

**INSTITUTIONAL INVESTORS AND CORPORATE GOVERNANCE**

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Submitted  
to the Temple University Graduate Board

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In Partial Fulfillment  
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## **ABSTRACT**

The role of Institutional investors in alleviating the agent problem of management and its valuation effect has been studied extensively in corporate finance. We complement this stream of research by exploring management's control over institutional investors with misaligned objectives, particularly public pension fund, and the consequential valuation effect. We investigate the politic motive of public pension fund's shareholder activism and its impact on the target firms' operational performance, address the control of a strong management on public pension funds' self-serving agenda, and finally we compare the ownership adjustment pattern of public pension funds to other institutional investors to conclude public pension funds' ownership adjustment reflects their private pursuit.

The first chapter explores the politic facet and performance effect of shareholder activism sponsored by public pension fund. In this study, we show that having a public pension fund as the leading sponsor of a shareholder proposal significantly improves the proposal's likelihood of being accepted by the target firm. The increased acceptance rate sources from the subset of proposals addressing a social responsibility issue, and targeting firms with weak insider control. An investigation of the public pension board reveals that the board's political profile is the primary determinant of public pension fund's propensity to lead a proposal, and the target firm's acceptance rate. We also assess the performance impact of shareholder proposals. For target firms with strong insider

control, the performance impact of accepted social responsibility proposals is significantly positive; that of governance proposals is negligible. For target firms with weak insider control, the performance impact associated with public pension funds is either negative or negligible. These results suggest that the motive driving public pension funds' dominant presence in shareholder activism is not market based, but laden with purpose other than value creation.

In the second chapter, we postulate that the widely documented negative valuation effect of ownership by public pension will be weak on firms with extra managerial control mechanism and/or whose managerial ownership of cash flow is high. For firms with high level managerial ownership of cash flow, management bears higher cost for a concession made with public pension fund's misaligned objective. An efficient market will expect this effect and value the managerial control over public pension fund to the extent that the management's benefit is aligned with outside shareholders. Consequently, the cross section valuation difference of firms held by public pension funds can be explained by the managerial ownership of cash flow, managerial control derived from extra mechanism such as dual class share, however, has no explanative power.

The last chapter investigates the link between private benefits and institutional holding change. We assume the cross section equilibrium of block holding will break when market sentiment is high. Consequently, block holder tends to shed more shares loaded with less private benefits by taking advantage of opportunities available in a high sentiment market. The empirical results support this conjecture. When the market sentiment is high, Institutional block holders tend to shed more private benefits meager

dual-class share than private benefits affluent non-dual class share. This pattern does not exist when the market sentiment is low. Most importantly, public pension fund is identified as the major driver of this effect.

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## CHAPTER 1

### SHAREHOLDER ACTIVISM OF PUBLIC PENSION FUNDS: THE POLITICAL FACET AND PERFORMANCE EFFECTS

The question of whether the public pension fund is an effective company monitor has attracted enormous attention for both academic and practical purposes. It has its roots in two important facts: first, public pension funds have been and are active in corporate monitoring; second, the social and market power underlying public pension funds' monitoring is enormous and the economic impact from such activity is significant. The answer offered by many serious investigations so far seems to point to a negative market reaction, based on studies examining public pension funds' high profile monitoring activity, and the ensuing market response, either short term or long term.

This result raises an obvious follow-up question: why do public pension funds fail at effective monitoring? There are several tentative answers with regard to this issue. One is that public pension funds are not market-based entities - they lack sufficient skills, motive, and experience to monitor the companies they invested in (e.g., Wohlstetter, 1993); Another is that public pension funds' monitoring primarily operates through a single platform, i.e., shareholder proposals under SEC rule 14a-8, which does not mandate the target company to accept<sup>1</sup> the proposal, even if a majority vote for the proposal is obtained. Consequently, even if the proposal is of value, it won't be executed (e.g., Karpoff, 2001). Finally it is argued that public pensions' behavior are politically

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<sup>1</sup> For shareholder proposal, management's acceptance results in proposal sponsor's withdrawal. Proposal acceptance, therefore, is equivalent to proposal withdrawal in the sense of proposal settlement. We will use the two terms alternatively depends on the focus of the discussion.

oriented and serves the ideology or career purpose of their board members, who are mainly politicians.

This study contributes to existing literature by empirically showing that 1) having a public pension fund as a leading proposal sponsor improves the acceptance likelihood of social responsibility proposals targeting firms with weak insider control; 2) a public pension fund's board political profile explains the fund's leading propensity; 3) A proposal's performance effect is mediated by the proposal's settlement (accepted by the target firm or not) and the strength of target firm's insider control.

We show that the mere presence of a public pension fund in the sponsor pool of a proposal doesn't have an effect on the proposal's acceptance. The likelihood of proposal acceptance rises significantly if a public pension fund assumes the leading role. The leading status is a signal of public pension funds' commitment to the proposal and the determination to exercise their influence. Public pension's leading effect on acceptance likelihood is limited to target firms with weak insider control. Proposal leaders' identity has no effect on target firms with strong insider control.

A further examination reveals that the elevated acceptance likelihood for proposals led by a public pension fund mainly flows from proposals addressing social responsibility issues. For corporate governance proposals, regardless of the insider control of the target firms, a leading public pension fund does not produce higher acceptance rate than other proposal leaders.

To sum up, a leading public pension fund only raises the acceptance rate of social responsibility proposals targeting firms with weak insider control. This result supports the

hypothesis that social responsibility proposals are more likely to be accepted, because they are not directly intended to restrict management discretion.

We then show that a public pension fund's leading propensity is closely related to the political profile of its board. Particularly, we show that the number of *ex officio* board members who held elected public offices, the proportion of such members on the board, and their average age significantly raise the fund's leading propensity. While the first two points suggest a general political influence over public pension funds' decision, the positive mean age effect seems to suggest that the motivation is more likely ideology, rather than political ambition for higher office. In contrast, the number of *ex officio* members running for an elected office decreases the leading propensity; this fact seems incompatible with both the ideology and the career aspiration interpretations.

The last section is dedicated to investigating the impact of shareholder proposals on target firms' operational performance. The hypothesis is that the performance effect of an accepted proposal depends on the target firm's insider control. This proposition suggests that two types of shareholder proposal are of particular interest. One is the proposal led by a public pension fund and targeting a firm with weak insider control ("weak control" sample). The other is the proposal targeting a dual class firm ("strong control" sample). If a proposal is accepted, public pension fund's objective dominates in the former case, and target firm management's objective dominates in the latter. In the former case, we reckon the performance effect will be either significantly negative or not significant at all. In the latter case, the prediction is that positive performance will follow, because the decision made by the pressure-resistant management is more likely value based.

