

**CORPORATE BLOCKHOLDINGS AND FIRM PERFORMANCE:
A MULTIVARIATE ANALYSIS**

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ABSTRACT

Longitudinal studies indicate that toehold target economic performance persistently declines on average when interfirm equity investments are held for more than three years, while corporate blockholders economic performance temporarily improves. This study extends extant research by simultaneously examining the economic performance of both types of equity-associated firms using a multivariate approach. The study posits that average economic performance measures may mask performance trends associated with the toehold target's ownership structure and the form of trade relationship between the firms. Support for some contingency hypotheses suggests that economic performance may be influenced by the relationship between the equity associated firms.

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INTRODUCTION

As business enterprise adapts to a global economy, interfirm collaboration has become a common means of sharing risks and exchanging scarce resources in order to gain competitive advantage vis a vis other firms (Chi, 1994; Smith, Carroll, & Ashford, 1995). (For example, in 1989 and 1990, more than 650 cross-border purchases of securities accounting for between 10 and 50 percent of the toehold target's equity were completed among U.S., Japanese, and European companies (Ipsen, 1991)). When collaboration such as technology partnerships (Doz, 1988) and strategic alliances (McClenahan, 1987; Wachtler, 1988) occurs between large and small firms, it is common for the larger firm to buy and hold a block of stock in the smaller firm (the toehold target). Blockholdings constituting five to fifty percent of the toehold target's stock are interesting because they are difficult to justify theoretically (Schleifer & Vishny, 1986). For example, although a blockholder may have the voting power necessary to monitor toehold target managers, any monitoring costs they incur reduce their return. Huddart observes (1993: 1407),

"A partial owner who fulfills the role of monitor under-invests in oversight because the product of his vigilance is divided pro rata among all stockholders, while he alone bears the cost. This public good problem raises the question: Why would anyone become a large shareholder when small shareholders earn identical returns, need not monitor, and can diversify?"

If all shareholders earn identical returns per share, then large, active shareholders that incur monitoring costs earn a lower rate of return on their total investment than small, passive shareholders that do not. Moreover, a series of empirical event studies indicate that when corporate blockholdings representing between 5 and 50 percent of a toehold target's common stock are held for more than three years, average toehold target performance persistently declines (Mikkelsen & Ruback, 1985; Rosenstein & Rush, 1990). The negative toehold target performance trend associated with long-term corporate blockholdings is counterintuitive because corporate managers are rewarded for increasing stockholder wealth, an impetus for restructuring investment and business portfolios. Therefore, it is implausible that corporations would hold onto large, poorly performing stock investments unless the apparent continuing economic losses associated with the toehold target's underperformance and monitoring costs are compensated for in some way. In this study, hypotheses predicting three possibilities for such compensation are theoretically developed and tested.

This study posits that average long-term economic performance measures mask performance trends associated with control and trade variables that plausibly describe the relationship between the firms. The study extends McConnell and Servaes (1990) examination of ownership structure and performance because it uses an event study approach with abnormal returns as the dependent variable, instead of Tobin's Q, a cross sectional variable. Thus, there is less likelihood that the dependent variable may have influenced the independent variables. The study also substantially extends Bogert's (1996) examination of the effect of minority level holdings on corporate blockholder performance because the model includes dummy variables

reflecting an alternative explanation (restructuring), the source of the shares, and percentage of ownership ranges that are associated with tax law and prior research (McConnell & Servaes, 1990). Finally, it employs a multivariate approach to simultaneously test contingency hypotheses related to performance measures that reflect long time intervals using *both* toehold target and corporate blockholder abnormal returns. (According to the Motley Fool Internet website (1998), the efficient markets hypothesis suggests that stock prices reflect information about performance expectations quickly, thus performance trends lasting more than a few days are an anomaly). Multivariate results supported by graphs that depict performance trends associated with dummy variable values may provide the reader with greater confidence that the dummy variables did or did not influence the performance of the firm pairs in predicted ways. The next section develops theory to support the hypotheses and describes the model.

THEORY DEVELOPMENT

First, between equity-linked firms, returns may vary with the source of the blockholding because private placement contracts may work to favor or constrain a corporate blockholder in ways that do not affect blockholders that acquire shares from third parties.

Second, returns may vary among shareholders in relation to the extent of their control and monitoring effort. In other words, a large ownership interest may enable a corporation to more successfully compete for private benefits that could enhance its return (Barclay & Holderness, 1989). For example, in writing about technology partnerships that involve minority equity investments between large and small firms, Doz (1988: 32-33) states

"...a partnership is almost always partly competitive, the larger firm often attempting to capture the technology of the smaller one, to transfer it to its own operations, and ultimately appropriate it. Some managers in larger firms may also have minority equity investments as a transition step toward majority or full ownership, a threat to their smaller partner. Conversely, the smaller firm almost always tries to retain control over its technology, or over its replenishment, no matter what the intent of the larger firm: technology is, after all, the only bargaining strength of the smaller firm. This genuine competition within the partnership over what is contributed over time by each partner translates itself into hidden agendas. It may result in strategic conflict and strategic misrepresentation."

Third, between equity-linked firms, returns may vary with the form of the trade relationship because there may be more opportunities to share transaction cost savings or transfer resources between vertically or horizontally related firms than between unrelated firms. An effective corporate strategy is one able to provide an economic return to investors. For a single firm, an effective corporate strategy has often been characterized as one that aligns the strengths and weaknesses of the firm with the opportunities, threats, and resources in its environment. When one firm is partially owned by another, we posit the toehold target may be a source of tangible or intangible resources and the effects on the economic performance of both firms may be predicted in part by variables describing the toehold target's ownership structure and their trade relationship.

We assume that all parties to capital investment transactions are economically rational. We envisage that the level of corporate blockholder ownership and insider ownership of a toehold target, the source of a corporate blockholder's shares, and the trade relationship between a corporate blockholder and its toehold target are contextual circumstances that affect the probability of a hostile change in control of the toehold target. We anticipate that the probability of a hostile change in control of the toehold target affects the simultaneous decisions of managers in corporate blockholder and toehold target corporations. If the contextual circumstances we describe influence firm manager decisions and firm manager decisions influence firm performance, then the contextual circumstances may influence firm performance.

Corporate Blockholder Ownership

Agency theory posits that manager (agent) and stockholder (principal) interests may diverge to the extent that the managers do not own the firm (Jensen & Meckling, 1976). Accordingly, managers may choose an opportunistic decision alternative (such as consuming perquisites) that would reduce the performance of the firm if that alternative optimizes their interests. A corporation's board of directors is responsible for monitoring manager decisions and proscribing manager decisions that may be detrimental to stockholder interests. However, monitoring effort is costly, and only insiders (directors and corporate officers), blockholders, and potential acquirers are likely to have sufficient motivation to monitor manager decisions closely.

Motivation to maintain a blockholding is posited to be enhanced when a blockholder is in position to privately extract rents in addition to dividends and capital appreciation. For example, a blockholder with the financial capacity to effect a takeover may encourage toehold target managers to reduce their employment risk by permitting an ongoing private transfer of technology to the blockholder. A private transfer of technology (or any other economic resource) from a toehold target to a blockholder would enhance the blockholder's return on its stock and monitoring investment, but ultimately reduce the return available to other toehold target shareholders, including the target's managers and its directors.

It is implausible that toehold target managers would be willing to allow their firm's performance to be reduced if their jobs are secure because firm performance is usually associated with their compensation. However, personal circumstances such as low levels of target stock ownership may make the expected value of the ongoing transfer alternative optimal *for them*. The dozens of targeted shareholder repurchase transactions that were ratified by directors in the 1980s is evidence that such circumstances sometimes exist (Kosnik, 1987).

