Ownership Structure and Political Connection:
The Case of Japan

Sang-Hyun Kim*

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Abstract

Do corporations affiliated in business groups build stronger ties to the government? With the focus on the Japanese political economy, this paper theoretically and empirically investigates how a firm's incentive to build political connections is affected by its ownership structure. I first show that intercorporate stockholding encourages the equity issuer to build political network if the equity holder exercises non-trivial controlling power over the equity issuer, but discourages it otherwise. Next, I analyze a large data set of Japanese corporations publicly traded from 1991 to 2003. The empirical analysis confirms the theoretical predictions: the number of retired elite bureaucrats in a private firm's board of directors, which is a measure of political connection of the firm, increases as the share of equity held by non-financial firms (friendly shareholders) decreases or as that by financial institutions (controlling shareholders) increases. These findings suggest that companies affiliated to business groups, in contrast to popular belief, might build relatively weaker political connections.

Keywords: Business groups, Political externality, Ownership structure, Japanese corporation, Retired bureaucrats, *Amakudari, Keiretsu*

1   Introduction

Recent empirical works have shown that business groups are pervasive in modern economies. La Porta et al. (1999), Claessens et al. (2000) and Faccio and Lang (2002) provide evidence on the ubiquity of business groups in various countries across the world. The relationship that business groups have with other parts of society considerably varies depending on historical, political and societal context. But in most economies where business groups play an important role, critics and the public have suspected and raised concerns

about the possibility that the economic giants, utilizing their vast resources, might build strong connections with politically powerful groups, and unlevel the playing field.

Despite such widespread concern and interest, academic investigation on political behavior of financially interlinked firms has been scarce until recently. Recent works by some financial economists have discovered a series of interesting aspects of political economy of pyramidal business groups in developing countries. They show that most large business groups are formed with government support, and enjoy close ties to the government for long periods of time.[1] These findings, together with the occasional news about marital ties and personal networks between political and economic elites, seem to justify the above mentioned concern. Other scholars, however, have found that in some advanced economies, companies affiliated in business groups have *weaker* ties to the government in contrast to the public's belief. For instance, Colignon and Usui (2003) and Raj and Yamada (2009) report that group affiliation of a Japanese company is correlated *negatively* with the strength of its political connection which is measured by the number of former high-ranked government officials hired as board members. Once this inconsistency is taken seriously, a couple of new questions arise: why are the government-business relationships in different countries dissimilar? Why do group affiliated firms build weaker or stronger political connections? What is the underlying mechanism which generates the discrepancy? These are questions that are difficult to answer in a satisfactory manner, but addressing them properly is undeniably essential in understanding the political economy of business groups. This paper, as a first step, examines whether intercorporate stock ownership, the defining characteristic of business groups, indeed encourages private firms to build stronger political networks, and explores the conditions under which financially interlinked corporations have relatively weaker political connections. The focus of this paper is on the Japanese political economy which is an ideal laboratory for this investigation particularly due to its extensive reciprocal shareholding practice.

In the first part of the paper, I develop a simple theoretical framework in which financially and politically related firms simultaneously decide how much resources to spend in building political connections. Key assumption used throughout the analysis is that the political network built by a company generates positive externality to other financially connected firms. In other words, when a group affiliated firm builds political network and spends resources in pursuing political goals, the benefits are shared among the member firms.[2] At least since Olson (1965), it has been well understood that political action imposes certain externalities on other political players and that outcomes of political games are often socially inefficient due to the absence of internalization mechanism. The problem considered here departs in a significant way from the situations that Olson described. Because intercorporate holding of stocks works as a financial contract that enables corporations to at least partially internalize such externalities, the firms holding each other's stocks are

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[1] Khanna and Yafeh (2007) and Morck, Wolfenzon and Yeung (2005) provide excellent surveys on this subject.

[2] Justifications for this assumption are presented in Section 2.

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expected to enjoy greater political benefits at lower costs. However, this does not immediately imply that financial ties among corporations encourage them to build stronger connections to the government. The analysis presented in this paper shows that financial ties between corporations can strengthen or weaken the incentive for political network building, depending on the type of the relationship between the equity holder and the equity issuer.

The intuition can be clearly demonstrated by considering the simplest case with two firms, an equity issuer, call it firm 1, and an equity holder, firm 2.[3] Suppose first that prearranged institutional barriers or conventional corporate governance practice, which will be discussed at length below, keep firm 2 from intervening in the other corporation's decision making process. In this case, as the share held by firm 2 increases, firm 1's incentive for building political connnection will be weakened for the following reason. Whenever firm 2 increases its holding of the other firm's equity, it will increase its political expenditure as well, because it can absorb back a larger amount of political benefit through the strengthened financial linkage. And, when firm 2 participates more enthusiastically in government-related activities, firm 1 would be more tempted to free-ride on the other's effort, and consequently will reduce the resources assigned to political activities. By contrast, if firm 2 can bypass the institutional barriers and exercise controlling power over firm 1's business, firm 1 will increase activities that benefit firm 2 and reduce those which harm it. And more importantly, such tendency will become stronger as the share held by firm 2 grows up. In this situation, the company owned largely by the other firm tends to build a stronger connection with the government, than do firms of which equity is diffusely held.

In the context of Japanese political economy, this theoretical result can be easily transformed into empirically testable hypotheses. Since 1980's, economists who study Japanese companies have consistently reported that ownership of a corporation is often concentrated to a small number of large shareholders (or block holders), and that such large shareholders are mostly two distinct types of corporations: trade partners and financial institutions. According to previous studies, companies in trade partnership refrain themselves from participating in other firms' governance, and furthermore, protect each other from the risk of hostile takeovers by outsiders. Financial institutions holding both debt and equity, on the other hand, act as outside monitors who discipline the managers, and often actively intervene in the firm's corporate governance. Combining these narratives with the theoretical result of this paper generates the following hypotheses: non-financial firms' shareholding would have a negative impact on the firm's political connection, while financial institutions' would have a positive impact.

The second half of the paper is devoted to testing these hypotheses, by analyzing roughly 2,300 corporations publicly traded from 1991 to 2003. Following the previous studies mentioned above, I employ the number of retired elite bureaucrats in a private firm's board of directors, called *amakudari*, as the measure

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[3]In the analysis below, I consider a more general case of cross-shareholding, i.e. firm 1 can hold firm 2's equity.

of political connection of the company. The amakudari practice is not merely idiosyncratic reemployment arranged by individuals. It is systematically (sometimes officially and often not) arranged by ministries and government agencies, and the size of such arrangement is non-trivial by any criteria. In the sample period, nearly 40 percent of the companies have had at least one former bureaucrat as their board member. These ex-bureaucrats are known to provide channels of information and negotiations between the public and the private sector.