Confirming previous studies, a full sample test reveals that accepted proposals improve target firms' performance. However, in the "weak control" subsample, the positive proposal acceptance effect disappears regardless of the proposal topic. This finding supports the conjecture that the imposition of insubstantial proposals hurts target's performance, and thus neutralizes the significant positive effect observed pre-1992 SEC shareholder proposal reform (Chidambaran and Woidtke, 2002). Woidtke (2002) suggests that the effect of institutional monitoring depends on the objective functions of the institutions' administrators. Other shareholders could be hurt when the institutional agents have conflicts of interest with other shareholders. This study complements the result by showing the negative impact of public pension funds on target firm operational performance. It's not far fetched to conclude that the shareholder proposal as an activist tool can only be as effective as the people who use it; thus it is not meaningful to explore a proposal's impact without considering the sponsor's identity and objective.

For the "strong control" subsample, the management of target firm plays the dominant role and serves as a filter in deciding a proposal's settlement. We found that acceptance of social responsibility proposals leads to positive performance impact; this holds true for proposals led by either public pension funds or other sponsors. This finding contradicts the notion that social responsibility proposals destroy value, and alerts researchers that the role of management in the activism deserves more attention.

In contrast, the positive performance impact in the "strong control" subsample disappears for governance proposals, regardless of the identity of the leading sponsor and its settlement. For governance proposals led by public pension funds, target firms that

accept the proposal tend to subsequently exhibit deterioration in performance; however, it is not significant in comparison to firms that did not accept the governance proposal. For governance proposals led by other sponsors, the performance of target firms that accept the proposal does not improve significantly in comparison to that of firms who did not accept the proposal. These results suggest that management's acceptance of governance proposals may be a symbolic gesture, serving the purpose of assuaging social pressure or presenting a responsive public image (Romano, 1995, 2000).

A full sample multivariate analysis yields the same conclusion. Proposal acceptance has no significant performance effect by itself. Operational performance is improved if the proposal is accepted by a target firm with strong management control, whereas operational performance does not improve if we only consider accepted proposals led by public pension funds but without considering the target's management. In the meantime, the performance effect of a public pension fund as the leading sponsor is significantly negative by itself.

To sum up, public pension funds are not effective monitors, although they can force or induce more proposal acceptance. This failure can be attributed to the fact that the objective underlying their leading of proposals is political, rather than market based. Consequently, it is less likely for such proposals to generate a positive performance effect. On the other hand, the performance effect of accepted proposals can be less harmful or even positive if the target's management is strong enough to serve as a filter.

### **1. 1. Shareholder activism background**

Shareholder activism means shareholders strive to influence a corporation's

behavior by exercising their rights as owners through several venues such as portfolio screening, publicity campaign, negotiation with management, litigation, and even proxy battles. Shareholder activism can either target narrowly on a corporation's governance or broadly on a corporation's social responsibility.

The rise of shareholder activism on corporate governance in the 1980s resulted from two trends: first, the increasing concentration of corporate ownership in the hands of institutional investors, particularly public pension funds motivated by achieving a fully funded pension system; Second, the recession of merger and takeover due to the spread of anti-takeover activities among large corporations<sup>2</sup>.

Shareholder activism on corporation's social responsibility has its roots in conservative religious principles and can be traced back to the 18th century, when the Quakers withdrew their business from companies involved in alcohol, tobacco, or gambling. The 1960s witnessed the development of additional negative screens based on overtly ideological and political sentiments, particularly on the Vietnam War. The 1970s and 1980s registered the campaign's conflation with the green or ethical consumerism. Ideologically charged organizations such as the Council on Economic Priorities (CEP) began rating companies on a variety of trendy social issues, including animal rights, nuclear energy, and gay and feminist issues. According to a research by the United Nations Research Institute of Social Development, the 1992 Earth Summit marks the birth of current wave of shareholder activism advocating corporate social responsibility

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<sup>2</sup> For historical overview, see Domini, 2001; Hutton, DiAntonio, & Johnsen, 1998; Waddock 2000.



on environment and sustainability<sup>3</sup>.

The clash between social and economic concerns entailed by shareholder activism has attracted enormous academic and social interests. There are two diametrically opposite arguments regarding the welfare effect of shareholder activism. One view upholds that shareholder activism either sacrifices the primacy of profit maximization for social purposes or failed on both, the other insists either the sacrifice is worthwhile or they two notions are not mutually exclusive.<sup>4</sup>

An effort as large as the boycott of firms doing business in South Africa had virtually no market effect suggests the financial effect of social investing on target firms is roughly zero (Teoh, Welch, and Wazzan, 1999). Another problem confront the social responsibility activism is the state already regulates businesses in many ways, including

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<sup>3</sup> According to the SIF's report, as of June 30, 2001, "nearly one out of eight dollars under professional management in the United States is involved in socially responsible investing"; \$2.03 trillion, 12% of the \$19.9 trillion in investment assets under management, are socially screened; these assets "grew 1.5 times faster than all U.S. managed portfolio assets" over the previous 2 years; and "socially screened separate accounts grew by nearly 40 percent" (SIF 2001, pp. 4-5). Citing the spate of corporate scandals, Citizens Advisor, Inc. founder Sophia Collier claimed that "socially responsible investing is about to come into fashion," predicting it will double in 3 to 5 years (Ackermann, 2002).

<sup>4</sup> Unlike the first view, the second one has many vague aspects to it and does not stand accumulating empirical findings. Teoh, Welch, and Wazzan (1999) took a comprehensive study on how equity prices responded to sanctions and pressures for firms to divest their holdings in South Africa, the most important legislative and shareholder boycott to date. The effect of 16 pension fund divestments on a portfolio of firms with the highest exposure in South Africa showed no evidence the pension fund divestment announcements hurt firms with major South African operations.

Economics theory characterizes the demand curves for individual stock as infinitely elastic, so the price of the stock of a targeted company is unlikely to be affected by a boycott so long as additional buyers remain to scoop up the profit opportunity. For example, The "Vice Fund," which was established in September 2002, specializes in alcohol, tobacco, arms, and gambling, and thus stands ready to buy the stocks screened out of portfolios following social activism principles. The Vice Fund has grown at 20 percent annually since its inception, outpacing the S&P's growth of 16 percent (Aathers, 2007). These results contradict the conclusion that screening has no impact, but the period under consideration is far too short for these numbers to have meaningful implications.

the social and environmental impact of their activities.<sup>5</sup>

In contrast, numerous reports issued by social responsibility rating organizations and activist groups claim that business practice catering to social responsibility enhances a firm's reputation and its market success. This trend is particularly evident in recent years as more firms appeal to customer's liberal demand and integrate social responsibility into their marketing strategy. For example, Wal-Mart's reputation remains the biggest obstacle to the company's long-term growth potential, as its reputation affects both its ability to reach new shoppers and to build new stores. Both of these strategies are crucial to the company's long term success, but are hampered by wide-spreading grass roots and high profile anti-Wal-Mart campaigns fueled by the recurring outcry regarding its social responsibility practice.

