

Do Institutional Shareholders Police Management?

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Some have argued that legislation limits the ability of institutional shareholders to discipline shirking management teams. However, the level of takeover activity in the 1980s suggests that the cost of using takeovers to discipline management has decreased. This may give institutional shareholders the ability to participate actively in corporate governance. This paper presents an empirical examination that is consistent with this hypothesis. First, institutional ownership concentration varies across firms according to the benefits of policing firms in 1988. The relationship is less pronounced in 1980. Second, firms characterized by concentrated institutional ownership are more likely to use takeovers as the disciplinary mechanism. © 1997 by John Wiley & Sons, Ltd.

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Institutional shareholders have become the dominant shareholders in most of the largest corporations in the United States. There is, however, considerable disagreement over the role they play in corporate governance. Some researchers have examined large shareholders in general and concluded that concentrated ownership is an important mechanism for policing management teams (see, for example, Demsetz, 1983; Demsetz and Lehn, 1985; Shleifer and Vishny, 1986). Others have examined the effect of regulations on institutional shareholders' ability to discipline shirking management teams and concluded that 'institutional investors are remarkably powerless' (Jensen, 1989, p. 66). In this paper I examine empirically the hypotheses that (1) institutional shareholders police management, and (2) regulations affect the policing mechanism used by institutions.

Legislation pertaining to the two most important types of institutions—pension funds and investment funds—is aimed at limiting institutions' ability to take direct actions through the board.¹ The Employee Retirement Income Security Act (ERISA) of 1974 requires that pension funds be diversified and executed as a 'prudent man acting in a like capacity' would execute them. Many

pension fund managers choose to satisfy the prudent man rule by investing with investment funds. Investment funds are regulated by the Investment Company Act 1940. This Act limits the percent of the diversified investment fund's² assets that can be invested in a single firm and the percent of a given firm's equity that a fund can own. The Act also legally defines anyone represented on the board of a firm as an 'affiliated person' of that firm.³ As a result, 'most transactions between it and the fund require prior SEC approval.' (Friend, Blume and Crockett, 1970, p. 27).

Jensen (1989, 1993) and Roe (1990) conclude that these regulatory restrictions effectively prohibit institutions from playing an active role in the firm. There are two reasons for this conclusion: regulations make it costly for institutions to accumulate a stake large enough to influence management, and regulations make disciplinary measures costly. The effect of regulations on the size of stakes accumulated by institutional shareholders can be examined empirically (and is in the next section). The effect of regulatory barriers on institutional shareholders' ability to discipline management is to increase the cost of taking actions through the board of directors. However,

there is nothing in these regulations that affects institutional shareholders' ability to discipline management by facilitating a takeover. Facilitating a takeover can be an extremely effective mechanism for disciplining management teams and the increase in takeover activity that began during the 1980s suggests that the cost of using this mechanism has declined. As the cost of effecting a takeover decreases, the amount of inefficient behavior that the market for corporate control will allow management teams decreases.

Existing empirical evidence is consistent with the hypothesis that institutional shareholders facilitate takeovers. Ambrose and Megginson (1992) look at the institutional ownership concentration of the target firms around the announcement of a takeover and find some evidence which 'indicates that, after the announcement of an acquisition attempt, institutional investors begin selling—presumably either to arbitragers or to the bidding firm itself' (p. 586). Jarrell and Poulsen (1987) find that firms which have the greatest negative share price reaction when they adopt antitakeover amendments also have relatively low institutional shareholdings. Brickley, Lease and Smith (1988) find that large institutional blockholders are more likely to vote against management on value reducing proposals, and Agrawal and Mandelker (1990) show that a lower level of concentrated ownership by institutions is more likely to be associated with approval of a value-reducing antitakeover amendment.

This paper is an empirical examination of institutional ownership concentration and its role in corporate governance in the 1980s. In the next section, I consider institutional shareholders' ability and incentive to police management teams by looking at the shareholdings of the largest institutional shareholders.⁴ Following Demsetz and Lehn (1985), I then examine the relationship between ownership concentration and the costs and benefits to monitoring using data from 1980 and 1988. The results using the 1988 data set are consistent with the policing hypothesis; the results using the 1980 data set are not. If takeovers are an important disciplinary device for institutional shareholders, the difference between 1980 and 1988 may be the result of a decrease in the cost of using the market for corporate control. In the fourth section, I examine the relationship between institutional ownership concentration and the disciplining mechanism used to replace

management teams. If regulations effectively preclude direct actions by institutional shareholders through the board of directors, but the lower cost of using takeovers as a disciplining mechanism has given institutions the ability to effectively police management teams, then we should observe that by the late 1980s, those firms with higher institutional ownership concentration use takeovers to replace management teams. Data from 1986 to 1990 are consistent with this hypothesis.