The empirical strategy is built on the economy-wide financial deregulation, so called the "financial big bang" which was initiated and in progress during the sample period. Fuelled largely by the reform, the ownership structure of most Japanese corporations has undergone rapid change. During the sample period, the share held by financial institutions has dropped from 34 percent to 25 percent, and non-financial firms' share from 33.5 to 29.8 percent. If the change in financial structure is largely exogenous to individual firms' effort for better political connection, as the financial deregulation story suggests, then the empirical correlation between the change in the ownership structure variables and the change in the number of amakudari would reveal how the degree of the political connection is affected by the ownership structure. Regression analysis with fixed-effects shows that the number of amakudari is negatively correlated with the share of equities held by non-financial firms and positively with financial firms' shareholdings. Even if the changes of the ownership structure were largely driven by the exogenous shock, the estimates are likely to be biased, unless a firm's political connection does not affect its ownership structure at all. Thus, I futher explore the causal relationship by exploiting the information of firms which have never hired any ex-bureaucrat for the entire sample period. The results of instrumental variable regression also confirm the theoretical predictions. The effects of changes in the ownership structure are not only statistically but also economically significant: a ten percent point increase of non-financial firms' share induces firms to hire about 0.5 less ex-bureaucrat. The same change in financial firms' shareholding encourages the firm to hire 0.7 additional amakudari.

This paper offers an intuitive explanation for the puzzling finding documented in the previous studies. Some scholars, motivated by the observations from developing countries, have suspected that Japanese business groups, often called *keiretsu*, and their member firms have better connections with the government. For instance, in a historical review on Japanese business groups, Morck and Nakamura (2005) conjecture that "[s]ince the great keiretsu firms included the most attractive amakudari landing spots and were the most enthusiastic about amakudari, these groups may have enjoyed advantage, in the short term at least, due to their better connections with government."[4] Thus, the negative correlation between group affiliation and the number of amakudari reported by Colignon and Usui (2003) and Raj and Yamada (2009) appeared at first

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[4] See also Okimoto (1989) who shows that group affiliated firms and banks were "generously subsidized" after the World War II. Similarly, Beason and Weinstein (1996) find that in the post-war Japanese economy, keiretsu affiliated firms were granted more favorable industrial subsidies in mining business.

as a puzzle. Whereas Colignon-Usui and Raj-Yamada analyze only the cross-sectional distribution of retired bureaucrats, the present paper explores the deeper mechanism by asking a more articulated question and by adopting more sophisticated empirical strategies. Group affiliated firms might enjoy larger political benefits at lower costs because they can partially internalize political externality through the financial linkages. At the same time, however, this internalization mechanism might encourage the financially interlinked firms to free-ride on others' political effort, which might lead to lower levels of political expenditure by the member firms.

The current work also provides a framework to understand the cross-country difference. The theory says that financially interlinked firms tend to assign relatively more resources to political activities if the equity holder (or parent company) exercises significant control over the equity issuer firms (or subsidiaries). Studies of pyramidal groups convincingly show that this is indeed the case. So, even though it may not be directly comparable, the evidence found in this paper is consistent with the empirical patterns observed in developing economies.

This work is related to a burgeoning literature on politically connected firms. Analyzing data of manufacturing firms in the U.S., Agrawal and Knoeber (2001) show that politically experienced directors are more prevalent in firms where sales to government, exports and lobbying are greater. Goldman et al. (2008) find positive abnormal stock return following the announcement of the nomination of a politically connected individual to the board. For the case of Japan, Miwa and Ramseyer (2005) report that more ex-bureaucrats are found in firms doing business with the government. Studies exploring politically connected companies in developing countries are more abundant. For example, see Fisman (2001) for Indonesia, Classens et al. (2008) for Brazil, and Khwaja and Mian (2005) for the case of Pakistan. By analyzing politically connected firms in 47 countries, Faccio (2006) finds that firm values increase when officers or large shareholders of the firms are entering politics.

The remainder of the paper is organized as follows. Section 2 analyzes political-network-building incentives of profit-seeking firms under changing financial environments. In Section 3, I provide a description of the data, and present the empirical strategy. Empirical findings are in Section 4. Finally, I discuss a few limitations of this work and directions for future work in Section 5.

2 Theory

2.1 Model

Consider two firms $(i, j = 1, 2)$ which hold each other's equity, and which simultaneously and independently decide how much effort and resources to spend in building political network. The political connection of a

firm imposes a certain externality on the other which might be positive or negative.[5] Let $\pi_i(l_i, l_j)$ denote the total revenue of firm i as a function of its own political connection l_i and the other's l_j. For expositional simplicity, assume

$$\pi_i(l_i, l_j) = \pi_i(l_i + \delta l_j)$$

and $\pi_i(\cdot)$ is increasing and strictly concave. Under this simplifying assumption, the sign and the size of the externality are determined by a single parameter δ.

The political externality prevailing between financially interlinked firms is expected to be positive on average (i.e. they share political benefits) for at least two reasons. In a detailed analysis of the ownership structure of large Japanese corporations, Miwa (1996) documents that the largest shareholders are mostly corporations, especially financial institutions and business partners. When two firms are in business partnership, any good news to one firm which does not drastically alter the distribution of bargaining power is good to the other as well. For example, suppose a company assembling components into complete products succeeds in influencing the government to implement a more favorable policy, and consequently decides to increase its production. The growth in the demand by the assembler will benefit the component suppliers as well. The benefit potentially spills over into up and down of the entire supply chain. Of course, political success that improves the firm's general performance will benefit its creditor-shareholders, too.

Information sharing is another good reason to expect positive political externality to prevail among financially connected firms. Arguably, one of the main goals of building political connection is to get information related to the public policies and regulations. Once a firm successfully obtain policy related information, such information can be transmitted to other firms without any direct cost (due to non-rivalry). If the managers of the firm expect losses from information sharing, then they can freely keep the information inside. Therefore, the externality generated by information sharing is highly likely to be positive in its nature. Studies on keiretsu document that the group affiliated firms share information through various channels, which allows them to better utilize political connections. Motivated by this observation, I make a key assumption, namely that a firm's political network building effort generates positive externality to other financially connected firms.[6] To ensure the existence of stabel Nash equilibrium, I further assume the size of the externality is sufficiently small, i.e. $0 < \delta \ll 1$.

To introduce the objective of the companies, let us define the value of firm i as

$$V_i(l_i, l_j) = [\pi_i(l_i + \delta l_j) - c_i l_i] + q_{ji}[\pi_j(l_j + \delta l_i) - c_j l_j]$$

where q_{ji} denotes the share of equity of firm j held by firm i, and c_i is the constant marginal cost of the

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[5] For political externalities that arise in various context, see Olson (1963).

[6] Of course, we cannot preclude the possibility that some financially interlinked firms suffer a conflict of political interests. However, since my focus is on the average behavior, exceptions would not change the main message of the paper. At the end of this subsection, I briefly discuss what theory predicts when negative externality prevails.

network building. The terms in the first square bracket is the profit generated within firm i, and the second by firm j. Because firm i holds q_{ji} of firm j's equity, it is entitled to receive the corresponding proportion of the cash generated by firm j.