In comparison to social responsibility activism, corporate governance activism attracted more academic interests. On one hand, a large body of investigations conclude that shareholder activism on corporate governance creates value. These studies include Nesbitt (1994), Opler and Skobin (1995), Strickland, Wiles, and Zenner(1996), Huson (1998), Bizak (1998), Crutchley, Hudson and Jensen (1998), Del Guercio and Hawkins (1999), Prevost and Rao (2000), English et al. (2004), Anson et al. (2004), Barber (2006), and Nelson (2006). Particularly, Del Guercio and Hawkins (1999) conclude the returns of activism targeted firms at long horizons are reliably positive. They claim finding no evidence to support motivations other than fund value maximization. Strickland, Wiles,

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<sup>5</sup> Milton Friedman (1971) argues that corporate executives who take on 'social' responsibilities for the firm are, in effect, acting as civil servants. "If they are to be civil servants, then they must be elected through a political process," Friedman wrote. "If they are to impose taxes and make expenditures to foster "social" objectives, then political machinery must be set up to make the assessment of taxes and to determine through a political process the objectives to be served."

and Zenner (1996) found the United Shareholders Association (USA) proposals to alter corporate-governance structures and settlements of these proposals resulted in a total value increase of \$1.3 billion for all firms in the sample.

On the other hand, Gillan (1995), Karpoff, Malatesta and Walkling (1996), Smith (1996), Wahal (1996), Crutchley, Hudson, and Jensen(1998), Prevost and Rao (2000), and Walsh (2002) empirically reject the notion that corporate governance activism create value. Survey articles by Black (1997), Gillan and Starks (1998, 2007), Karpoff (2001), and Romano (2001) conclude the main activist tool i.e., shareholder proxy proposals under SEC rule 14a-8, is weak and ineffective in eliciting change and improving the target firm's performance. Particularly, Romano (1993a, 1993b, and 1995), Murphy and Van Nuys (1994), and Woidtke (2002) find evidence supporting the argument that public pension funds are politically motivated and more concerned with generating publicity than with maximizing shareholder wealth. These allegations continue today and, with the recent downturns in the market, appear in the popular press as beneficiaries show concern over their retirement funds, and state and local residents show concern over their tax dollars.

## **1.2. Public pension funds as the activists**

Public pension funds are among the most active institutional investors<sup>6</sup> in attempting to change management practices of a firm in which they invest (Useem,

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<sup>6</sup> Only a handful of public pension funds are consistently active. SIF's statistics suggest that the total socially screened pension assets in 2005 amounts to \$1.2 trillion which accounted for 45 percent of total state and local pension holdings in that year and 80 percent of total screened portfolio.

1996). There are several reasons public pension funds differ from other institutional investors on this issue.

First, the size of some public pension funds and their significant holdings in a large number of corporations make it a reasonable choice to improve the performance of the companies in which they invest instead of simply selling their shares. Pension funds (private and public) held a 4 percent stake in S&P 500 in the 1960s, 9.4 percent in the 1970s, and 23.2 percent at the end of the 1980s. The total assets wielded by pension funds at year 2000 are estimated at \$3.5 trillion which represented about 50 percent of all corporate equity. This trend shows every sign of continuing into the future. The Federal Reserve Flow of Funds reports total assets for state and local pension plans of \$2,701.5 billion in 2005.

Second, public pension funds do not have conflicts of interest that other institutions might have. Public pension funds fall into the category of pressure-resistant institutional investors because they do not have a business relationship with the firm that might affect their willingness to oppose managers (David et al, 1998; Brickley et al, 1988).<sup>7</sup>

Third, pension funds are the least regulated category of institutional investor, which has allowed them to be more active than others (Blair, 1995). Public funds are not regulated by ERISA which oversees the operation of private pension funds. Social

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<sup>7</sup> Insurance companies, and mutual funds face similar conflicts of interest with respect to voting proxies. Because voting is not normally anonymous, fund managers are subject to implicit or explicit pressure to vote with management to the extent that they have current or potential business dealings with management (cf. Brickley, Lease, and Smith, 1988). This explains why banks and insurance companies have a virtually unblemished history of passivity. Some mutual funds have been active, but their potential conflict of interest is illustrated by episodes such as the decision by Armstrong World Industries, a principal supporter of the [1990] Pennsylvania antitakeover law, to switch its \$180 million employee savings plan to Fidelity Investments from Vanguard Group, after Fidelity withdrew its opposition to the new law (Black, 1990).

investing is a public pension fund phenomenon (Munnell, 2007). Almost none of the screened money is held in private sector defined benefit pension funds. Other than regulation (such as ERISA), the passivity of private pension and mutual funds on activism is also attributed to the competitive nature of the industry and the possibility that such institutions' managers are less likely to obtain private benefits from engaging in shareholder activism than public and union fund managers. Hess (2003) found that private fund managers perceive the costs and benefits of shareholder activism differently from public pension fund managers.

### **1. 3. The concerns on public pension fund activism**

The discrepant cost-benefit<sup>8</sup> perception of public pension funds and private pension funds might be explained by some well-known facts: First, most public pension plans are defined benefit plans. The beneficiary is given a set of retirement benefit based on a formula considering years of employment, salary, cost of living adjustments, and other factors. A primary feature of the defined benefit public plans is it holds taxpayer as the risk bearer. If market performance is poor and liabilities are greater than assets, the government will have to use tax payer's money to increase plan assets. In contrast, most private pension plans such as those sponsored by a corporate employer, have shifted from defined benefit plans to defined contribution plans (Forman, 1999) in the past 30 years. For defined contribution plan, the beneficiary bears the risk. The payout to the plan

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<sup>8</sup> Romano(2000) documented the annual total cost of shareholder proposal is between \$875 million to \$2 billion, this cost is a dead loss given its negligible impact on firm performance.

beneficiary at retirement is not a set amount. Instead, the performance of the fund in the market determines the payout. Besides, private pension plans are required by federal law to meet certain funding levels and insurance requirements, public pension plans face no such requirements (D'Arcy et al, 1999).