EQUITY HOLDINGS OF INSTITUTIONAL INVESTORS IN A 1988 SAMPLE OF FIRMS

The policing hypothesis requires the ability to discipline management. This implies a necessary but not sufficient condition for the equity holdings of institutions: that they are large enough relative to other holdings to give the institutions the power (through voting rights) to discipline management.

Table 1 shows that institutional shareholdings appear to satisfy these conditions in 1988. Institutions are the largest shareholder in 59% of the firms in the sample and account for 81% of the top five shareholders. Table 1 also shows that, notwithstanding regulations, institutions frequently own large portions of firms. Investment fund managers are the most active—they are the largest shareholder in over one-third of the firms (panel A) with average holdings of over 5% of the outstanding stock (panel B). Panel B shows the average holdings of the large institutional shareholders. In eleven instances a single institutional shareholding exceeded 15% of a firm's equity, in 36 instances a single institutional shareholding exceeded 10%, and in 256 instances an institutional shareholding accounted for more than 5% of the equity of one of the 376 firms in the sample. Fund managers appear to avoid the costs imposed by the SEC on holdings in excess of 5% by controlling numerous funds—each of which controls less than 5% of a firm's equity—which combined hold well over 5%. These data indicate that the policing hypothesis is plausible and warrants further investigation.

Table 1. Panel A: Largest shareholders in a sample of 376 firms^a by type of shareholder

These are the largest shareholders by type of financial institution for a sample of 376 firms in 1988. A financial institution of some sort was the largest shareholder in 220 of the 376 firms in the sample (i.e. an individual or a non-financial institution is that largest shareholder in 156 firms in this sample). Fund managers, which often manage pension assets as well as mutual funds, are the most common large shareholders.

Type of institution	Largest shareholder	Number of institutions that are:			
		One of top two	One of top three	One of top four	One of top five
Bank trusts	49	123	212	310	424
Insurance company	20	44	72	95	118
Fund manager	143	323	495	682	883
Pension fund ^b	8	23	52	78	107
Total institutions	220	513	831	1165	1548
As a % of total	59	68	74	77	81

Panel B: Percent held by financial institutions that are among the top 5 shareholders

This is the average percent of outstanding shares held by financial institutions that are among the top five shareholders in the 1988 sample of 376 firms. There were 256 financial institutions that held over 5% of the outstanding stock of one of the firms, 36 institutions held over 10% and 11 institutions held over 15%. The standard deviations are given in parentheses.

Type of institution	Largest shareholder	Average percent held by institutions that are:			
		One of top two	One of top three	One of top four	One of top five
Bank trusts	4.5	4.0	3.4	3.0	2.7
	(3.0)	(2.8)	(2.4)	(2.2)	(2.0)
Insurance company	16.8	10.3	7.6	6.6	5.7
	(19.2)	(14.2)	(11.6)	(10.3)	(9.4)
Fund manager	5.9	5.1	4.5	4.1	3.7
	(3.3)	(2.9)	(2.6)	(2.4)	(2.4)
Pension fund ^b	4.2	3.8	3.3	2.9	2.6
	(1.4)	(1.5)	(1.5)	(1.5)	(1.4)

^aInstitutional ownership data are from *Vickers Stock Traders Guide*.

Sample is drawn from the Fortune 500 Industrials, Fortune 100 Commercial Banking, Fortune 50 Diversified Financial, Fortune 50 Life Insurance, Fortune 100 Utilities and some additional media firms.

^bThis does not include employee ownership plans.