Maximizing the value V_i would be the objective of firm i if firm j does not participate in i's decision making process.[7] If, however, firm j is active in the corporate governance of firm i, its objective must at least partially reflect shareholder j's interest, and firm j's influence should grow larger as it holds more equity of firm i. In sum, firm i maximizes a weighted average of V_i and V_j:

$$\max_{l_i} V_i(l_i, l_j) + \phi_{ij} q_{ij} V_j(l_j, l_i) \tag{1}$$

where q_{ij} is the share of equity of firm i held by firm j. The formula shows that as q_{ij} gets larger, firm j is more able to enforce firm i to make decisions on behalf of firm j. $\phi_{ij} \geq 0$ is a parameter introduced to capture pre-arranged implicit contract, conventions and institutional features that are not explicitly modeled in this simple framework. In particular, if firm j is a *friendly shareholder* (e.g. trading partners) which does not actively participate in firm i's decision making, the managers of firm i will not take much of firm j's interest into account, i.e. they let ϕ_{ij} small . On the other hand, if j is a *controlling shareholder* (e.g. financial firms) that has a substantial influence on firm i's corporate governance, firm i's decisions will reflect largely firm j's interest, which can be parsimoniously captured by a large ϕ_{ij}.[8]

It is noteworthy that when either the externality is negligible ($\delta = 0$) or the firms do not hold the other firms' equity ($q_{12} = q_{21} = 0$), the objective of the firms boils down to maximizing their own profit, $[\pi_i(l_i) - c_i l_i]$. Hence, in the textbook environment where markets are perfectly competitive, and the ownership of firms is dispersed among small individual shareholders, the assumption that firms maximize (1) is identical to the standard assumption such as profit or shareholder wealth maximization.[9]

Because the goal of this section is to derive simple and intuitive predictions, I add restricts on the ownership structure to focus on the empirically relevant situation. For most pairs of firms in reality, share held by another firm is non-negative but far less than one, so assume in what follows that $q_{ji} \ll 1$ for $i, j = 1, 2$. I further assume

$$\phi_{ij} < (1 - 2q_{ij}q_{ji})/q_{ij}^2,$$

which ensures that firm i weighs the direct benefit given to its own profit more than the external effect. It is easy to show that under these assumptions, there is unique stable equilibrium of the game of political

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[7] In the context of cross-shareholding, the assumption of firm-value maximization is previously employed in Farrell and Shapiro (1990) and Clayton and Jorgensen (2005).

[8] In the next subsection, I discuss at length the corporate governance practice in Japan with an emphasis on the difference between friendly and controlling shareholders.

[9] According to recent empirical studies on corporate ownership structure, such an environment is rather exceptional. For example, La Porta et al. (1999) found that corporate ownership is concentrated to a small number of shareholders in most countries other than the U.S. and the U.K.

network building.

The following proposition describes how firm i's equilibrium political expenditure would respond to a change in its ownership structure when firm j is a friendly shareholder, i.e. when ϕ_{ij} is small.

Proposition 1 *For sufficiently small ϕ_{ij}, firm i lowers its political expenditure in response to an increase in the share held by firm j, i.e. $\partial l_i^* / \partial q_{ij} < 0$.*

Proof. Suppose first $\phi_{ij} = 0$ so that firm i maximizes its value V_i. In this case, firm j's share q_{ij} does not appear in firm i's objective function, which means q_{ij} affects the equilibrium political expenditure l_i^* only through an indirect channel, the change in l_j. The first-order condition for program (1) is

$$\pi_i' - c_i + q_{ji}\delta\pi_j' = 0.$$

Differentiating this first-order condition with respect to q_{ji} and rearranging the terms, one can derive the following.

$$\frac{\partial l_i(l_j|q_{ji})}{\partial q_{ji}} = \frac{-\delta\pi_j'}{SOC} \tag{2}$$

where $l_i(l_j|q_{ji})$ is the best response function of firm i. And, the slope of the best response function is obtained by differentiating the first-ordier condition with respect to l_j:

$$\frac{\partial l_i(l_j)}{\partial l_j} = -\delta \frac{\pi_i'' + q_{ji}\pi_j''}{\pi_i'' + q_{ji}\delta^2\pi_j''} \tag{3}$$

which is negative, i.e. strategic substitute. Combining (2) and (3) yields

$$\frac{\partial l_i^*}{\partial q_{ij}} = \frac{\partial l_i(l_j)}{\partial l_j}\frac{\partial l_j(l_i|q_{ij})}{\partial q_{ij}} = \left[-\delta\frac{\pi_i'' + q_{ji}\pi_j''}{\pi_i'' + q_{ji}\delta^2\pi_j''}\right] \times \left[\frac{-\delta\pi_i'}{SOC}\right]$$

which is negative given the assumptions. Because the objective function is continuous in ϕ_{ij}, for ϕ_{ij} in a small neighborhood of zero, $\partial l_i^* / \partial q_{ij}$ is negative. ∎

The logic behind this proposition is quite straightforward. As q_{ij} increases, firm j's incentive to hire former government officials also increases because a larger part of the political benefit appropriated by firm i can be absorbed back through the strengthened financial connection. Knowing this change in firm j's incentive, firm i has an incentive to reduce its political expenditure and free-ride on firm j's political effort. Consequently, the equilibrium political connection l_i^* becomes lower as firm i gets more financially integrated to firm j.

A few remarks are worth mentioning. First note that this proposition is obtained by restricting our attention to the case where q_{ij} is small. If $\phi_{ij} > 0$ and firm j is the dominant shareholder of firm i, the above proposition would fail to remain relevant. Second, the above proposition does not predict that financially interlinked or group affiliated firms will enjoy smaller political benefits. Even if each member firm builds a

weaker connection, they might enjoy greater political benefits than stand-alone firms do, by internalizing the externalities. For instance, suppose the positive externality is mainly originated from information sharing among financially connected companies, so the political benefits stand-alone corporations enjoy are solely from its own expenditure. Assume, for simplicity, $\phi_{ij} = \phi_{ji} = 0$. In this case, a stand-alone firm k's first-order condition is

$$\pi_k' \left(l_k^S \right) - c_k = 0,$$

whereas that of a group affiliated firm is

$$\pi_i' \left(l_i^G + \delta l_j^G \right) - c_i + q_{ji} \delta \pi_j' \left(l_j^G + \delta l_i^G \right) = 0$$

where the last term in the equation is positive. Hence, $\pi_i' \left(l_i^G + \delta l_j^G \right) < \pi_k' \left(l_k^S \right)$ so long as c_k is much smaller than c_i, that is, even if l_i^G may be smaller than l_k^S, the total benefit $\left(l_i^G + \delta l_j^G \right)$ must be greater than l_k^S.

The first proposition highlights the incentives to free-ride on other financially connected firms. Not surprisingly, this incentive is sufficiently mitigated when a shareholder firm actively participates in the corporate governance of the equity issuer firm, i.e. when ϕ_{ij} is large.