Second, public pension's board is politicized. Public pension's board members or the trustees fall into three categories: *ex officio* trustee, elected trustee, and appointed trustee. *ex officio* trustees serve on the board due to holding a particular public office such as state treasury or comptroller which is in most cases publicly elected. Elected trustee were selected to serve on the board trustees elected by plan members. These trustees may be elected by either active employees or retired employee, and they may be active or retired members. Appointed trustees are typically appointed by a chief elected official (the governor or mayor) or by a governing body (e.g., a legislative committee). One of the most important responsibility falls on the board is deciding asset allocation thereby the extent to which pension fund investment will be based on social responsibility criteria.

Public pension funds' defined benefit property and board structure attracted enormous controversy and debates on their ability to act in the best interest of plan beneficiaries. Whereas some trustee may be plan members (i.e., elected trustee) bears the wealth consequences of their decision, politically affiliated trustees, however, do not (Murphy and Van Nuys, 1994). *Ex officio* members and appointee may take actions to minimize potentially harmful outcomes in the political arena, such as drawing negative media attention, or maximize potentially beneficial outcomes in the political area, such as providing favors for a constituency group. Trustee may give this consideration priority

over their duty to take actions for the exclusive benefit of plan beneficiaries. Outside political parties, e.g., a mayor or governor may also wish to achieve the above goal. Thus, trustees may be pressured to behave in ways consistent with these goals and we would expect politically-affiliated trustees to be susceptible to those pressures.

The fact the trustees of state and local plans are not subject to the strict fiduciary standards of ERISA regulating private pension plans compounds this concern. ERISA's "exclusive benefit (duty of loyalty)" and "prudent person (duty of care)" rules require trustees to make investment choices for the sole benefit of the plan participants. For the trustee of private pension funds, it would be a breach of fiduciary duty to take into consideration of certain social benefits when making investment decisions. However, there are no such strict fiduciary standards imposed on public pension funds.

For example, in the area of proxy voting and proposal, the politically-affiliated trustees may be pressured to vote against a merger, takeover in situations where that vote has a high local political value such as preserving local employment, even if it will have a negative effect on share value. With respect to investment decisions, these trustees may be tempted to fund local initiatives for its political benefit without giving appropriate weight to the risk return characteristics of the investment (Romano, 1995). Politically affiliated trustees may also have pressures to select investment advisors not based on their performance, but on a preference for in-state managers and further affirmative action goals (Romano, 1993). These investment managers are likely to be small and unable to take advantage of economics of scale on transactions, which will reduce fund performance. The losses in the 1980s and early 1990s were a solid rebuttal to public pension fund managers who appeared to believe that they could accomplish social goals

without sacrificing returns in an economic system with fully developed capital market (Nofsinger, 1998; Romano, 1993; Mithchell and Hsin, 1997).

If the pursuit of political goals by trustees and fund managers can lead to lower returns and under-funded plans, then the effort to resume a viable funding ratio will place an extra burden on taxpayers or cause a government fiscal distress. It is found that politically-affiliated trustees tend to manipulate a public pension plan's actuarial assumption to achieve political goals. Hess (2006) found the assumed rate of return selected by the board of trustees has little relationship to the asset allocation but a positive relationship with situations of potential government fiscal stress. Trustee has an incentive to raise the assumed rate of return in times of fiscal stress because it will lower the government's required contribution to the pension plan. This relationship between fiscal stress and the assumed rate of return was stronger for boards dominated by politically-affiliated trustees.

Finally, Compared with private pension plans, public pension administrators receive significantly lower pay. This gap widens when the incentive bonuses are considered, as they are common for private pensions but very rare for public pensions (Woidtke, 2002; Murphy and Van Nuys, 1994). Also, there are no labor markets for public pension trustees. Instead, the relevant labor market for politically-affiliated trustee serves to enhance their political aspirations or their desire to stay in good graces with their local political party. These motivations actually worsen the agency problems rather than provide a control mechanism.



#### **1. 4. Propositions**

Public pension funds are also among the most influential shareholder activist for the economical clout and social campaign resources they wield. The influence associated with public pension funds can be used to force the target firm to accept their proposal. Compared to proposal voted on annual meeting, Proposals accepted by management are more likely to be executed. Empirical evidences shows institutional investors' private negotiation generally reaches an agreement with the management and result in acceptance of the proposal. The withdrawal (acceptance) of the proposal tends to produce significant stock price effect (Carleton, Nelson and Weisbach, 1997; Strickland, Wiles and Zenner, 1996; Opler and Sokobin, 1998).

Chidambaran and Woidtke (1999) noted the acceptance effect is not time consistent. They suggest the lack of positive value effect post 1992 SEC proxy reform indicates shareholder's enhanced and coordinated power which press the management to concede where they won't before the reform. Their study reveals that, for the sub-sample composed of proposal withdrawn post-1992 whose sponsors were public and union funds, the valuation effect (measured by Tobin's Q) is significantly negative. In contrast, the sub-sample composed of proposals withdrawn before 1992 shown a positive valuation effect. Wahal (1996) documented that, although activist funds were fairly successful in getting companies to adopt these corporate-governance reforms, the changes did not result in significant improvements in the companies' performances. These findings reminds Romano's (1993) argument the concession made by the management is merely a sop to please the activist with enhanced negotiation power.

Pension fund tend to select target firms which are comparatively weaker in negotiation power. Insiders are not expected to concede on governance proposals restricting their discretion or social responsibility proposal inflicting on them considerable negative wealth effect. It is widely documented that the target firms tend to be large firms with low insider ownership and high institutional ownership (John and Klein, 1995; Karpoff, Malatesta, and Walkling, 1996; Smith, 1996; Strickland, Wiles, and Zenner, 1996; Thomas and Cotter, 2007). Chidambaran and Woidtke (1999) noted that targets experiencing proposal withdrawal after 1992 also have lower levels of management stock ownership than those experienced proposal withdrawal before 1992. Meanwhile, Carleton et al., (1998) and Smith (1996) find the likelihood being targeted is unrelated to prior market performance whereas John and Klein (1995), Karpoff, Malatesta, and Walkling(1996) found the targets are generally poor performer with regard to either market performance or operational performance.

Target firms with weak insiders' control will be less pressure resistant thus more likely to concede if the proposal is sponsored by public pension fund. In contrast, management of target firms with strong insiders' control, such as dual class firms and family firms, has solid control on voting power either by holding a large proportion of voting share or own the superior class. The wealth effect of accepting an insubstantial proposal is also more significant. Our first hypothesis reflects this reasoning.

