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Ownership Concentration, Corporate Control Activity, and Firm Value: Evidence from the Death of Inside Blockholders

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ABSTRACT

We analyze how ownership concentration affects firm value and control of public companies by examining effects of deaths of inside blockholders. We find shareholder wealth increases, ownership concentration falls, and extensive corporate control activity ensues. Share price responses are related to the deceased's equity stake. Control group holdings fall for two-thirds of the firms due to either the estate's dispersal or inheritors selling stock. A majority of firms become targets of control bids: three-quarters of bids are successful; one-third are hostile. Our evidence is broadly consistent with Stulz's (1988) model of the relationship between ownership concentration and firm value.

THE OBJECTIVE OF THIS paper is to assess how changes in insider ownership concentration affect firm value, corporate governance, and the control of public companies. We obtain our evidence on these issues by examining the effects of the death of an inside blockholder—that is, a member of the firm's control group as defined by Securities and Exchange Commission (SEC) disclosure rules—who holds 5 percent or more of a firm's equity. Overall, we find that the death of an inside blockholder, an exogenous event, is value enhancing, reduces ownership concentration, and leads to extensive corporate control activity.

Our analysis has three components. One, we use market-based evidence to evaluate how changes in ownership concentration affect firm value by analyzing the share price response to the death of an inside blockholder. Financial market efficiency implies that share prices capitalize gains or losses from changes in ownership concentration and future control events expected to ensue from an inside blockholder's death. Thus, such valuation effects provide a test of the continuing controversy as to whether ownership concentration promotes managerial entrenchment or aligns insider and noninsider interests. We find that the share price response to the death of an inside blockholder is significantly positive when the level of ownership concentra-

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tion represented by the deceased's shareholding exceeds 10 percent of firm shares. This result supports the managerial entrenchment hypothesis.

Two, we follow each firm for a period of up to ten years to document the subsequent disposition of the deceased's shares and the effect on the firm's ownership structure. We find that deaths of inside blockholders generally reduce ownership concentration as a direct result of the distribution of the estate or due to inheritors selling stock.

Three, we search for subsequent acquisition bids and control changes and find that the reduction in ownership concentration opens the firm to hostile as well as friendly acquisition bids. A majority of firms that sustain the death of an inside blockholder subsequently become the target of control bids. Two-thirds of the bids are friendly; three-quarters of the bids result in a change in control. The presence of control bids and the probability of success are evenly distributed over the range of ownership concentration but there are only friendly bids for highly concentrated firms.

When we disaggregate event study results and estimate cross-sectional regressions to explain the pattern of share price reactions to deaths of inside blockholders, we find that the larger the deceased's shareholding the more favorable the announcement effect, until 40 percent of firm shares is reached, after which the effect is positive but of smaller magnitude. Neither the percentage of shares held by other members of the control group and institutional investors nor characteristics of the deceased (chief executive officer (CEO), founder, or age) has a significant effect on the share price reaction. Although there is generally a reduction in ownership concentration and a considerable number of subsequent changes in control following insider deaths, we find little evidence that at the death announcement the market is capable of predicting specific events for specific firms.

Our results imply that when a single insider owns a substantial amount of a firm's stock, and thus is likely to dominate decision making, firm value is adversely affected. The death of such an individual tends to reduce ownership concentration, open the firm to the market for corporate control, i.e., friendly and hostile acquisition bids, and thus enhance shareholder value. Overall, our evidence is broadly consistent with Stulz's (1988) model of how insider equity ownership and the firm's openness to the market for corporate control affect firm value.

The paper is organized as follows. In Section I, we discuss the theoretical framework and implications of the managerial entrenchment and the convergence of interests hypotheses and review previous empirical work on ownership concentration and firm value. We explain our sample selection and methodology in Section II. In Section III we present evidence about the valuation effect of deaths of insiders holding 5 percent or more of firm shares and report results that are consistent with the managerial entrenchment hypothesis. In Section IV we document the disposition of the shares of deceased blockholders and in Section V we examine the extent and nature of subsequent corporate control activity. Conclusions are drawn in Section VI.

I. Ownership Structure, Firm Value, and the Death of Inside Blockholders

The convergence of interests hypothesis predicts that firm value increases as managerial equity ownership rises. Jensen and Meckling (1976) analyze how firm value is affected by the distribution of ownership between inside shareholders who can consume perquisites, and outside shareholders who cannot. Within this framework, increased managerial ownership of equity alleviates agency difficulties by reducing incentives to consume perquisites and expropriate shareholder wealth. This reduces the potential for misallocation of resources, enhancing firm value. In a related context, Demsetz (1986) argues that nonmanagement insiders with large shareholdings are effective monitors of firm activities, suggesting that increased ownership concentration enhances firm value.

An alternative view assumes there are sufficient market control mechanisms to induce managers without substantial shareholdings to maximize firm value. These mechanisms include managerial labor markets (Fama (1980)), banks (Stiglitz (1986)), capital markets (Easterbrook (1984)), product markets (Hart (1983)), and the market for corporate control (Jensen and Ruback (1983)). For example, if there is low ownership concentration, managerial consumption of perquisites increases the probability of control bids by other agents, limiting the potential for managerial self-dealing. However, Fama and Jensen (1983), DeAngelo and DeAngelo (1985), and Barclay and Holderness (1989) argue that increased insider ownership concentration permits managerial consumption of perquisites and entrenchment of incumbent management by reducing the probability of bidding by outside agents, thus reducing firm value. Stulz (1988) develops a theoretical model of the relation between the takeover market and the proportion of shares owned by insiders and finds that at low levels of management ownership, increased managerial shareholdings enhance firm value but when management ownership is high, increased managerial shareholdings adversely affect firm value by blocking takeovers or making them more costly. In Stulz's model, the value of an all-equity firm reaches a minimum when insider ownership is 50 percent.

These contrasting approaches imply that increased equity ownership concentration either improves managerial incentives, enhancing firm value, or permits entrenchment, decreasing firm value. Several empirical studies estimate cross-sectional regressions to assess the relation between ownership structure and corporate value and reach conflicting conclusions. Demsetz and Lehn (1985) regress accounting rates of return on ownership concentration for 500 large corporations and find no relationship. Morck, Shleifer, and Vishny (1988) estimate the relation between Tobin's Q (the ratio of firm market value to replacement value of its assets) and the fraction of shares owned by insiders for 371 large firms for 1980. They find ownership concentration has a positive effect on Q until insider ownership reaches 5 percent, a negative effect between 5 and 25 percent, and a weakly positive effect above

25 percent. McConnell and Servaes (1990) examine a larger set of firms for 1976 and 1986 and find a positive effect of concentration on Q up to 25 percent insider ownership, after which the effect of increased concentration on Q is mildly negative. These results indicate that the impact of insider ownership on firm value is an unresolved issue, especially when insiders hold more than 5 percent of firm shares. Moreover, these studies use balance sheet data to assess profitability or the ratio of firm market value to the replacement value of its assets which raises a potential causality problem as to whether ownership concentration increases firm value or firm value induces insiders to hold more shares, thereby increasing concentration.

In contrast, we examine the effects of deaths of inside blockholders, which are exogenous events. We find that these deaths generally reduce equity ownership concentration. This approach avoids causality problems intrinsic to prior studies and provides market-based, instead of accounting-based, estimates of effects of changes in insider ownership on firm value. There are several reasons why the death of an inside blockholder is likely to reduce ownership concentration. One, a high marginal federal tax rate (55 percent) is applied to estates over $3 million so that an inside blockholder's death typically engenders sizable tax liabilities.[1] Two, estates of inside blockholders are often dispersed among multiple inheritors, including charitable organizations, which directly reduces ownership concentration. Moreover, different inheritors have different utility functions or legal mandates, existing portfolios, and abilities to meet tax liabilities or finance spending. These factors are likely to foster the sale of some stock, reducing ownership concentration. For example, in many cases the decedent's wealth passes to a charitable foundation or a trust. Trustees are required by law to be prudent with respect to the investment of the assets they hold in trust, which is generally interpreted to require diversification of assets held. At a minimum, ownership concentration will not increase as a result of the death, even if all shares of the decedent pass to insiders.

Our empirical work consists of three parts that relate to the effect of ownership structure on firm value. In the first part (Section III), we analyze market response to announcements of deaths of individuals who own at least 5 percent of firm shares and are listed as members of the firm's control group in the proxy statement prior to death. Within the framework of SEC disclosure rules (Section 13(d)(3) of the Securities Exchange Act of 1934), these individuals are insiders. Financial market efficiency implies that the market alters firm value in accordance with expectations about changes in ownership structure induced by an inside blockholder's death. If increased ownership concentration aligns interests of insiders and other shareholders, firm value should fall in response to the death announcement. If increased ownership concentration weakens external monitoring by curtailing control mechanisms, such as the market for corporate control, an inside blockholder's death should increase firm value. We also examine the characteristics of the

[1] Virtually all states also levy a tax on transfers of estates.

deceased vis-à-vis the firm. In particular, we evaluate whether the individual's position in the firm as CEO and/or founder affects changes in firm value, taking into account the size of the deceased's blockholding.