INSTITUTIONAL OWNERSHIP AND THE COSTS AND BENEFITS OF POLICING MANAGEMENT

Demsetz and Lehn (1985) argue that if ownership concentration is used to mitigate the agency problem, we should observe ownership concentration varying across firms according to the costs and benefits of policing management. Where the characteristics of the firm indicate that management has a great deal of discretion to pursue its own agenda at a substantial cost to shareholders, ownership concentration should be high. Where the characteristics of the firm indicate that management's decisions will have little impact on firm

performance, ownership structure should be more diffuse. Their empirical results support this contention.

If institutional shareholders are policing management, the results Demsetz and Lehn observed should hold for a measure of institutional ownership concentration. Data sets from 1980 and 1988 are used because of two changes that took place during the 1980s. First, some industries were substantially deregulated, thereby affecting the costs and benefits of concentrated ownership of firms in those industries. The expected effect is discussed below. Second, as mentioned earlier, the takeover wave of the 1980s may suggest the cost of takeovers decreased. Factors that may have

contributed to this lower cost include the advent of junk bonds and a change in antitrust enforcement. If the lower cost of takeovers increased institutions' ability to discipline, the relationship found by Demsetz and Lehn would be more likely to hold for institutional ownership concentration in 1988 than in 1980.

Following Demsetz and Lehn (1985), the hypothesis in this paper predicts that institutional ownership concentration will vary across firms in response to the following variables:

- **FIRM RISK** (standard error of the estimated market model where the firm's monthly returns are regressed on a value weighted market index). This measure of firm-specific risk is intended to capture the control potential of the firm. As the firm's environment becomes more volatile, (1) it becomes more difficult to ascertain management's effort by simply observing output, and (2) management's decisions become more important. A squared term is included to allow for the possibility that as the volatility reaches a certain level, the gains to increased control become smaller relative to the costs of the increased risk. One reason to expect a non-linear relationship is that the increase in control from a marginal increase in stock ownership is likely to become negligible at high levels of ownership. For example, the ability to exercise control may increase significantly as ownership increases from 10% to 15%, but the ability to exercise control is unlikely to vary at all as ownership increases from 51% to 56%.

- **EQUITY**: The market value of common equity is intended to measure the higher cost of obtaining a given amount of larger companies. In addition, generally a smaller percent of stock is required to exercise control in very large companies.

- **FIN and UTIL**: Two regulated industry dummies are included for the financial and utility industries. Regulation may be a substitute for the policing provided by concentrated ownership. It also may limit the discretion of an active owner. Both effects suggest that the regulated industry dummies should have a negative relationship with ownership concentration. However, during the 1980s both industries experienced deregulation.⁵ The Depository Institutions Deregulation and Mon-

etary Control Act 1980, the Garn-St Germain Act 1982, and other changes radically altered the managerial decisions being made in banks and savings and loans. The result in the savings and loan industry is well known. The effect on banks has received less attention in the popular press, but the merger activity in the banking industry which began during the 1980s and continues in the 1990s reflects the major restructuring that has taken place (e.g. increase in interstate banking). Consequently, owners of S&Ls and banks had an increased incentive to control the decision process during the late 1980s.

Focusing on institutional ownership concentration in the regression analysis creates a simultaneity problem since individual ownership concentration and institutional ownership concentration are interdependent. This problem is overcome by using a dummy for the media industry as an instrument for the individual ownership variable. Demsetz and Lehn (1985) argue that firms involved in broadcasting or publishing may provide utility to their owners through the ability to determine what is published or broadcast as well as through profits. They then show that individuals concentrate their investments in these firms. An institution is, however, expected to invest only for pecuniary benefits because it is unlikely that all of the individuals with a financial interest in the institution will share the same tastes for amenity potential.

The 1980 ownership data are from the Corporate Data Exchange's *Banking and Finance Stock Ownership Directory*, *Energy Stock Ownership Directory* and *Fortune 500 Stock Ownership Directory*. The resulting data set has 510 firms and uses two ownership measures: the top five individual owners⁶ and the top five institutional owners (*Inst5*). *Inst5* includes corporate owners as well as financial institutions.

The standard error (*FIRM RISK*) was calculated from the market model run over the years 1976-80 using monthly returns from CRSP. The equity (*EQUITY*) is the average market value of common equity over the years 1976-80 as found in COMPUSTAT. Table 2 shows summary statistics for these variables and various measures of ownership concentration.

