Seal Co.	2.8	100	0	0
Crown Zellerbach Corp.	13.0	100	0	0
Cudahy Packing Co.	−3.6	67	33	0
Curtiss-Wright Corp.	6.8	82.4	0	17.6
Dana Corp.	32.9	100	0	0
Deere & Co.	4.1	100	0	0

APPENDIX (*Continued*)

Firm	External Growth as Percentage of Total Growth (1948-1965)	Assets Acquired in Horizontal Mergers (Percentage of Total, 1951-1961)	Assets Acquired in Forward Vertical Mergers (Percentage of Total, 1951-1961)	Assets Acquired in Diversification Mergers (Percentage of Total, 1951-1961)
Dow Chemical Corp.	7.5	98.3	0	1.7
E. I. duPont de Nemours & Co.	1.0	0	0	0
Eastman Kodak Corp.	.9	0	100	0
Endicott Johnson Corp.	127.1	28.6	71.4	0
Firestone Tire & Rubber Co.	6.0	100	0	0
Food Machinery & Chemical Corp.	45.7	96.7	0	3.3
Ford Motor Co.	6.1	40.3	0	59.7
General Electric Co.	2.8	88.4	11.6	0
General Motors Corp.	−.5	100	0	0
General Tire & Rubber Co.	28.2	36.1	.4	63.5
Georgia-Pacific Corp.	96.3	97.2	.3	2.5
Glidden Co.	41.5	59.9	1.9	38.6
B. F. Goodrich & Co.	3.2	63.8	36.2	0
Goodyear Tire & Rubber Co.	7.5	54.3	45.7	0
W. R. Grace & Co.	24.9	.5	0	99.5
Granite City Steel Co.	4.6	0	0	0
Grumman Aircraft Corp.	1.6	100	0	0
Hercules Inc.	16.5	82.4	0	17.6
Hershey Chocolate Co.	7.1	0	0	0
Honeywell Corp.	2.3	8.5	0	91.5
Ingersoll-Rand Co.	26.9	100	0	0
Johns-Manville Co.	11.8	100	0	0
Johnson & Johnson Co.	11.5	65.6	0	34.4
Kennecott Copper Corp.	5.8	100	0	0
Lockheed Aircraft Co.	3.8	21.0	0	79.1
M. Lowenstein & Sons Inc.	35.8	100	0	0
McDonnell Aircraft Corp.	.4	0	0	0
Merck Corp.	22.8	100	0	0
Minnesota Mining & Manufacturing Co.	18.8	12.3	0	87.7
National Cash Register Corp.	.8	0	0	100
National Dairy Products Inc.	9.3	63.7	0	36.3
National Distillers & Chemical Corp.	48.7	28.0	.2	71.8
Otis Elevator Corp.	5.3	19.5	0	80.5
Parke, Davis & Co.	.1	0	0	0
Pepsico Inc.	79.8	100	0	0
Phelps Dodge Corp.	1.5	25	0	75
Phillip Morris Inc.	23.8	39.8	0	60.2
Pillsbury Inc.	28.0	85.5	0	14.5
Pittsburgh Plate Glass Co.	16.4	96.5	1.4	2.1
Pittsburgh Steel Co.	14.0	100	0	0
Procter & Gamble Co.	13.3	1.4	0	98.6
Ralston Purina Corp.	26.0	62.8	4.7	32.5
Rayonier Corp.	22.7	100	0	0
Republic Steel Corp.	3.4	33.9	57.6	8.5
Reynolds Tobacco Co.	17.5	100	0	0

APPENDIX (*Continued*)

Firm	External Growth as Percentage of Total Growth (1948-1965)	Assets Acquired in Horizontal Mergers (Percentage of Total, 1951-1961)	Assets Acquired in Forward Vertical Mergers (Percentage of Total, 1951-1961)	Assets Acquired in Diversification Mergers (Percentage of Total, 1951-1961)
Richfield Oil Co.	0	0	0	0
St. Joseph Lead Co.	−.7	0	0	0
St. Regis Paper Co.	52.1	93.3	0	6.7
Schenley Industries Inc.	32.6	100	0	0
Scovill Manufacturing Co.	13.6	51.0	0	49.0
J. Seagram & Sons Inc.	22.2	100	0	0
Sherwin-Williams Co.	1.6	100	0	0
Singer Co.	16.0	0	0	100
Staley Manufacturing Co.	16.4	51.0	0	49.0
Standard Oil (California)	9.8	53.6	46.4	0
Standard Oil (New Jersey)	5.3	81.1	18.9	0
Sun Oil Co.	.03	0	0	0
Swift & Co.	7.5	77.6	0	22.4
Texaco Inc.	14.0	79.1	20.9	.06
Timken Roller Bearing Co.	23.6	100	0	0
Union Tank Car Co.	17.8	89.3	0	10.7
U. S. Rubber Corp.	9.2	85.5	9.3	5.2
U. S. Steel Corp.	−.3	100	0	0
Westinghouse Electric Corp.	10.9	89.8	4.2	6
Weyerhauser Corp.	44.0	14.4	0	85.6
Wheeling Steel Corp.	−2.3	0	0	0
Youngstown Sheet & Tube Co.	.4	93.7	0	6.3

[a] The main sources of data were *Moody's Industrials*, *The Commercial and Financial Chronicle*, *Wall Street Journal*, New York Stock Exchange Listing Statements, *Thomas' Register of Manufacturers*, and annual reports of corporations. For more specific information, see Piccini, *supra* †.