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CHAPTER 6

Patterns and Trends in Nonmanufacturing Activities

THE focus of this chapter is on the nonmanufacturing activities of large manufacturing enterprises. It examines the extent to which significant patterns are present in the structure of nonmanufacturing activities at a single point in time, namely, 1954, and attempts to determine the trends that prevailed in the period 1929-54. Does entry of manufacturers into nonmanufacturing industries follow a definite pattern or is it merely the product of a wide array of random influences? How stable is the frequency of entry into nonmanufacturing activities as compared with that for manufacturing? What types of nonmanufacturing industries do companies commonly enter, and has the pattern changed over time? These questions are examined below on the basis of information for the 111-firm sample.

Summary

Analysis of the 111 companies' 1954 pattern of nonmanufacturing activities reveals that a large majority of these activities can be classified as integration. In particular, whenever a group of companies showed a bunching of activities within a nonmanufacturing industry class, it was usually associated with integration. Another conclusion based on the 1954 pattern was that backward integration into the extractive industries was a more frequent phenomenon than forward integration into retail trade.

An examination of trends in the 1929-54 period shows no consistency over time in the frequency with which particular groups of companies entered into nonmanufacturing activities. This is in sharp contrast to the pattern found for manufacturing product additions in that, for the latter, the frequency with which companies added products in one time interval was closely related to that for an antecedent or a succeeding interval. Moreover, once again in contrast to the pattern for manufacturing additions, the frequency of entry into nonmanufacturing operations was independent of the primary industries of companies. That is, companies classified in the same industry tended to differ markedly in the number of nonmanufacturing activities that they added.

For the 111 large companies, there was a tendency in the 1929-54 period for entry in nonmanufacturing industries to decline relative to that in the manufacturing sector. Thus for manufacturing firms the relative attractiveness of nonmanufacturing operations appears to be declining. Also, the frequency with which nonmanufacturing activities were abandoned was much higher, relative to their total number,

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than that for manufacturing operations. This fact could indicate that the risks of entry into nonmanufacturing industries are higher (at least for manufacturing firms) than those of entry into manufacturing. Besides the trends in the relative importance of manufacturing and nonmanufacturing additions, there were also changes in importance among various classes of additions *within* the latter category. Entry into the utility industries and the distributive trades tended to become less frequent relative to entry in the extractive industries and the service trades.

As is the case for all changes in product structure, the average rates of entry into nonmanufacturing industries need not be the same for the 111 companies as for the universe of large manufacturing firms. Moreover, since integration characterized a majority of entries into these industries, the specific activities that were added depended partly on the industry composition of the 111-firm sample. On the other hand, this sample was sufficiently broad to indicate the major trends for large manufacturing firms generally. For example, the observed changes in number of nonmanufacturing additions and abandonments, or the frequency of entry into and outside manufacturing industries, constitute broad tendencies that permit inferences applicable beyond the 111 companies.

The Pattern of Nonmanufacturing Activities in 1954

Table 33 shows the number of companies for the 111-firm sample that were engaged in various nonmanufacturing activities.¹ Companies in the petroleum and primary metals groups were most frequently active in nonmanufacturing industries, followed by those in the chemicals group. A large majority of the nonmanufacturing activities could be classified as integration, although a number constitute diversification and still others may initially have been auxiliary processes but have subsequently grown to encompass production intended for a market outside the firm. In particular, an examination of the nonmanufacturing operations in which a significant number of companies were engaged reveals the dominant role of integration in these activities. Thus, of the fifteen companies with operations in forestry, seven were paper manufacturers. Of the seventeen engaged in metal mining, ten were mainly producers of primary metals. A majority of the nineteen companies that produced crude petroleum were engaged in petroleum refining. Of the twenty-eight companies

¹ A number of instances of activities in wholesale trade are not shown in Table 33 because, on the basis of available information, they were difficult to distinguish from sales offices. Similarly, it was difficult to distinguish trucking and warehousing facilities associated with separable operations from those that were an integral part of the plant and equipment of the companies' other operations.