The 1988 data set is developed from the same base used by Corporate Data Exchange in 1980:

Table 2. Descriptive Statistics of the 1980 Data

The sample is composed of 511 firms. The table presents the descriptive statistics for various ownership measures (source: Corporate Data Exchange's *Banking and Finance Stock Ownership Directory*, *Energy Stock Ownership Directory* and *Fortune 500 Stock Ownership Directory*) as well as the standard error of the market model (*FIRMRIISK*) and the average market value of equity over the years 1976-80 (*EQUITY*). The standard error is calculated using monthly returns over 1976-80. The number of firms in the sample that are in the media, financial, and utility industries are also included.

	Mean	Median	Standard deviation	Minimum	Maximum
Percent of equity held by:					
● Top five shareholders	24.8	20.6	15.8	1.3	87.1
● Top five institutions	18.4	16.0	11.5	.8	87.1
● Top five individuals	9.1	3.5	13.0	0	69.4
<i>FIRMRIISK</i>	0.068	0.063	0.025	0.031	0.398
Equity (in millions of dollars)	1221.8	573.5	2698.1	22.3	40,587.2
# of utilities			51		
# of financial institutions			54		
# of media firms			14		

Fortune-ranked firms. It is composed of firms from the Fortune 500 Industrial, Fortune 100 Commercial Banking, Fortune 50 Diversified Financial, Fortune 50 Life Insurance, and Fortune 100 Utilities and some additional media firms as found on Compact Disclosure in February 1989.⁷ Firms were excluded if the firm was in the process of merging at the time or had been acquired or merged by April 1989.⁸ Data are available on 376 of the remaining firms.

Measures for the top five individual owners (*Ind5*) and top five institutional owners (*Inst5*) are formed that are comparable to those found in the 1980 data set. In addition, I am able to develop a measure of the top five shareholders among financial institutions (*FinInst5*) using the 1988 data. This measure (and its counterpart—the top five shareholders that are not fund managers) allows us to focus on the investment patterns of the financial institutions.

The institutional ownership concentration is found in Vickers Stock Research *Stock Traders Guide* for the third quarter of 1988.⁹ Individual ownership and corporate ownership data are found in *Spectrum 5* and *Spectrum 6* (Five Percent Ownership and Insider Holdings) for this same period.¹⁰ The 1988 data set uses the same sources as are used in the 1980 data set for equity (*EQUITY*) and standard error (*FIRMRIISK*) over

the years 1983-7. Table 3 shows summary statistics for the 1988 data set.

Table 4 presents the results using the 1980 data set. Table 5 contains regression results from the two different measures of institutions developed using the 1988 data set—*FinInst5* and *Inst5*.¹¹

In 1980, the coefficient on the standard error variable is insignificant indicating that institutions are not concentrating their investments in firms in which the gains to policing are the greatest.¹² In 1988, the standard error coefficient is significant and of the expected sign in both equations as is the squared term. The coefficients indicate that institutional ownership concentration will increase over more than 90% of the sample in the *FinInst5* equation; more than 95% in the *Inst5* equation. An increase from the minimum *FIRMRIISK* to the point at which ownership concentration reaches a maximum results in a 5% and 9% increase in *FinInst5* and *Inst5*, respectively. A standard deviation change in standard error from the minimum translates into about a 3% increase in ownership concentration in both equations.

The coefficients on the regulation dummies also change between 1980 and 1988. Consistent with the policing hypothesis, the coefficients on the regulation dummies are negative and significant in 1980. In 1988 the magnitude of the utility dummy is much smaller and the financial dummy

Table 3. Descriptive Statistics of the 1988 Data

The sample is composed of 376 firms. The table presents the descriptive statistics for various ownership measures (source: *Vickers Stock Traders Guide* and *Spectrum 5* and *Spectrum 6*) as well as the standard error of the market model (*FIRMRISK*) and the average market value of equity over the years 1983-87 (*EQUITY*). The standard error is calculated using monthly returns over 1983-87. The number of firms in the sample that are in the media, financial, and utility industries are also included.

