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Institutional Investors and Concentration of Financial Power: Berle and Means Revisited

DONALD E. FARRAR and LANCE GIRTON*

I. Introduction

BERLE AND MEANS' landmark study [1], published in 1932, attracted a great deal of attention. The attention in part reflected historical aversion in the U.S. to concentrations in private hands of either economic or financial power.

During the 1930's interest in the suspected emergence of concentrations of economic power centered on non-financial corporations. Berle and Means considered AT&T to epitomize the alarming power of the large publicly held corporation of that time.

"With assets of almost five billions of dollars, with 454,000 employees, and stockholders to the number of 567,694 [AT&T] may indeed be called an economic empire—an empire bounded by no geographical limits, but held together by centralized control. One hundred companies of this size would control the whole of American wealth; would employ all of the gainfully employed; and if there were no duplication of stockholders, would be owned by practically every family in the country." ([1], pp. 45)

The authors were quick to point out that size alone was not necessarily dangerous. Their concern was that size, in combination with public ownership, effectively separated ownership from control of corporate assets at a time when the public corporation was emerging as the dominant economic unit (and, they speculated, might in the future become the dominant political unit as well), leaving the public increasingly dependent on the performance of self-perpetuating bodies of corporate managers who were effectively answerable to no one.

Berle and Means accurately perceived that the phenomenal growth of the large publicly held corporation would continue. At year-end 1978 the top 50 NYSE listed companies accounted for 41 percent of the market value of all NYSE companies and 33 percent of the comparable value of all U.S. corporations; the top 5 accounted for 16 percent of Big Board market value and 13 percent of total corporate value. The same 50 NYSE firms produced 37 percent of 1975 Big Board profits and 29 percent of total corporate profits; the top 5 accounted for 15 percent of that year's NYSE profits and 12 percent of profits for the entire corporate sector.

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There is little doubt that the largest non-financial corporations today are substantially larger, not only absolutely but also as a fraction of the entire corporate sector, than was the case 40 years ago. The public would appear to be *more* rather than *less* dependent today—than when Berle and Means first wrote—on the performance of relatively small numbers of large corporations and their managers.

It is notable, therefore, that in an interview for *Dunn's Review* a decade ago [8], Adolph Berle expressed concern not for the increased size and power of non-financial corporations, but rather for “the emergence of a new concentrated power countervailing that of corporate managements . . . in the hands of institutional investors” (pp. 43–44). Berle expressed special concern about the size and apparently continuing growth of commercial bank trust departments as holders (and voters) of corporate shares.

“In recent years, stock has become more and more concentrated in the hands of institutional investors. Among the most powerful are the trust departments of big banks. . . . About fifteen or twenty of the big banks through their trust departments could today mobilize voting control of a very large percentage of American industry. . . .

The current estimate—it frightens me—is that by 1970 institutional investors will hold *one-third* of the stock of all corporations listed on the New York Stock Exchange. That adds up to working control.” ([8], pp. 43–44, emphasis in the original)

Berle concluded that size limitations on institutional investors in general and restrictions on the expansion of commercial banks and bank holding companies should be considered to prevent the emergence of a new power elite from among such institutions (pp. 43–44).

In the remainder of this paper we examine the extent, if any, to which there is an empirical basis for Berle's concerns of a decade ago, over the possibility that concentrated economic power may have passed, or be in the process of passing, from the hands of non-financial corporate managers to those of the managers of large financial institutions.

In the next section data is examined on the size and size distribution of institutional stockholdings, and on the extent to which institutional holdings are concentrated in the shares of particular companies. In the following section we examine the extent, if any, to which institutional holdings of portfolio company securities are related to other business relationships between institution and company. The paper then concludes with a summary and suggestions for further research.

