

**OWNERSHIP STRUCTURE, INVESTMENT BEHAVIOR AND FIRM  
PERFORMANCE IN JAPANESE MANUFACTURING INDUSTRIES**  
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Abstract	Using data spanning the 1996-1998 fiscal years of 247 of Japan's largest manufacturers, we empirically evaluate the extent to which a firm's investment behavior and financial performance is influenced by its ownership structure. To do so, we examine six distinct categories of Japanese shareholders: foreign investors, investment funds, pension funds, banks and insurance companies, affiliated companies and insiders. Our findings strongly indicate that the relationship between the equity stakes of a particular category of investor and a firm's financial performance and investment behavior is highly idiosyncratic. Such a result emphasizes the importance of making finely grained and contextually relevant distinctions when modeling and evaluating corporate governance relations.	
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## **OWNERSHIP STRUCTURE, INVESTMENT BEHAVIOR AND FIRM PERFORMANCE IN JAPANESE MANUFACTURING INDUSTRIES**

### **Abstract**

Using data spanning the 1996-1998 fiscal years of 247 of Japan's largest manufacturers, we empirically evaluate the extent to which a firm's investment behavior and financial performance is influenced by its ownership structure. To do so, we examine six distinct categories of Japanese shareholders: foreign investors, investment funds, pension funds, banks and insurance companies, affiliated companies and insiders. Our findings strongly indicate that the relationship between the equity stakes of a particular category of investor and a firm's financial performance and investment behavior is highly idiosyncratic. Such a result emphasizes the importance of making finely grained and contextually relevant distinctions when modeling and evaluating corporate governance relations.

**Keywords: Japan, Corporate Governance, Ownership, Investment Behaviour,  
Performance**

## INTRODUCTION

Separation of ownership and management of the firm has long been a key issue in the theory of the firm. Adam Smith (1776) first raised skepticism over the efficient functioning of the stock-based company. Berle & Means rekindled discussion on the issue in 1932 with the argument that the interests of managers and shareholders in large public corporations often diverge and that shareholders do not have effective control over managers because of information asymmetry and problems related to moral hazard (Milgrom & Roberts, 1992).

Such an agency theory perspective on the modern corporation holds as a basic tenet that individuals are utility maximizers (Eisenhardt, 1989) and that the utility of shareholders is a direct and positive function of economic returns on their equity investments (Alchian & Demsetz, 1972). On the other hand, owing to their different utility functions (Jensen & Meckling, 1976) and risk bearing capacities (Amihud & Lev, 1981; Fama & Jensen, 1983) managerial agents are assumed to prefer corporate strategies that benefit them at the expense of their principals (Jensen & Meckling, 1976; Fama & Jensen, 1983). While Stigler & Friedland (1982) found that there was no evidence based on historical data of the time to support the Berle-Means thesis, more recent surveys have concluded that the absence of a strong owner to monitor management is negatively associated with corporate financial performance (Short, 1994; Shleifer & Vishny, 1997). As such, the view that the agency conflict of interest between shareholders and managers is often resolved in management's favor is still strongly held (Roe, 1994).

In the past three decades there have been scores of studies which have examined the effects of ownership structure on patterns in the generation and allocation of financial resources (Shleifer & Vishny, 1997; Maher & Andersson, 1999). While the vast majority of research has investigated the relationship between ownership concentration and firm performance, a much smaller number of

studies have examined the impact of corporate ownership patterns on the strategic and investment behavior of firms. Consequently, much more is known about the relationship between ownership and performance than about the how ownership patterns affects strategic and investment behavior. At the same time, while a few exceptions exist (e.g. Gedajlovic, 1993; Thomsen & Pedersen, 2000), there is a paucity of studies which have examined the effects of different types of shareholders in the context of a single study. As a consequence, much of the previous work in corporate governance carries with it the implicit assumption that shareholders are a monolithic stakeholder group whose interests are homogenous and focussed on the singular goal of maximizing returns on their equity investments (Alchian & Demsetz, 1972; Jensen & Meckling, 1976).

Such an assumption is most tenable in the context of an arm's length governance system such as those found in the U.S. and the U.K. where equity investments constitute the singular tie that shareholders have to a firm in which they hold shares (Roe, 1994; Rajan & Zingales, 1998). On the other hand, in many other economies, such as Japan where shareholders own shares for multiple purposes (Gerlach, 1992), this assumption is too simplistic. Shareholders in Japanese firms are often grouped into two types: stable shareholders that seek mainly stable business relationships and market investors whose interest in their shareholdings is wealth-maximization (Clark, 1979; Abegglen & Stalk, 1985; Gerlach, 1992). In addition to these two types, managers and founders and their family members sometimes own significant shares in Japanese firms (Claussens, Djankov & Lang, 2000). Thus, there are broadly three classes of shareholders in Japan whose interests may be expected to vary.

This paper has two primary objectives. The first objective is to investigate the extent to which the strategic behavior and financial performance of Japanese firms are sensitive to the investment objectives of different types of shareholders. Our related second objective is to

empirically evaluate the widely held belief that Japanese shareholders have more diverse investment objectives than is captured in the standard agency theory treatment of ownership and control. To examine these issues, this paper proceeds as follows. First, past studies dealing with the effects of ownership structure are reviewed and we discuss issues related to the characteristics and objectives of different types of Japanese shareholders. Research hypotheses are developed based on these differences. Subsequent sections describe our research design, data analysis and the results. We conclude with a discussion of this study's findings and its implications for theory development as well as Japan's unique system of corporate governance.

### **LITERATURE REVIEW**

Most past studies on ownership structure have examined samples comprised exclusively of U.S. based firms and have considered conflicts of interests between shareholders and managers within an agency theory framework (La Porta, Lopes-de-Silanes & Shleifer, 1999; Maher & Andersson, 1999). Agency theory attempts to deal with problems that arise in agency relationships when (a) the goals of a principal and agent conflict and, (b) it is difficult or expensive for the principal to verify what the agent is actually doing (Eisenhardt, 1989). In this regard, the modern corporation in which professional managers operate the firm on behalf of a large group of widely dispersed shareholders (Chandler, 1977) represents a classic agency theory scenario (Eisenhardt, 1989; Milgrom & Roberts, 1992). More specifically, since the shareholdings of large corporations are often dispersed, managers may have effective control over the firm despite having little, or no ownership stake (Berle & Means, 1932; Chandler, 1977; Abe, 1997).