Proposition 2 *For sufficiently large ϕ_{ij}, firm i increases its political expenditure in response to an increase in the share held by firm j, i.e. $\partial l_i^* / \partial q_{ij} > 0$.*

Proof. The first-order condition for program (1) is

$$\left(1 + \phi_{ij} q_{ij}^2 \right) \left(\pi_i' - c_i \right) + \left(q_{ji} + \phi_{ij} q_{ij} \right) \delta \pi_j' = 0.$$

As firm i increases its holding of firm j's equity, the best-response $l_i(l_j)$ will move outward, i.e.

$$\frac{\partial l_i(l_j | q_{ji}, q_{ij})}{\partial q_{ji}} = -\frac{\delta \pi_j'}{\left(1 + \phi_{ij} q_{ij}^2 \right) \pi_i'' + \left(q_{ji} + \phi_{ij} q_{ij} \right) \delta^2 \pi_j''} > 0.$$

However, its size shrinks as ϕ_{ij} increases. Therefore, for a sufficiently large ϕ_j, firm i does not increase its political spending much in response to an increase in q_{ji}, which implies that the incentive analyzed in the previous proposition is sufficiently mitigated. On the contrary, the direct effect of a change in ownership structure does not shrink. The direct effect of a change in ownership structure on the best response function of firm i is

$$\frac{\partial l_i(l_j | q_{ji}, q_{ij})}{\partial q_{ij}} = -\frac{2\phi_{ij} q_{ij} \left(\pi_i' - c_i \right) + \phi_{ij} \delta \pi_j'}{\left(1 + \phi_{ij} q_{ij}^2 \right) \pi_i'' + \left(q_{ji} + \phi_{ij} q_{ij} \right) \delta^2 \pi_j''}$$

$$= -\frac{\phi_{ij} \delta \pi_j' \left[1 - 2q_{ij} \frac{q_{ji} + \phi_{ij} q_{ij}}{1 + \phi_{ij} q_{ij}^2} \right]}{\left(1 + \phi_{ij} q_{ij}^2 \right) \pi_i'' + \left(q_{ji} + \phi_{ij} q_{ij} \right) \delta^2 \pi_j''}$$

which is positive since $\phi_{ij} < \left(1 - 2q_{ij} q_{ji} \right) / q_{ij}^2$ by assumption. And, it does not shrink as ϕ_j increases. Therefore, for a sufficiently large ϕ_j, the direct effect dominates and the equilibrium political expenditure increases as the other firm's share increases. ∎

The intuition is the same with the standard logic of internalization via integration: as a firm (or subsidiary) gets financially more integrated to another company (or parent company), the subsidiary's goal will become more aligned with that of the parent firm, and they will behave more cooperatively. This effect is particularly strong when firm j is able and willing to exercise considerable power on the managers of firm i.

The contrast between the two propositions is striking. The free-ride effect highlighted in Proposition 1 has not been widely recognized in the literature probably because most previous studies has focused on pyramidal business groups within which there are a controller and the controlled. Within groups of trade partners which cross-hold each other's stocks, however, the free-ride effect may dominate the cooperation effect which is emphasized in Proposition 2. Given that the two effects push the firm toward the opposite directions, crucial in empirical analysis is to discern the friendly and the controlling shareholders. In the next subsection, I selectively survey the literature on corporate governance of the Japanese firm so as to identify shareholders which tend to exercise controlling power and those which do not.

Lastly, I discuss briefly the case where the positive externality assumption is violated. If negative political externality prevails between financially interlinked firms i and j, intercorporate shareholding would have negative impacts on their political connections regardless of whether the shareholder is controlling or friendly. To see why, suppose firm j is a friendly shareholder. As firm j holds more of firm i's equity, firm j will lower its political expenditure, because a larger negative externality will flow back through the financial linkage. In turn, this change leads to a decrease in firm i's political expenditure, since with negative externality, the political network building game is of strategic complement, i.e. $l_i(l_j)/l_j > 0$. Next, suppose firm j is a controlling shareholder. As the share held by firm j increases, it is more able to force firm i to lower activities that do harm to firm j'. Thus, firm i will become less enthusiastic in political network building.

2.2 Prediction

Since at least 1980s', researchers have reported that some of the stylized facts observed in the U.S. financial market are absent in the Japanese counterpart. Allen and Zhao (2007) describe the Japanese system simply as "shareholders are not rulers." Economists have identified a couple of reasons why the influence of individual shareholders is partcularly limited in the Japanese corporation. First, the boards of directors which typically are dominated by insiders (senior employees) do not guide and discipline the managers to work for shareholders' best interests. Instead, both directors and managers are expected to make decisions for the sake of broader stakeholders, especially creditors and employees.[10] Another significant difference between the U.S. and Japanese financial markets is that hostile takeovers which are quite common in the U.S. financial market are extremely rare in the Japanese market. The primary reason for this is that cross-

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[10] For more details, see Aoki (1990) and Miwa (1996) for instance. Berglof and Perotti (1994) assess the issue from more theoretical perspective, but they do not distinguish controlling and friendly shareholders.

shareholdings were put in place by many Japanese corporations to prevent hostile takeovers. It means that market discipline which enables the U.S. shareholders to control large corporations plays only a limited role in the Japanese economy.

Despite all these institutional barriers and implicit contracts, however, one should not jump to the conclusion that every shareholder is powerless. While friendly shareholders (also called as *antei-kabunushi*, meaning stable shareholders), mostly the corporations in business partnership, stay away from others' corporate governance unless there is a risk of hostile takeover, financial institutions holding both debt and equity, on the other hand, act as outside monitors with significant influence, guiding and sometimes replacing the managers (see Aoki and Patrick, 1994). Kaplan and Minton (1994), Kang and Shivdasani (1995) and Yafeh and Yosha (2003) provide evidence of active intervention by financial institutions. Shleifer and Vishny (1997) note that "their power comes in part because of a variety of control rights they receive when firms default or violate debt covenants (Smith and Warner, 1979) and in part because they typically lend short term, so borrowers have to come back at regular, short intervals for more funds."[11]

This observation suggests that when a corporation appears as a shareholder, it is likely to be a friendly shareholder if it is a non-financial firm, and a controlling one if a financial company. Combining this additional information with the theoretical results obtained in the previous subsection, the following predictions are immediate.

1. As the share of equity held by non-financial firms increases, a measure of political connection of the firm decreases.

2. As the share of equity held by financial insititutions increases, a measure of political connection of the firm increases.