Institutional Holdings of Corporate Stock

Berle's assessment that institutional holdings of corporate stock were large by 1968 and growing, both absolutely and as a fraction of total stock outstanding, was correct, and bank trust departments were indeed preeminent among institutional holders of corporate shares. A summary of holdings by major classes of institutional and other investors over the decade from 1969–78 is contained in Table 1. Institutional holdings of corporate stock amounted to approximately

Table 1
Market Value of Stockholdings
\$ Billions, end of year

	1969	70	71	72	73	74	75	76	77	78
Banks ^{1,5}	186.6	185.4	230.9	283.5	241.9	171.3	219.9	275.2	256.9	289.7(e)
Investment Companies	51.3	50.1	59.5	65.4	49.9	35.0	44.0	48.9	39.3	36.8
Life Insurance Companies	13.7	15.4	20.6	26.8	25.9	21.9	28.1	34.2	32.9	35.5
Property-Liability Insurance	13.3	13.2	16.6	21.8	19.7	12.8	14.2	16.9	17.1	19.4
Other, incl adj ²	31.5	40.6	50.8	64.3	49.1	35.3	49.6	57.4	44.8	70.2
Total Institutional ^{3,5}	296.4	304.7	378.4	461.8	386.5	276.3	355.8	432.9	391.0	451.6(e)
Foreign	26.9	28.7	32.9	41.3	37.0	28.4	52.6	63.9	60.1	64.7
Individual and other ⁴	543.0	526.0	592.4	635.0	477.9	377.0	441.1	562.9	544.0	524.7
Total Stock Outstanding	866.3	859.4	1003.7	1138.1	901.4	641.7	849.5	1059.7	995.1	1041.0
Bank/Total Institutional	63.0	60.8	61.0	61.4	62.6	62.0	61.8	63.2	65.7	64.1
Bank/Total Stock Outstanding	21.5	21.6	23.0	24.9	26.8	26.7	25.9	25.6	25.8	27.8
Institutional/Total Stock Outstanding	34.2	35.5	37.7	40.6	42.9	43.1	41.9	40.5	39.3	43.4

Source unless indicated: SEC *Statistical Bulletin* July 1979.

¹ Includes common and preferred stock. Source: FDIC *Trust Assets of Insured Commercial Banks*, 1969-77.

² Calculated as residual of total institutional and above enumerated institutional types. Includes mutual savings banks and non-bank administered endowments, foundations and employee benefit plans. Also includes adjustments of various sorts for inter-institutional holdings, such as holdings by other institutions of investment company shares.

³ As defined and tabulated by SEC in *Statistical Bulletin*, *op. cit.*, except that bank administered agency accounts, as reported in FDIC *Trust Assets of Insured Commercial Banks*, *op. cit.*, are added thereto.

⁴ Calculated as residual of total stock outstanding and above enumerated foreign and institutional investors. Will include certain institutional account types not covered by the above, such as stockholdings by churches and personal agency accounts managed by investment advisors. The latter was estimated as exceeding \$20 billion in 1969. (SEC *Institutional Investor Study Report*, 1971, V. 1, p. 18.) No information is available regarding the former.

⁵ Estimated for 1978 by regressing Bank/Total Stock and Institutional/Total Stock, respectively, on a linear trend term, then applying the ratios so derived to SEC estimates of year-end 1978 Total Stock Outstanding.

\$296 billion or 34.2 percent of all stock outstanding as of year-end 1969, of which bank trust departments held \$187 billion or 63 percent of the institutional total.¹

Over the nine years since 1969 institutional stockholdings have continued to grow until by year-end 1978 they amounted to more than \$450 billion, approximately 43.4 percent of the market value of all common and preferred stock outstanding. Growth, of course, has not been uniform across institutional types. Bank holdings have increased somewhat more rapidly than those of other major institutions; investment company stockholdings have declined over the decade, while holdings by life insurance companies increased at better than twice the average annual rate of growth of institutions as a group. Direct stockholdings by individuals remained more or less constant in absolute value over the decade, while their relative share of total outstandings declined.²