Notwithstanding agency problems associated with such a separation of ownership and control, a variety of mechanisms may be employed to compel or motivate managers to act in the interests of shareholders (Jensen, 1988; Walsh & Seward, 1990; Gedajlovic & Shapiro, 1998). In

their survey of corporate governance research, Shleifer & Vishny (1997) suggest that large investors who have both the incentive and capacity to monitor managers represent the most direct means of aligning the interests of shareholders and managers. Consistent with this view, there exists a significant body of research spanning the fields of strategic management, economics and finance which has examined the effects of institutional ownership, managerial ownership, and ownership concentration or large block ownership on the strategic behavior and financial performance of firms.

A frequently cited work in this area is a study by Amihud & Lev (1981) who find that manager-controlled firms (i.e. firms without a large block shareholder) are more widely diversified than firms with at least one large block shareholder. Amihud & Lev suggest that this finding indicates that unmonitored managers whose wealth and income streams are highly dependent upon their firms tend to adopt unprofitable diversification strategies as a means of appropriating a form of risk reduction perquisite at the expense of shareholders who can more efficiently manage their risk by holding shares in a portfolio of companies.

In another study, Hill & Snell (1988) examine the effects of stock concentration and management stockholdings on corporate innovation, diversification, and profitability. Hill & Snell observe that when share ownership is concentrated, innovation strategies are favored, because such strategies provide large upside opportunities for shareholders, but pose a higher risk to managers. Hill & Snell also find a negative relationship between managerial share ownership and corporate diversification. Stemming from these findings, Hill & Snell suggest that agency conflicts between shareholders and management may be attenuated either by concentrated shareholdings by outside investors, or by high levels of management share ownership.



Another study by Hill & Snell (1989) examines the effects of stock concentration on diversification strategies, R&D intensity, and productivity. Hansen & Hill (1991) and Baysinger, Kosnik & Turk (1991) study similar issues, examining the effects of institutional ownership and ownership concentration on corporate R&D expenditures. Hill & Snell (1989) find that stock concentration affects productivity directly and indirectly, through the mediators of unrelated diversification and R&D intensity. Hansen & Hill (1991) and Baysinger *et al*, 1991 find that higher levels of institutional ownership are positively associated with greater R&D spending.

These studies were carried out on samples comprised exclusively of firms based in the U.S. and adopted agency theory's implicit assumption that *all* shareholders have the common and singular objective of maximizing returns on their equity investment. This assumption must be approached with extreme caution in the Japanese context where different types of shareholders have different motivations and objectives related to their share ownership. In this regard, Gerlach (1992) has classified Japanese shareholders into three broad categories which he terms "*stable investors*," "*market investors*," and "*inside investors*." Theoretical considerations suggest that each of these shareholder types have relatively distinct investment objectives.

Traditionally, the majority of shares in Japanese firms have been held by stable investors such as affiliated firms, banks, and insurance companies. A defining characteristic of these investors, who are called "*antei kabunushi*" or "*seisaku toshika*" in Japanese ("stable shareholders" or "strategic investors") is that they have other relationships, such as lending and commercial trade ties with the firm in which they own shares. Equity ties are often reciprocated among these firms so that the cross-holding of shares is quite common (Roe, 1994; Sheard, 1994a). Importantly, shares held by stable investors are rarely, if ever sold. (Kester, 1991). In this regard, it is commonly argued that stable investors own their shares primarily to cement and

grow stable business relationships rather than to earn returns on their equity investments (Abbeglen & Stalk, 1985; Kester, 1991; Charkham, 1994; Roe, 1994). Observing this feature of shareholding in Japan, Clark (1979) once suggested:

*“Unlike Western institutional shareholders, which invest largely for dividends and capital appreciation, Japanese institutional shareholders tend to be the company’s business partners and associates; shareholding is the mere expression of their relationship, not the relationship itself.” (p.86).*

Market investors, called “*juntoshika*” in Japanese (literally “pure investors”), constitute a second class of shareholder found in Japan. Like the vast majority of shareholders in arm’s length governance systems such as the U.S., the sole tie that these shareholders have to the firm in which they hold shares is their equity stake (Rajan & Zingales, 1998). Consequently, such market investors have equity returns as their primary investment objective.

Inside investors which include corporate managers as well as corporate founders and their immediate families constitute a third class of shareholder found in Japan. The investment objectives of insider investors is relatively ambiguous insofar as their shareholdings provide them with an incentive to adopt policies consistent with shareholder wealth maximization (Hill & Snell, 1989). However, the analysis of Fama & Jensen (1983) indicates that insiders are likely to favor more risk averse strategies than other shareholders owing to the fact that the vast majority of their wealth and income streams are tied to the fortunes of the firm they manage (Amihud & Lev, 1981; May, 1995).

## **HYPOTHESES**

While the notion that three classes of shareholders with relatively distinct investment objectives is widely accepted in the literature on Japan’s system of corporate governance, this assumption has not yet been subjected to direct empirical investigation. In order to do so, we develop hypotheses which examine how the investment objectives of stable, market and inside

investors influence strategic behavior and the generation and use of financial resources. More specifically, we develop hypotheses which relate the investment objectives of the three investor types to corporate dividend policy, capital expenditures, accounting profit and stock price volatility.

### **Dividend Payout**

The literature on Japanese corporate governance suggests that stable shareholders make their investments in order to build and maintain stable trade ties rather than to earn investment returns (Nakatani, 1984; Kester, 1991; Kikuchi, 1999). As such, managers are likely to face little pressure from stable shareholders to payout large portions of corporate cash flow to them in the form of dividends. On the contrary, there are several reasons to expect that the percentage of shares held by stable shareholders will be negatively associated with dividend payout levels.

First, because of the interlocking nature of much of the stable shareholding in Japan (Roe, 1994; Sheard, 1994a; Lincoln, Gerlach & Takahashi, 1992;), stable investors effectively pay dividends to each other. In such a context, higher dividend incomes may be cancelled out by greater dividend payments demanded by business partners that want to offset their higher dividend costs. Second, since low dividend levels allow firms to keep their profits internally, this allows them to pursue additional growth opportunities which benefit their business partners (Charkham, 1994; Thomas & Waring, 1999). Third, stable investors may be expected to prefer that affiliated firms preserve cash flow since these resources act as a buffer (Bourgeois, 1981) against environmental shocks which might disrupt existing trade ties.

The preceding discussion suggests that:

***Hypothesis 1a: The size of the ownership stake of stable investors is negatively related to a firm's dividend payout levels.***

In contrast to stable investors, the shareholdings of market investors represent their singular tie to the firm. Consequently, the investment objective of market investors is to earn as high a return as possible on their equity investment (Sheard, 1997; Kikuchi, 1999).