The ability of a corporate blockholder to extract rent from a toehold target may depend on whether the former has "effective" control of the latter. Effective control is associated with 20 to 50 percent ownership in financial reporting guidelines (equity method) and tax law (dividend exclusion deductions change at 20 percent ownership) (1990 U.S. Master Tax Guide, 1989). Accordingly, we posit that a corporate blockholder that controls from 5 to 20 percent (a "low" minority level) of the toehold target's common stock is less able to extract rents from a toehold target than a corporate blockholder that controls from 20 to 50 percent (a "high" level in the minority range) of a toehold target's common stock. (Hunger and Wheelen (1995:154) observe "... by purchasing 20% of the common stock of In Focus Systems, Motorola guaranteed its access to In Focus's revolutionary technology and enabled Motorola to establish a joint venture with In Focus to manufacture flat-panel video displays").

Hypothesis 1. All else equal, the abnormal return means that occur when corporate blockholders hold from 5 to 20 percent of their toehold target's common stock will significantly differ from the abnormal return means that occur when corporate blockholders hold from 20 to 50 percent of their toehold target's common stock.

Because private rent payments may reduce returns available to other toehold target investors, the extent of interests held by toehold target insiders or other blockholders may affect the ability of a long-term corporate blockholder to privately extract rents. A discussion of the motivation of each of these parties to monitor the toehold target managers follows.

Toehold Target Insider Ownership

Corporate officers and directors are considered to be "insiders" by the Securities and Exchange Commission. The sum of their holdings is the extent of insider ownership. Extensive insider ownership tends to align the interest of managers and passive shareholders because perquisite consumption becomes less attractive to managers when they personally absorb a large fraction of perquisite costs (Jensen & Meckling, 1976).

Similar logic suggests that extensive insider ownership also makes perquisite payments to others (i.e., blockholders) unattractive. We posit that unless there are contractual ties that limit the discretion of toehold target managers, a corporate blockholder's influence ultimately rests in its ability to threaten the tenure of toehold target managers through a proxy fight or hostile takeover. A proxy fight threat is less credible when extensive insider ownership directly provides many shareholder votes friendly to incumbent managers (Dodd & Warner, 1983; Pound, 1988). A hostile takeover threat is also attenuated when extensive insider ownership, especially among outside directors (Kosnik, 1990), enables the toehold target managers to negotiate a larger takeover premium from the corporate blockholder and golden parachutes from their board. (Golden parachutes are perquisites that directly enrich toehold target managers at the expense of stockholders. They are sometimes justified because they motivate toehold target managers to release control to a bidder who is willing to pay a takeover premium that fully values the firm. Thus, golden parachutes associated with a takeover may also enrich selling stockholders stockholders at the expense of buying stockholders.) Both takeover premiums and golden parachutes increase the cost of a takeover to a bidding corporate blockholder and thereby reduce a takeover's potential return.

Although a high level of insider ownership serves to inhibit the ability of corporate blockholders to extract rent from toehold targets, corporate blockholders may passively benefit from large investments in toehold targets that have a high level of insider ownership. Stulz (1988) argues that the premium that a hostile bidder must pay to gain control of a target firm increases as the percentage of equity owned by managers increases, but the probability that the takeover will be completed decreases. When insiders own a small percentage of the shares outstanding, it is more likely that a hostile takeover will be completed at a premium that is less than the maximum the bidder is willing to pay. As the percentage of managerial equity ownership increases, the probability of a completed hostile takeover, for any given premium, declines so that at 50% managerial ownership, the probability of a hostile takeover is zero.

This logic lead McConnell and Servaes (1990) to expect a curvilinear relation between the value of a firm and the percentage of its shares owned by insiders. To test this theory, McConnell and Servaes plotted the relationship between Tobin's Q and the percentage of insider ownership using two large cross-sectional samples reflecting 1976 and 1986 data. Both plots resembled gradual mound-shaped curvilinear relationships. In 1976, the inflection point when Tobin's Q was highest occurred when insider ownership was 49.4 percent. In 1986, the inflection point when Tobin's Q was highest occurred when insider ownership was 37.6 percent.

Following McConnell and Servaes (1990), we also anticipate that a high level of firm value is associated with a high level of firm performance, and that high levels of firm performance will be associated with high levels of insider ownership. However, we define a "high level of toehold target insider ownership" to be from 35 percent to 50 percent and define "low toehold target insider ownership" to be any lower percentage. If high toehold target insider ownership is associated with high toehold target performance, then all shareholders, including corporate blockholders, may be expected to benefit from a level of insider ownership in that range. Thus, we predict that there are two situations when a corporate blockholder may expect to obtain a high return from a stock investment in a toehold target: (i) when the corporate blockholder's level of ownership is high, or (ii) when toehold target insiders' level of ownership is high.

The following two-by-two matrix summarizes these relationships. The low and high column and row descriptions refer to the levels of investment in the toehold target by the corporate blockholder and the toehold target management. The top right triangle within each cell shows the returns to the corporate blockholder, whereas the bottom left triangle shows the return to the target. We predict that both the corporate blockholder and the toehold target receive high returns (+) when the level of toehold target insider ownership is high. Moreover, the corporate blockholder is expected to receive private rent at the expense of other toehold target shareholders when its level of ownership is high but the toehold target insider level of ownership is low.

Put FIGURE 1 about here

Hypothesis 2. All else equal, the abnormal return means that occur when toehold target insiders own from 35 to 50 percent of the toehold target's common stock will significantly differ from the abnormal return means that occur when toehold target insiders own less than 35 percent of the toehold target's common stock.

Other Blockholders

The ability of a blockholder to appropriate rent from a toehold target may depend on the extent of ownership held by "other blockholders" defined here as 5 percent or greater common stockholders who are neither toehold target insiders nor corporate blockholders that retained their investment more than three years. Predicting the motivation of these more transitory blockholders is problematic because they could act independently or in cooperation with either the long-term

corporate blockholder or the toehold target insiders. Accordingly, we merely control for low (from 5 to 20 percent) or high (from 35 to 50 percent) levels of other blockholder ownership.

Institutional Investors

An increasing proportion of corporate equities is held by institutions. However, by restricting ownership structure variables in this study to insiders and blockholders (owners of 5 to 50 percent of a toehold target's common stock), we eliminated the collective effect of institutional investors. We justify the omission of institutional investors from our model because most are limited to owning less than one percent of a corporation's equity by regulations or bylaws that are designed to encourage diversification. Moreover, research indicates that the average duration of an institution's stock investment is less than two years (Porter, 1992) and blockholders have been shown to provide more effective monitoring of managers than institutions (Brous & Kini, 1994).

Private Placement

A corporate blockholding may be purchased indirectly in open market transactions from one or more shareholders or directly in a private placement transaction with the toehold target firm. An open market transaction may appeal to a corporate blockholder because ownership rights come with no strings attached (e.g., a standstill agreement) that would limit the investing firm's options to earn an economic return. Accordingly, an investing firm might require an additional inducement to make a private placement attractive such as a large price discount, a super majority provision in the security that enhances the blockholder's voting power on the board (Doz, 1988), or an opportunity to establish a long-term trade relationship with the issuing toehold target firm. (Private placements often occur in conjunction with a strategic alliance. According to Wachtler, (1988: 56),

"In the most common strategic alliance, the investor receives between one-twentieth and one-third of the target company's stock in return for its investment of cash and other services. The investing company intentionally does not take control of the smaller firm. It usually signs an agreement to obtain marketing, manufacturing, or other rights to the products or research and it enjoys a number of options for exiting or recouping its investment with a return."

We view agreement clauses to obtain marketing, manufacturing, or other rights to the products or research of the toehold target as forms of private benefits.)

The issuing toehold target corporation is likely to regard negotiated inducements as costs of issuing new shares. However, the net cost per share of a private placement may still be less than the net cost per share of making a public placement, particularly if the issuing corporation has performed poorly in the recent past or is not well known. Presumably, managers of both types of firms will only sign voluntary contracts that they believe enhance their personal interests. Accordingly, we anticipate that both parties to a private placement transaction expect to benefit.