It is noteworthy that these predictions depart from the hypothesis tested in previous empirical studies in a few important ways. Previous studies have mainly explored the cross-sectional variation asking whether group affiliated firms have relatively stronger ties to the government. One of the problems the previous studies suffered is the ambiguity in the definition of business groups, namely it is often controversial whether a given firm is affiliated in a business group or not. And as Miwa and Ramseyer (2002) convincingly show, this ambiguity in group affiliation can make the empirical findings non-robust. More importantly, even if researchers overcome the problem and get a robust test result, it is still unclear why or why not business groups have stronger political connections. By contrast, the hypotheses derived here do not suffer the ambiguity problem in defining group affiliations. Moreover, since they are derived from explicit considerations

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[11] A related, fundamental question is why countries have different financial systems. Perotti and von Thadden (2006) and Roe (2003) provide political-economic theories explaining how different corporate governance systems come to exist.

about the incentives of financially interlinked firms, a test of the hypotheses can provide suggestive answers to the why-questions, too.

To investigate the causal relationship between a firm's ownership structure and its political expenditure, a data set in panel structure and a proper empirical strategy are needed. In the following section, I introduce the data used in the analysis and my empirical strategy.

3 Data and Empirical Strategy

3.1 Data

The source of the data is *Nikkei: Annual Corporation Reports* issued from 1992 to 2004 which contains summary information about every corporation publicly traded from 1991 to 2003. In each year, about 2,500 to 2,900 companies have been listed in the market, but non-negligible fraction of them failed to register the requested information properly. Dropping out the observations with missing variables, the number of corporations analyzed here is about 2,300 per year. The panel structure is naturally unbalanced since every year some firms enter and others exit the financial market. The report provides the list of directors and managers and the name of the former employer of each board member. It also shows a rough picture of ownership structure of each firm. In the report, owners of a firm are categorized into six groups: the government, non-financial firms, financial institutions, securities companies, foreigners, and the rest.[12] Each of the shares held by non-financial firms, financial institutions, and the rest accounts for roughly 30% of all stockholdings (so altogether 90%), and the shares held by the government, securities companies, and foreigners altogether account for 10%.

To explore the government-business relationship, students of Japanese political economy have utilized data of retired high-ranked bureaucrats hired by private firms, called *amakudari* literally meaning "descent from heaven", as a measure of political connection or a proxy for political expenditure of private companies.[13] This measure is expected to serve the purposes well particularly because the role of bureaucrats in Japanese politics is predominant. They "actually initiate and draft virtually all important legislation." (Johnson, 1975) A remark made by Sahashi, former vice-minister of the Ministry of International Trade and Industry (MITI), shows clearly the extent and importance of their role: the Diet (Japanese parliament) is merely an "extension of the bureaucracy."

In more general term, amakudari practice refers to the reemployment system of elite bureaucrats. It shares some common features with the "revolving door" practice in the United States, but differs in many

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[12] Here, the majority of "the rest" are known to be individual investors.

[13] The information on private firms' direct expenditure on political activities is not available to researchers since lobbying activity is not legalized in Japan.

ways.[14] Most notable discrepancy is in the supply side. Because the bureaucratic hierarchy is pyramidal, a bureaucrat is pressured to depart the public sector after she becomes a section director, if she does not continue to rise in the administrative hierarchy. By the time that a member of her cohort becomes a vice-minister, all but the most successful must leave the bureaucracy to give the vice-minister absolute seniority. So, the supply of ex-bureaucrats has been sizable and stable. These retired bureaucrats start their second career in national or local politics, in private and public corporations, or in other insititutions in need of their consultation. Those who are hired in private firms are known to provide channels of information and negotiations between the public and the private sector. According to Colignon and Usui (2003), "[a]rranged by the ministry, not the individual, it in effect provides private corporations with lobbyists" and "ministries with windows to private corporations."[15]

Following the previous studies, I utilize the number of ex-bureaucrats in a firm's board room as the measure of its political connection. More specifically, exploiting the information of the former employer of board members, I measure the degree of political connection in two ways. First, *narrowly defined amakudari* includes only the apparent ones, the listed board members whose former employer is a ministry or a government agency. The problem of the narrow definition is that it might underestimate true political connection, because some retired bureaucrats go to the private sector in multiple steps: first to a public company, then to a private one. This practice is also quite popular, and is even given a name, *yokosuberi* meaning "sideslip." So, in addition to the directors from ministries and government agencies, ones who were previously hired in public companies are counted as *broadly defined amakudari*.[16]

Table 1. Summary Statistics

	Mean	Std. dev	Minimum	Maximum
Narrowly defined amakudari	0.27401	0.74889	0	13
Broadly defined amakudari	0.38239	1.02232	0	13
Share held by non-financial firms	31.6676	18.6569	0	100
Share held by financial institutions	29.8896	15.8656	0	100
Number of directors	17.4372	7.32593	4	77
Number of employees	2365.75	5286.23	6	97474
Sales	223116	896680	10.33	2.13e+07

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[14] See for instance Che (1995) for an economic analysis of the "revolving door" practice.

[15] A few systematic investigations on the effect of hiring amakudari, focusing on the financial industry, are available in the literature. Horiuchi and Shimizu (2001) show that those banks accepting amakudari have reduced capital adequacy levels and increased non-performing loans. Similarly, Van Rixtel and Hassink (2002) find that amakudari appointments have a positive impact on future profitability and lending to risky industries.

[16] These definitions are originaly suggested by Rhyu (2008).

Table 1 shows the summary statistics of the variables that I use in the analysis. The fraction of the firms which have at least one (broadly defined) amakudari is 38.19%. This number is significantly greater than that in the U.S. where less than 10% of the firms have directors with political background.[17] Given that the average number of amakudari is 0.38239 as shown in the table, it means that most firms hire one or zero retired bureaucrats. The share held by other corporations also make a sharp contrast with ownership structure of the typical U.S. firm. At its highest, about 70% of the entire equity was once held by other corporations, while most large firms are diffusely owned in the U.S.

As briefly mentioned in the previous section, the structure and the role of board of directors of Japanese companies differ quite significantly from those of American firms. In Japan, the distinction between board members and executive directors is rather vague, and the vast majority of directors are selected from among employees. An employee is elected to be a director in his or her early fifties, and stays on the board for six to seven years. Unless they resign, these new directors are promoted four years later to a higher position, such as managing director, executive managing director, vice-president or president. This is a reason why the number of directors appears much larger than in the U.S. firm. See Miwa (1996) and Miwa and Ramseyer (2005) for more detailed description.

It is well-known that the number of employees and sales, which are used as control variables in the regression analysis, follow considerably right-skewed distributions. Because in their original form, they poorly "explain" the dependent variable, in the analysis I take log on these variables to make them follow more bell-shaped distributions.

3.2 Empirical strategy

In this subsection, I explain the empirical methods used in the analysis, which exploit the exogenous changes in the ownership structure prompted by the economy-wide financial reform. In the late 1980s and the early 1990s, the Japanese economy experienced a series of significant collapses of asset price bubble, and entered into a long period of economic recession, often referred to as "lost decade." Beginning in the 1990s, the Japanese government introduced short-term stimulation policies and economy-wide structural reform for economic recovery. Substantive deregulation of the financial sector, known as the "financial big bang" program was initiated in 1996, as a major part of this effort. The aim of the deregulation was to transform a highly regulated and bank-oriented financial system into a transparent, market-based one. It eliminated regulations related to banks' payoff ratio, additional stock issuance, and a large part of the controls on foreign exchange transactions. Largely fuelled by this institutional reform, the ownership structure of Japanese corporations has changed substantially during the sample period. Figure 1 shows the trends of the shares held by non-financial companies and those held by financial institutions.