Concerns over concentration of power require more than a showing that institutions as a group are substantial stockholders. Insight also is required into the distribution of such holdings within the various institutional sectors. Examining this question in 1969 the SEC's *Institutional Investor Study* [11] found that certain of the larger classes of institutional investors are rather highly concentrated. By 1969 the 10 largest bank trust departments administered 37 percent of all trust department assets, the 20 largest administered 51 percent and the 50 largest 70 percent ([11], V. 2, p. 477). To place these numbers in perspective, the 10 largest bank trust departments together held approximately \$68.7 billion in corporate stock as of year-end 1969, or about 8 percent of the market value of all stock outstanding at the time ([11], V. 2, p. 457; and Table 1 above).

Investment advisory firms are the second largest institutional holders of corporate shares. In addition to managing the funds of investment companies, for which such firms are well known, investment advisors also manage substantial pools of personal advisory accounts, employee benefit accounts and the funds of educational endowments, foundations and even certain insurance accounts. Mutual funds under investment advisor supervision held approximately \$51 billion in stock in 1969 and total accounts managed by such firms contained more than \$95 billion in stock at the end of that year ([11], V. 8, p. 18). Here too assets under management are relatively concentrated. The top 5 investment advisors managed 22.5 percent of all stockholdings held by the industry during 1969, the top 10 managed 36 percent, the top 25 nearly 60 percent and the top 50 almost 75 percent of all industry stockholdings ([11], V. 2, p. 158). It follows that the top 10 investment advisory firms managed approximately \$34.6 billion in common stock

¹ This definition, like other definitions of total institutional stockholdings, is incomplete. (See notes 2-4 of Table 1).

The New York Stock Exchange estimated that by 1972 financial institutions probably held close to 45 percent of the market value of all NYSE stocks [7], 1973, p. 51. Extrapolating this to 1978 produces an estimate of 48 percent as the fraction of NYSE value held by institutions. By contrast, institutional stockholdings in 1929, while Berle and Means were undertaking their original study, were relatively small and had shrunk as a fraction of total stock outstanding since the turn of the century. See Goldsmith [3], p. 364 and [4], p. 100.

² Other indications of apparently continuing institutionalization of the stock market are reductions since 1970 in the number of individual direct shareholders and continuing reductions over the past two decades in the share of public transactions volume accounted for by individual direct investors. See [6], p. 1; [7], 1979, p. 52; and [11], V. 8, p. 78.

portfolios during 1969 or 4 percent of the market value of all stock outstanding ([11], V. 2, p. 158; and Table 1 above).

While total stockholdings by life insurance companies are smaller than for either banks or investment advisors, they are growing more rapidly and were far more concentrated in 1969 than was the case for any other institutional type. During that year the single largest life insurance company, Prudential, held more than 25 percent of all the stock-oriented, separate account assets in its industry. The top 3 life insurance companies held better than 50 percent of all such assets while the top 7 held more than 75 percent ([11], V. 2, p. 507). Together these firms held a little more than \$10 billion in corporate stock or approximately 1 percent of all stock outstanding. Should the 7 largest life insurers have retained their share of industry stockholdings through the past decade, those holdings now would exceed \$27 billion or 2.6 percent of all corporate stock outstanding ([11], V. 2, p. 507). Similar degrees of concentration apparently exist among other types of institutional investors as well ([11], V. 2, p. 848; and Table 1 above).

Given the size and apparent concentration of holdings by institutional investors, it becomes relevant also to examine the extent to which institutional portfolios may be concentrated in the shares of any subset of portfolio companies.

Wall Street folklore has held for some time that institutional stockholdings tend to be concentrated in the shares of relatively few, large "top tier" corporations. Until the early 1970's, however, this presumption does not appear to have been based on a very substantial body of factual data.