Hypothesis 3. All else equal, the abnormal return means that are associated with a corporate blockholder's acquisition of shares through a private placement will significantly differ from the abnormal return means that occur when a corporate blockholder acquires its shares from third party shareholders.

Vertical Trade Relationship

Arm's length trade relationships may be inefficient for a production network that requires specific investments. For example, specific investments undertaken by a pipeline company and a refinery may expose each party to the possibility of opportunistic behavior by the other. Dyer and Ouchi (1993: 56) note "...[P]artner-specific investments create substantial buyer and supplier switching costs and, once made, make the two parties highly interdependent. This interdependence can create potential contracting problems if the parties do not completely trust each other". Minority-level equity investment is a governance mechanism that can be expected to reduce the benefits of opportunistic behavior because, if the toehold target performs badly, both sets of stockholders suffer loss. Accordingly, when long-term contracts are bonded by long-term minority-level equity investments, firms may be more likely to mutually benefit.

Hypothesis 4. The abnormal return means that are associated with a vertical trade relationship between the corporate blockholder and toehold target firms will significantly differ from the abnormal return means that occur when a trade relationship is not vertical.

Horizontal Trade Relationship

Firms often link with firms in the same industry to share risk in technology development or to extend global reach. For example, France's Groupe Bull acquired 19.9 percent of Packard Bell Electronics in order to access its U.S. retail distribution system (Armstrong, 1993). (For example, in 1989 and 1990, more than 650 cross-border purchases of securities accounting for between 10 and 50 percent of the toehold target's equity were completed among U.S., Japanese, and European companies (Ipsen, 1991)). If the corporate blockholder distributes the additional products through the distribution channels of the toehold target and the products are directed toward a different set of customer needs, then this relationship may be mutually beneficial. Alternately, if the corporate blockholder invests in a competitor in order to hinder it, learn from it, or extract cash from it through management contracts (Ipsen, 1991), the intended outcome may be win/lose. Because both win/win and win/lose outcomes are plausible, we make only an exploratory prediction that performance means will differ if a horizontal trade relationship with a direct competitor exists.

Hypothesis 5. The abnormal return means that are associated with a horizontal trade relationship between the firms will significantly differ from the abnormal return means that occur when a trade relationship is not horizontal.

Unrelated Toehold Targets

Corporations may also invest in firms that are neither customers nor suppliers nor direct competitors to access the toehold targets' proprietary technologies (Grant, 1993). For example, Microsoft recently announced a strategy of actively seeking minority stakes in a variety of multimedia ventures for various technological purposes (Zachary, 1993). Although firms may not

be linked at the time of the purchase of a block of stock, the transfer of technology could signal future competition within an industry.

Other Influences

Bethel and Liebeskind (1993) found that during the 1980s, blockholder ownership was significantly associated with corporate restructuring, which suggests that many managers restructured their operations only when pressured to do so by large shareholders. Many firms in those years apparently restructured to unwind the "negative synergy" that sometimes resulted from mergers that occurred during the 1960s (Shleifer & Vishny, 1991). Negative synergy exists when the market value of a multidivisional firm is worth less than the sum of the market values of its subsidiaries. Therefore, shareholder value can be created by divesting businesses that do not "fit" and by reducing unnecessary corporate overhead (Hoskisson & Turk, 1990). Because this study's sample is composed of firms associated by corporate blockholdings during the mid-1980's, we control for toehold target divestiture. (A negative firm performance trend, such as the toehold target trend identified by Mikkelson and Ruback (1985), could also reflect an unrelated prior cause that has nothing to do with a corporate blockholding (Walsh & Kosnik, 1993) or negative synergy. However, we did not control for prior period firm performance because several of the sample firms were not publicly traded 18 months before the purchase announcement.)

The extent of performance change in the corporate blockholder is likely to be associated with the relative size of the asset. We control for this possibility by including in the model an investment size ratio that is computed by dividing the value of the blockholding investment by the value of the corporate blockholder. All else equal, the larger the investment size ratio, the larger is the expected change in the corporate blockholder's performance.

Proposed Multivariate Model

Each of the variables described above plausibly could affect the performance of the corporate blockholder or its toehold target. FIGURE 2 models the predicted relationships between the dependent performance variables and the independent variables. In addition, a link is drawn between toehold target performance and corporate blockholder performance variables to reflect the transfer of pro rata financial returns (dividends and capital appreciation) and anticipated private benefits to the corporate blockholder.

Put FIGURE 2 about here

METHOD

The Sample

The sample was composed of long-term corporate blockholder and toehold target firm pairs where the former owned from 5 up to 50 percent of the common stock of the latter for at least three years between 1982 and 1988. (The Williams Amendment to the Securities Exchange Act of 1934 requires investors to make initial public disclosure of their percentage of ownership with 10 days of their accumulation of security interests that provide five percent or greater control of a U.S. corporation. Thereafter, Form 13Ds must be filed whenever the ownership stake varies by more than 2 percent (Securities Exchange Commission, 1989)).

The time interval examined for this research is appropriate because in recent years many corporations have made their block purchases through unquoted subsidiaries to avoid public scrutiny and to increase their flexibility in dealing with minority holdings (Ipsen, 1991). To identify the sample, the Securities Exchange Commission's *News Digest* (1982-1985a) was examined for initial listings of Securities Exchange Commission (SEC) Form 13D filings. (In recent years, the *News Digest* does not report initial Form 13D filings). Next, abstracts in The Wall Street Journal Index (1981-1984) and some prior-year proxies were examined to exclude Form 13D filings that merely reflected revisions of previously filed Form 13Ds. Then, Spectrum V (1982-1988) was examined to exclude observations that involved toehold target insiders with ownership greater than fifty percent or corporate blockholders that held less than five percent or more than fifty percent of the toehold target's common stock during the three years that followed the initial Form 13D filing. Finally, Center for Research in Security Prices (CRSP) master file listings (1990) were examined to exclude firms that did not have complete return data for the three year time interval. Eighty-one firm pairs were identified that met the sample criteria and had complete return, stock price, and shares outstanding data.

The existence or absence of a vertical trade relationship, a horizontal trade relationship, or a private placement was ascertained through a mail and phone survey of sample firm financial executives. Responses were obtained for forty-eight of the pairs. Other independent variable data were obtained from archival sources.

Variable Measures

The dependent variable for each sample firm was a holding period abnormal return, a measure of firm economic performance. The abnormal return measures relate to a time interval that began the day prior to the initial Form 13D filing (to capture information leakage) and continued for 382 trading days, about eighteen months. Eighteen months is half of the minimum three-year holding period that defines the corporate blockholders, an interval that is plausibly long enough to allow a corporate blockholder to realize private benefits such as technology transfer.

To compute the abnormal returns, daily total return and corresponding daily size-based decile index total return values were drawn from Center for Research in Security Prices (CRSP) tapes of trading activity on the NYSE/AMEX and NASDAQ exchanges (1990) for each trading day in the specified time interval. Then, a firm's daily total returns and the index's daily total returns were separately compounded. Finally, the compounded index return was subtracted from the compounded firm return to compute the firm's abnormal total return for the time interval. (More computation detail is provided in the Appendix.)

One of the 48 pairs included a corporate blockholder with an abnormal return more than four standard deviations greater than the mean. We decided to exclude the firm and its toehold target from the sample to make the distribution of abnormal returns less positively skewed and

plausibly more generalizable. Thus, 47 firm pairs (58 percent of the original 81 pair) comprised the sample used for multivariate hypotheses tests.