Although financial theory suggests that dividend policy is irrelevant in terms of shareholder returns (Modigliani & Miller, 1958), agency considerations suggest that the interests of market shareholders are positively associated with dividend payout levels. In this regard, Jensen (1989) argues that shareholder interests are served by the payment of free-cash flow to shareholders in the form of dividends because the depletion of such organizational slack (Cyert & March, 1963) provides managers with a strong incentive to manage their businesses as efficiently as possible. At the same time, the payment of free cash flow to shareholders limits the number and size of investment proposals that can be funded from internal sources and compels managers to subject more of their investment proposals to the scrutiny of financial intermediaries and capital markets (Prowse, 1996).

These considerations suggest that:

***Hypothesis 1b: The size of the ownership stake of market investors is positively related to a firm's dividend payout levels.***

The size of the ownership stake of insider investors is expected to be positively related to dividend payout levels for two primary reasons. First, agency theory reasoning suggests that insiders with ownership stakes have a direct claim on the firm's residual income and consequently have a compelling reason to favor high dividend levels (Alchian & Demsetz, 1972). Secondly, since the wealth and income streams of inside investors are likely to be highly firm dependent, the payout of cash flow through dividend payments affords these investors with an opportunity to extract funds from the business and to diversify away some of their firm-specific cash flow risk (Chandler, 1990; May, 1995).

Consequently, we expect that:

***Hypothesis 1c: The size of the ownership stake of inside investors is positively related to a firm's dividend payout levels.***

### **Capital Expenditures**

A corollary of high dividend levels is low capital investment. Simply put, if capital is extracted from a firm via dividends, it is not available for reinvestment (Jensen, 1989). Instead of higher dividend payments, stable investors can be expected to favor large capital expenditures because such use of funds provides many opportunities for stable investors to expand their commercial and other non-equity ties with the firm. For instance, banks may benefit from expanding loan volumes and the sale of more financial services (Aoki, 1988; Weinstein & Yafeh, 1995). Similarly, non-financial affiliated firms may benefit from capital expenditures on either the buying, or supplying side of a trade relationship (Clark, 1979; Charkham, 1994).

In short, since stable investors can benefit in a variety of ways from large capital expenditures made by their business partners, it is expected that:

***Hypothesis 2a: The size of the ownership stake of stable investors is positively related to a firm's level of capital expenditures.***

While capital expenditures can promote growth, they do not necessarily enhance future profitability (Baumol, 1959; Marris, 1964). In contrast to stable shareholders that have the growth of commercial ties and/or debt ties as an investment objective, market investors can be expected to favor only those capital expenditures which promise positive equity returns. In this regard, the control of large portions of corporate equity in Japan's relational governance system by stable investors (Charkham, 1994; Roe, 1994; Lincoln *et al*, 1992) has been linked to a system-wide bias towards higher levels of investment than is found in arm's length governance systems where market investors predominate (Aoki, 1988; Thomas & Waring, 1999).

Consequently, it can be expected that in the context of Japan's growth oriented relational governance system, firms who have a large percentage of their shares in the hands of market investors will exhibit below average levels of capital expenditures.

***Hypothesis 2b: The size of the ownership stake held by market investors is negatively related to a firm's level of capital expenditures.***

Two considerations suggest a negative relationship between levels of share ownership by inside investors and capital expenditures. Firstly, as noted by Fama & Jensen (1983), providing managers with ownership rights has negative risk management implications which may result in risk averse strategic behavior (Chandler, 1990). To the extent that large capital expenditures in fixed assets can make a firm more vulnerable to many changes in its business environment (Lieberman & Montgomery, 1988), it has been argued that such risky expenditures are often avoided by firms with high levels of share ownership by inside investors (Chandler, 1990). Second, firms with high levels of inside ownership may face a capital constraint owing to the reticence of insiders to relinquish their authority to outside investors (Shleifer & Vishny, 1997), or creditors (Sheard, 1994b) and/or the reluctance of outside minority shareholders to provide equity capital owing to the risk of its appropriation by inside shareholders (Claessens, Djankov, Fan & Lang, 1999).

Thus, because of capital constraints and the riskiness of large capital investments, ownership by insiders is expected to have an attenuating effect on capital expenditures.

***Hypothesis 2c: The size of the ownership stake held by inside investors is negatively related to a firm's level of capital expenditures.***

### **Profitability**

The reciprocal nature of shareholdings and the multiplicity of ties (i.e. Equity, Debt, Director & Commercial) among stable investors suggests that profit maximization is not the primary objective of these shareholders. Indeed, since the extensive cross-shareholdings among

stable investors constitutes a means by which they shield each other from capital market pressure and takeover threats (Nakatani, 1984; Kester, 1991; Roe, 1994; Watanabe, 1994) it can be expected that firms with a large base of stable investors will exhibit below average profit levels.

Relatedly, the reciprocated nature of such shareholdings creates the possibility of retaliatory actions, as shareholders with business relations may fear the curtailment of business ties if they aggressively challenge managers. Moreover, such shareholders are unlikely to pressure a firm to pursue profit maximization because actions to increase the profits of one firm may come at the expense of themselves as the firm's buyer, or supplier. For example, since pressures for profit maximization may lead a firm to be more price and rate sensitive when contracting for financial services and credit (Prowse, 1996), the interests of financial institutions may not be well served by strict profit maximization policies (Aoki, 1988). Additionally, since pressures to enhance profitability may lead to higher required rates of return for new investment projects and result in decreased loan volumes, banker/shareholders are unlikely to place a heavy emphasis on profit maximization (Thomas & Waring, 1999).

The preceding discussion suggests that:

***Hypothesis 3a: The size of the ownership stake held by stable investors is negatively related to corporate profitability.***

Since the primary objective of market investors is different from those of stable investors, the impact of their shareholdings on the behavior and performance of a firm can also be expected to be different. As described above, the main investment objective of market investors is high investment returns because, unlike stable investors they have only arm's length financial relations with firms in which they own shares (Sheard, 1997; Kikuchi, 1999). Consequently, market investors cannot benefit from their association with a firm through any means other than returns on their equity investments. This situation puts them at cross-purposes with stable

shareholders who can extract benefits from the firm through a variety channels (e.g. Commercial, or Debt contracts) unavailable to market shareholders. Consequently, it is expected that managers of firms with a larger percentage of outstanding shares in the hands of market investors will face greater pressures from their shareholders to adopt profit-maximizing policies.