	Mean	Median	Standard deviation	Minimum	Maximum
Percent of equity held by:					
● Top five shareholders	24.0	20.5	15.4	4.7	88.3
● Top five financial institutions	16.9	15.7	8.4	2.27	86.6
● Top five institutions	18.8	16.7	10.7	2.27	86.6
● Top five shareholders that are not financial institutions	9.5	2.3	14.6	.007	81.4
● Top five individuals	7.5	1.6	13.1	0.007	81.4
<i>FIRMRISK</i>	0.073	0.067	0.023	0.040	0.204
Equity (in millions of dollars)	2184.4	1347.5	5706.7	36.2	77462.6
# of utilities			35		
# of financial institutions			51		
# of media firms			12		

has a positive (and significant in the *FinInst5* equation) effect. This suggests that changes in the regulatory environment described earlier increased the incentive of owners to control the financial firms.

The notion that deregulation increased the incentive to control financial firms can be tested further by isolating the financial firms that experienced the greatest regulatory changes. Fortune divides financial firms into four types: insurance companies, savings and loans, banks and diversified financial institutions. While all these industries experienced some regulatory changes, banks and S&Ls experienced the most radical changes. Consequently, if financial institutions' ownership concentration varies according to the benefits of policing, we should observe that the coefficient on *FIN* is being driven by banks and S&Ls. When *FinInst5* is regressed on a dummy for banks and S&Ls and a dummy for other financial firms separately (along with the other explanatory variables included in the specifications in Table 5), the dummy for banks and S&Ls is positive and significant at the 1% level and the dummy on other financial firms is insignificant.

THE RELATIONSHIP BETWEEN INSTITUTIONAL OWNERSHIP CONCENTRATION AND THE METHOD OF DISCIPLINING MANAGEMENT

In this section I explore the hypothesis that the institutional owners use the market for corporate control as a disciplinary device. This hypothesis implies that firms characterized by concentrated institutional ownership are more likely to use takeovers as the disciplinary mechanism.

Two samples were developed to test the hypothesis: a sample of firms that were acquired from 1986 to 1990 and a sample of firms that replaced management teams internally during this period. The 1986-90 issues of *Forbes Magazine's* annual list of CEOs of the largest corporations were used to develop a list of firms with CEOs who had been with the firm the same number of years they had been CEO of the firm.¹³ The replacement of a CEO with someone from outside the firm is consistent with a board of directors that is dissatisfied with the management team and acts to change it. The exact date and conditions under which the previous CEO left the firm

Table 4. Estimates of the Determinants of Institutional Ownership Concentration Using 1980 Data

Regressions are run on the percent of ownership held by the top five institutional shareholders of any type (either financial or industrial) in 1980. The endogenous explanatory variable is the percent held by the top five individual shareholders. Individuals are expected to concentrate investments in media firms which have amenity potential (see Demsetz and Lehn, 1985). The media dummy is therefore the identifying restriction for the institution equations. Two-stage least squares is the estimation method. The explanatory variables are intended to capture the costs and benefits to monitoring the firm. The absolute value of *t*-statistics are in parentheses.

	Percent of equity held by the top five institutions (<i>Inst5</i>)
Intercept	12.4 ^a (2.4)
UTILITY	-9.1 ^b (3.9)
FINANCE	-5.2 ^b (2.9)
FIRMRIISK	100.1 (0.7)
FIRMRIISK ²	27.6 (0.03)
EQUITY	-2.6 (1.3)
Percent of equity held by the top five individuals (<i>Ind5</i>)	0.10 (0.5)
R ²	0.15
N	510

The equity coefficient should be divided by 10 billion.

^aSignificance at the 5% level of confidence

^bSignificance at the 1% level of confidence

were found in the *Wall Street Journal Index*. Observations were excluded if the previous CEO left for health reasons (including death), was forced out by the government, or retained an acting position in the firm that was not a demotion (e.g. became chairman or other board member) because these observations may not represent disciplinary action taken by the board. Retirement was included because it could be a euphemism for a firing.

The acquisition sample is found in the Arrivals and Departures section of the *Fortune 500* lists (Industrial and Service) for the years 1986-90.¹⁴ The *Wall Street Journal Index* was used to find the date of the initial offer for the acquired firm.