There were several independent variables. For each pair of firms, the ownership structure measures were derived from percentages disclosed in a toehold target annual proxy. Proxies disclose the percentage of ownership held by blockholders that own five percent or more of the corporation and officers and directors of the firm (Securities Exchange Commission, 1989b). The proxies that were selected were dated as closely as possible to a date eighteen months after the corporate blockholder's initial Form 13D filing to coincide with the abnormal return time interval. Long-term corporate blockholders held from 5 to 50 percent of the toehold target for at least three years during the years 1982 through 1988. Other blockholders were five percent or greater common stockholders that could not be classified as toehold target officers and directors or long-term corporate blockholders. (Other corporate blockholders were classified as "other blockholders" if their ownership lasted less than three years). Officers and directors in this study are defined to be toehold target insiders.

The independent variable values of each corporate blockholder and its toehold target were coded the same because they share a relationship. If the extent of a corporate blockholder's ownership in the toehold target was at least 5 percent but less than 20 percent, then the "low corporate blockholder ownership" variable was coded one; if at least 20 but less than 50 percent, then zero. If the extent of insider ownership in the toehold target was at least 35 percent but less than 50 percent, then the "high toehold target insider ownership" variable was coded one; if less than 35 percent, then zero. If the extent of other blockholder ownership in the toehold target was at least 5 percent but less than 20 percent, then the "low other blockholder ownership" variable was coded one; if between 20 and 50 percent, then zero. If the extent of other blockholder ownership was at least 35 percent but less than 50 percent, then the "high other blockholder ownership" variable was coded one; if less than 35 percent, then zero.

To identify whether or not the corporate blockholders and toehold targets were vertically related, horizontally related, unrelated, or associated through a private placement, financial executives in the sample firms were contacted through a mail and phone survey. If a customer/supplier or supplier/customer trade relationship existed between the corporate blockholder and the toehold target during the period of ownership, then the "vertical trade relationship" variable was coded one, otherwise zero. If a direct competitor trade relationship existed between the corporate blockholder and the toehold target during the period of ownership, then the "horizontal trade relationship" variable was coded one, otherwise zero. If the corporate blockholder's stock was acquired directly from the toehold target, then the "private placement" variable was coded one, otherwise zero. To identify toehold targets that announced subsidiary divestitures, abstracts in The Wall Street Journal Index (1982-1987) were examined. If the toehold target disclosed a divestiture in the eighteen-month time interval, then the "toehold target divestiture" variable was coded one, otherwise zero.

To relate the size of the corporate blockholder's investment in the toehold target to the size of the corporate blockholder, a ratio was estimated. The "investment size ratio" was computed by multiplying the corporate blockholder's percentage of ownership in the toehold target (disclosed on the "18-month" toehold target proxy) by the toehold target's common stock market value. Then, that product was divided by the corporate blockholder's common stock market value. The common stock market values were both computed by multiplying the number of each firm's common shares outstanding by the firm's closing share price on the trading day

preceding the initial Form 13D filing. (The common stock market value means of the corporate blockholders and toehold targets were \$1,908 million and \$309 million, respectively. The common stock market value standard deviations were \$4,055 million and \$718 million, respectively.)

Analysis

The model at FIGURE 2 shows a link between the dependent performance variables that indicate the performance variable measures are interdependent. Interdependent dependent variables require a multivariate analysis to simultaneously measure the effect of the independent categorical variables on the dependent variables. Simultaneous testing controls for the possibility of Type 1 error inflation that may occur when separate univariate tests are made independently on dependent variables that are not perfectly correlated (Hair, Anderson, & Tatham, 1987: 150). (Consider, for example, a model with four dependent variables and assume a 5 percent level of statistical significance. With no differences in the dependent variables, one would expect to observe a significant effect on a dependent variable 5 percent of the time. However, across the four separate tests, the probability of a Type 1 error will range between 5 percent when the dependent variables are perfectly correlated and 19 percent ($1 - .95^{**4} = .19$) when the dependent variables are not correlated.)

To test whether the categorical independent variables in our model affect both dependent variables simultaneously, multivariate analysis of covariance (MANCOVA) was applied. MANCOVA is appropriate when there are two or more continuous dependent variables, one or more categorical independent variables, and at least one uncontrolled metric covariate. MANCOVA determines if samples came from populations with equal means. In MANCOVA, the covariate(s) enters the model first to partial out its variance before measuring the variance associated with the hypothesized variables. After adjusting for the effect of the covariate(s), a standard MANOVA is carried out. The multivariate procedure provides more sensitive tests of categorical variable effects because the *F* tests consider the correlation between the dependent variables which is part of the total information available for assessing the overall group differences. However, the multivariate results are not helpful in ascertaining the direction of the categorical variable effects.

To ascertain the direction of the categorical variable effects, we also report multivariate Ordinary Least Squares and univariate Weighted Least Squares regressions on the dependent variables taken separately. We also show graphically the effect of each of the hypothesized variables on each of the dependent variables over time.

RESULTS

TABLE 1 reports means, standard deviations, and the correlations among the variables. The abnormal return means of the corporate blockholders (9.58 %) and toehold targets (-9.82 %) have similar magnitude, but different signs. Tests of the abnormal return means indicate that they do not significantly differ from zero. The abnormal return medians (not shown) are less than the means for both the corporate blockholders (2.35 %) and for the toehold targets (-21.92%) which indicates both abnormal return distributions are positively skewed. (The skewness measures for the distributions are 1.00 and 0.75, respectively, and the kurtosis measures for the distributions

are 1.12 and 3.04, respectively). In contrast to the differing signs associated with the performance means and medians, the correlation between the dependent variables (.23, $p < .12$) is positive which indicates that the dependent variables of firm pairs move in the same direction some of the time.

The investment size ratio correlation with corporate blockholder performance (.25, $p < .09$) is significant at the .1 level, which suggests it is marginally effective as a covariate for the corporate blockholder dependent variable. The investment size ratio correlation with the toehold target dependent variable is also positive (.16), but not significant. Thus, the investment size ratio partials out some variance in the positively correlated dependent variables, but not a lot. We retain the investment size ratio variable in the model to estimate more robust statistics.

Test Results and Interpretation of Related Statistics

TABLE 2 reports multivariate tests of association for the five hypothesized variables in the model described at FIGURE 2. The null hypotheses we test are that the two vectors of means associated with the dependent variables are equivalent across the various levels of each of the categorical independent variables. In other words, the categorical variables have no effect on either the corporate blockholder's abnormal returns or the toehold target's abnormal returns. The null hypotheses may be rejected if the means of the groups identified by categorical independent variables are significantly different. Wilk's Lambda is a statistic that gets smaller as the between-group dispersion gets larger (i.e., the smaller the Wilk's Lambda, the greater the implied significance). Wilk's Lambda can be transformed into a good approximation of an F statistic to test its statistical significance (Rao, 1978). TABLE 2 also shows stepdown analysis, where the effect of the categorical variables on each of the dependent variables is analyzed separately. Because the stepdown F 's do not indicate the direction of effect, we choose to discuss regression statistics found at TABLE 3 along with the MANCOVA statistics in this section. Ordinary least squares (OLS) regression residuals were tested to ascertain whether they are normally distributed and reflect equal variances, assumptions which are also underlie MANCOVA analysis. (Statistical research suggests that ANOVA F tests are robust with regard to violations of normality assumptions except in extreme cases (Meyers, 1975; Winer, 1962). We assume MANCOVA should be similar because it is nothing more than ANOVA applied to two or more dependent variables with a covariate.)

Although the tests indicate OLS estimates are acceptable, we recognize that the dependent variable distributions are positively skewed. (The Jarque-Bera Asymptotic Lagrange Multiplier Normality tests for the corporate blockholders and toehold targets produce chi-squares of 1.1943 with 2 degrees of freedom and 4.9788 with two degrees of freedom, respectively. These statistics are less than the chi-square table value which suggests the residuals are distributed normally (White, 1993: 20). The Harvey test (LogE^2 on X) for multiplicative heteroskedasticity produces chi-squares of 9.275 with 9 degrees of freedom and 12.575 with 9 degrees of freedom, respectively. These statistics are also less than the chi-squares table value which suggests that the extent of heteroskedasticity is in an acceptable range (White, 1993: 176)). Accordingly, for comparison we also report univariate two-stage Weighted Least Squares (WLS) regression results because the WLS estimation technique fits the model more precisely by underweighting the OLS outliers.