***Hypothesis 3b: The size of the ownership stake held by market investors is positively related to corporate profitability.***

Corporate insiders who own stock have a direct claim on the profit produced by the firm (Alchian & Demsetz, 1972) and also have decision control (Fama & Jensen, 1983) over many discretionary factors that influence that profit (Jensen & Meckling, 1976). As a consequence, it has been argued that inside investors who own shares have a strong incentive to adopt strategies consistent with profit maximization (Hill & Snell, 1988) and act in the best interests of outside investors (Denis, Denis & Sarin, 1997).

An alternative view is offered by Morck, Shleifer and Vishny (1988) who suggest that the relationship between inside ownership and financial performance is non-linear. According to their view, low levels of shareholdings by inside investors aligns their interests with those of market investors, but that higher levels affords insiders with insulation from capital market pressures resulting in decreased levels of profitability.

Since the proportion of outstanding shares held by inside investors in Japan's largest companies is known to be quite low (Kester, 1986; Gerlach, 1992), both views outlined above suggest that the relationship between inside ownership and firm performance is expected to be positive for the Nikkei 300 firms examined in this study.

***Hypothesis 3c: The size of the ownership stake held by inside investors is positively related to corporate profitability.***

## **Stock Market Risk**



Since stable investors want to maintain stable business ties and smooth cash flows that benefit various stakeholders (Nakatani, 1984; Gerlach, 1992; Charkham, 1994) including main banks and affiliated firms, they do not wish their business partners to take excessive market risks (Thomas & Waring, 1999). In this regard, stable equity prices are conducive to long-term strategic planning, promotes the development of business ties and augments the expectation of steady business flows between firms (Caves & Uekusa, 1976; Nakatani, 1984). At the same time, the practice of stable shareholders rarely, if ever trading each other's stock (Kester, 1991; Charkham, 1994) can be expected to decrease the volatility of a company's equity.

***Hypothesis 4a: The percentage of stock held by stable investors is negatively related to a firm's stock price volatility.***

Market investors such as institutional shareholders typically maintain well diversified and arm's length positions in many companies. Given the diversified nature of their investments, they are able to bear risk more efficiently than other investors (Fama & Jensen, 1983; Demsetz & Lehn, 1985). As such, market investors are likely to prefer higher risk-return strategies than either inside investors (Amihud & Lev, 1981; May, 1995), or stable shareholders who have commercial ties with the firm in which they hold shares. Additionally, these investors are also much more likely to trade their shares on either good or bad corporate news.

Both considerations suggest that:

***Hypothesis 4b: The percentage of stock held by market investors is positively related to a firm's stock price volatility.***

Insofar as a very large percentage of their personal wealth and income streams are tied to the fortunes of the firms they manage, inside investors can be expected to be highly risk averse (Fama & Jensen, 1983; Chandler, 1990). In this regard, managerial control of a firm has been linked to less profitable, but risk-reducing conglomerate mergers (Amihud & Lev, 1981) as well

as to lower, but more stable cash flows (Boudreaux, 1983; Kamin & Ronen, 1985). As such, it can be expected that insiders with significant share ownership will pursue strategies that lead to less stock price volatility.

***Hypothesis 4c: The percentage of stock held by inside investors is negatively related to a firm's stock price volatility.***

The following table summarizes the hypotheses of this study. As this table shows, different types of investors are associated with different investment objectives.

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**Insert Table 1 About Here**

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## METHODS

### Sample

The base sample consisted of the largest 300 Japanese manufacturing firms listed on the Tokyo Stock Exchange. Data were collected from multiple sources; *Nikkei Kaisha Joho*, *Toyo Keizei*, *Worldscope* and the database of the Nomura Research Institute. 53 firms were excluded from the final sample owing to the lack of data availability. As such, the final sample consists of 247 of Japan's largest manufacturing companies. Three years of data (1996-1998) are considered for each of these firms resulting in a sample size of 741 (247 \* 3) company years.

The firms in the sample represent a broad cross-section of Japanese manufacturing concerns. In terms of industrial composition, the sample is comprised of firms from the automotive (6.5%), ceramics (6.1%), chemical (18.3%) electronics (22%), machinery (12.2%), metal (7.7%), pharmaceutical (6.5%), precision tool (5.3%), textile (6.5%) and transport (2%) sectors. 88 (35.6%) of the firms included in the sample have seats on the presidents' councils (*shacho-kai*) of a big-six *keiretsu*.

## **Independent Variables**

The ownership structures of the firms examined here were dis-aggregated into six distinct categories of shareholders. Three of these classes of shareholders are treated as market investors, two other classes of shareholders are treated as stable investors and the remaining category is used to capture the influence of inside investors.

Foreign shareholders are considered market investors as they are typically U.S. and European institutional investors who have no ongoing business ties with the Japanese firms in which they own shares (Inoue, 1999; Yasui, 1999). The percentage of outstanding shares held by foreign investors is used to evaluate the importance of this ownership dimension. Data for this variable was obtained from *Nikkei Kaisha Joho*.

Investment (mutual funds) and pension trusts may be considered as a two other classes of market investor. In the Japanese context, these trusts are primarily investment vehicles and typically do not have significant ongoing business relationships with the firm in which they own shares (Fukao, 1999; Inoue, 1999). Like investment managers elsewhere, these trusts compete with other money managers for potential customers. The impact of these types of trusts is evaluated by two variables equal to the percentage of total outstanding shares held by Japanese investment trusts and pension funds respectively. Data for these variables were obtained from the database of the Nomura Research Institute.

Two classes of Japanese shareholders are considered stable investors because they are generally regarded to have both significant and enduring business ties with firms in which they hold shares. Financial institutions including banks and insurance companies usually have business dealings such as lending, insurance sales, and other financial transactions with firms in which they hold shares (Gerlach, 1992; Roe, 1994; Charkham, 1994; Lincoln, Gerlach &

Ahmadjian, 1996). The impact of these investors is evaluated via a variable equal to the percentage of total outstanding shares held by Japanese banks and insurance companies. Their ownership data were collected from the database of the Nomura Research Institute

Affiliated firms are a second category of stable investor in Japan. These companies are the business partners, either suppliers and/or customers, of other firms with which they have cross-shareholding arrangements. Thus, like Japanese banks, these affiliated companies have multiple interests with the firms in which they hold shares (Gerlach, 1992; Fruin, 1992; Lincoln *et al*, 1996). Since the primary reason for their shareholding is not investment returns, but rather in securing, or solidifying business relations (Clark, 1979) such affiliated firms may also be considered stable investors. The impact of these investors is evaluated via a variable equal to the percentage of total outstanding shares held by affiliated companies. Their ownership data were collected from the database of the Nomura Research Institute.

The remaining type of shareholder considered here is the inside investor. Their ownership data were collected from *Toyo Keizai*. Since this publication reports only the twenty largest shareholders, the percentage of outstanding shares held by insiders used in this paper includes only the shareholdings by managers and founders and their family members who are among the top twenty shareholders.