Several studies [10], [11], [14] which examined institutional holdings during the 1960's indicated that, while institutional holdings were heavily invested in the shares of larger companies, they were not more concentrated in those shares than was the market as a whole. However, these studies were not well designed to assess the question addressed. Accordingly, Rosenberg [9] [11] as part of the Institutional Investor Study, reexamined the extent of concentration in institutional stock portfolios. His analysis was based on holdings of 800 common stocks by the 50 largest bank trust departments, 71 largest investment advisors, 26 largest life insurance companies, 25 largest property and casualty insurers and 41 largest self-administrated university endowments, foundations and employee benefit funds. The stock portfolios of institutions covered by his survey accounted for more than 70 percent of the stock held by all financial institutions on the survey date and for similarly large fractions of the stock held by each included institutional type.

The major thrust of Rosenberg's findings is that, for all types of institutions, holdings are concentrated in the shares of relatively few large companies to an extent greater than can be explained by the size of included companies relative to the market as a whole (p. 55). One measure of the extent of concentration within institutional portfolios is the fraction of total portfolio value invested in the single largest stockholding; another is the number of stocks required to account for half the market value of all stockholdings in the portfolio.³

Table 2 summarizes such values for the securities underlying Rosenberg's

³ To be sure, financial institutions may hold large numbers of securities in their common stock portfolio. But, most of these holdings are relatively small and the great bulk of most such portfolios tends to be invested in the shares of relatively few large companies.

Table 2
Concentration of Holdings in Institutional Stock Portfolios

Institution Type	Sample Stocks* Year End 1969				
	Stock Holdings (1)	% Portf. in Largest Issue (2)	% of that issue (3)	# Stocks in Top 50% (4)	# Stocks in Portfolios (5)
Bank Trust Departments	\$165	19.5	2.1	8.1	243.8
Investment Advisers	95	13.8	.9	9.6	96.4
Property & Liability Co's.	11	16.9	.6	8.4	47.7
Life Insurance Co's.	11	14.3	1.0	9.3	43.3
Self Admin. Employee Benefit	13	39.0	4.3	7.8	39.0
Self Admin. Foundations	12	43.7	3.8	2.6	27.7
Self Admin. Endowments	3	19.3	.2	6.7	35.8
All Institutions	311				
All Common Stocks (approx.)	1,000				

* Sample stocks consist of the following: 27 largest NYSE, 198 randomly selected NYSE (27 largest excluded), 100 randomly selected Amex, 150 randomly selected OTC and 318 specifically selected for a variety of reasons. Total list = 793 securities.

(1) \$ Billions. Source: IIS, V. 8, p. 18.

(2), (3), (4), (5) Source: IIS, V. 3, pp. 1337, 1339, 1342-4.

study. Here we see that the largest position in a typical large bank trust department accounts on average for 19.5 percent of the market value of the entire trust department's holdings of sample stocks and that only 8 stocks are required to account for half the market value of sample stocks held by the typical bank. Comparable figures for investment advisors are 13.8 percent of market value in the single largest holding and 9.6 stocks to account for half the market value of sample stock portfolio holdings.

Review of holdings by other institutional types reveals that such degrees of concentration are not unique to banks and investment advisors but appear to be characteristic of institutions in general.⁴ One also should note the considerable degree of commonality among stocks in which institutional portfolios are heavily invested. IBM, for example, appears among the 8 companies on average comprising the top half of sample stockholdings by 48 of the 50 largest bank trust departments. General Motors is included in the top half for 42 of the 50 banks; Exxon is included in 34; Eastman Kodak in 39; etc. ([11] V. 3, pp. 134-47). The degree of commonality observed is striking, and they are the largest companies in the United States.

Given the extent of concentration in institutional portfolios, relatively few institutions hold among themselves fairly sizeable fractions of the stock outstanding for a great many, large American companies. Specifically, 48 out of the 55 billion dollar (equity value) companies in the U.S. in 1969 had 5 or fewer institutional shareholders who, together, could aggregate 5 percent or more of the corporation's shares; two-thirds of such corporations had 5 or fewer shareholders who together could muster 10 percent of outstanding stock; and 16 percent had 5 or fewer holders of 20 percent of their shares ([11] V. 5, p. 2582).⁵

As all ten of the largest institutional holders of common stock are bank trust departments, these conclusions would not be effected to any important degree by substituting the word "bank" for "institution" in the paragraphs immediately above.