Finally, to help shed additional light on the effects of the categorical independent variables on the performance of corporate blockholders and their toehold targets over time, we also present the significant hypothesized relationships graphically. The abnormal return means of the

corporate blockholders and toehold targets at 6, 12, and 18 month time intervals are illustrated at FIGUREs 3 through 7. The graphical relationships need to be interpreted with care because they do not represent equal sample sizes and they do not take into account the effects of the other independent variables. On the other hand, agreement between the significance of the multivariate F s, the stepdown F 's, the regression parameter estimate signs and t -statistics, and the graphs should provide an intuitive sense of the posited theory's accuracy.

At TABLE 2, the low corporate blockholder ownership Wilk's Lambda (0.79) is significant ($F=4.72, p < 0.02$) which indicates that the variable explains a significant amount of the variance in the dependent variate. This result supports Hypothesis 1: *all else equal, the abnormal return means that occur when corporate blockholders hold from 5 to 20 percent of their toehold target's common stock will significantly differ from the abnormal return means that occur when corporate blockholders hold from 20 to 50 percent of their toehold target's common stock.* In the corresponding stepdown analysis, the F values indicate that the dependent variate is affected through the Corporate Blockholder abnormal returns ($F=6.83, p < 0.01$) but not the Toehold Target abnormal returns ($F=2.44, p < 0.13$). At TABLE 3, the corporate blockholders' low corporate blockholder ownership OLS parameter estimate (-48.09, $t=-2.61$) indicates that when corporate blockholders own less than a 20 percent stake in the toehold target, they perform significantly worse than when they own from 20 to 50 percent. Alternately, the toehold targets' low corporate blockholder ownership OLS parameter estimate (36.55, $t=1.56$) indicates that when corporate blockholders own less than a 20 percent stake in the toehold target, the toehold targets perform better, but not significantly better, than when corporate blockholders own from 20 to 50 percent. (On the other hand, the toehold targets' WLS parameter estimate is positive and significant: 55.10, $t=2.33$). FIGURE 3 shows the abnormal return means for the corporate blockholders and toehold targets associated with low and higher percentage levels of corporate blockholder ownership. As predicted, the graph indicates the ability of a corporate blockholder to extract private rent from a toehold target depends on the magnitude of its ownership in the toehold target. Moreover, the graph suggests that when corporate blockholder's own from 20 to 50 percent they gain a lot, and when they own from 5 to 20 percent, they lose relatively little. Consistently, the toehold target's abnormal return means decline more rapidly when corporate blockholder ownership is at or above 20 percent than when corporate blockholder ownership is below 20 percent. These results help explain why corporations may be willing to become and remain large, monitoring shareholders: corporate blockholders continue to monitor when and because they are compensated for doing so.

Put FIGURE 3 about here

At TABLE 2, the high insider ownership Wilk's Lambda (0.76) is significant ($F=5.69, p < 0.01$). This result supports Hypothesis 2: *all else equal, the abnormal return means that occur when toehold target insiders own from 35 to 50 percent of the toehold target's common stock will significantly differ from the abnormal return means that occur when toehold target insiders own less than 35 percent of the toehold target's common stock.* The corresponding stepdown

analysis shows that high insider ownership influences the dependent variate through both the corporate blockholder and toehold target dependent variables ($F=4.73, p<0.04$; $F=7.52, p<0.01$). At TABLE 3, both the corporate blockholders' and the toehold targets' high insider ownership OLS parameter estimates are positive and significant (49.25, $t=2.18$; 78.90, $t=2.74$) which indicates that when toehold target insiders own from 35 to 50 percent of the toehold target's common stock, both groups perform significantly better. FIGURE 4 shows the corporate blockholder abnormal return means associated with toehold target insider ownership of 35 percent or more are higher than the corporate blockholder abnormal return means associated with insider ownership that is less than 35 percent. These performance results are consistent with agency theory and Stulz's takeover model.

Put FIGURE 4 about here

At TABLE 2, the private placement Wilk's Lambda (0.99) is not significant ($F=0.22, p<0.81$) which indicates the variable has no effect on the dependent variate. Private placement also does not affect either of the dependent variables ($F=0.15, p<0.70$; $F=0.29, p<0.59$). Thus, there is no support for Hypothesis 3.

At TABLE 2, the vertical trade relationship Wilk's Lambda (0.73) is significant ($F=6.62, p<0.00$) as are the effects on both of the dependent variables ($F=7.13, p<0.01$; $F=7.15, p<0.01$). This result supports Hypothesis 4: *the abnormal return means that are associated with a vertical trade relationship between the corporate blockholder and toehold target firms will significantly differ from the abnormal return means that occur when a trade relationship is not vertical*. At TABLE 3, both the corporate blockholders' and the toehold targets' vertical trade relationship OLS parameter estimates are positive and significant (51.01, $t=2.67$; 64.94, $t=2.67$) which indicates that when a customer/supplier relationship exists between a corporate blockholder and a toehold target, both tend to perform better. FIGURE 5 shows that a vertical trade relationship is associated with higher corporate blockholder and toehold target abnormal return means than abnormal return means associated with no vertical (or horizontal) trade relationship. These results are consistent with transaction cost theory that suggests that firms that rely on each other through long-term contracts are more likely to attenuate opportunism and experience a win/win outcome if they adopt an appropriate governance mechanism to bond their relationship and align their mutual interests. The 18-month abnormal return means of unrelated corporate blockholders and unrelated toehold targets was 4 percent and -20 percent, respectively.

Put FIGURE 5 about here

At TABLE 2, the horizontal trade relationship Wilk's Lambda (0.90) is not significant ($F=2.03$, $p<0.14$) although the variable does explain a marginally significant extent of the variation in the toehold target dependent variable ($F=3.08$, $p<0.09$). Hypothesis 5 is not strongly supported, but it is interesting to observe that at TABLE 3 the parameter estimate of the toehold targets (55.50) is positive ($t=1.75$), whereas the parameter estimate of the corporate blockholders is insignificantly negative.

The results in TABLE 2 take into account four control variables that are not shown. The investment size ratio is a continuous covariate that relates the size of the corporate blockholder's investment in the toehold target to the size of the corporate blockholder. The investment size ratio that relates the value of investment to the value of the blockholder did not have a significant effect on the dependent variate (Wilk's Lambda=.91; $F=1.75$; $p<0.19$). The toehold target divestiture variable that indicates whether the toehold target divested a subsidiary during the 18-month time interval did not have a significant effect on the dependent variate (Wilk's Lambda=.89; $F=2.20$, $p<0.13$). The high other blockholder ownership variable that indicates if other blockholders held at least 35 percent of the toehold target's common stock had a significant effect on the dependent variate (Wilk's Lambda=.72; $F=7.12$, $p<0.00$). The regressions at TABLE 3 indicate that most of the effect of high other blockholder ownership was on the abnormal returns of the corporate blockholders. The low other blockholder ownership variable that indicates if other blockholders held less than 20 percent ownership in the toehold target also had a significant effect on the dependent variate (Wilk's Lambda=.73; $F=6.60$, $p<0.00$). The regressions at TABLE 3 suggest that the effect of low other blockholder ownership was significant on the abnormal returns of both the corporate blockholders and the toehold targets.