In the second part (Section IV), we examine corporate proxy statements and other public reports to investigate the disposition of the deceased's shares and to obtain definitive information as to whether insider ownership concentration falls or remains unchanged following the death. If the control group absorbs the deceased's shareholding, there will be no change in insider ownership so the impact of the insider's death is limited to the direct effects of the change in the makeup of the control group, including the loss of the individual. If the deceased's shareholding is not absorbed by the control group, insider ownership concentration falls so the death entails an opening up of the firm's governance structure. These data allow us to examine whether, at the time of the death of the inside blockholder, the market anticipates future changes in ownership structure.

In the third part (Section V), we collect information about subsequent acquisition bids and control changes at firms in the sample and relate these data to the change in the control group's block after the death of an inside stakeholder. The convergence of interests hypothesis implies that no major corporate control activity should occur subsequent to the death. In contrast, the managerial entrenchment hypothesis suggests that if ownership concentration falls after the death of an inside blockholder, corporate control activities, such as hostile takeovers and other acquisition actions, should ensue, depending on the size of the deceased insider's shareholding and the method of the disposition of these shares.

II. Data and Methodology

We obtain announcements of deaths of insiders of firms traded on the New York or American Stock Exchanges (NYSE/AMEX) and the National Association of Securities Dealers Automated Quotation (NASDAQ) system by examining obituary notices published in the *Wall Street Journal* for the period 1973 through 1989. We examine the proxy statement for each firm and find 85 events in which the deceased is an owner or beneficial owner of 5 percent or more of firm shares at the death announcement. The proxy statement is also used to obtain information on employment status of the deceased and on the proportion of shares owned by other members of the control group including officers and directors. There are no cases in which the deceased was a 5 percent blockholder but not a member of the control group so that all events in the sample are deaths of insiders as defined by SEC disclosure rules. We examine the *Wall Street Journal* index for each firm during the two-day event window of the relevant inside blockholder's death but do not find any confounding announcements. We also examine corporate proxy statements and other public reports for up to ten years following the blockholder's death to obtain information on the disposition of the deceased's

shares and any subsequent acquisition bids and control changes at the firms in the sample.

Of the full sample, there are 69 events for firms listed on NYSE/AMEX and 16 for NASDAQ firms. Thirty events are deaths of CEOs and 40 events are deaths of founders. In 16 cases the individual is both CEO and founder. The remaining events (with one exception) consist of deaths of direct descendants of the founder or the extended family. Firms in the sample represent a broad spectrum of industries, encompassing 73 different four-digit Standard Industrial Classification (SIC) codes and 66 different three-digit SIC codes.

Table I provides descriptive data on shareholdings of the deceased and other members of the control group, as reported in the proxy statement prior to the death. For NYSE/AMEX firms on average the deceased holds 24 percent (median 17 percent) of firm shares with a range of 5 to 82 percent. For NASDAQ firms the mean value is 27 percent (median 16 percent) with a range of 5 to 85 percent. Average percentage of shares owned by other members of the control group in the NYSE/AMEX sample is 16 percent (median 9 percent) and 17 percent (median 10 percent) in the NASDAQ sample. By comparison, Morck, Shleifer, and Vishny (1988) report that median holdings of board members of Fortune 500 firms are 3.4 percent of outstanding shares. Thus, the firms in our sample have highly concentrated ownership structures.

Institutional holdings, defined as shares held by investment companies, banks, insurance companies, college endowments, and 13F money managers, are obtained from *Standard and Poor's Stock Guide* for the month prior to the inside blockholder's death. Average institutional holdings for NYSE/AMEX firms are 20 percent (median 14 percent) and for NASDAQ firms are 12 percent (median 11 percent). Mean market value of equity for NYSE/AMEX firms is \$552.8 million (median \$105.9 million) and for NASDAQ firms is \$116.2 million (median \$51.7 million). Sixty-four percent of the sample involves CEOs and/or founders. The characteristics of these subgroups as reported in Table I are similar to those of the sample as a whole.

The share price reaction is calculated using the market model around the date of the *Wall Street Journal* report, $t = 0$, of the death of an inside blockholder. Adjusted returns are measured as the difference between the arithmetic return and the conditional expected return derived as the predicted value from a least squares regression where the coefficients are estimated over a preevent period, $t = -240$ to -121, and the independent variable is the return on the relevant Center for Research in Security Prices market index. Adjusted returns are averaged over all events for each day in the relevant subperiod to obtain average prediction errors, APE. In testing for statistical significance, the null hypothesis is that the APE is equal to zero for each event subperiod and for each portfolio. The test statistic is the ratio of the APE to its standard deviation estimated from the time series of APE for the preevent period, $t = -240$ to -121. If the APE are independent, identically distributed, and normal, the test statistic is distributed as Stu-

Table I

Characteristics of Ownership Concentration, Firm Size, and Age of Deceased Inside Blockholders

Descriptive statistics for insider and institutional shareholdings as a percentage of firm shares, market value of firm (share price multiplied by number of shares outstanding five days prior to the inside blockholder's death), and age of deceased inside blockholders for firms in which the deceased owned 5 percent or more of common stock outstanding, 1973 to 1989; mean values with median values in brackets; N is sample size.

	Full Sample (N = 85)				
	NYSE/AMEX (N = 69)	NASDAQ (N = 16)	CEO (N = 30)	Founder (N = 40)	CEO and Founder (N = 16)
Shares owned by deceased	24% [17%]	27% [16%]	28% [18%]	29% [19%]	31% [18%]
Shares owned by all other members of control group	16% [9%]	17% [10%]	11% [9%]	13% [9%]	12% [9%]
Shares owned by institutional holders	20% [14%]	12% [11%]	15% [11%]	17% [11%]	11% [10%]
Market value of firm ($ millions)	552.8 [105.9]	116.2 [51.7]	121.2 [64.1]	351.1 [81.3]	114.0 [51.3]
Age of deceased	75 [76]	69 [74]	67 [67]	75 [75]	69 [68]

dent's t under the null hypothesis. The dependent variable in the cross-sectional regressions consists of the two-day prediction errors for each event.

III. Empirical Results for Deaths of Inside Blockholders

A. Ownership Stakes of Deceased Insiders and Firm Value

In Table II we report event study results for valuation effects at death announcements of inside blockholders holding 5 percent or more of firm equity. Average excess returns are given for a two-day event window, $t = -1$ to 0, as well as for pre- and postevent periods, $t = -10$ to -2 and $t = +1$ to $+10$, where $t = 0$ is the *Wall Street Journal* report of the individual's death. The t-statistics are in parentheses. For the two-day event window we also report the percentage of returns positive in brackets and the distribution of returns by quartile. For the full sample, the two-day average excess return is 3.01 percent with a t-statistic of 8.16 and 65 percent of returns are positive. The pre- and postevent periods have small excess returns that are not significant. When the sample is disaggregated with respect to exchange, the two-day average excess return is 3.04 percent with a t-statistic of 6.79 for NYSE/AMEX firms and 2.87 percent with a t-statistic of 3.85 for NASDAQ firms. Applying a difference in means test to the two-day excess returns by exchange status yields a calculated t-value of 0.11. Thus, we cannot reject the null hypothesis of equality for share price response of

Table II

Share Price Effects of Deaths of Inside Blockholders Holding 5 Percent or More of Firm Shares

Excess returns in percent for 85 announcements of the death of an inside blockholder with 5 percent or more of shares of firms listed on the NYSE or AMEX and NASDAQ, 1973 to 1989, using market model methodology; *t*-statistics in parentheses, proportion of returns positive in brackets, *N* is the sample size. Market model parameters are estimated using least squares over the preevent period, $t = -121$ to -240, and $t = 0$ is the report of the death in the *Wall Street Journal*.

	(1) Two-Day Excess Return	(2) Distribution of Two-Day Excess Returns	(3)	(4) Preevent Period Return	(5) Postevent Period Return
	(−1, 0)	Quartile (%)	Return	(−10, −2)	(+1, +10)
Full sample	3.01	25	−0.94	−0.07	0.71
(*N* = 85)	(8.16)**	50	1.54	(−0.09)	(0.86)
	[0.65]	75	6.18		
By exchange status:					
NYSE/AMEX	3.04	25	−0.94	−0.72	0.02
(*N* = 69)	(6.79)**	50	1.31	(−0.75)	(0.02)
	[0.64]	75	6.18		
NASDAQ	2.87	25	−0.76	2.69	3.72
(*N* = 16)	(3.85)**	50	2.29	(1.71)	(2.24)*
	[0.69]	75	6.76		
By CEO status:					
CEO	1.77	25	−1.49	1.80	0.69
(*N* = 30)	(2.81)**	50	0.94	(1.35)	(0.49)
	[0.53]	75	6.38		
Non-CEO	3.69	25	−0.30	−1.10	0.71
(*N* = 55)	(7.79)**	50	3.15	(−1.09)	(0.67)
	[0.73]	75	5.77		
By founder status:					
Founder	4.01	25	−0.49	−0.27	1.22
(*N* = 40)	(6.95)**	50	2.31	(−0.22)	(0.95)
	[0.67]	75	6.93		
Nonfounder	2.12	25	−0.77	0.10	0.26
(*N* = 45)	(4.94)**	50	0.80	(0.11)	(0.27)
	[0.62]	75	4.50		

*Significant at the 5 percent level.
**Significant at the 1 percent level.

the two groups so pooling these samples is appropriate. Our results indicate that for firms with concentrated equity ownership structures, the death of an inside blockholder increases shareholder value. This result is consistent with the view that increased ownership concentration permits managerial entrenchment since an inside blockholder's death can be expected to lower ownership concentration.