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NUMBER OF COMPANIES FROM 111 LARGE ENTERPRISE INDUSTRIES

Number and Industries

	Food Products (12)	Tobacco Manufactures (5)	Textile Mill Products (4)	Paper Products (8)	Chemicals (14)
Farms	1	1	1		
Forestry	1			7	2
Fisheries	1				
Metal mining	1				3
Coal mining					
Petroleum and gas extraction	1				4
Nonmetallic minerals extraction	2		1	2	6
Building construction	1				
Other construction			1		1
Railroads	2			2	4
Water transportation	2			1	5
Air transportation					
Pipeline transportation					2
Services incidental to transportation				1	1
Telecommunications					
Utilities and sanitary services	2	1		6	3
Merchant wholesalers	5	1	3	3	1
Retail trade	3		1		2
Banking	1				1
Other credit agencies			1		1
Insurance	2				1
Real estate	1	1		2	7
Holding and investment companies			1		1
Hotels		1			
Miscellaneous business services	2		2	2	5
Automobile repair services and garages					
Miscellaneous repair services	1				
Radio and television broadcasting					1
Motion pictures					1
Amusement and recreation services	1				
Medical and health services					
Educational services				2	
Automotive dealers and gasoline stations					
Average per company	2.70	1.0	2.75	3.50	3.71

engaged in the mining of minerals nineteen fell into primary metals, chemicals, and stone, clay, and glass groups, once again reflecting the dominant role of integration in the combination of activities. There were twenty-eight companies that maintained railroads and twenty-seven

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E 33
 ES WITH ACTIVITIES IN SPECIFIED NONMANUFACTURING
 ES, 1954

of Companies*

Petroleum (10)	Rubber Products (5)	Stone, Clay, and Glass Products (7)	Primary Metals (10)	Fabricated Metal Products (5)	Machinery (13)	Electrical Machinery (5)	Trans- portation Equip- ment (13)	Total (111)
	1							4
		2	2		1			15
		1	10		2			1
		1	7		1			17
10		3	1					9
2		4	9	1	1			19
			5					28
		1	4		2		1	6
7		1	8		1	2	1	10
9		2	7		1		2	28
1								29
10		2	1					1
1			2					15
3						1	3	8
3	1	1	5		2	1	1	5
							2	27
	4	2	6		2			13
					1			20
	1		1	1	3	2	5	3
4	1		2				2	15
9	2	3	7	1	6	2	2	12
2		1	2		1	1	2	43
		1						11
					5		5	1
	1						1	22
				2	1	1	4	2
	1					2		9
								4
						1	1	1
						1		3
						1		1
						1	2	5
10	1							11
7.10	2.60	3.57	7.90	1.0	2.31	3.0	2.62	3.59

SOURCE: Product record for 111 companies described in Chapter 2.

* Numbers in parentheses refer to number of companies in the specified industry.

that operated utilities, but almost all for their own uses; only a few offered services outside the firm. Twenty-nine companies maintained water transport facilities, but once again these facilities were maintained primarily to transport raw material for the companies' own uses. Of the activities

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in real estate, a considerable number were maintained for the acquisition of property to be used in connection with the firms' manufacturing or extractive activities.