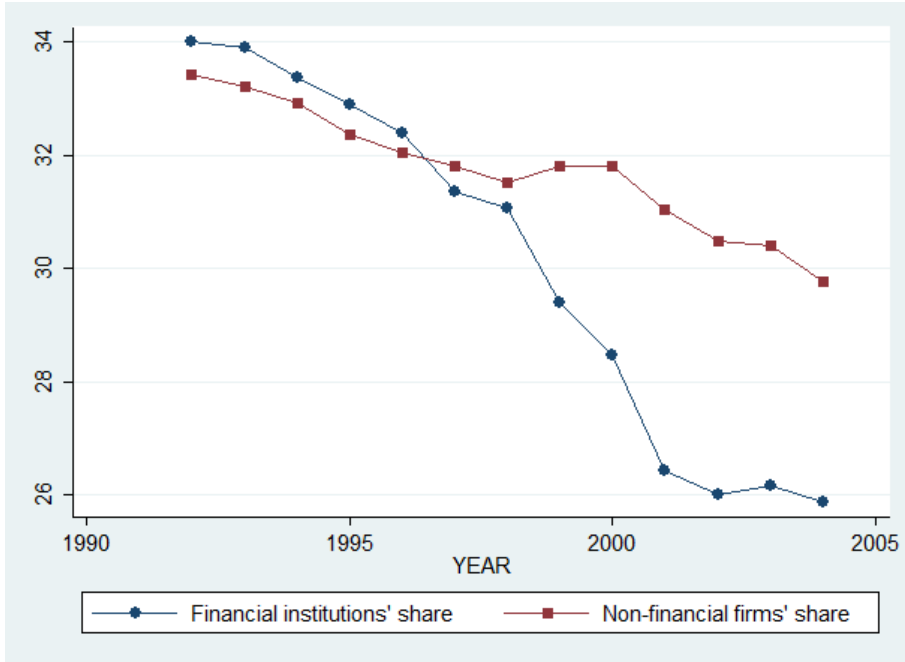
[17] See Agrawal amd Knoeber (2001).

Figure 1: Trends of economy-wide financial firms' shareholding and non-financial firms'

This observation suggests that taking the change of the ownership structure variables as "exogenous" to its political connection is a reasonable starting point. In this subsection, let us just focus on a single ownership variable denoted by q_{it} for expositional simplicity. The relationship of our interest is captured by β_1 in the following equation:

$$l_{it} = \alpha_{1i} + \beta_1 q_{it} + W_{it}\gamma_1 + e_t + \nu_{it} \tag{4}$$

where l_{it} is the political expenditure of firm i at period t, α_{1i} is the unobserved individual heterogeneity (firm fixed-effect), W_{it} is vector of exogenous variables, and e_t is time trend shared by all firms. If the change in the ownership structure variable is largely exogenous to the degree of political connection, i.e. $E(\nu_{it}|\alpha_{1i}, q_{it}, W_{it}, e_t)$ is close to zero, a simple least-square estimation of (4) would be enough to reveal how intercorporate stockholding affects the degree of political connection. Thus, I first regress the number of amakudari on the ownership structure variables and the other controls including firm and time fixed-effects.

Even if the changes of q_{it} are largely driven by the exogenous factor, however, it might not be completely exogenous for the following reason. If political benefits are shared only within financially connected companies, and if the sharing makes the member firms better off, firms without financial connections have incentives to join the club so long as the cost does not exceed the benefit. In other words, a strong political connection might attract investments from other corporations which seek for better and more diverse

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political connections, which means q_{it} may also be a function of l_{it}:

$$q_{it} = \alpha_{2i} + \beta_2 l_{it} + X_{it}\gamma_2 + d_t + f_{It} + \epsilon_{it} \tag{5}$$

where α_{2i} is firm fixed-effect, X_{it} is vector of exogenous variables, d_t is time trend, and f_{It} is industry-specific effect of financial reform. I denotes the industry to which firm i belongs.[18] The error terms ϵ_{it} is assumed to be mean zero and orthogonal to the other variables. If this simultaneity problem is not properly controlled for, the method suggested above may generate significantly biased estimates unless β_2 is close to zero.

Alternative strategy is to estimate (4) with an instrument for q_{it}. If the error term ν_{it} is orthogonal to q_{jt} for all $j \neq i$, the industry-year average of q_{jt} can be used as an instrument for q_{it}. Unfortunately, that is not the case. Because financially interlinked corporations strategically decide how much to expend in building political connections, the set of unobserved variables must include l_{jt} where j is a firm that can impose political externality on firm i, i.e.

$$\nu_{it} = \sum_{j \in P_i} \delta_j l_{jt} + \eta_{it}$$

where P_i is the set of firms whose political expenditure affects firm i's performance, and η_{it} is the unobservable that is orthogonal to l_{jt} for all j. Thus when β_2 is not zero, for any firm j in P_i, q_{jt} is not orthogonal to ν_{it}.

Because P_i is not observable to the researcher, one cannot build an instrument precisely based on P_i. Instead, I propose an instrument based on a similar idea. Notice that the mean of ν_{it} can be safely assumed to be zero thanks to α_{1i}. It implies firm j can be included in P_i only if l_{jt} changes at least once. Therefore, any set of firms which hire a constant number of amakudari can be used in constructing an instrument. In the main analysis, I instrument q_{it} with $\overline{q}_{J_it} = \frac{1}{\#_J}\sum_{j \in J_i} q_{jt}$ where J_i is the set of firm j such that i) $l_{jt} = 0$ for all t, and ii) firm j and i are in the same industry. Note that the intersection of J_i and P_i is an empty set. Since for $j \in J_i$, q_{jt} is orthogonal to ν_{it}, so is its average $\overline{q}_{J_it}$.

Validity of the the instruments relies on the assumption that hiring amakudari is the dominant form of political network building. If hiring ex-bureaucrats is an inferior way to build connections to the government, this instrument would not help to mute the strategic interaction between l_i and l_j, and might not be valid. However, no other significant political channel between the government and private firms has been reported in the literature thus far. An alternative assumption that can support the validity is that total political expenditure of a firm is proportional to the number of amakudari in its board room. This is the case if the total political benefit that the firm enjoys is the multiplication of its spendings in various political channels (e.g. in Cobb-Douglas form).

The instruments should be highly correlated with the instrumented variables, which can be satisfied if f_{It} varies considerably across time and industry. Table 2 shows that the industry-year average $\overline{q}_{J_it}$ is strongly correlated with individual firms' ownership structure q_{it}, even after all the other variables are controlled for.