**Proposition 1** *A proposal's withdrawal (acceptance) rate is determined by the pressure the proposal sponsor can apply and the strength of the target firm's management. For target firms with weak insider control, proposal sponsored by public pension fund is more likely to be accepted (withdrawn).*

While the influence of a proposal sponsor and management can be captured by certain empirical proxies e.g., the proportion of shares held with voting rights, they are not complete and probably miss many hidden factors which can be used to enhance their bargaining power. For example, SEC rule 14a-8 allows the target's management to dismiss a proposal for the reason of "regular business" which is defined by the state in which the firm operates. Proposal sponsor such as public pension funds are better positioned to change the scope of the definition as one way to strengthen their power. Another example, local headquartered companies are of major source of political donation and influential player of Political Action Committee (PAC) representing business interests. Given the politicized profile of public pension board, the management might be more resistant if the proposal is sponsored by a pension fund of the state where the firm headquartered.

**Proposition 1.1** *The political profile of public pension fund's board decides public pension's dedication to shareholder activism and subsequently the settlement of a proposal (acceptance or withdrawal).*

The settlement of a proposal is a result of the negotiation process between management and the sponsors. In the negotiation, the management of target firm is predicted to be less resistant if the proposal is not specifically aimed to restrict their discretion. Hypothesis below reflect this argument.

**Proposition 1.2** *Target management's extent of resistance varies with proposal topic. Corporate governance proposal is less likely to be accepted (withdrawn).*

If a proposal is purported to serve the private agenda of the sponsor who dominates the proposal's settlement decision, we predict that such a forced proposal acceptance operate to the detriment of firm performance. It is also possible that management accept the proposal symbolically to assuage unwanted public attention, this is particularly true if the proposal is aimed to restrict management discretion. On the flip side, the target company with strong management control can also take advantage of the public attention to address a social responsibility issue which is debilitating its market strength while reject such proposals merely serving the sponsor's private agenda. Thus we hypothesize that:

**Proposition 2.** *The impact of an accepted (withdrawn) proposal's performance effect depends on the objective of the dominant player in the settlement process, the performance effect is negative or negligible if public pension fund sponsor dominates and positive if the target's management dominates.*

In contrast to previous studies, our study protrudes how a shareholder proposal is settled and the performance implication of the settlement. We categorize public pension funds as high pressure sponsors and dual class or family firm as strong insider control. It is well known that insiders' control is strong for dual class firms, of which most are also family firm. Insiders' voting rights in these firms are generally close to or beyond an absolute control i.e., 50%. In the universe of dual class firms, only 20% to 30% have all classes of common stock trading. For the rest of majority cases, some classes of common shares are not traded and the traded shares are of inferior class (Gompers and Ishii, 2006).

## 1. 5. Data and sample

The shareholder proposal data is collected from ICCR (Interfaith center on Corporate Responsibility).<sup>9</sup> ICCR maintains an archive of more than 6000 shareholder proposal targeted on approximately 1000 firms from early 1970s to 2008(the majority proposal are after 1992).

Each proposal contains descriptive information on the topic of the proposal, the name of the targeted company, the sponsors, and the settlement of the proposal. ICCR also specifies the role of a sponsor in a proposal i.e., leading or merely joining. About one fifth of the proposals topic on corporate governance issue and the rest focus on social responsibility which includes environmental issue, tax evasion and local community development, health issues, human and worker rights, inclusiveness, political donation, weapon control, and sustainability.

Proposal sponsors are divided into four large categories, public pension fund, asset Management Company, union, and faith based institutions. Our primary interest rests on public pension funds versus others. A proposal, once sponsored, can be either withdrawn (if an agreement reached by negotiation with the target firm's management) or proceed to the shareholder meeting. ICCR documents both results. In the later case, the supportative votes received (in percentage) in annual shareholding meeting is recorded.

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<sup>9</sup> Formed in 1971, ICCR is an association of 275 faith- based institutional investors, including national denominations, religious communities, pension funds, foundations, hospital corporations, economic development funds, asset management companies, colleges, and unions. ICCR and its members press companies to be socially and environmentally responsible. Proposals archived by ICCR are not exclusively sponsored by its members.

Dual firms are identified using the dataset by Gompers and Metrick (2004). The political profile of each public pension fund's board is manually collected from various sources. First, the board size and its member are extracted from pendat, a time series survey systematically conducted by the council for institutional shareholders. We extract the bio of each board member from the fund's webpage. If any information missing or uncertain (in most cases), other websites are used for extra checking and cross reference, the primary complementary bio websites are the state government webpage, wikipedia, and political graveyard. Many of these websites also document the time period of office holding, this information in some cases is used to infer the election year if related campaign information and time not available from Nexus news archive. If a proposal is filed under the name of state treasury or comptroller office, we combine the information of the public pension funds oversight by the treasury or comptroller offices. Other information matched to either the sponsor or the target firms are from CRSP, Compustat, and Thomson Financial.

## **1. 6. Empirical results**

Table 1.1 and table 1.2 cross tabulate proposals along four attributes i.e., proposal settlement (withdrawal or vote), leading sponsor of the proposal (public pension fund or other), proposal topic (social responsibility or corporate governance), and target type (dual class firm or non-dual class firm). Table 1.1 also lists the average percentage of supporting votes a proposal received if it was voted on annual shareholder meeting.

Table 1.2 reveals some noteworthy patterns. The overall proposal acceptance (withdrawal) rate for non-dual firm and dual firms are 0.4297 and 0.4451, respectively, which are not significantly different. Dual-class target is less likely to consider the leading sponsor's identity when decide to accept a proposal (0.4402 for proposals led by others and 0.4804 for those led by public pension) in comparison to non-dual class targets (0.4136 for proposals led by others and 0.5811 for those led by public pension).

Dual class targets also make a difference between social responsibility proposal and corporate governance proposal. The acceptance rate for social responsibility proposal is 0.4852 and 0.3798 for corporate governance proposal. The difference is not as salient for non-dual class target, the acceptance rates are 0.4303 and 0.4242, respectively.

As panel 2 of Table 1.2 shows, The topic influence is particularly strong for proposals lead by public pension funds, they are less likely to be accepted by either dual firms (23.08% accepted for governance proposal accepted against 51.69% for social responsibility proposal) or non-dual firms (27.03% accepted for governance proposal accepted against 61.56% for social responsibility proposal). In contrast, the topic influence is much weaker for proposals led by other sponsors.

**Table 1. 1. Distribution of acceptance and reject along interaction of other proposal attributes**

This table summarizes proposal’s settlement i.e., Acceptance or voted along four two way interaction of other proposal attributes. *Public Pension Join Not Lead* means Public Pension is among the sponsors but not the leading sponsor. *Other Lead* denotes the proposals have a sponsor other than public pension fund as the leading sponsor. *GOV* denotes the proposal addressing a corporate Governance Issue. *SRI* denotes the proposal addressing a social responsibility issue. *Dual* denotes the target company is a dual class company. For each block, the number of proposal withdrawn and proceeding to voting is summarized. In the voting case, the average percentage of votes for proposals in that block is also given.