Ownership concentration measures of financial institutions (*FinInst5*), management (*MGT*), and 5% holders that are neither financial institutions nor management (*NonFinInst5*) are derived from *Spectrum 3*, *Spectrum 5* and *Spectrum 6*.¹⁵ Con-

centration is measured as the top five shareholders in the case of financial institutions and 5% owners, whereas the holdings of all of management are included. In light of the growing evidence regarding the distinct function of employee ownership plans, I also include a measure of employee ownership plans (see, for example Bruner and Brownlee, 1990, or Gordon and Pound, 1989). Observations were excluded if one owner held over 50% of the company or the necessary ownership data were not available.¹⁶

Finally, firms that outperformed their industry were excluded. If a firm outperforms its industry, it is unlikely that the change in management reflects a disciplinary act. Value Line lists the net profits both as a percent of sales and as a percent of net worth.¹⁷ Using these two measures, the average performance over the previous three years was calculated for each firm and for the firm's industry.¹⁸

The final data set has 85 observations in it. This includes 60 acquisitions and 25 internal changes. Table 6 shows descriptive statistics of the sample and a comparison of the means of the two subsamples. There is a statistically significant difference between the institutional ownership concentration variables of the two samples as predicted. None of the other ownership measures shows any statistically significant difference. The results indicate that, among firms in which management is disciplined, takeovers are the mechanism employed by those with higher levels of institutional ownership concentration. The other types of owners do not exhibit a preference for one method over another.¹⁹

CONCLUSIONS

The regulatory costs that institutions incurred by taking on a direct role within portfolio firms through the firm's board of directors did not change during the 1980s; but the increased takeover activity indicates the takeover market became a more cost-effective disciplining mechanism. The increase in takeover activity experienced in the 1980s, which was in part facilitated by institutional investors' dominant role as purchasers of junk bonds, may have allowed institutional shareholders to take on a much more active role in corporate governance.

In this paper, I have presented evidence consis-

Table 5. Estimates of the Determinants of Institutional Ownership Concentration Using 1988 Data

Regressions are run on the percent of ownership held by the top five financial institutions and the percent held by the top five institutional shareholders of any type (either financial or industrial—a measure comparable to that used in 1980) in 1988. The endogenous explanatory variable is the percent held by the top five shareholders that are not financial institutions (either individuals or corporations) and the top five individual shareholders respectively. Individuals are expected to concentrate investments in media firms which have amenity potential (see Demsetz and Lehn, 1985). The media dummy is therefore the identifying restriction for the institution equations. Two-stage least squares is the estimation method. The explanatory variables are intended to capture the costs and benefits to monitoring the firm. The absolute value of *t*-statistics are in parentheses.

	Top five financial institutions (<i>FinInst5</i>)	Percent of equity held by: Top five institutions (<i>Inst5</i>)
Intercept	6.9 (1.6)	5.8 (1.2)
<i>UTILITY</i>	-3.0 (1.7)	-4.2 ^a (2.2)
<i>FINANCE</i>	2.4 (1.9)	1.9 (1.3)
<i>FIRMRIK</i>	239.0 ^a (2.3)	273.2 ^a (2.4)
<i>FIRMRIK</i> ²	-1125.6 ^a (2.4)	-1018.3 (1.8)
<i>EQUITY</i>	-3.3 ^b (4.0)	-3.4 ^b (3.7)
Percent of equity held by the top five individuals		-0.11 (0.8)
Percent of equity held by top five shareholders that are not financial institutions	-0.03 (0.2)	
<i>R</i> ²	0.12	0.13
<i>N</i>	376	376

All equity coefficients should be divided by 10 billion.

^aSignificance at the 5% level of confidence

^bSignificance at the 1% level of confidence

Table 6. Ownership Structure of Firms in which Management was Displaced through Acquisition Compared to Ownership Structure of Firms in which Management was Displaced by Internal Mechanisms

This table includes descriptive statistics of 85 firms with CEOs that left and were not replaced internally during the 1986-90 period. The change was internally motivated in 25 cases, and in 60 cases the firm was acquired. The middle columns show the mean values for the two subsamples. The test statistic for the difference in means is in the far-right column.