### **Dependent Variables**

Return on Assets (ROA), the ratio of net income to total assets is used to evaluate corporate profitability. ROA is a common measure of profitability and has been previously used in the Japanese context (Prowse, 1992; Lincoln *et al*, 1996). Importantly, Prowse (1992) notes that since stock market returns are expected to adjust for any divergences between shareholders and

managers, accounting based measures such as ROA are preferable in studies relating ownership structure to financial performance.

Free or positive cash flow constitutes slack resources (Cyert & March, 1963) which can be used for a variety of operational pursuits such as funding new capital expenditures. Alternatively, positive cash flow can be removed from the company by making dividend payouts to shareholders (Jensen, 1988). The dividend payout ratio used in this study is equal to the percentage of available cash flow paid out to shareholders in the form of dividends.

Capital expenditures are investments made to acquire, build, or update fixed assets such as plant and equipment. Such expenditures are typically made to improve the efficiency of operations, or to accommodate expected future growth in the demand for a company's products and services. Such expenditures are an alternative to dividend payout in terms of the use of corporate cash flow (Jensen, 1988). The extent to which a firm invests free cash flow in capital expenditures is measured by the ratio of its capital expenditures to its base of fixed assets. As such, this measure is equal to the percentage growth in a company's fixed asset base for a given year.

A firm's market risk reflects the degree to which its stock varies in relation to movements of the broader market. A commonly used measure of such risk is the beta of a firm's stock. The beta measure used in this study was computed by *Worldscope* and is based on between 23 and 35 consecutive monthly end price percent changes of a firm's equity and its relation to the Nikkei-Dow Index.

### **Control Variables**

The size of a firm is included in the multivariate tests to account for the potential economies of scale and scope accruing to large firms. We measure firm size as the log of assets.

Financial leverage measured as the ratio of debt to capital employed is included as a control variable in the regression models for two reasons. First, there is a large body of literature in finance and economics which indicates that a firm's capital structure influences both investment decisions and firm performance (Harris & Raviv, 1991). Second, financial leverage may be a constraining force on the discretion of managers (Jensen, 1988; Williamson, 1985).

It is generally contended that Japanese firms share a variety of equity and non-equity ties that may impact upon their profitability and investment decisions (Hoshi, Kashyap & Scharfstein, 1991; Morck & Nakamura, 1999). Since the focus of this paper is on the effects of ownership structure, other varieties of corporate ties need to be controlled for. As such, we include a measure equal to the ratio of bank mediated debt to total outstanding debt to control for debt ties between a firm and their primary bank lenders. Additionally, in order to control for possible network-level *keiretsu* effects, we follow Lincoln *et al* (1996) and use an indicator variable representing whether a firm is a member of the (*shacho-kai*) of a big-six *keiretsu* (Gerlach, 1992).

Lastly since the competitive environment in which a firm operates has a profound impact on both its profit potential and the relative importance of particular investment and strategic decisions (Porter, 1980), we include a series of industry variables representing nine of the ten sectors in which the sampled firms operate. The tenth variable represents the baseline condition. We also include indicator variables representing data from the 1996 and 1997 fiscal years in order to control for possible business-cycle effects in all the models estimated.

## **Results**

Table 2 presents the pooled (1996-1998) means, standard deviations, ranges and correlations of the continuous measures used in this study. Notable among the descriptive statistics are the averages of stock ownership by category of investors. These statistics suggest, that at the

sample level, shareholdings by stable investors such as financial institutions (42.07%) and affiliated firms (19.65%) are considerably larger than the holdings of either market investors such as foreigners (12.59%), domestic investment trusts (3.4%), and pension funds (3.23%), or the holdings of inside investors (1.73%). On the other hand, the ranges for these ownership variables indicate that there is still significant firm-level variation in terms of the ownership structures of Japanese corporations.

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**Insert Table 2 About Here**  
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Some of the most pronounced correlations presented in Table 2 are between the control variable % bank debt and the four dependent variables; dividend payout (-.50), ROA (-.32), capital expenditures (-.34) and market beta (.48). These results suggest that debt ties need to be controlled for in our multivariate estimations. Relatedly, while the strong positive correlation between % bank debt and debt ratio (.69) has a theoretical basis, in that it supports the notion the concentration of lending may facilitate monitoring and lead to higher levels of corporate borrowing (Hoshi *et al*, 1991), such a strong correlation also raises concerns regarding multicollinearity. In order to assess the extent to which collinearity between these two control variables could result in distorted parameter estimates, each of the models described below were estimated twice; with and without the % bank debt variable. These sensitivity tests were strongly indicative that collinearity between these two control variables did not introduce interpretability problems into the estimated models.

The use of panel, or pooled-cross-sectional data sets such as the one used in this study carries with it a number of methodological implications. While such samples capture both firm-level and inter-temporal dynamics, they also present some difficulties in estimation because same firm observations across company years are not statistically independent (Maddala, 1977). Under

such circumstances standard ordinary-least-square (OLS) regression estimates are inefficient and may produce biased standard error estimates (Baltagi, 1995). Fortunately, random and fixed effects regression techniques based upon generalized-least-square (GLS) estimation are available which address these concerns (Maddala, 1977). In the context of this study, Hausmann & Lagrange multiplier tests (Greene, 1993) indicate that a random-effects estimation is most appropriate.

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**Insert Tables 3-6 About Here**  
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The dividend payout results reported in Table 3 do not support hypothesis 1a. Contrary to expectations, we find no negative association between the percentage of shares held by stable investors and dividend payout levels. In fact, while no significant relationship is observed between share ownership by affiliated firms and payout, a strong *positive* association is apparent between ownership by financial institutions and dividend payout ( $p < .001$ ). At the same time, the results in Table 3 offer some support for hypotheses 1b. Consistent with the hypothesis, we find that dividend payout is positively associated with the percentage of shares held by foreign shareholders ( $p < .001$ ) and pension trusts ( $p < .001$ ). On the other hand, our findings indicate that the percentage of shares held by investment trusts is actually negatively related ( $p < .05$ ) to dividend payouts. As such, support for hypothesis 1b is found among 2 of the 3 types of market investors considered here, but contra evidence is present in the case of investment funds. With respect to the hypothesized positive relationship between inside ownership and dividend payout levels, we find no support for hypothesis 1c.