In contrast to the reasonably high frequency of operations in the production of raw materials, and of auxiliary services such as transportation and utilities, only thirteen companies were engaged in wholesale trade.² This is to be explained by the fact that sales at the wholesale level for the firms' own products were made in sales offices rather than in establishments which also sold the products of other firms. There were twenty companies engaged in retail trade, excluding the operation of automotive dealerships and gasoline service stations, and thirty if the latter are included. When separate activities at the 4-digit level of industry detail are counted, the number which the 111 companies maintained in the extractive industries was three times that in retail trade: 156 compared with only 53 (Appendix Table B-3).³ This is somewhat surprising in view of the ease of entry into retail trade. It is partially explained by the fact that the manufactured products of a firm can frequently be sold through a single type of retail establishment. Thus, in contrast to activities in the extractive industries, the retail operations of a firm were usually shown as a single activity in the table. However, even if all extractive industries were combined into a single industry class, the number of firms with activities in this class would still prove considerably greater than that for operations in retail trade. A possible explanation for this fact is that ease of entry into retail trade produces a highly competitive industry structure. This, in turn, assures a manufacturer of a continued market for his products as long as there exists a sufficient demand from final consumers. Thus entry into retail trade as a defensive measure is rendered unnecessary. In contrast, supplies of raw materials are far less responsive to changes in demand than the supply of retail services, so that the former may be largely pre-empted by competing manufacturers who maintain their own activities in the extractive industries. Also, in periods of rising demand, the prices of raw materials are likely to rise rapidly. This, in turn, may offer an incentive for entry into raw-materials production as a defensive measure. However, the value of this step is offset by the fact that a manufacturer who produces his own raw materials loses the opportunity to

² This excludes the operation of sales offices for the firms' products.

³ Appendix Table B-3, unlike Table 33, records the number of industrial activities at the 4-digit level of detail. Thus it allows for the fact that some companies were active in more than one 4-digit industry falling within the broader 2-digit nonmanufacturing categories. On this basis, the average number of activities was roughly 4.8 per company compared with 3.6 on the basis of Table 33.

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acquire raw materials at low prices during periods of falling demand.

Companies engaged in the production of consumer goods (food, gasoline, tires) showed, as might be expected, a somewhat greater frequency of activities in retail trade than did the manufacturers of producer goods. Surprisingly, however, the difference was fairly small.

Additions and Abandonments of Products and Services

When the 111 large companies were grouped by their primary industry into thirteen industry categories, a ranking of industry groups based on average number (per company) of nonmanufacturing additions for the 1929-39 period, and one based on data for 1939-50, produced a coefficient of rank correlation (Spearman's) of only .12. For the 1939-50 and 1950-54 periods the coefficient was exactly zero. The lack of stability in the ranks over time may be contrasted to rankings based on average number of *manufacturing* product additions for each of the three periods. On the latter basis, as indicated in Chapter 3, rank correlation for the periods 1929-39 and 1939-50 was .69, and for 1939-50 and 1950-54 it was .80. In short, whereas for additions of manufacturing operations the same groups of

TABLE 34
AVERAGE NUMBER OF ADDITIONS PER COMPANY OF MANUFACTURING AND
NONMANUFACTURING PRODUCTS AND SERVICES, 111 LARGE ENTERPRISES,
GROUPED BY INDUSTRY, 1929-54

Primary Industry of Company	Nonmanufacturing			Manufacturing		
	1929- 39	1939- 50	1950- 54	1929- 39	1939- 50	1950- 54
Food products	1.75	1.17	.42	4.33	3.00	2.42
Tobacco manufactures	.20	.20	.40	.40	.20	0
Textile mill products	.75	1.25	.75	4.50	4.25	.75
Paper products	.63	1.50	.38	3.88	4.75	4.75
Chemicals	1.29	1.57	1.15	5.07	5.43	5.93
Petroleum	1.70	2.00	.20	2.40	3.70	2.10
Rubber products	.60	1.40	.60	7.80	10.60	10.80
Stone, clay, and glass products	1.71	.57	.43	5.29	3.57	2.29
Primary metals	1.80	1.50	1.00	4.10	.90	2.20
Fabricated metal products	.80	.20	.40	2.00	4.20	2.80
Machinery	.62	.46	.69	2.69	2.77	2.54
Electrical machinery	3.00	.20	.80	12.20	12.40	7.60
Transportation equipment	.77	.77	.38	4.85	4.85	6.15
All Companies	1.22	1.06	.59	4.36	4.27	3.88
Ratio of Variances ^a	1.76	1.25	.60	2.74	4.28	2.83

SOURCE: Product record described in Chapter 2.