Percent of equity held by	Mean (standard deviation)	Mean of acquisition subsample	Mean of subsample with internally displaced management	<i>z</i> -value (<i>p</i> -value)
Top five financial institutions	17.9% (9.3)	19.1	15.0	2.30 (0.02)
Management	4.6 (9.0)	5.5	2.5	1.57 (0.12)
Top five shareholders that are neither financial institutions nor management	9.2 (14.9)	9.8	7.9	0.56 (0.58)
Employee ownership plans	1.4 (3.9)	1.3	1.6	0.28 (0.78)

tent with this conclusion. Data from 1988 indicate that institutions were frequently the largest shareholders in large US corporations with holdings that represented a significant percent of the portfolio firm's equity. These institutions with larger shareholdings have a greater incentive to police management teams than diffuse shareholders since a larger portion of the returns of that policing will accrue to them. These large shareholdings are also significant because (1) they give the institution an increased ability to affect management, and (2) they indicate that institutions have effectively circumvented legislation which, on its face, appears to limit shareholdings to 5%. The evidence on institutional ownership concentration patterns across firms suggests that institutional ownership concentration varies according to the costs and benefits of policing firms in 1988. The relationship is much less pronounced in 1980. Finally, evidence from the late 1980s suggests firms which choose to discipline management using the takeover market are characterized by higher levels of institutional ownership concentration.

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NOTES

1. Pension funds account for the majority of institutional holdings but these funds are typically invested through investment funds, or mutual funds. See Roe (1990) for a more complete discussion of the laws affecting the other major types of institutions: trusts and insurance companies.
2. There are substantial tax advantages to being classified as a diversified fund.
3. A fund that is represented on the board of a firm is an affiliate of an affiliated person. Parts of the 1940 Act speak directly to this and discussions with the General Counsel's office at the SEC indicate that considering that fund as an affiliated person of the firm would be consistent with the spirit of the act.

4. Some have suggested that if an equity investment is a small portion of the total assets of the investor, the investor will not have an incentive to monitor the management of the firm (see, for example, Schranz, 1993). This is not consistent with profit maximization which dictates that the incentive to monitor the management will be a function of the dollar value of the investment—not the percent of the portfolio the investment represents.
5. The natural gas industry was progressively deregulated through the 1980s. By 1988 the move from cost based to competitive ratemaking was well underway (see Dreyfus, 1989). In addition, the commissioner of the Federal Energy Regulatory Commission was considering rule changes for the electric utilities that would expand the class of unregulated generators at the beginning of 1988. Regarding the proposed rule changes, a merchant banker said: 'The electric industry in the late 1980s is characterized by a witch's brew of market risk and rate-of-return regulation ... an environment which is substantially different and more dangerous than any the industry has faced since the Depression of the 1930s' (*Public Utilities Fortnightly*, 14 April, 44; 1988).
6. One individual's holdings is defined as shares held by that individual plus shares held by any related individuals.
7. The results Demsetz and Lehn (1985) found for the 1980 data set also hold for the 1988 data set with two exceptions. As expected, the magnitude of the coefficient on the utility dummy was much smaller (about half what it was in 1980), and the finance dummy became positive (though insignificant). The hypothesis of stability on the finance dummy cannot be rejected ($F = 1.25$); however, a Chow test indicates that the utility dummy coefficient is not stable ($F = 2.06$).
8. If a firm is in the process of merging, concentrated levels of ownership may simply reflect the mechanics of the merger as opposed to a firm that requires policing.
9. ESOPs are excluded from the 1988 data set because they are frequently under management's control and are therefore unlikely to mitigate the agency problem of management. Unfortunately, I am unable to identify them in the 1980 data set. However, results from the 1988 data set suggest the inclusion of ESOPs does not qualitatively change the results.
10. Where there were discrepancies or if Spectrum was missing values for individual holdings, Compact Disclosure and Moody's Industrial Manual and proxy statements were consulted.
11. The endogenous explanatory variables are the percent of equity held by the top five shareholders that are not financial institutions and the percent of equity held by the top five individuals, respectively. Since the percent held by the top five owners is a bounded variable, the errors may not be normally

distributed. To adjust for this, the following logistic transformation was applied: $LX = \log(x/(100 - x))$ where X is the percent being used as the dependent variable. The results are qualitatively the same. To facilitate interpretation of the coefficients, only the non-transformed results are reported.