Table III

Excess Returns by Ranges of the Deceased Inside Blockholder's Shareholding

Excess returns in percent for 85 announcements of the death of an inside blockholder with 5 percent or more of shares of firms listed on the NYSE or AMEX and NASDAQ categorized by range of personal ownership stake (P), 1973 to 1989, using market model methodology; t-statistics in parentheses, proportion of returns positive in brackets, median return in braces, N is sample size. Market model parameters are estimated using least squares over the preevent period, $t = -121$ to -240, and $t = 0$ is the report of the death in the *Wall Street Journal*. Personal ownership stake, P, is the percent of firm shares held by the inside blockholder reported in the SEC filing prior to death. In Panel B the subsamples exclude three returns that exceed 20 percent.

(1) Personal Ownership Stake (P)	(2) Two-Day Excess Return ($-1, 0$)	(3) Preevent Period Return ($-10, -2$)	(4) Postevent Period Return ($+1, +10$)
Panel A: Full Sample ($N = 85$)			
$5\% \leq P < 10\%$	-0.57	-0.29	1.02
($N = 16$)	(-0.54)	(-0.13)	(0.43)
	[0.50]		
	{-0.31}		
$10\% \leq P < 20\%$	3.38	-0.98	1.92
($N = 36$)	(6.44)**	(-0.88)	(1.63)
	[0.63]		
	{1.10}		
$20\% \leq P < 30\%$	6.60	-1.60	-0.80
($N = 10$)	(7.44)**	(-0.85)	(-0.40)
	[0.90]		
	{4.35}		
$30\% \leq P < 40\%$	4.14	5.04	1.34
($N = 8$)	(4.07)**	(2.33)*	(0.59)
	[0.75]		
	{2.65}		
$40\% \leq P$	2.93	0.63	-1.83
($N = 15$)	(2.77)**	(0.28)	(-0.77)
	[0.67]		
	{3.37}		
Panel B: Relevant Subsamples Excluding Three Returns			
$10 \leq P < 20\%$	2.18	-0.83	2.15
($N = 34$)	(4.15)**	(-0.75)	(1.84)
	[0.62]		
	{0.80}		
$20 \leq P < 30\%$	4.88	-1.04	-1.71
($N = 9$)	(5.11)**	(-0.51)	(-0.80)
	[0.89]		
	{2.19}		

*Significant at the 5 percent confidence level.
**Significant at the 1 percent confidence level.

We examine the effect of ownership concentration on the event study results by disaggregating excess returns into ranges of the personal ownership stake (P) of deceased inside blockholders. These results are reported in Panel A of Table III. We find statistically significant positive excess returns for each range of the decedent's shareholding above 10 percent of firm shares. Even firms with the most concentrated personal ownership ($P \geq 40$ percent) have statistically significant positive excess returns associated with inside blockholder deaths, although the magnitude of the average excess return is somewhat smaller, 2.93 percent, than in the over 10 percent and less than 40 percent ranges of personal shareholdings. A difference in means test for excess returns for events in which shareholdings of the deceased are less than 10 percent (5 percent $\leq P <$ 10 percent) of firm shares versus events where holdings exceed 10 percent (10 percent $\leq P$), yields a calculated t-value of 3.45, statistically significant at the 1 percent confidence level, so we can reject equality of average market response in the small ownership tail of the distribution versus the remainder of the sample. In contrast, when we calculate a difference in means test between average excess returns in the middle ownership groups (10 percent $\leq P <$ 40 percent) versus the large ownership tail of the distribution ($P \geq 40$ percent), the t-value is 0.57 which is not statistically significant at the usual confidence levels.

We can interpret this evidence within the context of how insider ownership concentration affects firm value. Our results imply that low levels of ownership (below 10 percent of firm shares) by an inside blockholder do not significantly affect firm value. At higher levels of shareholdings, however, there is a negative effect of inside blockholder ownership on firm value that appears to worsen as concentration increases, but moderates after 30 percent of firm shares is reached.

In Table IV we report the results of cross-sectional regressions in which the dependent variable is the two-day excess returns for the 85 events.[2] To correct for heteroscedasticity the dependent and independent variables are standardized by dividing by the standard deviation of the prediction errors derived from the market model estimation period. We specify two variables to measure the effect of equity ownership structure on the share price response to the death of an inside blockholder. One, PERSOWN, is the ratio of the deceased individual's shares of the subject firm to total shares outstanding. Two, OTHINS, is the proportion of outstanding shares in the firm held by all other members of the control group, including officers and directors. If increased ownership concentration permits managerial entrenchment, these variables should have a positive effect on the share price response to the death announcement. If increased concentration aligns managerial and shareholder interests or if inside blockholders provide valuable monitoring

[2] We also test a qualitative variable for exchange-listed versus NASDAQ firms in each regression but this variable is consistently small and not significant so the results are not reported in Table IV.

Table IV

Cross-Sectional Regressions to Measure the Effect on Share Price Response of Ownership Structure and Characteristics of the Deceased

Results of weighted least squares regressions where the two-day excess returns from the event study are the dependent variable and independent variables measure ownership structure and characteristics of the deceased for a sample of 85 announcements of death of inside blockholders with 5 percent or more of shares of firms listed on the NYSE or AMEX and NASDAQ, 1973 to 1989; *t*-statistics in parentheses. The dependent and independent variables are divided by the standard deviation of the prediction errors in the preevent estimation period. The independent variables are defined as follows: PERSOWN is the shares of the deceased as of the proxy statement prior to death scaled by firm shares outstanding; OTHINS is the proportion of firm stock owned by other members of the control group as of the proxy statement prior to the death; INST is the proportion of firm shares owned by institutional investors as of the month prior to the death; CEO is a qualitative variable that equals one if the deceased is the firm's CEO at the time of death, 0 otherwise; FOUNDER is a qualitative variable that equals one if the deceased is the firm's founder, 0 otherwise; and AGE is the age of the deceased. For equation 6, three observations are excluded.

Equation	PERSOWN (1)	(PERSOWN)^2 (2)	OTHINS (3)	(OTHINS)^2 (4)	INST (5)	CEO (6)	FOUNDER (7)	AGE (8)	Intercept (9)	R^2 (10)
1.	0.2146	−0.0027	0.1152	−0.0024	0.0190				−0.4375	0.1419
	(2.50)*	(−2.27)*	(1.01)	(−1.03)	(0.71)				(−0.15)	
2.	0.2438	−0.0031	0.1163	−0.0023					−0.4667	0.1383
	(3.09)**	(−2.79)**	(1.02)	(−1.00)					(−0.15)	
3.	0.2379	−0.0030			0.0177				−0.2782	0.1318
	(2.83)**	(−2.64)**			(0.67)				(−0.09)	
4.	0.2593	−0.0033	0.0063						−0.2613	0.1275
	(3.35)**	(−3.10)**	(0.20)						(−0.09)	
5.	0.2619	−0.0033							−0.2223	0.1270
	(3.45)**	(−3.25)**							(−0.07)	
6.	0.2757	−0.0034							−0.6647	0.1768
	(4.12)**	(−3.74)**							(−0.25)	
7.	0.2623	−0.0033				−0.4839			−0.0852	0.1322
	(3.45)**	(−3.17)**				(−0.69)			(−0.03)	
8.	0.2725	−0.0035					0.7048		−0.6127	0.1393
	(3.56)**	(−3.37)**					(1.07)		(−0.20)	
9.	0.2736	−0.0034				−0.5502	0.7482		−0.4808	0.1459
	(3.57)**	(−3.30)**				(−0.78)	(1.13)		(−0.16)	
10.	0.3085	−0.0039						−0.0184	0.1934	0.1335
	(3.18)**	(−3.10)**						(−0.78)	(0.06)	
11.	0.3137	−0.0039				−0.6298	0.6367	−0.0165	−0.0250	0.1505
	(3.20)**	(−3.10)**				(−0.88)	(0.93)	(−0.66)	(−0.01)	

*Significant at the 5 percent level.

**Significant at the 1 percent level.

services, the effect of these variables should be negative. Since previous empirical work has tested for a curvilinear relation between insider ownership and firm value, we specify the level and square of both ownership variables.