^a The ratio for each column of the variance between industry classes to the variance within industry cells, with $N_1 = 12$, $N_2 = 98$.

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companies tend to be associated with the highest frequencies in successive periods, for nonmanufacturing activities there appears to be no such stable pattern. Thus, for example, the fact that food products companies may have had more additions of nonmanufacturing activities in a given period than did textile mill products companies offers no clue to the relative frequencies for the two groups in subsequent or preceding intervals of time.

Changes in the ranks assigned to industry groupings of companies for frequency of nonmanufacturing additions suggests an absence of a stable relation between the primary industry of a company and the firm's opportunities for integration or diversification by entry into nonmanufacturing activities. This conclusion is given further support by the substantial variability in the number of nonmanufacturing activities added in a given time period by companies in the same industry group. Table 34 shows substantial differences between the thirteen industry groups in mean frequencies of product additions, both for manufacturing and nonmanufacturing activities, and in each of the three periods. However, for nonmanufacturing additions, variations in frequencies between companies in the same industry groups were so wide that differences between in-

TABLE 35
TOTAL NUMBER OF ADDITIONS OF PRODUCTS AND SERVICES AND OF
NONMANUFACTURING PRODUCTS AND SERVICES, 111 LARGE
ENTERPRISES GROUPED BY INDUSTRY, 1929-54

Primary Industry of Company	Number of Companies	Total Additions			Nonmanufacturing Additions		
		1929- 39	1939- 50	1950- 54	1929- 39	1939- 50	1950- 54
Food products	12	73	50	34	21	14	5
Tobacco manufactures	5	3	2	2	1	1	2
Textile mill products	4	21	22	6	3	5	3
Paper products	8	36	50	41	5	12	3
Chemicals	14	89	98	98	18	22	15
Petroleum	10	41	57	23	17	20	2
Rubber products	5	42	60	57	3	7	3
Stone, clay, and glass products	7	49	29	19	12	4	3
Primary metals	10	59	24	32	18	15	10
Fabricated metal products	5	14	22	16	4	1	2
Machinery	13	43	42	42	8	6	9
Electrical machinery	5	76	63	42	15	1	4
Transportation equipment	13	73	73	85	10	10	5
Total	111	619	592	497	135	118	66
Percentage of total additions		100	100	100	21.8	19.9	13.3

SOURCE: Product record described in Chapter 2.

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TABLE 36
TOTAL NUMBER OF ABANDONMENTS OF PRODUCTS AND SERVICES AND OF
NONMANUFACTURING PRODUCTS AND SERVICES, 111 LARGE
ENTERPRISES GROUPED BY INDUSTRY, 1929-54

Primary Industry of Company	Number of Companies	Total Abandonments			Nonmanufacturing Abandonments		
		1929- 39	1939- 50	1950- 54	1929- 39	1939- 50	1950- 54
Food products	12	5	27	22	3	12	8
Tobacco manufactures	5	1	3	0	0	0	0
Textile mill products	4	1	4	4	0	0	0
Paper products	8	2	15	2	0	2	0
Chemicals	14	11	30	17	3	9	3
Petroleum	10	8	16	9	0	5	7
Rubber products	5	10	9	8	4	3	3
Stone, clay, and glass products	7	4	12	7	2	4	1
Primary metals	10	14	34	11	8	21	9
Fabricated metal products	5	2	14	5	0	6	1
Machinery	13	5	15	4	2	3	1
Electrical machinery	5	4	12	1	0	3	0
Transportation equipment	13	24	29	13	12	9	2
Total	111	91	220	103	34	81	35
Percentage of total abandonments		100	100	100	37.4	36.8	34.0

SOURCE: Product record described in Chapter 2.

dustry means did not appear to be statistically significant when subjected to analysis of variance.⁴ This appears to indicate that frequency of entry into nonmanufacturing activities is determined largely by conditions peculiar to individual firms rather than to the industries in which their main operations fall.