Multiple Business Relationships

Institutional holdings of portfolio company shares also may be related to other business relationships between financial institutions and non-financial corpora-

⁴ To gain a sense of the extent to which these figures are affected by use of an 800 stock sample rather than an exhaustive set of all stocks in institutional portfolios, we may note that the largest holding by banks of sample stocks amounted on average to 11 percent of the bank's entire portfolio (vs. 19.5 percent of its portfolio of sample stocks), and for investment advisors 6 percent (vs. 13.8 percent). As the largest holdings in some cases will be in stocks outside the sample, fractions expressed as percent of entire portfolio ordinarily will be biased downward, just as fractions expressed as percent of sample stocks will tend to be biased upward when the largest holdings are in stocks which *are* part of the sample.

One should regard the very high degree of concentration in the portfolios of foundations and self-administered employee benefit plans separately, since their funding is done under special circumstances.

⁵ As portfolio companies became smaller these fractions decline, irregularly at first, then quite rapidly until, as firms' equity values drop below \$250 million, one finds relatively infrequent incidence of concentrated institutional holdings. Among companies whose equity values were less than \$10 million in 1969, for example, only one quarter had 5 institutional holders who could aggregate even 5 percent of the company's shares ([11] V. 5, p. 2582).

tions. A comprehensive description of business and other relationships between 161 of the largest financial institutions and 288 sample companies was attempted by the Institutional Investor Study. The set of institutions, by now familiar, consists of 49 of the 50 largest banks, 69 of the 71 largest investment advisors, 21 large property and casualty insurance companies and 22 of the largest life insurance companies. The 288 company sample of non-financial corporations contained the 27 largest NYSE companies, 161 randomly selected NYSE, American Stock Exchange and over-the-counter companies, and a judgement sample of 107 companies.⁶

Data were collected on each of the business and personnel relationships considered and on company and institution size and geographic proximity for each of the 46,368 possible institution/company pairs.⁷ Business and personnel relationships are variables of interest; company and institution size and geographic proximity are used to control for what otherwise might be spurious sources of association between the business and other relationships.

Many of the observations, of course, are between institutions and companies which have no common business or personnel relationships. Indeed only 10,982, or about one-fourth, of the possible observations are between companies and institutions which "know" one another in at least one of the ways enumerated above. After eliminating null observations from the sample, the frequency of business and personnel relationships between sample institutions and companies which do "know" one another are as tabulated in Table 3.

Here we see that banks, in part because of their size and in part because of the broad range of their services, tend to have far more contacts with sample companies than do institutions of other types. The average bank summarized in Table 3, for example, had 196 separate business relationships with sample companies, of which 72 or a little over one third were duplicate or multiple relationships with a company known in at least one other way ([11], V. 5, pp. 2735, 2741). A typical investment advisor, by contrast, had only 43 contacts with the 288 sample companies, almost all of which were as a shareholder. Property and liability insurance companies averaged 36 such contacts; life insurance companies averaged 60, of which 27 were as stockholder and 23 were as creditor.

Analyses of the apparent independence (or interdependence) of business and personnel relationships between institutions and companies covered by the cross section of nearly 11,000 non-null institution/company pairs, are straight forward. Observations are grouped by institution type and, initially, simple pairwise correlations are calculated between: stockholdings, personnel, plan manager, creditor and other variables.

Variables for the existence of personnel interlocks and employee benefit plan manager relationships are coded as dummy variables, (1 if the relationship is present, 0 if not). Regional proximity also is coded as a dummy variable, (1 if company and institution are headquartered in the same Standard Metropolitan Statistical Area, or Standard Consolidated area if New York or Chicago, 0 if not). Stockholdings, loans and demand deposits are measured as fractions of the

⁶ For a fuller description of the sample see [11], V. 5, p. 2720 and Supl. V. 11.