	Public Pension Join Not Lead		Public Pension Lead	
	GOV	SRI	GOV	SRI
Acceptance	17	74	13	251
Reject (Vote)	30	133	37	171
Supporting Votes (Mean%)	36.16	12.39	44.17	143
	Other Lead		Public Pension Lead	
	GOV	SRI	GOV	SRI
Acceptance	204	1621	13	251
Reject (Vote)	270	2262	37	171
Supporting Votes (Mean%)	20	10	44	14
	Other Lead		Public Pension Lead	
	Non-Dual	Dual	Non-Dual	Dual
Acceptance	1664	161	241	23
Reject (Vote)	2360	172	194	14
Supporting Votes (Mean%)	12	9	19	22
	Non-Dual		Dual	
	GOV	SRI	GOV	SRI
Acceptance	196	1712	21	163
Reject (Vote)	275	2280	33	154
Supporting Votes (Mean%)	24	11	14	9



**Table 1. 2. Distribution of acceptance and acceptance rate along two-way and three-way interaction of other proposal attributes**

Panel I summarizes proposal's settlement i.e., Acceptance or voted along two-way interaction of other proposal attributes. Number of Acceptance, voting, and their propositions against block total are given. Panel II summarizes the number of Acceptance, voting, and the Acceptance rate for the three way interaction. **Public Lead** means Public Pension is the leading sponsor. **Other Lead** denotes the proposals have a sponsor other than public pension fund as the leading sponsor. **GOV** denotes the proposal addressing a corporate Governance Issue. **SRI** denotes the proposal addressing a social responsibility issue. **Dual** denotes the target company is a dual class company. For each block, the number of proposal withdrawn and proceeding to voting is summarized. The Acceptance rate is calculated as cell number against each block's column sum.

<b>Panel I: Reject and acceptance rate by two-way interaction</b>						
		Other Lead	Pension Lead	GOV	SRI	Total
Non-Dual Sample	Reject	2050	155	228	1978	2206
	Acceptance	1446	215	168	1494	1662
	Acceptance Rate	0.4136	0.5811	0.4242	0.4303	0.4297
Dual Sample	Reject	482	53	80	456	536
	Acceptance	379	49	49	381	430
	Acceptance Rate	0.4402	0.4804	0.3798	0.4852	0.4451
<b>Panel II: Vote and Acceptance rate by three-way interaction</b>						
		Other Lead		Pension Lead		Total
		GOV	SRI	GOV	SRI	
Non-Dual Sample	Reject	201	1849	27	128	2205
	Acceptance	158	1288	10	205	1661
	Acceptance Rate	0.4401	0.4106	0.2793	0.6156	0.4296
Dual Sample	Reject	69	413	10	43	535
	Acceptance	46	333	3	46	428
	Acceptance Rate	0.4000	0.4464	0.2308	0.5169	0.4444

### **1. 6. 1. Determinants of Proposal Acceptance (Withdrawal)**

A valid proposal can be either withdrawn, if accepted by the management, or proceed to shareholder meeting. We conduct a full sample Logit analysis first to identify factor determining the likelihood of proposal acceptance.

Table 1.3 summarizes the major determinants of proposal Acceptance. Model 1.1 shows proposal Acceptance does not significantly increase if the public pension fund merely joins as one of the sponsors. This result holds true when both pension and union fund are counted. Further, substituting the dummy variable simply indicating a public pension's presence or not with a continuous variable i.e., the total number of public pensions as the sponsors of a proposal does not alter the result.

In contrast, model 1.2 shows the likelihood of acceptance rise significantly if the leading sponsor is a public pension fund. In other words, the role of public pension funds played in the proposal is a key factor deciding a proposal's acceptance. Possibly the assumption of a leading role signals the efforts a public pension fund committed to the negotiation. Model 1.3 adds in the pooled total shares held by all sponsors and it takes away the explanative power of the pension leading effect. This result implies the increased likelihood of acceptance of proposal led by public pension fund may be attributed to their voting power. This finding complements the finding above in the sense that a leading role delivers a reliable signal to the target firm's management on the use of the power. In contrast, mere presence of public pension only indicates the existence of such power but not a reliable signal that the power will be exercised.

**Table 1. 3. The leading effect of public pension fund on proposal acceptance**

This table summarizes the leading effects of public pension i.e., public pension fund as leading sponsor of a proposal from three Logit models. For each model, this effect is checked against the full sample. The **Dependent variable** is a dummy variable indicating the ultimate status of a proposal i.e., Acceptance or not Acceptance. **Market size** is the target firm’s averaged monthly size during the year receiving the proposal (Unit: Million). **Pension fund join** is a dummy variable indicating if the public pension is one of the proposal sponsors. The case that pension fund leads a proposal is also counted as join; **Total sponsors** denotes how many sponsors jointly sponsor a proposal; **Dual class** is a dummy variable indicating if the target is dual class or not; **Total proposal received** is the number of proposals a company received in a given year; All “**Topic**” variables are dummy and denotes the issue addressed by the proposal, the reference topic is corporate governance. **Prior performance** is the target firms’ aggregated market adjusted performance, either six month before the reception of the proposal or 2 year before the reception of the proposal. **Pension fund as leader** is a dummy denotes if the proposal’s leading sponsor is public pension fund. **Total share held** is the target firm’s share held by all sponsors of a proposal. \* denotes significance at 0.10 level, \*\* at 0.05 level, and \*\*\* at 0.01 level or lower.

	Estimate	Pr (> z )		Estimate	Pr (> z )		Estimate	Pr (> z )	
Panel I: Social responsibility proposal collapsed on one-single level									
(Intercept)	-1.1063	0.0003	***	-1.1627	0.0002	***	-1.4800	0.0250	**
Log(market size)	0.0848	0.0002	***	0.0893	0.0001	***	0.0868	0.0630	
Pension fund join	0.1670	0.0616		-0.3141	0.0389	**	-0.1580	0.5170	
Total sponsors	-0.0757	0.0000	***	-0.0691	0.0000	***	-0.0783	0.0000	***
Dual class	0.1739	0.1424		0.1857	0.1191		-0.1110	0.6420	
Total proposal received	-0.1182	0.0000	***	-0.1167	0.0000	***	-0.0815	0.0001	***
SRI proposal	0.2848	0.0057	***	0.2500	0.0156	**	0.2570	0.1950	**
Prior performance: 6M	0.0515	0.7384		0.0363	0.8148		-0.1550	0.6420	
Prior performance: 2Y	-0.0728	0.3060		-0.0785	0.2724		-0.0498	0.7990	
<b>Pension fund as leader</b>				0.7333	0.0001	***	0.0668	0.8800	
Total shares held							0.0000	0.0000	***
Panel II: Social responsibility proposal on multi-level									