12. These results do not include an observation that had a SE more than twice that of the next highest. The outlier is Mattel which was involved in a legal battle during the period in question. When it is included, the SE is positive and significant as expected. While concentrated ownership is warranted in this case to assure the case is pursued, it seems inappropriate to interpret the results with this observation since without it, the data do not display any systematic relationship.
13. If a corporation made any of the Forbes 500 lists, that corporation's CEO is included in the survey.
14. Both friendly and hostile acquisitions were included. For our purposes the relevant distinction is between the CEOs that require disciplinary action and those that do not (this issue is addressed later). A hostile takeover only implies that the existing management would like to retain control—it reveals nothing about the competence of the management team.
15. *Spectrum 3* and *Spectrum 5* are published quarterly and *Spectrum 6* is published semi-annually. The *Spectrum* publication immediately before the date of the action (either acquisition or replacement of management) is used. There were five *Spectrum* books that were not available. In those cases the next available earlier volume was used.
16. If there were data in one of *Spectrum 5* or *Spectrum 6* (the two individual ownership sources) the observation was retained.
17. Two measures were used because of the inherent problems of using accounting data to measure performance. Shareholders should not care if the sales for a firm are large or small, only what the profits are relative to the capital. Thus, in one sense, the net profits as a percent of sales is not important. However, net profits as a percent of net worth could be very high just because years of poor performance had led to a very low net worth. If a firm outperformed its industry by both measures, the probability that it is a poorly run firm is much lower. Stock return data were not used because the stock price reflects expectations. Consequently a firm's stock could outperform its industry by still be poorly managed if expectations were that the management would be even worse than it actually was.
18. The decision rule was a firm was excluded if the performance measures unambiguously indicated that the firm had outperformed its industry. Thus, if Value Line only reported one of the performance measures, the decision was based on that one performance measure. If there was no data on the performance of the firm, the firm remained in the sample.
19. A logit regression was run to see if controlling for other ownership variables had an effect on the

ownership variable. The results are consistent with those reported in Table 6 and are not reported here.

REFERENCES

- A. Agrawal and G. Mandelker (1990). Large shareholders and the monitoring of managers: the case of antitakeover charter amendments. *Journal of Financial and Quantitative Analysis*, 25, 143-61.
- B. Ambrose and W. Megginson (1992). The role of asset structure, ownership structure, and takeover defenses in determining acquisition likelihood. *Journal of Financial and Quantitative Analysis*, 27, 575-89.
- J. Brickley, R. Lease and C. Smith Jr (1988). Ownership structure and voting on antitakeover amendments. *Journal of Financial Economics*, 20, 267-91.
- R. Bruner and E. R. Brownlee (1990). Leveraged ESOPs, wealth transfers, and 'shareholder neutrality': the case of Polaroid. *Financial Management*, 19, 59-74.
- H. Demsetz (1983). The structure of ownership and the theory of the firm. *Journal of Law and Economics*, 26, 375-90.
- H. Demsetz and K. Lehn (1985). The structure of corporate ownership: causes and consequences. *Journal of Political Economy*, 93, 1155-77.
- D. A. Dreyfus (1989). Deregulation of the utilities: the natural gas experience. *Business Economics*, 24, 41-7.
- I. Friend, M. Blume and J. Crockett (1970). *Mutual Funds and Other Institutional Investors*, New York: McGraw-Hill.
- L. Gordon and J. Pound (1989). ESOPs and corporate control. *Journal of Employee Ownership Law and Finance*, 1, Fall, 63-74.
- G. Jarrell and A. Poulsen (1987). Shark repellants and stock prices: the effects of antitakeover amendments since 1980. *Journal of Financial Economics*, 19, 127-68.
- M. Jensen (1989). Eclipse of the public corporation. *Harvard Business Review*, September-October, 61-74.
- M. Jensen (1993). The modern industrial revolution exit, and the failure of internal control systems. *Journal of Finance*, 48, 831-80.
- J. Pound (1988). Proxy contests and the efficiency of shareholder oversight. *Journal of Financial Economics*, 20, 237-66.
- J. Pound (1991). Proxy voting and the SEC: investor protection versus market efficiency. *Journal of Financial Economics*, 29, 241-85.
- M. J. Roe (1990). Political and legal restraints on ownership control of public companies. *Journal of Financial Economics*, 27, 7-43.
- M. Schranz (1993). Takeovers improve firm performance: evidence from the banking industry. *Journal of Political Economy*, 101, 299-324.
- A. Shleifer and R. Vishny (1986). Large shareholders and corporate control. *Journal of Political Economy*, 94, 461-88.