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[18] Corporations are categrized into 29 industries by the *Nikkei Reports*, and no firm has moved from one industry to another.

Table 2. First Stage Regression on the Instruments

	Non-fin. share	Fin. share
Industry-year average	0.27679	
of non-financial firms' shareholding	(4.87)	
Industry-year average		0.39204
of financial firms' shareholding		(8.20)
All other control variables	Yes	Yes
Time FE	Yes	Yes
Firm FE	Yes	Yes

Note: The industry-year average variables are calculated only with firms that have never hired retired bureaucrats. The numbers in parenthesis are t-statistics based on the standard errors clustered by individual firms.

4   Empirical Results

4.1   Estimation with fixed-effects

As a preliminary analysis, I first estimate (4) without instrumenting the ownership variables. Table 3 shows the regression coefficients and t-statistics (in parenthesis) in various specifications. For panel A, I use the narrow definition of amakudari, and the broad one for panel B. The total number of observations ($N \times T$) is 30,126, and the panel is unbalanced. t-statistics which are calculated using the standard errors clustered by individual firms. Firm and time fixed-effects are included in all regressions.

Even in this simple regression, one can identify some interesting patterns. Notice first that the share held by non-financial firms appears to be negative and statistically very significant. The coefficient for financial insititutions' shareholding appear positive in most specifications, but it is statistically different from zero only in the second column of panel B. Not surprisingly, the total number of directors appears to be positively correlated with the number of amakudari. The number of employees, a measure of firm size, shows negative correlation with the level of political effort. No statistically significant pattern is found with regard to the sales of a firm, a measure of the firm's performance.

Table 3. FE Estimates

A. Narrowly defined amakudari

	(1)	(2)	(3)	(4)
Shareholding of non-financial firms	-0.00254		-0.00234	-0.00331
	(-2.75)		(-2.43)	(-2.96)
Share held by financial institutions		0.00147	0.00063	-0.00025
		(1.49)	(0.62)	(-0.21)
Number of directors				0.01136
				(4.71)
Log of number of employees				-0.05510
				(-1.76)
Log of sales				0.00424
				(0.41)

B. Broadly defined amakudari

	(1)	(2)	(3)	(4)
Shreholding of non-financial firms	-0.00283		-0.00219	-0.00342
	(-2.53)		(-1.95)	(-2.56)
Share held by financial institutions		0.00278	0.00199	0.00121
		(2.16)	(1.52)	(0.79)
Number of directors				0.01571
				(5.05)
Log of number of employees				-0.11131
				(-2.47)
Log of sales				-0.01989
				(-1.42)

Note: The dependent variable is the number of ex-bureaucrats in the boardroom.
The numbers in parenthesis are t-statistics based on the standard errors clustered by
individual firms. Firm fixed effect and time fixed effect are included in all regressions.

A few implications can be derived from the findings. First of all, they clearly show that ownership structure of a firm does matter in determining its political connections, which suggests political behavior of group affiliated firms is indeed different from that of stand-alone companies. But the observed pattern says group affiliated firms would not necessarily build stronger connections to the government. This finding echoes those of Colignon and Usui (2003) and Raj and Yamada (2009) who report negative correlation

between the number of amakudari and business group affiliation. However, the results presented here show more than the previously explored cross-sectional distribution of amakudari. Because the cross-sectional correlation between the ownership structure variables and the number of ex-bureaucrats is already captured by individual firm fixed-effect, the remaining effect of the ownership structure variables must come from their changes over time dimension. Also note that they are largely consistent with the theoretical predictions.

4.2   Estimation with the instruments

In this subsection, I present the main result obtained by instrumenting the ownership variables. Table 4 reports the estimated coefficients and t-statistics (in parenthesis). The t-statistics are calculated based on standard errors generated by bootstrap method. As before, firm and year fixed-effects are included in all regressions. First notice that the patterns found in table 3 are repeated here. The share of equities held by non-financial firms has a negative effect on the firm's political connection, whereas the share held by financial firms has a positive, which confirms the theory. Also note that statistical significance of financial firms' shareholding is dramatically improved in this analysis. Both variables are statistically significant in all specifications.

Table 4. IV Regression

A. Narrowly defined amakudari				
	(1)	(2)	(3)	(4)
Share held by non-financial firms	-0.05138		-0.02799	-0.03028
	(-3.85)		(-2.87)	(-2.88)
Share held by financial institutions		0.02467	0.02255	0.01584
		(3.83)	(3.25)	(1.96)
Number of directors				0.00912
				(4.29)
Log of number of employees				-0.09117
				(-2.15)
Log of sales				-0.03034
				(-1.84)
Fraction of variance due to α_{1i}	0.79721	0.64812	0.75566	0.73631

B. Broadly defined amakudari

	(1)	(2)	(3)	(4)
Share held by non-financial firms	-0.1228		-0.04773	-0.04937
	(-5.45)		(-3.40)	(-3.27)
Share held by financial institutions		0.07601	0.07237	0.07035
		(7.83)	(6.64)	(5.47)
Number of directors				0.00669
				(1.93)
Log of number of employees				-0.35242
				(-4.97)
Log of sales				-0.13437
				(-4.47)
Fraction of variance due to α_{1i}	0.86793	0.76473	0.83603	0.81809

Note: The dependent variable is the number of ex-bureaucrats in boardroom. The numbers in parenthesis are t-statistics based on the standard errors generated by bootstrap. Firm and time fixed effects are included in all regressions.

The effects of changes in ownership structure are economically significant as well. A ten percent point increase of non-financial firms' shareholding decreases the number of narrowly defined amakudari by 0.3, and the number of broadly defined ones by 0.5. The same change in financial firms' shareholding induces firm to hire 0.2 additional narrowly defined amakudari and 0.7 broadly defined one. Both the number of employees and sales are negatively correlated with the number of ex-bureaucrats.

4.3 Delayed responses

So far I have implicitly assumed that the adjustment of the board composition is immediate. However, one might legitimately suspect that assumption. If it takes time for firms to adjust their board composition in response to a change in their ownership structure, lagged variables must be introduced and appear statistically significant. Hence, in this subsection I explore how the dependent variable responds to a change in lagged explanatory variables. Table 5 shows the estimates of regressions with contemporaneous and one-year lagged variables. As before, firm and year fixed-effects are included in all regression, and the endogenous variables are instrumented. First, panel A shows that an increase in non-financial firms' shareholding at period $t-1$ reduces the number of ex-bureaucrats at period t. The size of coefficients of the lagged variable appears larger than that of the contemporaneous variable in all specifications, and the statistical significance of the contemporaneous variable is lost when the lagged variable is included.