⁷ 161 institutions $\times$ 288 companies = 46,368 institution/company pairs.

Table 3
Number of Relationships between Institutions and 288 Sample Companies*

	Shareholdings	Creditor	Depository	Employee Ben. Plan Manager	Personnel
Banks (49)	5324	1581	2133	285	297
Investment Adv. (69)	2748	67	0	45	91
P & L Insurance (21)	640	43	0	0	69
Life Insurance (22)	598	506	0	96	113

* Source, IIS, V. 5, pp. 2735, 2741.

company's outstandings of each. Company and institution size are measured in logarithms of market value of equity (for company) and market value of investment assets (for institutions).

All correlation coefficients between measures of business and other relationships are positive and highly significant *if* the institution in question is a bank (*t*-ratios typically are between 10 and 15); all are near zero if the institution is *not* a bank but an investment advisor, property and casualty or life insurance company (for which the largest *t*-ratio is 1.7) ([11], V. 5, p. 2742).

Multivariate regression analysis is then employed to sort out the impact on each variable of interest of all the others, and of control variables (company size, institution size and regional proximity), whose effects may be jointly pervasive and may account in part for the high pairwise correlations observed above (for banks). Results of these analyses are summarized in Table 4.

The pattern of intercorrelation between business and other relationships observed through simple, pairwise correlations remains in multivariate regression analyses if the institution in question is a bank, as does the converse if the institution is other than a bank.

Taking stockholdings as a fraction of the issuing corporation's outstanding as an example (Table 4, upper left hand panel), we see that the size of a bank's holdings of a company's outstanding stock is strongly and positively related to *all* of the existence or size of: personnel relationship, plan manager relationship and lending or deposit relationship, even after the effect of region, company and institution size are controlled for.

Institution size, of course, also is a highly significant variable. Large banks are likely to have larger holdings of portfolio company shares than are smaller banks.

As the typical bank in our sample holds on average only .0039 or .39 percent of the outstanding stock of a company from the sample which it "knows,"⁸ the existence of a joint personnel relationship would appear to be associated on average with a 172 percent increase in the fraction of stock outstanding held by the bank. The existence of a plan manager relationship increases the likely fraction of stock held by 146 percent.

Among non-bank institutions, only the three control variables, region, company size and institution size, exhibit positive, statistically significant, regression coef-

⁸ As sample banks "know" many of the sample companies only through commercial relationships rather than as stockholders, the average size of stockholdings when such exist will be greater than the unconditional average, .39 percent.

Table 4
Regression Analyses
Business and Personnel Relationships by Institution Type*

Dependent Variable: Stock/Outstanding										Dependent Variable: Loans/Outstanding									
Banks					P & L					Life Ins.					IA's				
Coeff.	t	Coeff.	t	Coeff.	t	Coeff.	t	Coeff.	t	Coeff.	t	Coeff.	t	Coeff.	t	Coeff.	t	Coeff.	t
Constant	-.0492	—	—	-.0072	—	.0147	—	.0239	—	Constant	.0083	—	.0116	—	-.2470	—	-.0004	—	—
Personnel	.0067	9.6	—	-.0017	1.9	.0011	1.2	-.0034	2.6	Personnel	.0121	2.6	-.0011	2.4	-.0294	3.0	-.0006	0.3	0.3
Manager	.0057	8.0	—	—	—	-.0011	1.2	-.0015	0.9	Manager	.0258	5.4	—	—	-.0210	2.1	-.0008	0.3	0.3
Loans/0	.0086	4.2	—	-.0341	0.5	.0003	0.1	-.0030	0.3	Stock/0	.4417	4.9	-.0124	0.6	-.2521	0.7	-.0059	0.2	0.2
Dem. Dep/0	.0035	2.6	—	—	—	—	—	—	—	Stock/P	.1786	1.7	.0074	0.8	.6546	1.9	-.0103	0.3	0.3
Region	.0023	5.1	—	.0008	1.1	.0012	1.4	-.0005	0.8	Region	.0246	8.1	.0006	1.7	-.0049	0.6	-.0005	0.6	0.6
Co. Size	.0001	1.2	—	-.0014	8.7	-.0005	3.4	-.0022	17.9	Co. Size	-.0071	10.8	-.0004	4.5	-.0181	9.8	-.0002	0.7	0.7
Inst. Size	.0023	11.7	—	.0019	3.8	-.0001	0.4	.0013	7.0	Inst. Size	.0065	4.9	-.0001	0.3	.0292	10.5	.0002	0.7	0.7
R ²	.09			.11		.02		.12		R ²	.07		.04		.19		.001		