While for the 111 firms the number of nonmanufacturing activities grew in the 1929-54 period, the proportion of all additions that were outside manufacturing declined over this interval. In each of the three periods studied, additions of nonmanufacturing products or services exceeded abandonments (Tables 35 and 36). However, nonmanufacturing additions as a percentage of all additions declined, from 21.8 in 1929-39 to 19.9 in 1939-50, and more sharply to 13.3 in 1950-54. When net additions are computed by subtracting abandonments from gross additions, net nonmanufacturing as a percentage of net total additions declined from 19.1 in 1929-39 to 10.0 in 1939-50 and 7.9 in 1950-54.

For a manufacturing enterprise, the likelihood of survival in non-manufacturing operations appears to be distinctly less than in manu-

⁴ Indeed, for the 1950-54 period, the variance within industry classes was greater than that between industry means.

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TABLE 37
DISTRIBUTION OF NONMANUFACTURING ADDITIONS OF PRODUCTS AND SERVICES BY INDUSTRY,
111 COMPANIES GROUPED BY INDUSTRIES, 1929-39

<i>Number and Industries of Product Additions</i>							
<i>Industries of Companies^a</i>	Extractive Industries	Construction	Transportation and Utilities	Retail and Wholesale Trade	Real Estate and Finance	Services	Total
Food products (12)	5	0	3	4	7	2	21
Tobacco manufactures (5)	0	0	0	0	0	1	1
Textile mill products (4)	1	0	0	1	1	0	3
Paper products (8)	2	0	3	0	0	0	5
Chemicals (14)	5	0	7	2	1	3	18
Petroleum (10)	4	0	6	1	4	2	17
Rubber products (5)	0	0	0	2	1	0	3
Stone, clay, and glass products (7)	5	0	3	2	1	1	12
Primary metals (10)	3	4	4	2	4	1	18
Fabricated metal products (5)	2	0	0	0	2	0	4
Machinery (13)	1	0	1	0	4	2	8
Electrical machinery (5)	1	0	6	0	2	6	15
Transportation equipment (13)	0	0	2	1	5	2	10
Total	29	4	35	15	32	20	135

SOURCE: Product record described in Chapter 2.

^a Numbers in parentheses refer to number of companies in the specified industry.

facturing industries. In the three periods, nonmanufacturing abandonments ranged from 34.0 to 37.4 per cent of the aggregate number of abandonments for the 111 companies combined. This is distinctly greater than the percentage of all products and services of these companies contributed by nonmanufacturing activities, at least when measured as of the terminal data of the 1929-54 period.⁵ The relatively high rate of abandonments for nonmanufacturing operations is even clearer when compared with the rate of additions. In manufacturing, the number of abandonments in the 1929-54 period as a whole equaled only 19.0 per cent of additions; for nonmanufacturing the comparable percentage was 47.0.

Nonmanufacturing Industries Entered by Large Enterprises

In this section, the discussion focuses on the types of industries most frequently entered. That is, given a number of broad nonmanufacturing sectors, how important is each as an integration or diversification outlet for our sample of firms?

⁵ In 1954, at the 4-digit industry level, nonmanufacturing activities accounted for 18.6 per cent of all the activities of the 111 companies.

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TABLE 38

DISTRIBUTION OF NONMANUFACTURING ADDITIONS OF PRODUCTS AND SERVICES BY INDUSTRY,
111 COMPANIES GROUPED BY INDUSTRY, 1939-50

<i>Number and Industries of Product Additions</i>							
<i>Industries of Companies^a</i>	Extractive Industries	Con- struction	Transpor- tation and Utilities	Retail and Wholesale Trade	Real Estate and Finance	Services	Total
Food products (12)	3	1	4	3	2	1	14
Tobacco manufactures (5)	0	0	1	0	0	0	1
Textile mill products (4)	1	0	1	1	1	1	5
Paper products (8)	5	0	4	1	0	2	12
Chemicals (14)	7	2	9	2	0	2	22
Petroleum (10)	4	0	8	4	1	3	20
Rubber products (5)	0	0	1	3	0	3	7
Stone, clay, and glass products (7)	1	0	1	0	2	0	4
Primary metals (10)	4	1	6	0	4	0	15
Fabricated metal products (5)	0	0	0	0	1	0	1
Machinery (13)	0	0	1	1	1	3	6
Electrical machinery (5)	0	0	1	0	0	0	1
Transportation equipment (13)	0	1	1	1	3	4	10
Total	25	5	38	16	15	19	118

SOURCE: Product record described in Chapter 2.