We also include the ratio of institutional holdings to outstanding shares, INST, in the specification to test whether institutional ownership affects share price reactions to deaths of inside blockholders. Pound (1988) suggests institutional investors are subject to differing incentives that influence firm value. For example, institutional investors might provide effective monitoring of managers at lower cost than atomistic shareholders, implying a positive effect on firm value. Alternatively, institutional investors may align with and vote in the interests of managers because of profitable business relations with the firm or other advantages to cooperation, implying a negative effect on firm value. Empirical studies draw contradictory conclusions about the valuation effect of institutional ownership. Pound (1988) finds the probability of management winning proxy contest is an increasing function of institutional ownership. In contrast, support for the efficient monitoring view is provided by Brickley, Lease, and Smith (1988), who find institutional investors vote more actively than other investors on corporate governance issues, and McConnell and Servaes (1990), who report a positive effect of institutional ownership on the value of Q.

In equation (1) the coefficients of both the linear and squared terms for personal holdings as a proportion of firm shares are statistically significant at the 5 percent confidence level. The coefficient for the linear term is 0.2146 (t-statistic = 2.50) and the coefficient for the squared term is -0.0027 (t-statistic = -2.27). Neither the holdings of other insiders nor institutions has a significant effect on the share price response, even when these variables are specified separately, in equations (2) through (4). Our finding that institutional ownership does not affect firm value is in contrast to the results of McConnell and Servaes (1990) who report that institutional ownership significantly enhances the value of Q. It is possible that the McConnell and Servaes result is due to reverse causality, that is, greater firm value induces greater institutional ownership rather than vice versa. Alternatively, it is possible that institutional shareholdings affect firm value but the impact is independent of the effect of the deceased's shareholdings on ownership concentration. Excluding variables for shareholdings of other members of the control group and institutions, both the linear and squared variables of the deceased's shareholdings are statistically significant at the 1 percent confidence level as reported in equation (5). Thus, our cross-sectional regression results are suggestive of a curvilinear relationship between ownership concentration and firm value.

The coefficients of the regression equations imply that increases in the shareholdings of deceased inside blockholders increase the share price response to death until 40 percent of firm shares is reached. Above this percentage the share price reaction becomes less positive. This suggests that firm value reaches a minimum when insider ownership is 40 percent. In

contrast, McConnell and Servaes find that the effect of increases in ownership concentration on Q is positive up to 25 percent, above which the marginal effect of ownership concentration is slightly negative. Our results are, however, more in line with Morck, Shleifer, and Vishny (1988) who find that the value of Q falls as insider holdings increase from 5 to 25 percent, with Q rising slightly at concentration levels above 25 percent. Overall, our regression results closely parallel the results obtained when the event study returns are disaggregated by the size of the deceased's shareholdings and are broadly consistent with the implications of Stulz's model of how insider equity ownership affects firm value.

Figure 1 is a scatter diagram of the sample of excess returns from the event study and shareholdings of the deceased inside blockholder, which is also suggestive of a nonlinear relationship. To test whether our results are driven by three excess returns that exceed 20 percent, we reestimate equation (5) in Table IV omitting these observations. The coefficients reported in equation (6) are virtually unchanged. When we recalculate the average excess returns for the relevant ranges of the deceased's personal holdings omitting the three returns, Panel B of Table III, the excess returns are somewhat lower but remain statistically significant at the 1 percent confidence level. Moreover, for this revised sample a difference in means test between average returns in the ownership range of less than 10 percent versus greater than 10 percent yields a calculated t-value of 2.69, statistically significant at the 1 percent confidence level, again rejecting the null hypothesis of equality. Thus, the pattern of the results is not affected by the omission of the three observations.

B. Effects of Characteristics of the Deceased on Firm Value

We assess the effect of three characteristics of the deceased inside blockholder on firm value: employment status (CEO versus non-CEO), founder status, and age at death. First, we test the effect of employment status by disaggregating events into subsamples according to whether or not the individual is CEO at the time of death. There are 30 CEOs in our sample who hold, on average, 28 percent of the firm's shares at death. Apart from the role of inside blockholder, if a CEO has valuable firm-specific capital for which he or she is not fully compensated, there should be a negative effect on share prices in reaction to the death since this capital is lost to the firm. If a CEO has little or no firm-specific capital or is compensated for such capital, there should be no effect on share prices in response to the death. If the individual is entrenched or consumes perquisites at the expense of noninsider shareholders, employment as CEO should engender a positive effect on the share price response to the death. Johnson, Magee, Nagarajan, and Newman (1985) find that deaths of CEOs have no significant effect on firm value but their work does not take account of the individual's holding of firm shares.

In Table II, the two-day average excess return for the CEO sample is 1.77 percent (t-statistic = 2.81) compared to 3.69 percent (t-statistic = 7.79)

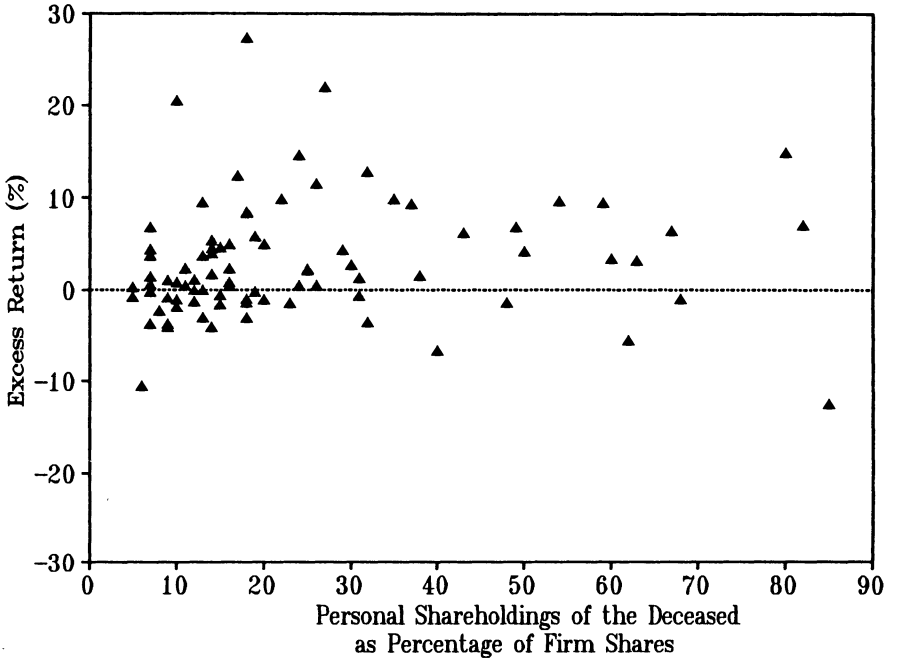

Figure 1. Excess returns in percent for 85 announcements of the death of an inside blockholder with 5 percent or more of firm shares. Firms are listed on the NYSE or AMEX and NASDAQ over the sample period 1973 to 1989. Excess returns are generated using market model methodology; market model parameters are estimated using least squares over the preevent period, $t = -121$ to -240, and $t = 0$ is the report of the death in the *Wall Street Journal*.

for the non-CEO sample. Although the returns to the former are lower than to the latter, the calculated t-value for a difference in means test is 1.07 and not statistically significant. Thus, we are not able to reject the null hypothesis of equality of share price response for inside blockholder deaths based on employment status. When we specify in the cross-sectional regression a qualitative variable, CEO, that equals one if the deceased is CEO at the time of death and zero otherwise, the variable has a coefficient of -0.4839 and is not statistically significant (t-statistic $= -0.69$), as reported in equation (7) in Table IV. Thus, our results indicate that, given the individual's share ownership, the employment status of an inside blockholder has no ceteris paribus impact on the share price reaction to the individual's death. This implies that CEOs either have modest amounts of firm-specific capital or are compensated for the firm-specific capital they possess.

In Table V we provide additional evidence on employment status by calculating the share price response to 103 death announcements reported in the *Wall Street Journal* between 1973 and 1989 of CEOs holding less than 5 percent of firm shares according to proxy statements; 85 events involve NYSE/AMEX firms and 18 involve NASDAQ firms. The two-day average

Table V

Share Price Effects of Deaths of CEOs Holding Less Than 5 Percent of Firm Shares

Excess returns in percent for 103 announcements of the death of CEOs holding less than 5 percent of shares of firms listed on the NYSE or AMEX and NASDAQ, 1973 to 1989, using market model methodology; t-statistics in parentheses, proportion of returns positive in brackets, N is the sample size. Market model parameters are estimated using least squares over the preevent period, $t = -121$ to -240, and $t = 0$ is the report of the death in the *Wall Street Journal*.