DISCUSSION

A body of literature has examined the effect of interfirm equity interests on the performance of corporations. In recent years, the scope of that literature has broadened from a focus on majority interests, where an investing firm attains *absolute* control over a target, to one that includes minority interests, where the investing firm may settle for *influence* over a toehold target managers (Niederkofler, 1991). Minority interests have become popular domestic and international governance mechanisms (Ipsen, 1991) to bond technology partnerships (Doz, 1988) and strategic alliances (Wachtler, 1988) that are developed to accomplish long-term goals cooperatively. They represent an intermediate governance structure between complete vertical financial ownership and vertical contracting that is useful because of the existence of positive agency and transaction costs (Mahoney, 1992). Yet despite the importance of minority interests to these cooperative strategies, few studies have examined the effect of minority ownership on the performance of long-term corporate blockholders and toehold targets simultaneously. Moreover, previous studies have either focused on short time intervals or used univariate analyses exclusively. To the extent that the performance of corporate blockholders and toehold targets is interrelated, univariate analyses may be misleading. In this study, a nearly significant positive correlation (.23, $p<.12$) between 18-month corporate blockholder and toehold target performance measures justified the consideration of multivariate analyses.

Findings

Overall, we found considerable support for hypotheses that predicted that the level of long-term corporate blockholder ownership, the level of toehold target insider ownership, and the existence of a vertical trade relationship simultaneously affect the performance of both corporate blockholders and toehold targets. We did not find support for hypotheses that predicted private placement or other trade relationship (horizontal or unrelated) variables affect performance.

When minority level corporate blockholders hold from 20 to 50 percent of their toehold target's common stock, the corporate blockholders perform better and the toehold targets perform marginally worse. The divergent performance relationship directly supports the wealth transfer hypothesis of Rosenstein and Rush (1990) and suggests that corporate blockholder ownership in that range may be sufficient to enable corporate blockholders to secure private benefits or at least monitoring compensation from toehold targets at the expense of other toehold target shareholders.

Alternately, when insiders own from 35 to 50 percent of the toehold target's common stock, corporate blockholders and toehold targets both perform better than when insiders own less than 35 percent. Insider control plausibly attenuates perquisite payments and enables the management to focus on implementing long-term strategies to optimize toehold target returns to all shareholders. The association of high insider ownership with high performance is consistent with the observation by McConnell and Servaes (1990) of high insider ownership with high firm value.

The existence of a vertical trade relationship between the corporate blockholder and the toehold target is also positively associated with the performance of both types of firms. Thus, a high level of insider ownership and a vertical relationship are both circumstances associated with win/win outcomes for both long-term corporate blockholders and their toehold targets.

Finally, among the control variables, we observed that other blockholder ownership in the 5 to 20 percent range as well as the 35 to 50 percent range is positively associated with improved corporate blockholder and toehold target performance. A possible explanation is at an intermediate level of ownership, conflict between blockholders over control interferes with enhanced corporate blockholder or toehold target performance. Further research is needed to examine this question.

Study Limitations

Two aspects of the study justify caution in interpreting the results. First, abnormal returns measured over long time intervals may reflect confounding events. In longitudinal research, the choice of the length of the time interval to examine is somewhat arbitrary and may affect the research conclusions. In this study, we assumed that the performance effects of other events canceled themselves out, and to mitigate the effects of confounding events, we choose a time interval half as long as the 3-year minimum ownership duration used to select the sample. In future research, it may be useful to drop the 3-year minimum ownership duration constraint that is associated with negative toehold target performance (Mikkelsen & Ruback, 1985; Rosenstein & Rush, 1990) in order to observe a larger sample.

Second, we lack a control sample for the corporate blockholders and the toehold targets. This reflects the fact that it is difficult to isolate a sample of small firms that do not have a corporate or other blockholders among the shareholders in a three-year time interval. A multivariate study with matched pair control samples would be a preferred design to eliminate some alternative explanations for the performance trends if such a sample can be obtained.

Conclusions

Many corporations buy and hold significant minority-level equity interests other corporations even though such investments do not provide absolute control. This study identifies two circumstances when that corporate investment strategy is associated with improved corporate blockholder and toehold target performance and one circumstance when the strategy is associated with improved corporate blockholder performance and reduced toehold target performance.

Toehold target ownership structure and the form of the trade relationship between a corporate blockholder and its toehold target were found to explain considerable variance in 18-month abnormal returns. Other things equal, when insiders owned from 35 to 50 percent of the toehold target's stock, the performance of both the toehold targets and the corporate blockholders was significantly higher than when insiders owned less than 35 percent. Similarly, when a vertical trade relationship existed between the firms, the performance of both the toehold targets and the corporate blockholders was significantly higher than when the trade relationship was not vertical. Alternately, when corporate blockholders owned from 20 to 50 percent of the toehold targets, corporate blockholders performed significantly better than when they owned from 5 to 20 percent. Taken as a whole, the results suggest that corporate blockholdings seem to endure when they serve to enhance or maintain corporate blockholder performance.

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APPENDIX

This study computes abnormal return estimates of each firm's economic performance during specified time intervals using a methodology that employs compounding, size-based indices, and the market adjusted model.

Compounding

A holding period return (HPR) is determined by compounding k consecutive daily or monthly single period returns in a time interval corresponding to the holding period (s, t) as follows,

$$\text{HPR}(k) = (1+R_1) (1+R_2) \dots (1+R_k) - 1$$

Holding period returns are less biased than accumulated (summed) returns in long time intervals (Conrad & Kaul, 1993: 47).

Size-based decile indices

Dimson and Marsh (1986) demonstrated that firms of similar size have returns that generally move together. Therefore, in circumstances where estimation periods are long and event securities differ systematically in size and weighting from market index constituents, they argue it is better to measure abnormal stock price performance by comparing each firm's returns with the returns of an index composed of similar-sized firms than it is to compare each firm's returns with the returns of an exchange-wide index. (This is important to this study because firm size varied considerably between and across the samples of corporate blockholders and toehold target firms. Moreover, between July 1982 and June 1992, large firms earned about 5.5 percent more per year than small ones (Asinof, 1992)).

They also demonstrated that no advantage is gained through risk-adjustment procedures if size-based decile indices are adopted as the normal performance benchmark.

Size-based deciles are formed by comparing a firm's common stock market value with the common stock market value of other firms that trade on its exchange. The decile 1 firms include the smallest 10 percent of the firms and the decile 10 firms include the largest 10 percent of the firms. A firm's size decile is the decile that includes the firm: hence, its peer group is composed of firms of similar size. Because the market value of each firm's common stock changes from year to year, a firm's decile may change from year to year, but during a calendar year a firm's decile remains constant.

The daily total return of a size decile is determined by averaging the daily total returns of the firms in the decile. The size-based decile index return is thus a benchmark for *normal* performance because it is the average return for firms of similar size.

The Market Adjusted Model

A total return from a stock investment indicates the value of cash dividends and capital appreciation (loss) in a time interval divided by the original investment. The market-adjusted model computes a firm's abnormal return by subtracting from each firm's total return a benchmark measure for the firm's expected (or *normal*) total return.

The abnormal return u_{jst} of security j from the start of period s to the end of period t is simply

$$u_{jst} = R_{jst} - E(R_{mst})$$

where $E(R_{mst})$ is a return from an index of firms traded on the same exchange as the subject firm (Dimson & Marsh, 1986, 119). The total return R_{jst} depends on the effect of the event being investigated, while the expected return $E(R_{mst})$ is the return that would be anticipated had no event occurred.