The capital expenditure results presented in Table 4 offers some support for hypothesis 2a insofar as a positive association is found between ownership by financial institutions and capital expenditures ( $p < .01$ ). On the other hand, no relationship is found between share



ownership by affiliated firms and capital expenditures. In support of hypothesis 2b, we find a marginally significant negative relationship between foreign ownership and capital expenditures ( $p < .1$ ). However, we find no significant relationships between ownership by investment and pension trusts and capital expenditures. Additionally, the results in Table 4 support hypothesis 2c in that inside ownership is negatively related to capital expenditures ( $p < .05$ ).

The ROA results in Table 5 provide mixed results regarding hypothesis 3a. As predicted, we find a negative relationship between the percentage of shares held by affiliated firms and ROA ( $p < .05$ ). On the other hand, contra evidence is present in the observed positive relationship between the percentage of shares held by financial institutions and firm performance ( $p < .1$ ). The ROA results generally support hypothesis 3b. That is, we observe the predicted positive relationship between market investors and ROA among investment trusts ( $p < .01$ ) and pension trusts ( $p < .05$ ). On the other hand, no relationship is found between the percentage of shares held by foreign shareholders and ROA. No evidence is found for hypothesis 1c. There is no apparent relationship between the percentage of shares held by inside investors and ROA.<sup>1</sup>

Finally, the results in Table 6 present mixed results regarding the relationship between various classes of shareholder and stock price volatility. In support of hypothesis 4a, we find the hypothesized negative association between the percentage of shares held by affiliated firms and beta ( $p < .05$ ). However, contrary to hypothesis 4a, we find no significant relationship between ownership levels of financial institutions and stock price volatility. In support of hypotheses 4b, we find a positive relationship between stock market beta and the percentage of shares held by investment trusts ( $p < .01$ ). On the other hand, we observe no relationship between beta and foreign ownership and actually observe a very strong negative relationship between ownership by pension funds and beta ( $p < .01$ ). Finally, our results support hypothesis 4c in that the

expected negative relationship is found between inside ownership and stock price volatility ( $p < .05$ ).

## **DISCUSSION AND CONCLUSIONS**

The results reported here offer evidence that Japanese corporations are sensitive to the investment objectives of their shareholders. These results also provide a strong indication that this effect varies significantly across class of shareholder and criterion variable. In terms of dividend policy, we find that stock ownership by foreign shareholders, pension funds and financial institutions are associated with higher dividend payouts, while share ownership by investment trusts is negatively related to dividend levels. Similarly, while share ownership by financial institutions is associated with higher levels of investments in capital projects, ownership by foreign investors and insiders is negatively associated with such expenditures. In terms of financial performance, share ownership by investment trusts, pension funds and financial institutions are positively associated with corporate ROA, but share ownership by affiliated firms is negatively associated with the same performance indicator. Lastly, ownership by pension funds, insiders and affiliated firms is negatively related to market (systematic) risk, but ownership by investment trusts is positively associated with the same variable.

Such results clearly indicate that the influence of concentrated shareholdings on corporate behaviour in Japan is significantly more complex than what is modeled in standard agency tests of the separation of ownership and control. In this regard, an assumption that shareholders constitute a monolithic entity with a singular investment objective is clearly inappropriate in the Japanese context. As described in the previous paragraph, we find multiple relationships of differing directions and magnitudes between ownership variables and theoretically relevant dependent variables. Such results suggest that studies which do not empirically distinguish

between classes of shareholders run the risk of introducing serious measurement error into the models they estimate. While the results reported here pertain to the specific case of Japan, they do emphasize the need for corporate governance research to explicitly consider and empirically evaluate the extent to which investment objectives vary across category of shareholder (Thomsen & Pedersen, 2000). Such research appears especially warranted in the context of other relational governance systems such those found in Germany, Hong Kong and Korea (Roe, 1994; Rajan & Zingales, 1998), but is also relevant in more arm's length systems such as those operative in most Anglo-Saxon countries (La Porta *et al*, 1999).

While this study presents strong evidence indicating that the identity of shareholder matters, it offers only mixed support for *specific* hypothesized relationships between market, stable, and inside shareholders and the four dependent variables considered here. In this regard, it appears that relationships between ownership structure and firm investment behavior and financial performance are quite idiosyncratic and are more complex than can be captured by such a distinction. For instance, our results support the basic notion that investment and pension trusts are market investors insofar as the shareholdings of both are positively associated with firm performance. On the other hand, we find that the shareholdings of pension and investment trusts have *opposite* associations with dividend payout levels and market risk. That is, shareholdings by investment trusts are negatively related with dividend payout levels and positively associated with market risk, but shareholdings by pension trusts are positively related to dividend payouts and negatively related to market risk.

Such diametrically opposite relations emphasize the need to make finely grained and contextually relevant distinctions in corporate governance research. In this regard, one quite plausible explanation for these findings lies in the very different taxation policies and legal

requirements faced by pension and investment trusts in Japan. Japanese pension funds benefit from favorable tax treatments, but are obligated to offer “*defined-benefit*,” rather than “*defined contribution*” schemes (Fukao, 1999). As such, pension fund managers must make up to investors the difference should investment yields fail to meet expected levels. In contrast, Japanese investment trusts are ineligible for such favorable tax treatments and are not required to offer investors a guaranteed rate of return. As such, while both investment trusts and pension trusts are essentially market investors, the defined benefit structure of pension funds strongly implies that pension fund managers will prefer less stock price volatility than other money managers. At the same time, since Japan taxes dividends at a much higher rate than capital gains (La Porta *et al*, 2000), the preferential tax treatment afforded pension funds means they are more likely than investment trust managers to favor high levels of dividend payouts.

The preceding discussion underscores the precarious nature of making simplifying assumptions regarding the investment objectives of shareholders. It also illustrates that the investment objectives of shareholders can be very sensitive to a variety of context-specific rules, regulations and standards which may affect categories of investors (and other stakeholders) asymmetrically (Gedajlovic & Shapiro, 1998; La Porta *et al*, 1998). Such factors mean that extreme caution must be exercised in generalizing findings from one institutional context to another. These factors also challenge researchers in the field of corporate governance to develop more finely grained and contextually relevant distinctions when evaluating corporate governance relations.

Lastly, our findings pertaining to effects of share ownership by financial institutions suggest that temporal context may also matter. While Japanese financial institutions are traditionally portrayed as stable investors (e.g. Clark, 1979; Kester, 1991; Roe, 1994; Charkham,

1994) primarily concerned "*quite rationally, with the firm's long-term viability rather than the relatively minor equity returns it brings*" (Gerlach, 1987: 140), our findings that their ownership stakes are positively related to dividend levels and accounting profitability (ROA) suggests that this orientation has begun to change in recent years.