Table 5. Delayed Responses

A. Non-financial firms' share

	Narrowly defined amakudari			Broadly defined amakudari		
Contemporaneous shareholding	-0.05138		-0.01079	-0.1228		-0.04520
	(-3.85)		(-0.54)	(-5.45)		(-1.42)
Lagged shareholding		-0.05567	-0.04601		-0.12990	-0.08962
		(-3.58)	(-2.00)		(-4.75)	(-2.28)
Fraction of variance due to α_{1i}	0.79721	0.82285	0.83069	0.86793	0.88554	0.89891

B. Financial firms' share

	Narrowly defined amakudari			Broadly defined amakudari		
Contemporaneous shareholding	0.02467		-0.02174	0.07601		-0.01283
	(3.83)		(-1.29)	(7.83)		(-0.50)
Lagged shareholding		0.02891	0.04685		0.07882	0.08934
		(4.04)	(2.70)		(7.31)	(3.36)
Fraction of variance due to α_{1i}	0.64812	0.68027	0.64250	0.76473	0.78803	0.77495

Note: The dependent variable is the number of amakudari. The numbers in parenthesis are t-statistics based on the standard errors generated by bootstrap. Firm and time fixed effects are included in all regressions.

Similar pattern is found in panel B. An increase in financial institutions' shareholding at period $t-1$ tends to increase the number of ex-bureaucrats at period t. When the lagged variable is included, the explanatory power of the contemporaneous variable completely disappears. These findings are consistent with the expectation that for the composition of boards to fully be adjusted would take time. It should not be missed that the directions of response of political connection remain consistent with the theoretical predictions.

4.4 Subsample analysis

In this subsection, I check the robustness of the main result by focusing on two subsamples. It has been pointed out by many researchers that there are two forces sustaining amakudari practice: push and pull factors.[19] Push factors refer to the incentives for the government to send former bureaucrats to private firms mainly for regulatory purposes. On the other hand, pull factors are the incentives for private firms to recruit retired bureaucrats for the purpose of network building. Since the focus of the analysis has been on the

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[19] See for example Aoki (1988) and Colignon and Usui (2003).

pull factors, the result must become clearer if we exclude from the sample the industries where push factors are presumably very strong: Finance, Air transportation, Communications, and Electronic power and gas industries. These industries are regarded as psuedo-public sectors, and the government thoroughly monitors and regulates them. Consequently, the average number of amakudari in these industries is almost twice as large as the economy average. So in this subsample, the absolute value of the coefficients are likely to appear smaller than before. Panel A of Table 6 shows the same pattern observed in the Table 3, 4 and 5.

Table 6. Subsample Analysis

A. Highly Regulated Industries Excluded

	Narrowly defined amakudari			Broadly defined amakudari		
Share held by non-financial firms	-0.05665		-0.03121	-0.14196		-0.07167
	(-4.20)		(-3.31)	(-5.70)		(-4.54)
Share held by financial institutions		0.03212	0.02716		0.08645	0.07508
		(4.36)	(3.54)		(7.59)	(5.76)
Fraction of variance due to α_{li}	0.81827	0.67926	0.78762	0.88169	0.78377	0.86642
# of observation		27473			27473	

B. Horizontal Keiretsu (Share held by non-financial firms < 30%)

	Narrowly defined amakudari			Broadly defined amakudari		
Share held by non-financial firms	-0.05138		-0.10544	-0.47524		-0.14467
	(-3.85)		(-2.00)	(-2.90)		(-1.94)
Share held by financial institutions		0.02787	0.02771		0.09007	0.08984
		(3.30)	(2.76)		(6.54)	(5.61)
Fraction of variance due to α_{li}	0.79721	0.69707	0.77928	0.85071	0.80809	0.82737
# of observation		16119			16119	

Note: The dependent variable is the number of amakudari. The numbers in parenthesis are t-statistics based on the standard errors generated by bootstrap. Firm and time fixed effects are included in all regressions.

Next, I try to take into account heterogeneity of business groups. Aoki (1990) argues that there are two types of "business groups", one of which is "financial keiretsu," and the other is "capital keiretsu". Financial keiretsu groups are characterized by loose cross-shareholdings and identified by Presidents' Clubs whose main function is information sharing. On the other hand, capital keiretsu groups are characterized by strong vertical relationships where a dominant parent company holds the majority of stock. Morck and

Nakamura (2005) categorize modern business groups into "horizontal and vertical keiretsu" each of which can be loosely matched to financial and capital keiretsu, respectively. According to Morck and Nakamura, the key feature of vertical keiretsu is that a dominant non-financial firm exercise controlling power over its subsidiaries, which differs from the intercorporate ownership discussed in Section 2. So, once vertical keiretsu groups are excluded from the sample, the main result is expected to be a bit clearer.

Panel B of Table 6 shows the results from the sample of firms less than 30% of which stocks are owned by non-financial corporations. As expected, the main result turns out to be robust in this analysis as well. Other than the fact that, as expected the numbers are a bit inflated, the results are very similar to the ones in Table 4.

5 Conclusion

Analyzing the reemployment system of retired bureaucrats in Japan, this paper shows that shareholding by non-financial firms (friendly shareholders) has a negative impact on profit-motivated firms' political participation, and that by financial institutions (controlling shareholders) a positive impact. It provides a framework to understand the puzzling finding reported by Colignon and Usui (2003) and Raj and Yamada (2009), that business group affiliated corporations have weaker connections to the government. I argue that it can be explained by the fact that when financially interlinked firms share political benefits with each other, the incentives to free-ride on others' political effort might be significantly high, so the member firms end up with weaker political connections.

By focusing on a simple decision problem faced by a corporation, whether to hire directors with a bureaucratic background, this paper derives a broad implication for corporate governance under high degree of intercorporate stock ownership. For many years, researchers have tried to understand the operation of different financial systems. For the Japanese case, the major role that financial insititutions play in corporate governance has long been cited as the key mechanism solving agency problem in the Japanese financial market. The empirical specification employed in this paper is formulated to indirectly test these claims, and my findings support the "main bank" narratives.

There are a few limitations in the analysis, which invite future works on this topic. I analyzed firms' political activities focusing on a specific political channel, namely retired bureaucrats hired by private firms. If there are other less observable political channels, the present analysis might be showing only an imperfect and biased picture of the entire political-economic system. I believe that studies utilize other information and data would add valuable insights to the literature. For example, to see if business group affiliated firms are actually better treated by the government, one may want to check whether implemented policies have indeed been in favor of group affiliated firms by directly analyzing the government expenditure. Further work

taking into account heterogeneity of business groups is also called for. If business groups are heterogenous, as argued by Aoki (1990) and Morck and Nakamura (2005), one can expect that their political behavior might also be heterogenous. Such heterogeneity is likely to turn out even greater if a researcher compares business groups in different countries. Granovetter (2005) and Khanna and Yafeh (2007) have suggested frames to categorize various types of business groups.

Lack of welfare implications is another limitation of this study. The theoretical model suggests that the firms cross-holding each other's equity would make more efficient use of each unit of political connection. However, until the welfare impact of the reemployment system is fully understood, it would hardly be possible to properly evaluate the political consequences of intercorporate stock ownership.

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