TABLE 1
Means, Standard Deviations, and Correlations

Variables	Means	Std. Dev.	1	2	3	4	5	6	7	8	9	10	11
1. Corporate Blockholder Performance	9.58	59.09	1.00										
2. Toehold Target Performance	-9.82	70.18	.23	1.00									
3. Investment Size Ratio	15.32	26.21	.25 [†]	.16	1.00								
4. Toehold Target Divestiture	0.11	0.31	.12	-.06	.27 [†]	1.00							
5. Horizontal Trade Relationship	0.17	0.38	-.24	-.03	.27 [†]	.21	1.00						
6. Vertical Trade Relationship	0.19	0.40	.29*	.19	-.03	.01	-.17	1.00					
7. High Other Blockholder Ownership	0.12	0.34	.16	-.02	-.16	-.13	-.13	-.02	1.00				
8. Low Other Blockholder Ownership	0.74	0.44	.10	.23	.09	.04	.20	-.09	-.65**	1.00			
9. Private Placement	0.68	0.47	-.05*	-.06	-.28 [†]	-.36*	-.06	.22	.13	-.19	1.00		
10. High Toehold Target Insider Ownership	0.12	0.34	.16	.33*	.11	-.13	-.13	-.19	.04	-.07	-.15	1.00	
11. Low Corporate Blockholder Ownership	0.68	0.47	-.25 [†]	.10	-.22	.24	-.06	-.13	.26 [†]	-.19	-.27	.13	1.00

[†] $p < .10$ * $p < .05$ ** $p < .01$

TABLE 2
Multivariate tests of association^a

Independent Categorical Variables	Wilk's Lambda Statistic	<i>F</i> Value	Probability of a Greater <i>F</i>	Stepdown Analysis		
				Dependent Variables	<i>F</i> Value	Probability of a Greater <i>F</i>
Horizontal Trade Relationship	0.90	2.03	0.14	Corporate Blockholder Toehold Target	0.92 3.08	0.34 0.09
Vertical Trade Relationship	0.73	6.62	0.00	Corporate Blockholder Toehold Target	7.13 7.15	0.01 0.01
Private Placement	0.99	0.22	0.81	Corporate Blockholder Toehold Target	0.15 0.29	0.70 0.59
High Insider Ownership	0.76	5.69	0.01	Corporate Blockholder Toehold Target	4.73 7.52	0.04 0.01
Low Corporate Blockholder Ownership	0.79	4.72	0.02	Corporate Blockholder Toehold Target	6.83 2.44	0.01 0.13

^aThe number of degrees of freedom and the density degrees of freedom in each case were 2 and 36, respectively.

TABLE 3
Regression Estimates on 18-month Abnormal Returns
(*t*-statistics are in parentheses)

	Corporate	Blockholders	Toehold	Targets
	Ordinary Least Squares	Weighted ^a Least Squares	Ordinary Least Squares	Weighted ^a Least Squares
Intercept	-34.66 (-1.06)	-13.39 (-0.49)	-139.32 (-3.36)**	-146.36 (-4.49)***
Investment Size Ratio	0.19 (0.59)	0.11 (0.30)	0.76 (1.83)†	0.78 (2.44)*
Toehold Target Divestiture	51.86 (1.91)†	49.44 (1.37)	-29.03 (-0.84)	-11.70 (-0.45)
Horizontal Trade Relationship	-23.90 (-0.96)	-24.82 (-1.19)	55.50 (1.75)†	43.16 (1.06)
Vertical Trade Relationship	51.01 (2.67)*	40.73 (1.83)†	64.94 (2.67)*	55.36 (3.41)**
High Other Blockholder Ownership	104.99 (3.62)***	105.99 (4.61)***	51.87 (1.41)	44.60 (2.30)*
Low Other Blockholder Ownership	62.34 (2.82)**	56.32 (2.63)*	70.57 (2.51)*	69.40 (4.17)***
Private Placement	-7.06 (-0.39)	-28.20 (-2.30)*	12.49 (0.54)	5.32 (0.26)
High Insider Ownership	49.25 (2.18)*	41.85 (2.58)*	78.90 (2.74)**	74.86 (3.47)***
Low Corporate Blockholder Ownership	-48.09 (-2.61)*	-47.19 (-2.84)*	36.55 (1.56)	55.10 (2.33)*
<i>Df</i>	37	37	37	37
<i>F</i>	3.58**	4.75***	2.61*	5.23**
<i>R</i> ²	.47	.54	.39	.56
Adjusted <i>R</i> ²	.34	.42	.24	.45

^a The weighting factor for the weighted least squares estimates is the reciprocal of the squared errors.

† *p* < .100

**p* < .050

***p* < .010

****p* < .001

FIGURE 1

Performance Expectations Associated with
High and Low Levels of Ownership in a Toehold Target