(Intercept)	-1.2064	0.0002	***	-1.2649	0.0001	***	-1.6200	0.0215	**
Log(market size)	0.0925	0.0001	***	0.0971	0.0000	***	0.0993	0.0417	**
Pension fund join	0.0997	0.2957		-0.3612	0.0197	**	-0.1590	0.5192	
Total sponsors	-0.0702	0.0000	***	-0.0634	0.0000	***	-0.0719	0.0000	***
Dual class	0.1475	0.2190		0.1614	0.1812		-0.1110	0.6476	
Total proposal received	-0.1171	0.0000	***	-0.1169	0.0000	***	-0.0952	0.0000	***
Environmental topic	0.2813	0.0124	**	0.2594	0.0213	**	0.3780	0.0802	
Finance topic	1.2673	0.0000	***	1.2231	0.0000	***	2.0400	0.0023	***
Health topic	-0.0773	0.5791		-0.1005	0.4716		0.1060	0.6544	
Human rights topic	0.1254	0.3385		0.0631	0.6335		0.1180	0.6437	
Inclusiveness topic	0.7024	0.0000	***	0.6683	0.0000	***	0.5480	0.0342	***
Military topic	-0.7254	0.0008	***	-0.7690	0.0004	***	-0.9260	0.0124	**
Politic topic	0.0322	0.9046		0.0301	0.9111		-0.1160	0.7940	
Sustainability topic	0.7338	0.0107	**	0.6410	0.0272	**	0.6570	0.1351	
Prior performance: 6M	0.0925	0.5538		0.0782	0.6184		-0.2310	0.4971	
Prior performance: 2Y	-0.0761	0.2870		-0.0823	0.2519		-0.0234	0.9056	
<b>Pension fund as leader</b>				<b>0.7214</b>	<b>0.0001</b>	<b>***</b>	<b>-0.0822</b>	<b>0.8530</b>	
Total shares held							0.0000	0.0001	***

In comparison to the governance proposal, social responsibility proposal is more likely to be accepted with the exception of military topic. This results supports our argument that social responsibility proposal tends to induce less management resistance. Management might accept such a proposal to impress the investors with a responsive and cooperative gesture, even if the proposal is insubstantial or detrimental. This will be particularly true if the management's share holding is trivial. In the case of military proposal, the targeted companies mostly are national defense related (e.g., Lockheed Martin, Boeing, BAE system). Their unique status prevents the management from being involved in such negotiation. They have the least concern, if there is any, on shareholder proposal and ensuing social campaign against them.

The number of proposal a firm received each year significantly decrease the likelihood of proposal acceptance. A possible reason is that the more proposals received in one year, the more costly for the company to entertain each proposal or derive a strategy in balancing its public relationships.

It has been argued the SEC proxy rule reform at 1992 makes easy shareholder's communication and joint efforts which, consequently, forced more proposals accepted by target firms. Our finding contradicts this conjecture since the total number of sponsors endorsing the same proposal decreases the likelihood of proposal acceptance. Possible reasons underling this effect are beyond the scope of this study, the failure to have the same voice when negotiate with the management can be one of them. While it is widely documented that underperformer are more likely to be targeted, we find the

underperformance is not among the determinants of proposal acceptance. The idiosyncratic performances before the proposal are not significant.

Table 1.4 summarizes the results on the sub-sample composed of dual-class targets. Supporting our first hypothesis that target firms with strong insiders' control are more resistant to public pension funds' pressure thus less likely to accept a proposal, model 2.1a and 2.1b show that both pension-leading and total shares held by sponsors lost their significance observed on the full sample.

A possible confounding factor which weakens but not undermines this hypothesis is that proposals led by public pension are more likely to address corporate governance issue than those led by other sponsors. Since corporate governance proposal tends to induce higher management resistance, the significant public pensions' leading effect observed on the full sample can be attributed to the collinearity between proposal topic and leading sponsor's identity. To rule out this possibility, we first test on the sample of proposals led by public pension the difference between two ratios i.e., the ratio of corporate governance proposal versus total proposal for the dual-class targets and that for the non-dual-class targets. The difference is not significant. In fact, public pension funds led less corporate governance proposal for dual class firms than they did for non-dual class firms.<sup>10</sup>

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<sup>10</sup> The proportion of corporate governance proposal led by public pension fund is 13/102 for dual class firms and 37/333 for non-dual class firms.

**Table 1. 4. Effect of pension as leading proposal sponsor on dual and non-dual targets**

This table summarizes the leading effects of public pension fund on dual and non-dual targets. For Model 2.1a and Model 2.1b, this effect is checked against the dual class sample. Model 2.2 is conducted on sample of proposal led by public pension fund. Model 2.3 is executed on the full sample. The **Dependent variable** is a dummy variable indicating the ultimate status of a proposal i.e., acceptance or not accepted. **Market size** is the target firm’s averaged monthly size during the year receiving the proposal (Unit: Million). **Pension fund join** is a dummy variable indicating if the public pension is one of the proposal sponsors. The case that pension fund leads a proposal is also counted as join; **Total sponsors** denotes how many sponsors jointly sponsor a proposal; **Dual class** is a dummy variable indicating if the target is dual class or not; **Total proposal received** is the number of proposals a company received in a given year; All “**Topic**” variables are dummy and denotes the issue addressed by the proposal, the reference topic is corporate governance. **Prior performance** is the target firms’ aggregated market adjusted performance, either six month before the reception of the proposal or 2 year before the reception of the proposal. **Pension fund as leader** is a dummy denotes if the proposal’s leading sponsor is public pension fund. **Total share held** is the target firm’s share held by all proposal sponsors. Each of the last three variables denotes one level of the interaction between variable *Public pension fund as leader* and variable *Dual class*. The reference level is (*Other sponsor lead & Dual class company*). \* denotes significance at 0.10 level, \*\* at 0.05 level, and \*\*\* at 0.01 or lower level.