	(1) Two-Day Excess Return (−1, 0)	(2) Preevent Period Return (−10, −2)	(3) Postevent Period Return (+1, +10)
Full sample (N = 103)	−0.01	−0.79	0.71
	(−0.01)	(−1.14)	(0.96)
	[0.50]		
By exchange status:			
NYSE/AMEX (N = 85)	0.18	−0.72	0.78
	(0.50)	(−0.95)	(0.98)
	[0.53]		
NASDAQ (N = 18)	−0.86	−1.16	0.35
	(−1.02)	(−0.66)	(0.18)
	[0.39]		

excess return is −0.01 percent (t-statistic = −0.01) for the full sample. The pre- and postevent returns are also small and not significant. The results are not significant when the sample is disaggregated by exchange status. This evidence on deaths of CEOs holding less than 5 percent of firm shares is consistent with the cross-sectional regression result that share price reactions to deaths of inside blockholders are related to the extent of an individual's equity holdings but not to employment status.

A difference in means test between the share price responses to deaths of 30 CEOs holding 5 percent or more of firm shares versus 103 CEOs with less than 5 percent, generates a calculated t-value of 1.32, which is not significant. However, when we disaggregate the inside blockholder sample of 30 CEOs between 24 CEOs who hold 10 percent or more of firm shares and six CEOs who hold less than 10 percent, the calculated t-value for a difference in means test between these two subsamples is 2.16, significant at the 5 percent confidence level. Likewise, a difference in means test between 109 CEOs holding less than 10 percent of firm shares versus 24 CEOs holding 10 percent or more generates a calculated t-value of 2.06, significant at the 5 percent confidence level. This evidence supports the conclusion that it is the extent of insider ownership represented by the CEO's stake in the firm that has an important impact on firm value and not employment status at death.

Second, we examine the effect of founder status. Johnson *et al.* (1985) report a positive share price reaction to deaths of CEOs who are founders and Morck, Shleifer, and Vishny (1988) find that Tobin's Q is lower on aver-

age when the founder of a firm incorporated before 1950 was still the top manager in the year they study, 1980. Forty of the individuals in our sample are firm founders who hold, on average, 29 percent of the firm's shares at death. Thus, these individuals have relatively undiversified portfolios and incur considerable firm-specific risk. Presumably, these blockholders gain benefits from controlling or monitoring firm affairs. If such monitoring is effective and has beneficial effects for other shareholders, the individual's death should reduce firm value. In contrast, if these inside blockholders are not effective firm monitors or obtain a stream of private benefits to the exclusion of other shareholders, their deaths should increase firm value. Another possibility is that at the time of death these individuals were passive investors, with failure to diversify reflecting a desire to avoid capital gains tax. Aside from the individual's exact role in the company's affairs, this tax avoidance behavior may discourage potential bidders from initiating a takeover attempt, especially if a cash bid is contemplated. Tax avoidance ceases to be a motive for maintaining a large shareholding upon the blockholder's death since transfer of an estate triggers a step-up in the basis of the shares. From this perspective, the blockholder's death should reduce future ownership concentration and enhance openness to the market for corporate control, implying a positive share price response.

In Table II the two-day average excess return for the sample of 40 founders is 4.01 percent with a t-statistic of 6.95 and for nonfounders it is 2.12 percent with a t-statistic of 4.94. Nevertheless, a difference in means test yields a calculated t-value of 1.24 which is not statistically significant at the 5 percent level. When we specify in the cross-sectional regression a qualitative variable, FOUNDER, that equals one if the deceased was the firm's founder and zero otherwise, the coefficient reported in equation (8) in Table IV is positive but not significant. The coefficients for CEO and FOUNDER remain insignificant when jointly specified, equation (9). Thus, we find that founder status does not have a significant impact on the share-price reaction to the death of an inside blockholder.

Third, we specify as a variable the individual's age at death, AGE, in the cross-sectional regression. The results, reported in equation (10), indicate that AGE has a small negative coefficient that is not significant. The coefficients for CEO, FOUNDER, and AGE are also not significantly different from zero when jointly specified in equation (11). Thus, personal characteristics of the deceased do not have a significant effect on the share price reaction to the death while the two variables for personal holdings of the deceased, which reflect the concentration of the firm's ownership structure, are consistently significant in all specifications in Table IV.

IV. The Disposition of Shares Subsequent to Deaths of Inside Blockholders

The nature of our sample permits us to investigate how an important change in ownership structure affects firm value and the subsequent control of public companies. In this section we investigate the disposition of the

shares of deceased blockholders and document that there is generally a reduction in ownership concentration after the death of an inside blockholder. In the following section we investigate whether the reduction in ownership concentration opens the firm to the market for corporate control. We report the substantial extent of subsequent control events and provide information about the attitude of acquisition bids (hostile or friendly) and whether a change in control is effected. We obtain relevant information for this investigation, for each firm for each year for a period of ten years following the blockholder's death (or until year-end 1992 for the 20 events that lack a full ten years), by examining proxy statements, the *Wall Street Journal* index and articles, insider trading reports, and other relevant corporate reports. We are able to find specific information about the disposition of the deceased's shares for 82 of the firms in the sample.

For 51 firms, almost two-thirds (60 percent) of the sample, the disposition of the deceased's shares leads to a reduction in the control group's ownership, as reported in Panel A of Table VI. In Panel B, for 31 firms (36 percent of the sample) there is no change in the control group's ownership because the deceased's shares pass to inheritors who already are, or at that point become, insiders. However, in 24 of these 31 cases there are multiple inheritors, so that although the total shares owned by the control group are unchanged, the number of insiders sharing this control increases. In only seven cases (8 percent of all events) does the deceased's block pass undiluted to a single inheritor. In three cases (or 4 percent of all events) we are unable to confirm what happened to the shareholdings of the deceased.

In Panel A we report the number of cases by type of disposition of the deceased's shares, including gifts to charitable organizations, secondary offering, sale to an outsider, sale on the open market, and sale to the subject firm via a targeted repurchase of the estate's shares. These subsamples sum to more than 51 because in seven cases two of the above mechanisms are present. The frequency by type of disposition ranges from 8 percent in the case of targeted share repurchases to 18 percent for charitable donations and shares sold to outsiders. On average, the disposition action occurs two years after the inside blockholder's death.

In Table VII we report excess returns in response to death announcements disaggregated by type of share disposition. In column 1 of Panel A, the two-day average excess return is 3.75 percent for 51 firms in which the control group block is reduced compared to 2.36 percent for 31 firms in which the control group block is unaltered. Both returns are significant at the 1 percent level. In column 1 of Panel B, there are significant positive returns to firms in the disposition categories of charitable donations (2.88 percent), secondary offerings (4.59 percent), and sales to outsiders (4.98 percent). Average excess returns for firms in which the block is dissipated via open market sales or targeted repurchases by the firm are positive but not significant. Targeted repurchases reduce the control group's ownership stake relative to the period prior to the death, but insiders' control is increased relative to cases in which the deceased's shares are sold to outsiders.

Table VI

Characteristics of Disposition of the Shares of Deceased Inside Blockholders

Descriptive statistics for 82 firms for which the disposition of the deceased inside blockholder's stake is identified, disaggregated by whether total shares held by the control group is reduced or unaltered, by type of disposition, by number of inheritors, and by whether subsequent control activity occurs.

Panel A: Control Group Block Reduced Due to Disposition of Deceased's Blockholding

	Total Events with Control Group Block Reduced (1)	Type of Disposition				
		Charitable Donation (2)	Secondary Offering (3)	Sale to Outsider (4)	Open Market Sale (5)	Repurchase by Firm (6)
Total firms	51	15	10	15	11	7
(% of 85 events)	(60%)	(18%)	(12%)	(18%)	(13%)	(8%)
Firms with control bids	32 (63%)	8 (53%)	7 (70%)	13 (87%)	5 (45%)	1 (14%)
Firms with no control bids	19 (37%)	7 (47%)	3 (30%)	2 (13%)	6 (55%)	6 (86%)

Panel B: No Change in Control Group Block Following Inside Blockholder's Death

	Total Events with Control Group Block Unaltered (1)	Number of Inheritors of Deceased's Blockholding	
		Single Inheritor (2)	Multiple Inheritors (3)
Total firms	31	7	24
(% of 85 events)	(36%)	(8%)	(28%)
Firms with control bids	11 (35%)	1 (14%)	10 (42%)
Firms with no control bids	20 (65%)	6 (86%)	14 (58%)

The general pattern of the excess returns indicates the market anticipates that firms will sustain a reduction in ownership concentration following the death of an inside blockholder with 5 percent or more of firm shares and that this is the reason the death is a favorable event. This evidence is consistent with the entrenchment hypothesis. Nevertheless, it is difficult to draw strong conclusions as to whether the market can assess which specific firms will sustain specific types of outcomes because the sample sizes are small and difference in means tests are not significant at the confidence levels typically required to reject the null hypothesis of equality.