In this regard, many contemporary accounts suggest that the relationship between financial institutions and the firms in which they hold shares has become less relational and more transactional and arm's length during the past decade (e.g. Inoue, 1999; Yasui, 1999). Proponents of the latter view point to a variety of recent developments such as the bad debt and banking crises which have severely damaged the ability of banks to support troubled affiliated firms (Sheard, 1997; Fukao, 1999), increased foreign ownership of Japanese equities (Whittaker & Kurosawa, 1998; Inoue, 1999; Kikuchi, 1999), financial market de-regulation and the wider availability of equity and forms of non-mediated debt to large Japanese firms (Prowse, 1996; Yasui, 1999), and tax code and accounting changes which have compelled firms to unwind their equity positions in affiliated companies (Whittaker & Kurosawa, 1998; Fukao, 1999; Yasui, 1999).

As our findings indicate that corporate ownership by financial institutions is positively related to dividend payout levels and accounting profit levels, this study offers some support for the latter view insofar these relations are coincident with those that were expected for market investors. An outstanding question is whether such findings represent a short-term diversion from deeply rooted traditional business norms (Dore, 1998) caused by episodic stresses on Japan's financial institutions, or whether they are indicators of more profound secular changes. As Japan's system of governance is currently at a cross-roads in its developmental path

(Nakamae, 1998; Dore, 1998; Fukao, 1999), this open question can only be informed by time and subsequent research.

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**TABLE 1**  
**SUMMARY OF HYPOTHESES AND EXPECTED RESULTS**

<b>Hypotheses</b>	<b>Dependant Variable</b>	<b>Stable Investors</b>	<b>Market Investors</b>	<b>Inside Investors</b>
1a-1c	Dividend Payout	(-)	(+)	(+)
2a-2c	Capital Expenditures	(+)	(-)	(-)
3a-3c	Profitability	(-)	(+)	(+)
4a-4c	Market Risk	(-)	(+)	(-)

**TABLE 2**  
**POOLED MEANS, STANDARD DEVIATIONS, RANGES AND CORRELATIONS (1996-1998)<sup>A</sup>**

<b>Variables</b>	<b>Means</b>	<b>Std.Dev.</b>	<b>Minimum</b>	<b>Maximum</b>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1. Ownership by Foreign Investors	12.59%	9.67%	0.54%	77.72%	1.00												
2. Ownership by Investment Trusts	3.40%	2.47%	0.00%	14.65%	0.06	1.00											
3. Ownership by Pension Trusts	3.23%	1.89%	0.00%	11.14%	0.08	-0.05	1.00										
4. Ownership by Financial Institutions	42.07%	11.59%	0.00%	68.40%	-0.06	0.01	0.25	1.00									
5. Ownership by Affiliated Firms	19.65%	14.00%	0.21%	62.00%	-0.36	-0.19	-0.08	-0.61	1.00								
6. Ownership by Insiders	1.73%	5.33%	0.00%	37.78%	0.08	-0.03	0.07	-0.24	-0.02	1.00							
7. Dividend Payout	0.07	0.07	0.00	0.50	0.36	0.00	0.23	-0.02	-0.06	0.31	1.00						
8. Return on Assets	2.24	3.32	-44.73	20.86	0.17	0.09	0.03	0.07	-0.08	0.08	0.43	1.00					
9. Market Beta	0.99	0.34	.08	3.06	-0.21	0.28	-0.29	-0.13	0.01	-0.19	-0.46	-0.33	1.00				
10. Capital Expenditures	0.07	0.04	0.01	0.27	0.09	-0.05	0.05	-0.02	0.14	0.04	0.29	0.30	-0.17	1.00			
11. Assets (Million \$US)	6574	12,297	262	121,912	0.16	-0.21	-0.11	0.18	-0.13	-0.10	0.15	-0.30	-0.19	0.13	1.00		
12. Debt Ratio	31.97	8.27	0.00	77.37	-0.26	0.05	-0.22	-0.02	-0.03	-0.28	-0.43	-0.37	0.35	-0.18	0.11	1.00	
13. % BankDebt	26.24%	20.73%	0.00	87.87%	-0.30	0.13	-0.27	-0.14	0.12	-0.19	-0.50	-0.32	0.48	-0.34	-0.14	0.69	1.00

<sup>a</sup>Correlations above .08 are significant at .05; Correlations above .11 are significant at .01.

**TABLE 3**  
**RANDOM-EFFECTS ESTIMATES OF DIVIDEND PAYOUT<sup>A</sup>**

Independent Variables	b	s.e	b	s.e	b	s.e	b	s.e	b	s.e	b	s.e.
Ownership by Foreign Investors	0.0489	0.0090 <sup>***</sup>										
Ownership by Investment Trusts			-0.0497 <sup>*</sup>	0.0241								
Ownership by Pension Trusts					0.1869	0.0186 <sup>***</sup>						
Ownership by Financial Institutions							0.0679	0.0076 <sup>***</sup>				
Ownership by Affiliated Firms									-0.0045	0.0069		
Ownership by Insiders											-0.0665	0.0427
Log of Assets	0.0781	0.0054 <sup>***</sup>	0.0780	0.0057 <sup>***</sup>	0.0814	0.0045 <sup>***</sup>	0.0716	0.0055 <sup>***</sup>	0.0885	0.0045 <sup>***</sup>	0.0749	0.0058 <sup>***</sup>
Debt Ratio	-0.0012	0.0001 <sup>***</sup>	-0.0013	0.0001 <sup>***</sup>	-0.0011	0.0000 <sup>***</sup>	-0.0011	0.0001 <sup>***</sup>	-0.0012	0.0000 <sup>***</sup>	-0.0012	0.0001 <sup>***</sup>
% Bank Debt	-0.0221	0.0029 <sup>***</sup>	-0.0223	0.0032 <sup>***</sup>	-0.0173	0.0023 <sup>***</sup>	-0.0193	0.0029 <sup>***</sup>	-0.0217	0.0022 <sup>***</sup>	-0.0227	0.0033 <sup>***</sup>
Presidents Club	-0.0359	0.0078 <sup>***</sup>	-0.0355	0.0079 <sup>***</sup>	-0.0374	0.0078 <sup>***</sup>	-0.0363	0.0079 <sup>***</sup>	-0.0402	0.0078 <sup>***</sup>	-0.0353	0.0078 <sup>***</sup>
Constant	-0.4345	0.0390 <sup>***</sup>	-0.4238	0.0409 <sup>***</sup>	-0.4585	0.0334 <sup>***</sup>	-0.4139	0.0394 <sup>***</sup>	-0.4942	0.0336 <sup>***</sup>	-0.4035	0.0415 <sup>***</sup>
Adjusted R <sup>2</sup>		0.40		0.39		0.38		0.38		0.38		0.41

<sup>a</sup>Coefficients and standard errors for the nine industry and two year dummy variables estimated have been omitted owing to space considerations.