Dependent Variable: Personnel Ties										Dependent Variable: Plan Manager									
Banks					P & L					Life Ins.					IA's				
Coeff.	t	Coeff.	t	Coeff.	t	Coeff.	t	Coeff.	t	Coeff.	t	Coeff.	t	Coeff.	t	Coeff.	t	Coeff.	t
Constant	-.1398	—	—	.5027	—	-.6404	—	.3423	—	Constant	-.9438	—	—	—	-.7946	—	-.1020	—	—
Manager	.1328	10.1	—	—	—	-.0465	1.5	.0110	0.4	Personnel	.1271	10.1	—	—	-.0459	1.5	.0057	0.4	0.4
Stock/0	2.1101	8.6	—	-3.1050	2.0	2.0275	1.9	-.8702	3.2	Stock/0	1.8116	7.6	—	—	-.3508	0.3	-.1688	0.9	0.9
Stock/P	.7593	2.7	—	.4648	0.6	-2.0793	2.0	.8235	2.6	Stock/P	.2205	0.8	—	—	-1.7874	1.7	.0270	0.1	0.1
Loans/0	.0215	0.6	—	-7.2953	2.4	-.2810	3.0	-.0431	0.3	Loans/0	.1470	4.0	—	—	-.1980	2.1	-.0287	0.3	0.3
Dem. Dep/0	.1279	5.1	—	—	—	—	—	—	—	Dem. Dep/0	.0700	2.9	—	—	—	—	—	—	—
Region	.1021	12.4	—	.1885	6.7	.2571	10.2	.0500	6.0	Region	.0863	10.6	—	—	-.0163	0.6	.0104	1.7	1.7
Co. Size	.0065	3.6	—	-.0453	5.8	.0009	0.2	-.0124	6.2	Co. Size	.0112	6.3	—	—	-.0052	0.9	-.0008	0.6	0.6
Inst. Size	.0011	0.3	—	.0254	1.3	.0316	3.5	-.0031	1.2	Inst. Size	.0336	9.5	—	—	.0453	5.1	.0064	3.3	3.3
R ²	.10			.11		.12		.02		R ²	.11		.03		.005				

* Null observations are excluded from the above analyses. Numbers of non-null observations for institutions/companies having at least one business or personnel relationship in common are as follows: banks, 6,070; property and liability insurance companies, 747; life insurance companies, 1,125; investment advisors, 3,040. Total sample, 10,982 institution/company pairs.

Stock/0, Loans/0 and Demand Deposits/0 all are measured as fractions of outstanding by the issuer. Stock/P is defined as stock as a fraction of the institution's portfolio.

Source: IIS, V. 5, pp. 2723-30, 2741-48.

ficients. *t*-ratios greater than 1.5 are exhibited by the relationship between stock outstanding and personnel interlocks for property and liability insurers and investment advisors; the estimated partial relationships for these variables both are negative, however, suggesting that large stockholdings by non-bank institutions are less likely rather than more likely when a common officer or director is present.