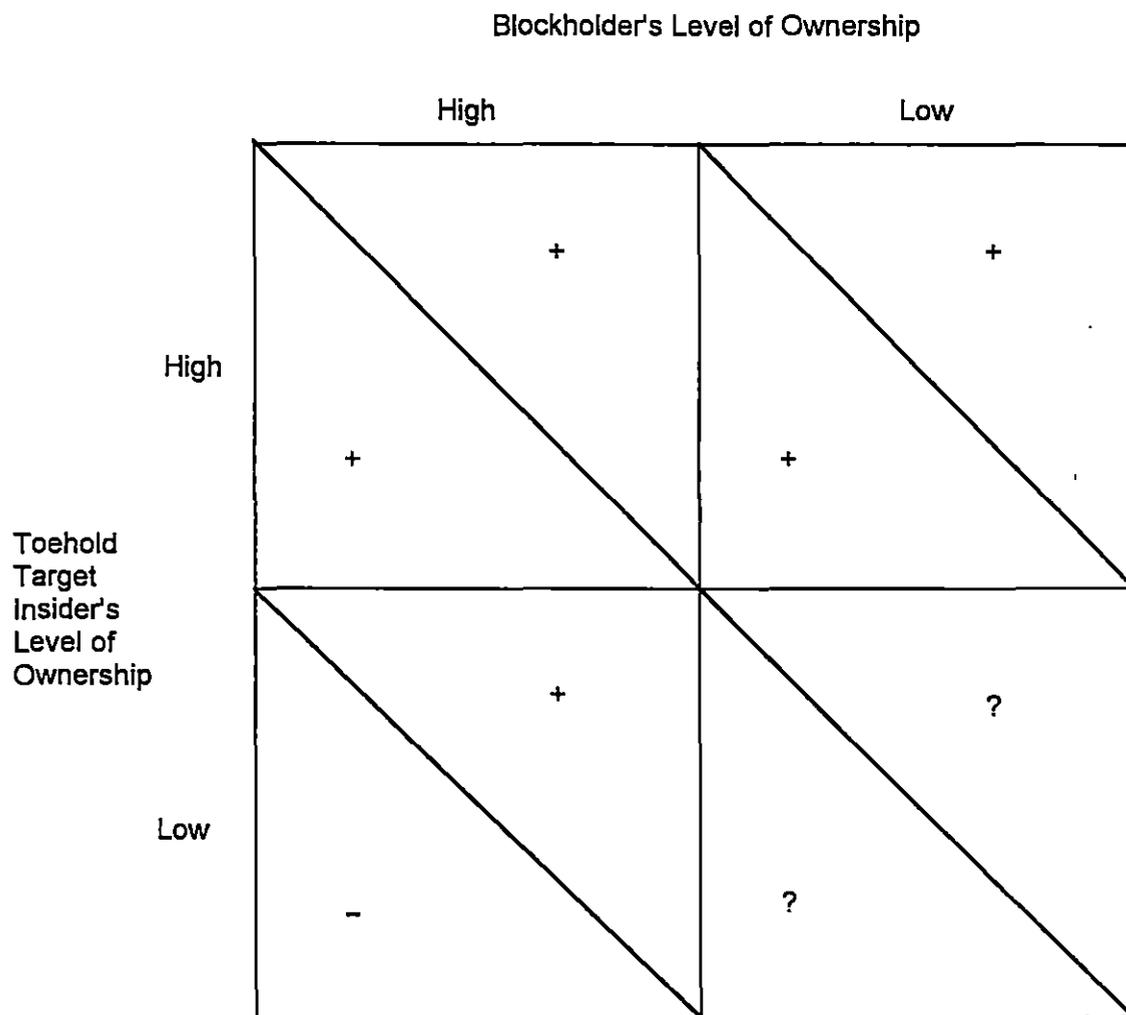


FIGURE 2

Model of Multivariate Relationships

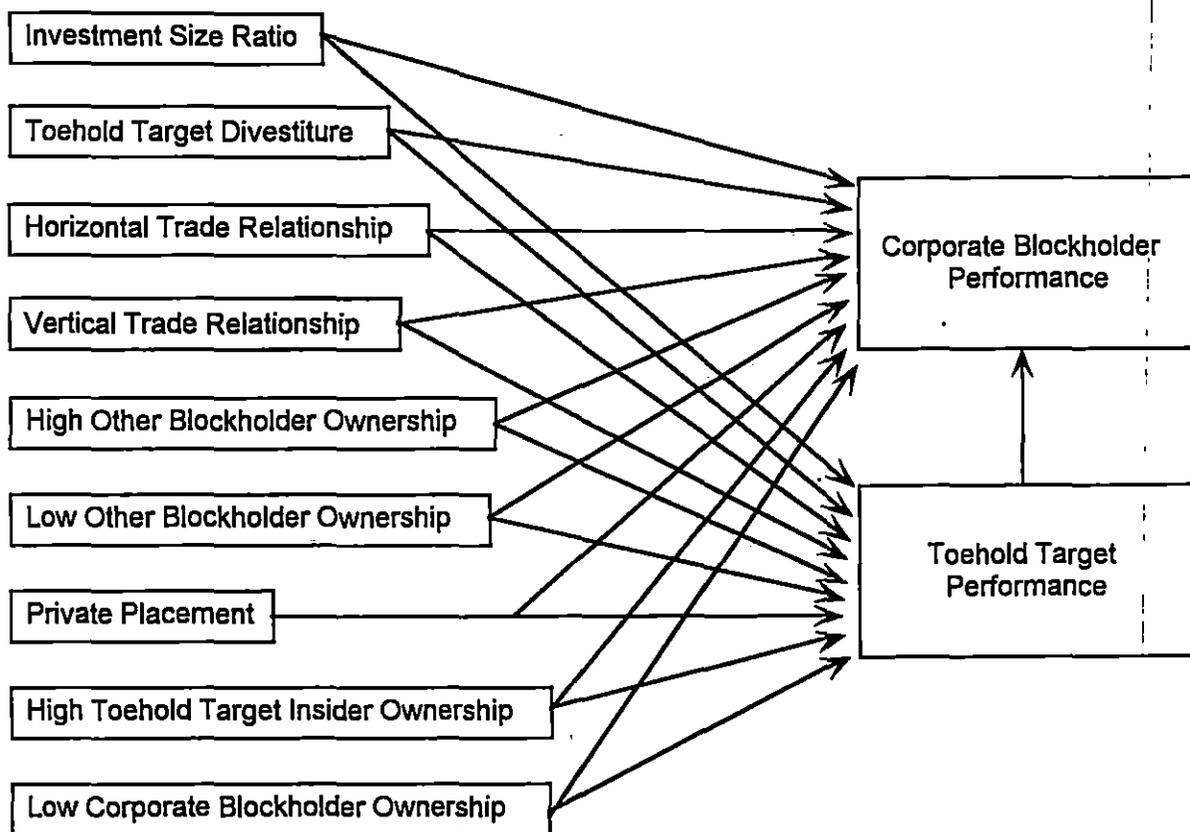


FIGURE 3
Abnormal Return Means Associated With
Low and High Percentage Levels of
Corporate Blockholder Ownership

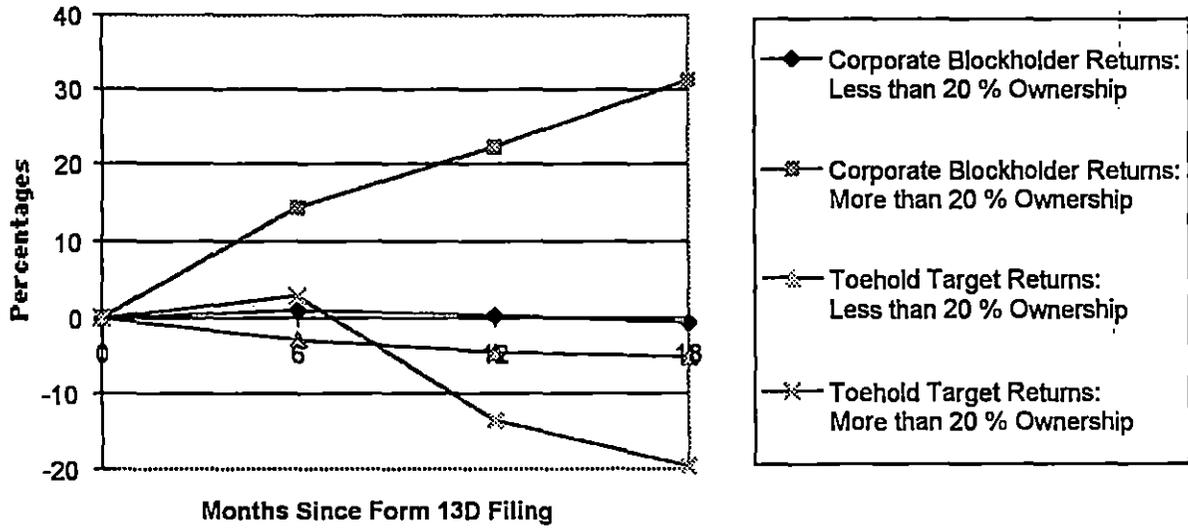


FIGURE 4
Abnormal Return Means Associated With
Low and High Levels of
Toehold Target Insider Ownership

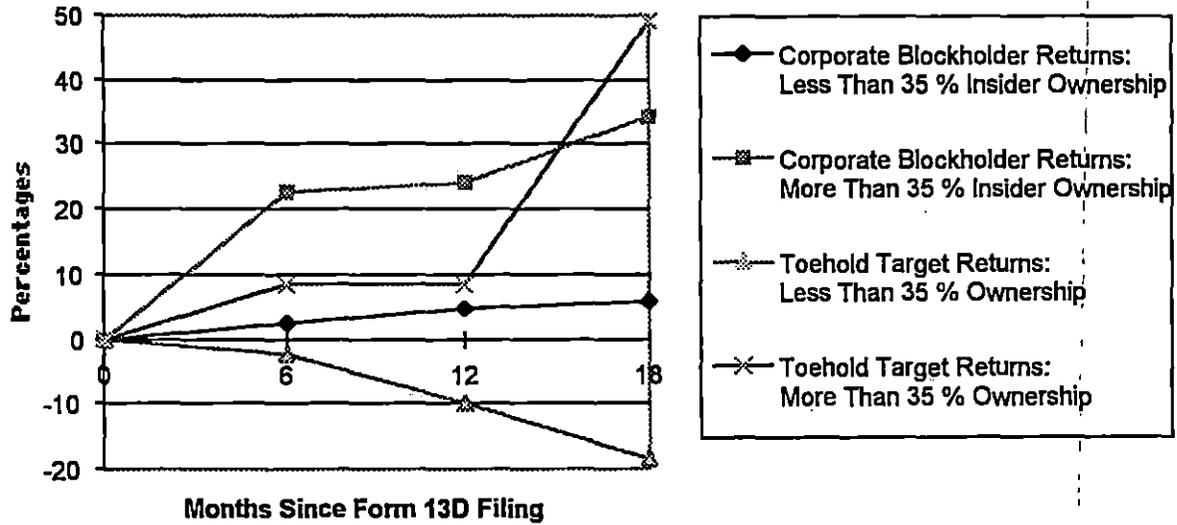


FIGURE 5
Abnormal Return Means Associated With
No Trade or Vertical Trade Relationships