† p < . 1  
 \* p < .05  
 \*\* p < .01  
 \*\*\* p < .001

**TABLE 4**  
**RANDOM-EFFECTS ESTIMATES OF CAPITAL EXPENDITURES <sup>a</sup>**

Independent Variables	b	s.e	b	s.e	b	s.e	b	s.e	b	s.e	b	s.e
Ownership by Foreign Investors	-377.98	204.48 <sup>†</sup>										
Ownership by Investment Trusts			-371.49	732.84								
Ownership by Pension Trusts					1589.22	973.20						
Ownership by Financial Institutions							458.55	175.72 <sup>**</sup>				
Ownership by Affiliated Firms									-15.74	147.64		
Ownership by Insiders											-879.07	380.26 <sup>*</sup>
Log of Assets	301.79	51.70 <sup>***</sup>	270.83	51.05 <sup>***</sup>	277.16	49.81 <sup>***</sup>	235.30	51.75 <sup>***</sup>	274.86	51.30 <sup>***</sup>	267.20	49.89 <sup>***</sup>
Debt Ratio	-1.50	1.40	-0.94	1.38	-0.81	1.37	-0.76	1.36	-0.97	1.37	-1.41	1.38
% Bank Debt	71.47	111.64	78.94	111.91	110.26	113.46	92.98	111.43	77.16	111.99	66.77	111.55
Presidents Club	-43.47	47.05	-35.49	47.10	-34.99	46.90	-39.02	46.45	-36.33	47.14	-44.60	46.98
Constant	-2450.16	347.30 <sup>***</sup>	-2311.78	352.49 <sup>***</sup>	-2430.43	346.68 <sup>***</sup>	-2280.15	340.98 <sup>***</sup>	-2337.09	364.80 <sup>***</sup>	-2270.06	344.41 <sup>***</sup>
Adjusted R <sup>2</sup>	0.22		0.21		.22		0.23		0.21		0.22	

<sup>a</sup>Coefficients and standard errors for the nine industry and two year dummy variables estimated have been omitted owing to space considerations.

<sup>†</sup> p < . 1

\* p < .05

\*\* p < .01

\*\*\* p < .001



**TABLE 5**  
**RANDOM-EFFECTS ESTIMATES OF ROA<sup>a</sup>**

Independent Variables	b	s.e	b	s.e	b	s.e	b	s.e	b	s.e	b	s.e
Ownership by Foreign Investors	1.0136	1.5683										
Ownership by Investment Trusts			17.4215	5.6344**								
Ownership by Pension Trusts					19.0022	7.6164*						
Ownership by Financial Institutions							2.5720	1.3587 <sup>†</sup>				
Ownership by Affiliated Firms									-2.3080	1.1197*		
Ownership by Insiders											-3.1540	2.9065
Log of Assets	1.0978	0.3944**	1.4143	0.3856**	1.1911	0.3800**	0.9436	0.3983**	0.9908	0.3890**	1.1429	0.3823**
Debt Ratio	-0.0679	0.0109***	-0.0708	0.0106***	-0.0678	0.0106***	-0.0683	0.0106***	-0.0687	0.0106***	-0.0711	0.0108***
% Bank Debt	0.1230	0.8795	0.0466	0.8736	0.5061	0.8903	0.1984	0.8786	0.0368	0.8775	0.0712	0.8799
Presidents Club	-0.6932	0.3573 <sup>†</sup>	-0.7449	0.3538*	-0.7002	0.3565*	-0.7294	0.3562*	-0.7356	0.3558*	-0.7440	0.3587*
Constant	-4.3968	2.6476 <sup>†</sup>	-6.4600	2.6615*	-5.6958	2.6459*	-4.3069	2.6227 <sup>†</sup>	-2.8083	2.7651	-4.4253	2.6381 <sup>†</sup>
Adjusted R <sup>2</sup>		0.26		0.27		0.27		0.27		0.27		0.26

<sup>a</sup>Coefficients and standard errors for the nine industry and two year dummy variables estimated have been omitted owing to space considerations.

<sup>†</sup> p < . 1

\* p < .05

\*\* p < .01

\*\*\* p < .001

**TABLE 6**  
**RANDOM-EFFECTS ESTIMATES OF MARKET BETA <sup>a</sup>**

Independent Variables	b	s.e	b	s.e	b	s.e	b	s.e	b	s.e	b	s.e
Ownership by Foreign Investors	-0.0646	0.1503										
Ownership by Investment Trusts			1.6269	0.5290**								
Ownership by Pension Trusts					-5.7721	0.6930***						
Ownership by Financial Institutions							-0.2108	0.1302				
Ownership by Affiliated Firms									-0.2342	0.1065*		
Ownership by Insiders											-0.6790	0.2736*
Log of Assets	-0.2547	0.0379***	-0.2341	0.0359***	-0.2635	0.0346***	-0.2405	0.0382***	-0.2769	0.0370***	-0.2653	0.0360***
Debt Ratio	0.0045	0.0010***	0.0043	0.0010***	0.0040	0.0009***	0.0045	0.0010***	0.0046	0.0010***	0.0042	0.0010***
% Bank Debt	0.3974	0.0836***	0.4022	0.0827***	0.2798	0.0810***	0.3910	0.0836***	0.3932	0.0832***	0.3933	0.0831***
Presidents Club	0.0369	0.0343	0.0352	0.0329	0.0339	0.0324	0.0395	0.0342	0.0359	0.0339	0.0317	0.0338
Constant	2.5304	0.2542***	2.3690	0.2477***	2.8433	0.2409***	2.5162	0.2519***	2.7354	0.2631***	2.6054	0.2484***
Adjusted R <sup>2</sup>	0.38		0.40		0.44		0.38		0.39		0.39	

<sup>a</sup>Coefficients and standard errors for the nine industry and two year dummy variables estimated have been omitted owing to space considerations.

† p < . 1

\* p < .05

\*\* p < .01

\*\*\* p < .001

## Notes

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<sup>1</sup> Since there is some evidence in the literature suggesting that the relationship between insider share ownership and financial performance is non-linear in nature (Morck *et al*, 1988, Stulz, 1988), we evaluated this possibility by estimating a model containing a quadratic term as well as by estimating a model using the piecewise regression technique used by Morck *et al* (1988). No observable relationship between inside ownership and ROA was found using either of these estimation approaches.

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