In column 1 of Panel C, we disaggregate the 31 events in which the control group block is unaltered into seven events where the deceased's shares pass to a single inheritor and 24 events in which the estate is divided among two or more individuals. The two-day excess return is 2.64 percent (t-statistic =

Table VII

Disposition of Deceased Inside Blockholder Shares and Market Response to the Death Announcement

Excess returns in percent for 82 announcements of the death of an inside blockholder with 5 percent or more of firm shares by subsequent disposition of the block for firms listed on the NYSE or AMEX and NASDAQ, 1973 to 1989, using market model methodology; t-statistics in parentheses, sample size and proportion of returns positive in brackets. Market model parameters are estimated using least squares over the preevent period, $t = -121$ to -240, and $t = 0$ is the report of the death in the *Wall Street Journal*. Samples in Panel B sum to more than 51 because in seven cases there are two major mechanisms by which block disposition occurs.

Category of Block Disposition	Total Events (1)	Subsequent Control Bids (2)	No Subsequent Control Bids (3)
Panel A: By Effect of Share Disposition on the Control Group Block			
Control group reduced by block disposition	3.75 (7.62)** [51, 0.73]	4.80 (7.32)** [32, 0.84]	1.99 (2.86)** [19, 0.58]
Control group block unaltered	2.36 (4.19)** [31, 0.55]	2.99 (2.31)* [11, 0.73]	2.10 (3.06)** [20, 0.45]
Panel B: By Type of Disposition of the Deceased's Blockholding for 51 Firms with a Reduction in the Control Group Block			
Charitable donation	2.88 (3.67)** [15, 0.67]	4.25 (4.14)** [8, 0.75]	1.31 (1.01) [7, 0.57]
Secondary offering	4.59 (3.58)** [10, 0.70]	6.32 (3.83)** [7, 0.86]	0.53 (0.35) [3, 0.33]
Sale to outsider	4.98 (6.06)** [15, 0.80]	4.28 (4.58)** [13, 0.85]	9.51 (6.78)** [2, 1.0]
Open market sale	2.20 (1.75) [11, 0.73]	4.31 (1.86) [5, 0.80]	0.45 (0.38) [6, 0.67]
Repurchase by firm	1.45 (1.34) [7, 0.71]	0.26 (0.01) [1, 1.0]	1.65 (1.40) [6, 0.83]
Panel C: By Number of Beneficiaries of the Deceased's Blockholding for 31 Firms with No Reduction in the Control Group Block			
Single inheritor	1.40 (1.01) [7, 0.71]	4.59 (2.69)** [1, 1.0]	0.87 (0.54) [6, 0.67]
Multiple inheritors	2.64 (3.97)** [24, 0.50]	2.66 (2.28)* [10, 0.70]	2.62 (3.28)** [14, 0.29]

*Significant at the 5 percent confidence level.
**Significant at the 1 percent confidence level.

3.97) when there are multiple inheritors but it is only 1.40 percent and not significant for single inheritors. This result suggests that the number of inheritors involved as well as the percentage of firm shares owned by the deceased may affect firm value even though the multiple inheritors are all classified as insiders by SEC disclosure rules.

To test whether the market reaction to the death is related to the disposition of the deceased's shares, we estimate cross-sectional regressions in which the two-day share price response to the death is specified as a function of the two personal ownership variables and qualitative variables that equal one if the relevant type of disposition occurs and zero otherwise. The results are reported in equations (1) to (4) in Table VIII. The coefficients of the personal ownership variables are almost identical to those reported in Table IV. The qualitative variables for share disposition generally have the correct sign but the statistical significance is uniformly low, especially when the variable for the decline in the control group block due to subsequent disposition of the deceased's shares, ΔCG, is disaggregated into separate variables for each of the five disposition categories. Thus, there is little evidence that at the time of the death announcement the market is capable of accurately assessing the subsequent pattern of disposition events once the magnitude of the shareholding of the deceased blockholder is taken into account.

V. Corporate Control Activity Following Disposition of the Deceased's Shareholding

Our search of the *Wall Street Journal* and other public sources indicates that for 44 of the 85 firms in our sample, there is a subsequent, publicly announced bid for control, as reported in Table IX. Of the 82 firms for which we can ascertain the disposition of the deceased's shares, there are 43 cases of subsequent control bids. Overall, in a very high percentage of the cases, 52 percent, in which an inside blockholder with 5 percent or more of firm shares dies, there is a bid for control of the firm within ten years. For 20 of the 41 cases we classify as having no subsequent control bid we have less than 10 years of postdeath data so the 52 percent may understate the ultimate proportion of firms that become targets of control bids. The temporal frequency of control bids per year is also reported. The mean, median, minimum, and maximum number of years are calculated using actual elapsed time from the death to the initiation of control activity. Bids, on average, occur 3.7 years (median = 3.8) after death announcements. As a benchmark, Dodd (1983) reports that for the population of Center for Research in Security Prices firms for the 20-year period, 1962 to 1982, 5.7 percent are targets of tender offers and 9.58 percent are targets of mergers. Thus, firms that sustain the death of an inside blockholder have an extraordinarily large number of control events compared to the population of firms at large. Moreover, these control events generally occur soon after the death.

We next examine the relationship between corporate control activities and type of disposition of the deceased's blockholding, as reported in the second

Table VIII

Cross-Sectional Regressions to Measure the Effect on Share Price Response at the Death Announcement of Subsequent Disposition of Deceased Inside Blockholder Shares

Results of weighted least squares regressions where the two-day excess returns from the event study are the dependent variable and independent variables measure the deceased's share ownership, the disposition of the block, and the presence of subsequent control bids for a sample of 85 announcements of the death of an inside blockholder with 5 percent or more of shares for firms listed on the NYSE or AMEX and NASDAQ, 1973 to 1989; *t*-statistics in parentheses. The dependent and independent variables are divided by the standard deviation of the prediction errors in the preevent estimation period. The independent variables (all qualitative except for PERSOWN) are defined as follows: PERSOWN is the shares of the deceased as of the proxy statement prior to death scaled by outstanding firm shares; ΔCG indicates a decline in control group holdings due to disposition of the deceased's holdings; BID indicates a corporate control bid; HOS indicates a corporate control bid by a hostile agent; MH indicates no change in control group holdings but deceased inside blockholder shares pass to multiple (> 1) heirs; CD indicates distribution of deceased inside blockholder shares to charitable organizations; SEC indicates a secondary stock offering of shares inherited from inside blockholder; OB indicates an outside blockholder buys shares from inheritors of inside blockholder; OMS indicates an open market sale of shares by inheritors of inside blockholder; and FR indicates a repurchase by the firm of shares of inheritors of inside blockerholder.

Equation	PERSOWN (1)	(PERSOWN)^2 (2)	ΔCG (3)	BID (4)	HOS (5)	MH (6)	CD (7)	SEC (8)	OB (9)	OMS (10)	FR (11)	Intercept (12)	R^2 (13)
1.	0.2634	−0.0033	0.6787									−0.6482	0.1382
	(3.47)**	(−3.25)**	(1.02)									(−0.22)	
2.	0.2759	−0.0034	1.8079			1.5909						−1.8867	0.1589
	(3.63)**	(−3.36)**	(1.74)			(1.40)						(−0.63)	
3.	0.2610	−0.0034					−0.1450	0.8610	0.7505	0.2242	−0.6531	−0.3729	0.1445
	(3.30)**	(−3.17)**					(−0.16)	(0.81)	(0.81)	(0.22)	(−0.53)	(−0.12)	
4.	0.2648	−0.0034				0.6385	0.1552	1.1840	1.1292	0.5870	−0.3849	−0.8157	0.1486
	(3.32)**	(−3.18)**				(0.61)	(0.15)	(0.99)	(1.01)	(0.49)	(−0.29)	(−0.28)	
5.	0.2612	−0.0033	0.4903	0.6988								−0.9086	0.1494
	(3.44)**	(−3.16)**	(0.71)	(1.03)								(−0.30)	
6.	0.2731	−0.0034	1.5624	0.5914		1.4697						−2.0127	0.1669
	(3.59)**	(−3.27)**	(1.45)	(0.87)		(1.28)						(−0.68)	
7.	0.2610	−0.0033		0.5948			−0.1790	0.6685	0.4703	0.1915	−0.4439	−0.6483	0.1515
	(3.29)**	(−3.09)**		(0.79)			(−0.20)	(0.61)	(0.47)	(0.18)	(−0.35)	(−0.21)	
8.	0.2648	−0.0033		0.5914		0.6323	0.1185	0.9894	0.8470	0.5508	−0.1796	−1.0853	0.1556
	(3.31)**	(−3.10)**		(0.79)		(0.60)	(0.12)	(0.81)	(0.72)	(0.46)	(−0.13)	(−0.35)	
9.	0.2657	−0.0032	0.4838	0.1356	1.6979							−0.9747	0.1829
	(3.55)**	(−3.20)**	(0.71)	(0.18)	(1.80)							(−0.33)	
10.	0.2763	−0.0034	1.4586	0.0633	1.6215	1.3360						−1.9754	0.1972
	(3.67)**	(−3.29)**	(1.36)	(0.09)	(1.72)	(1.18)						(−0.67)	
11.	0.2698	−0.0034		−0.1600	1.9459	0.6495	−0.0178	1.1978	1.1279	0.7822	−0.3616	−1.1685	0.1976
	(3.44)**	(−3.17)**		(−0.19)	(1.97)	(0.63)	(−0.02)	(0.99)	(0.97)	(0.66)	(−0.27)	(−0.39)	

**Significant at the 1 percent level.

Table IX

Temporal Frequency of Corporate Control Events Following Deaths of Inside Blockholders

Descriptive statistics for the sample of 44 firms that are targets of corporate control activity disaggregated by outcome (control change and no control change) and by time elapsed from death announcement to initiation of control activity (in years). Mean, median, minimum, and maximum statistics are based on actual elapsed time from the death to initiation of control activity.