Similar results are repeated for each of the other sets of analyses reported in Table 4. All of loans outstanding, personnel ties and plan manager are positively, and generally strongly, associated with other business relationships *if* the institution in question is a bank. All are weakly and/or negatively related if the institution is *not* a bank. For plan manager as dependent variable (Table 4, lower right hand panel), for example, we note that the probability that a bank will manage all or part of a company's employee benefit plan increases on average by statistically significant amounts with increases in all of stockholdings, loans and deposits, but that the strongest relationship (other than regional proximity) is with "personnel." Should company and bank have an officer/director in common, the probability that the bank will manage at least some portion of the company's employee benefit plan increases by 12.7 percent. This nearly quadruples the 4.77 percent unconditional probability that a sample bank will have a plan manager relationship with one of the sample companies ([11] V. 5, p. 2741).

Summary and Suggestions for Future Research

Let us begin this concluding section with a recitation of the facts established above.

From a review of aggregate data we have concluded that institutional investors have become major holders of corporate stock over the half century since Berle and Means first wrote, and that their growth as shareholders is continuing. We also have noted that all ten of the largest stockholders are bank trust departments and that banks in the aggregate now account for almost two-thirds of all institutional stockholdings.

We also have noted that institutional stock portfolios tend to be concentrated to a surprising degree, and that the shares in which they are concentrated are those of America's largest corporations. As a result, most of the largest issuers have five or fewer institutional shareholders, typically banks, which together hold significant portions of the corporations' outstanding stock and with which the firms may have a number of other business relationships.

It also appears that multiple business relationships between banks and corporate clients are not statistically independent of one another, and that in this respect banks appear to be significantly different than other types of institutional investors.

Adolph Berle's concerns in 1968, then, would appear to have a very substantial basis in fact. These findings give rise to several important questions.

Can and do financial institutions influence corporate decisions in a way which is not in the interests of individual stockholders? Are there differences in the interests of institutional and individual direct investors, in general, or in particular instances, such as during merger negotiations?

Why are institutional holdings concentrated in the shares of large corporations rather than spread around in smaller holdings of securities issued by larger numbers of companies? Is it to reduce the research costs of following larger numbers of portfolio companies? Is it to increase the liquidity of holdings, given limits on the number of companies which can be followed economically? Does it matter, in the sense that such behavior may lead to differences in prices and hence in expected returns from the shares of top-tier and lower-tier companies?⁹

In addition, the large institution-large corporation combination suggests the idea of a countervailing power relationship. It may be that the presence of one or a few dominant stockholders countervailing the power of corporate managers would make corporations more attractive rather than less attractive to individual direct investors. This would be a more likely result the larger the corporation and the more diffuse the holdings of small stockholders.

The presence of other business relationships between institution and portfolio company, unfortunately, tends to diffuse the identity of interests between institutional and other stockholders, and in some instances may even introduce a conflict between the interests of the institution and the beneficiaries of portfolios under its management. Unfortunately, the potential for such conflicts tends to be greatest for bank trust departments, the institutional type whose stockholdings are largest.

The existence of potential conflicts, of course, is recognized by institutions, including banks and their trust departments, which, presumably, endeavor to resolve them in ways which are satisfactory to regulatory officials and other observers.

Still, questions remain regarding the source of interdependence between the various relationships which link commercial banks, trust departments and non-financial corporate clients. Are these relationships "arms length" and, if not, why are they not? Are they in some sense "bundled into" the deposit relationship through legal limits or prohibitions on the payment of interest on certain types of accounts? Are there alternative theories which can explain observed interrelationships? What implications would alternative explanations have for competition within, and the efficiency of, the various markets in which banks and other institutions operate?

These questions are of considerable interest not only to scholars but also to policy makers, whose attitudes toward them may importantly affect the future evolution of the institutions and markets in question.

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⁹ See for example, Rosenberg [9] regarding the liquidity of institutional holdings and Solomon and McDonald [13] regarding market efficiency in the presence of a two-tier market.

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