^a Numbers in parentheses refer to number of companies in the specified industry.

An examination of the data in Tables 37, 38, and 39 reveals that important changes occurred in the choice of nonmanufacturing outlets for the period studied. In 1929-39, for the 111 companies additions in transportation and utilities accounted for 25.9 per cent of all nonmanufacturing additions. In 1939-50, the comparable percentage was 32.2. In 1950-54, however, it dropped to only 7.5. Similarly, in 1950-54, additions in wholesale and retail trade declined sharply as a percentage of total additions: the percentages were 11.1, 13.5, and 6.7 for the 1929-39, 1939-50, and 1950-54 periods, respectively. In contrast, additions in the extractive industries rose from roughly 21 per cent of all nonmanufacturing additions in the two earlier periods to roughly 33 per cent in 1950-54. For service industries, the relevant percentages were 14.9, 16.1, and 21.2 for the three successive periods. Thus, in the composition of their non-manufacturing operations, large manufacturing enterprises appear to be moving away from transportation and utilities and wholesale and retail trade and toward services and the extractive industries. There was a substantial rise in the relative importance of real estate and finance in the

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TABLE 39
DISTRIBUTION OF NONMANUFACTURING ADDITIONS OF PRODUCTS AND SERVICES BY INDUSTRY,
111 COMPANIES GROUPED BY INDUSTRY, 1950-54

<i>Number and Industries of Product Additions</i>							
<i>Industries of Companies^a</i>	Extractive Industries	Con- struction	Transportation and Utilities	Retail and Wholesale Trade	Real Estate and Finance	Services	Total
Food products (12)	4	0	1	0	0	0	5
Tobacco manufactures (5)	0	0	0	0	2	0	2
Textile mill products (4)	0	1	0	1	1	0	3
Paper products (8)	0	0	0	0	0	3	3
Chemicals (14)	5	0	2	1	4	3	15
Petroleum (10)	0	0	1	0	1	0	2
Rubber products (5)	0	0	0	2	1	0	2
Stone, clay, and glass products (7)	2	0	1	0	0	0	3
Primary metals (10)	7	1	0	0	1	1	10
Fabricated metal products (5)	1	0	0	0	1	0	2
Machinery (13)	3	2	0	0	2	2	9
Electrical machinery (5)	0	0	0	0	2	2	4
Transportation equipment (13)	0	0	0	0	2	3	5
Total	22	4	5	4	17	14	66

SOURCE: Product record described in Chapter 2.

^a Numbers in parentheses refer to number of companies in the specified industry.

terminal period as compared with 1939-50, but only a modest increase as compared with 1929-39.

Entry into the extractive industries was associated not only with integration—that is, production of raw materials for the firm's own manufacturing processes—but also with activity that can be classified as diversification. For example, there were instances of meat packers acquiring properties for the mining of minerals; and a number of companies, including a manufacturer of alcoholic beverages, entered into natural gas extraction.

In the finance sector, many of the additions consisted of finance companies whose primary function was to facilitate the financing of the companies' own sales. However, the firms also acquired a number of casualty insurance companies and banking facilities whose functions were not restricted to the internal needs of the acquiring firms.

The most frequent additions in transportation and utilities were of trucking fleets; a number of companies also acquired water transport and pipeline facilities. While some companies acquired railway and utility properties, the sale of railway equipment, waterworks, and electric power plants was not an infrequent occurrence.