Years Subsequent to the Death (1)	Total Control Bids (2)	Percentage of Total Bids (3)	Bids Resulting in Control Changes (4)	Successful Bids as a Percentage of Total Bids in Yearly Range (5)	Bids Resulting in No Control Change (6)	Failed Bids as a Percentage of Total Bids in Yearly Range (7)
Total	44	—	32	73	12	27
$0 \leq yr < 1$	7	16	6	86	1	14
$1 \leq yr < 2$	5	11	4	80	1	20
$2 \leq yr < 3$	7	16	3	43	4	57
$3 \leq yr < 4$	4	9	4	100	—	—
$4 \leq yr < 5$	6	14	5	83	1	17
$5 \leq yr < 6$	5	11	2	40	3	60
$6 \leq yr < 7$	5	11	4	80	1	20
$7 \leq yr < 8$	0	—	—	—	—	—
$8 \leq yr < 9$	1	2	1	100	—	—
$9 \leq yr < 10$	4	9	3	75	1	25
	Mean = 3.7 Median = 3.8 Minimum = 1.0 Maximum = 10.0		Mean = 3.9 Median = 3.8 Minimum = 0.1 Maximum = 10.0		Mean = 3.35 Median = 2.8 Minimum = 0.7 Maximum = 10.0	

and third rows of Panels A and B in Table VI. Of the 51 firms in which the control group's blockholding is reduced as a result of the disposition of the deceased's shares, 32 firms (63 percent) become targets of a corporate control bid. In comparison, of the 31 firms for which there is no change in the control's group blockholding, only 11 firms (35 percent) subsequently become the target of a corporate control bid. Moreover, there is only one acquisition bid (14 percent) in the subsample of seven firms in which there is a single inheritor of the deceased's shareholding compared to bids for ten of the 24 firms (42 percent) in which there are multiple inheritors. The evidence in Panel A indicates that each of the five categories of disposition of the deceased's blockholding that reduce ownership concentration opens the firm to a subsequent control bid. There are bids for 53 percent of the 15 firms where the estate's disposition involves charitable donations, 70 percent of the ten firms with disposition via secondary offerings, 87 percent of the 15 firms with disposition via sales to outsiders, and 45 percent of the 11 firms with disposition via open market sales. The apparent exception is the set of seven events in which shares from the deceased's estate are repurchased by the subject firm; only one (14 percent) of these firms subsequently becomes the target of a control bid.

To test whether the market's reaction to the death announcement anticipates future changes in ownership structure and control activity, we disaggregate the set of two-day excess returns on the basis of the method of disposition of the deceased's shares and whether a subsequent control bid occurs. The pattern of results, reported in columns 2 and 3 of Table VII, indicates that the returns are generally larger for the groups of firms that become targets of control bids. However, these results should be viewed as suggestive given the small sample sizes and the fact that difference in means tests indicate that excess returns for firms with subsequent control bids are not significantly different from returns for firms without bids. We also reestimate equations (1) to (4) in Table VIII, adding to each specification a qualitative variable, BID, that equals one if a subsequent control bid occurs and zero otherwise. The results are reported in equations (5) to (8). Again the qualitative variables generally have the correct sign but the level of statistical significance is low, suggesting that the market cannot assess the pattern of subsequent events for specific firms at the time of the announcement of the death of an inside blockholder. Instead, it is the proportion of firm shares owned by the deceased that is the dominant explanatory variable.

Next we consider whether there is a relation between subsequent acquisition activity and the ownership concentration represented by the stake of the deceased inside blockholder in these firms. In Table X we provide descriptive statistics, by ranges of the deceased's ownership stake, about subsequent control contests, disaggregated by transaction attitude (hostile or friendly) and by outcome (control change or no control change).

Three major patterns emerge in Table X. First, a consistently high percentage of firms are the target of subsequent control activity for each range of the deceased's ownership stake. In particular in Panel A, even for the 15 firms in

Table X

Characteristics of Subsequent Control Activity by Transactions Attitude and Outcome of the Control Challenge

Descriptive statistics for bids for firms that sustain the death of an inside blockholder with 5 percent or more of firm shares and are targets of subsequent control bids, disaggregated by transaction attitude, outcome of bid, and ranges of the personal ownership stake, P, as a percentage of firm shares.

Panel A: Transaction Attitude

Personal Ownership Stake (P) (1)	Total Deaths (2)	Firms with Bid Events			Bid Events with Friendly Activity		Bid Events with Hostile Activity		
		N (3)	(3)/(2) (%) (4)	Mean Years (5)	N (6)	Mean Years (7)	N (8)	(8)/(3) (%) (9)	Mean Years (10)
$5\% \leq P < 10\%$	16	7	44	3.3	3	3.1	4	43	3.5
$10\% \leq P < 20\%$	36	19	53	3.0	13	3.1	6	32	2.7
$20\% \leq P < 30\%$	10	6	60	4.7	4	4.6	2	33	4.7
$30\% \leq P < 40\%$	8	4	50	2.7	1	2.8	3	75	2.6
$40\% \leq P$	15	8	53	5.5	8	5.5	0	—	—
Total	85	44	52	3.7	29	4.0	15	34	3.2

Panel B: Outcome of Friendly Bids

Personal Ownership Stake (P) (1)	Total Friendly Bids (2)	No Change in Control or Bid Withdrawn (3)	Bid Resulting in Control Change	
			N (4)	% (5)
$5\% \leq P < 10\%$	3	0	3	100
$10\% \leq P < 20\%$	13	1	12	92
$20\% \leq P < 30\%$	4	1	3	75
$30\% \leq P < 40\%$	1	1	0	100
$40\% \leq P$	8	1	7	86
Total	29	4	25	86

Panel C: Outcome of Hostile Bids

Personal Ownership Stake (P) (1)	Total Hostile Bids (2)	No Control Change (3)	Bids Resulting in a Control Change				
			Total N (4)	(4)/(2) (%) (5)	Hostile Winner N (6)	MBO or White Knight	
						N (7)	(7)/(4) (%) (10)
$5\% \leq P < 10\%$	4	1	3	75	0	3	100
$10\% \leq P < 20\%$	6	3	3	50	2	1	33
$20\% \leq P < 30\%$	2	1	1	50	0	1	100
$30\% \leq P < 40\%$	3	2	1	33	0	1	100
$40\% \leq P$	0	0	0	—	0	0	—
Total	15	7	8	53	2	6	75

which the inside blockholder held 40 percent or more of firm shares, there are eight control actions (53 percent) which is similar to the proportion of bids that occur in each of the other ownership ranges. This suggests that for all levels of personal ownership concentration over 5 percent, the insider's blockholding was likely to have represented a hindrance to outside bidders prior to the blockholder's death. Moreover, there is no evidence that the largest personal ownership stakes block control bids after the death of an inside blockholder.

Second, hostile activity is common in each personal ownership range except for the highest range (40 percent $\leq P$). As reported in Panels B and C, of the eight control events in this range, none involve hostile activity. Seven of these eight control bids result in completed transactions (one bid is withdrawn by the bidder). Thus, subsequent control bids are common in each ownership range but there is no hostile activity for firms where the deceased held 40 percent or more of firm shares.

Third, the time that elapses from the death to the first bid is longer for firms where the deceased held 40 percent or more of the shares than for firms in other ownership ranges. As reported in Panel A, the mean number of years from the death to a control bid is 5.5 years in this highest ownership range while the mean time elapsed for the other ranges is 3.3 years. Thus, we conclude that the relationship between share price response to the death and shareholdings of the deceased is likely to reflect the market's assessment that there is a low probability of hostile bidding, and that a longer period is necessary for friendly bids to reach fruition, for firms with highly concentrated ownership structures.

We examine whether the market is capable of anticipating characteristics of future control bids at the time of the death of an inside blockholder. In columns 1 and 2 of Panel A in Table XI, the two-day average excess return for 44 firms with subsequent bids is 4.26 percent (t-statistic = 7.75) compared to a return of 1.67 percent (t-statistic = 3.31) for 41 firms that do not become the target of a bid. The difference in these returns implies the market may anticipate future control activity but the calculated t-value for a difference in means test is 1.38 which is not statistically significant. When we disaggregate firms with subsequent control bids into successful versus failed bids, columns 3 and 4, the two returns are almost identical: 4.23 percent (t-statistic = 6.10) for 32 firms with control changes and 4.34 percent (t-statistic = 4.64) for 12 firms with bids that fail to generate changes in control. Thus, there is no indication that at the time of the death the market can anticipate whether there will be a subsequent control change.

In Panel C we report the identity of the first challenger for the 44 firms with a control bid and the identity of the challenger that effects a control change for the 32 successful transactions. We define related business to mean that the challenger is an operating firm whose main line of business activity is the same as the target. Unrelated business indicates that the challenger is an operating firm whose main line of activity is in a different area. About 66 percent of first and winning bidders are operating firms. The remaining challengers consist of individual investors, takeover specialists, and manage-

Table XI

Market Response to Death Announcements by Type of Subsequent Corporate Control Bids

Two-day excess returns in percent using market model methodology for 85 announcements between 1973 and 1989 of the death of an inside blockholder with 5 percent or more of shares of firms listed on the NYSE or AMEX and NASDAQ. In Panel A the full sample is disaggregated based on occurrence of corporate control bid, outcome of control bid (successful or failed), and transaction attitude (friendly or hostile). In Panel B the above categories are disaggregated by ranges of personal ownership stakes. In Panel C the challengers are identified. Market model parameters are estimated using least squares over the preevent period, $t = -121$ to -240, and $t = 0$ is the report of the death in the *Wall Street Journal*; t-statistics are in parentheses and N is the sample size.

			Outcome of Control Bid		Transaction Attitude	
	No Control Bid (1)	Control Bid (2)	Control Change (3)	No Control Change (4)	Friendly (5)	Hostile (6)
Panel A: Full Sample of Death Announcements						
	1.67 (3.31)** $N = 41$	4.26 (7.75)** $N = 44$	4.23 (6.10)** $N = 32$	4.34 (4.64)** $N = 12$	3.18 (4.59)** $N = 29$	6.34 (7.02)** $N = 15$
Panel B: By Personal Holdings of Deceased as a Percentage of Firm Shares (P)						
$5\% \leq P < 10\%$	−1.11 (−0.81) $N = 9$	0.12 (0.08) $N = 7$	−0.47 (−0.27) $N = 6$	3.62 (1.41) $N = 1$	−1.73 (−0.72) $N = 3$	1.50 (0.91) $N = 4$
$10\% \leq P < 20\%$	1.66 (2.46)* $N = 17$	4.93 (6.11)** $N = 19$	5.53 (5.63)** $N = 14$	3.24 (2.46)* $N = 5$	4.05 (4.29)** $N = 13$	6.82 (4.96)** $N = 6$
$20\% \leq P < 30\%$	6.28 (5.08)** $N = 4$	6.81 (5.13)** $N = 6$	9.58 (6.40)** $N = 4$	1.26 (0.55) $N = 2$	4.17 (2.75)** $N = 4$	12.09 (4.80)** $N = 2$
$30\% \leq P < 40\%$	1.61 (1.12) $N = 4$	6.68 (4.12)** $N = 4$	1.39 (0.82) $N = 1$	8.44 (4.07)** $N = 3$	2.66 (2.54)* $N = 1$	8.02 (3.74)** $N = 3$
$40\% \leq P$	2.65 (1.90) $N = 7$	3.17 (1.87) $N = 8$	2.99 (1.60) $N = 7$	4.43 (1.20) $N = 1$	3.17 (1.87) $N = 8$	— — —

Panel C: Identity of the Challenger

Category of Challenger	First Bidder (1)	Winning Bidder (2)
Related business	15 (34%)	11 (34%)
Unrelated business	14 (32%)	10 (31%)
Individual investor	9 (20%)	3 (9%)
Takeover specialist	3 (7%)	3 (9%)
MBO	3 (7%)	3 (9%)
Total	44	32

*Significant at the 5 percent level.
**Significant at the 1 percent level.

ment buyouts (MBOs). Of the 15 cases in which shares of the deceased are sold to outsiders (reported earlier in Table VI), 13 firms become targets of subsequent control bids. In 11 of these 13 cases it is the outsider who purchased shares from the estate or from the inheritors that initiates the bid for control and for 10 of these firms the outsider effects a change in control. This evidence indicates that if shares of the deceased are sold to an outsider, the probability is high that the investor will make a successful control bid.

Disaggregating the sample of 44 firms with subsequent control events by transaction attitude, we find there are 29 firms (66 percent) that receive friendly control bids, while 15 firms (34 percent) are targets of hostile bids (columns 6 and 8 of Panel A in Table X). In column 4 of Panel B, 25 (86 percent) of the 29 friendly bids are successful. In Panel C, of the 15 firms that receive hostile bids, eight (53 percent) result in a control change. In six of the eight cases (75 percent), the winning bidder is a white knight or friendly MBO. This evidence indicates that the preponderance of control bids following the death of an inside blockholder are friendly. Hostile bidding typically either results in failure or induces other agents to offer a subsequent successful bid that is friendly to management.

In Table XI we report two-day excess returns at the death announcement disaggregated by the transaction attitude of bidders. In column 5 in Panel A, the two-day average excess return for 29 firms that receive friendly bids is 3.18 percent (t-statistic = 4.59). In column 6, for 15 firms with hostile bidding activity the two-day return is 6.34 percent (t-statistic = 7.02). These results suggest that share price responses observed at the death of an inside blockholder may reflect market expectations about the probability of a subsequent hostile control bid. Nevertheless, a difference in means test generates a calculated t-value of 1.39 so we cannot reject the null hypothesis of equality.

In Panel B we report excess returns disaggregated with respect to the percentage of firm ownership held by the deceased and by whether there is subsequent control activity, whether it engenders a change in control, and whether the bidding is hostile or friendly. The size of each subsample is small so conclusions should be viewed as suggestive. Nevertheless, certain patterns emerge. First, large positive returns to inside blockholder deaths are concentrated in the middle ownership ranges and especially among firms that subsequently become targets of hostile bidding. Second, although a large proportion of firms in which the deceased held over 40 percent of firm shares sustain subsequent control bids, and all but one result in a control change, these bids are without exception friendly, and average returns for this group are low compared to firms that sustain hostile bids. This evidence indicates that these weaker returns are due to the low probability of hostile bidding, presumably because of extreme ownership concentration, rather than the absence of subsequent control activity.

Finally, we estimate cross-sectional regressions in which a qualitative variable that equals one for firms with subsequent hostile bidding activity and zero otherwise, is added to the specifications reported as equations (5) to (8) in Table VIII. The results, reported as equations (9) to (11) in Table VIII,

indicate that neither the presence of a subsequent control bid, BID, nor whether this subsequent activity is hostile, HOS, has a statistically significant effect at the 5 percent level on share price response to the death when variables for the deceased's ownership stake are included (although the t-statistic is 1.97 for the hostile bidding variable). This suggests that although the market's expectation of subsequent hostile bidding activity is important to firm value, this effect is largely captured by personal ownership concentration. Our results indicate that ownership concentration affects the firm's openness to the market for corporate control, including openness to hostile bids, and that this is an important element of firm value in a manner that closely accords with the Stulz model. Once the ownership stake of the inside blockholder is taken into account, however, the market has little ability to predict specific future events for specific firms.

VI. Conclusions

We examine the relation between corporate ownership structure and firm value utilizing event study methods and cross-sectional regressions to assess the impact of the death of inside blockholders holding 5 percent or more of firm shares. Our study provides evidence as to how changes in ownership concentration affect firm value, corporate governance, and the control of public companies. Given the exogenous nature of the event that is the basis of this analysis, our tests preclude problems of causality that are associated with previous studies of the effects of ownership structure on firm value. We find significant, positive excess returns to deaths of inside blockholders. Regression evidence consistently indicates that personal ownership concentration is an important factor in firm value. However, the evidence indicates that shareholdings of other members of the control group and of institutions, and characteristics of the deceased (including employment status, founder status, and age) have no significant effect on the returns. We document that for a large proportion of firms in the sample, disposition of the deceased's shareholdings leads to a reduction in the control group block and to subsequent corporate control bids. Moreover, we find that hostile bidding is relatively common, although no hostile bids occur among the set of firms with the greatest personal ownership concentration. We find little evidence that the market is capable of predicting the pattern of subsequent events for specific firms, once personal ownership holdings of the deceased are taken into account.

Our results suggest that ownership structure has an important effect on the value of publicly traded firms. We find little support for the view that increased concentration of insider holdings above the 5 percent level is a mechanism to align interests of insider and noninsider shareholders. Furthermore, our evidence suggests that large inside blockholders, who are likely to dominate decision making, are not effective monitoring agents for noninsider shareholders. The relation between corporate value and the structure of equity ownership that we observe is broadly consistent with Stulz's (1988)

model. Our results support the view that the market values the firm's openness to the market for corporate control, especially openness to hostile bids, and other market phenomena as key factors in aligning managerial and shareholder interests, effects that are weakened by an ownership structure in which a substantial proportion of firm shares is held by a single individual.

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