	Dual class subsample				Public pension sample			Full sample	
	Model 4.1a		Model 4.1b		Model 4.2			Model 4.3	
	Estimate	Pr(> z )	Estimate	Pr(> z )	Estimate	Pr(> z )	Estimate	Pr(> z )	
(Intercept)	-1.6553	0.0193 **	-1.6600	0.2820	-3.2916	0.0034 ***	-1.2063	0.0003 ***	
log(market size)	0.0955	0.0592	0.0733	0.5050	0.2332	0.0078 ***	0.0942	0.0001 ***	
Pension fund join	-0.1381	0.6689	-0.5960	0.3770			-0.3577	0.0209 **	
<b>Pension fund as leader</b>	<b>0.0880</b>	<b>0.8182</b>	<b>-1.3600</b>	<b>0.2780</b>					
Total sponsors	-0.0424	0.0371	-0.0383	0.2450	-0.2661	0.0009 ***	-0.0639	0.0000 ***	
Total proposal received	-0.1391	0.0001 ***	0.1030	0.0750	-0.1406	0.0060 ***	-0.1173	0.0000 ***	
Environmental topic	0.4725	0.0411 **	0.5720	0.2150	2.0239	0.0001 ***	0.2514	0.0257 **	

Finance topic	-0.1243	0.8628	15.6000	0.9860				1.2353	0.0000	***	
Health topic	0.2754	0.3332	0.6830	0.1810	-15.0412	0.9847		-0.1061	0.4475		
Human rights topic	0.1969	0.4398	0.1370	0.8020	1.3358	0.0009	***	0.0674	0.6110		
Inclusiveness topic	0.6401	0.0092	***	0.2820	0.5960	1.7967	0.0000	***	0.6565	0.0000	***
Military topic	-0.4015	0.4031	-0.0928	0.9070	2.5272	0.0291	**	-0.7867	0.0003	***	
Politic topic	0.1588	0.7722	-0.3040	0.7470	2.6052	0.0319	**	0.0314	0.9073		
Sustainability topic	0.3675	0.4216	0.4160	0.5580	1.6103	0.0136	**	0.6412	0.0272		
Prior performance: 6 M	0.1712	0.5380	0.1120	0.8580	-0.0350	0.9291		0.0755	0.6310		
Prior performance: 2 Y	0.0733	0.4803	0.4770	0.2860	0.1225	0.6762		-0.0764	0.2920		
Total shares held			0.0000	0.2990							
<b>Dual class</b>					<b>-0.6617</b>	<b>0.0113</b>	<b>**</b>				
<b>Public pension lead &amp; Dual class company</b>								0.1810	0.5106		
<i>Other sponsor lead &amp; Non-dual class company</i>								-0.0110	0.8960		
<b>Public pension lead &amp; Non-dual class company</b>								0.8596	0.0000	***	

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We then test on the full sample the correlation between the shareholder identity dummy (1 for public pension leading and 0 otherwise) and the proposal topic dummy (1 for corporate governance topic and 0 otherwise), again, the correlation is not significant.

As a cross reference and robust checking, additional analyses are conducted on the sub-sample composed of proposals led by public pension fund. If pension fund has less impact on dual-class targets and the weakened effect is independent of proposal topic, dual-class target is expected to decrease the acceptance likelihood of a proposal. The result as in Model 2.2 turns out to be exactly as predicted. The coefficient for Dual-class target dummy is significantly negative. Particularly, in support of the proposal topic hypothesis, social responsibility proposal of any category induces higher acceptance rate than corporate governance proposal.

The significant effect of leading public pension observed on the full sample, as predicted, flows from non-dual class targets. Model 2.3 divides the main effects of targets and leading sponsors into four segments, namely, (Other sponsor lead & Dual class target), (Public pension lead & Dual class target), (Other sponsor lead & Non-dual class target), and (Public pension lead & non-Dual class target). The reference level i.e., (Other sponsor lead & Dual class target) is characterized by least pressure and highest resistance.

Compare to the reference level, there is no significant positive association between acceptance likelihood and proposals led by public pension funds and targeting on dual-class. This demonstrates again that dual-class targets do not consider the leading sponsor's identity when accept a proposal. In contrast, the coefficient for (Public pension lead & non-Dual class target) is significant.

We also hypothesized that corporate governance proposal tends to induce higher management resistance since such proposal limits the management's discretion and reduce utility. Table 1.5 summarizes the result of Logit analysis on two sub-samples. One is composed of non-dual firms, the other dual firms. The sub-sample composed of non-dual-class targets is of primary interest since they are more likely to accept the proposal led by public pension fund.

For each sub-sample, we check the main effect of proposal topic and leading sponsor first, then the main effects are divided into four leader and topic combination i.e., (PPF\_lead & SRI), (PPF\_lead & GOV), (Other\_lead & SRI), and (Other\_lead & GOV). The reference level is (PPF\_lead & SRI) which denotes proposal led by public pension funds and address social responsibility issue. Essentially, we predict significant and negative coefficients for (PPF\_lead & GOV) and (Other\_lead & GOV) on the sample of non-dual targets.

The prediction is confirmed as the coefficients for both (PPF\_lead & GOV) and (Other\_lead & GOV) on the non-dual class sample turns out to be significantly negative, thus management is less likely to accept corporate governance proposal regardless the sponsor's identity. This pattern basically holds true for dual-class targets. A particularly interesting result is non-dual class targets rejects social responsibility proposal led by other sponsors the same way as corporate governance proposal (the coefficient for (Other\_lead & SRI) is significantly negative compare to the reference level (PPF\_lead & SRI)). In the meantime, they are equally likely to reject a corporate governance proposal as the managements of dual-class targets. This pattern implies the social responsibility proposal is accepted to pacify high pressure sponsors like public pension fund because

**Table 1. 5. Effects of proposal topic on proposal acceptance**

This table summarizes how the leading effects of public pension fund vary with proposal substance on dual and non-dual targets. For Model 3.1 and 3.1a are executed on the Non-Dual class sample. Model 3.2 and 3.2a are conducted on sample of proposal led by public pension fund. The **Dependent variable** is a dummy variable indicating the ultimate status of a proposal i.e., acceptance or reject. **Market size** is the target firm’s averaged monthly size during the year receiving the proposal (Unit: Million). **Pension fund join** is a dummy variable indicating if the public pension is one of the proposal sponsors. The case that pension fund leads a proposal is also counted as join; **Total sponsors** denotes how many sponsors jointly sponsor a proposal; **Dual class** is a dummy variable indicating if the target is dual class or not; **Total proposal received** is the number of proposals a company received in a given year; All “**Topic**” variables are dummy and denotes the issue addressed by the proposal, the reference topic is corporate governance. **Prior performance** is the target firms’ aggregated market adjusted performance, either six month before the reception of the proposal or 2 year before the reception of the proposal. **Pension fund as leader** is a dummy denotes if the proposal’s leading sponsor is public pension fund. **Total share held** is the target firm’s share held by all proposal sponsors. Each of the last three variables denotes one level of the interaction between variable *Public pension fund as leader* and variable **Governance topic** which is a dummy indicating if the proposal addressing the corporate governance issue or otherwise. The reference level is (*Public Pension fund lead & social responsibility topic*). \* denotes significance at 0.10 level, \*\* at 0.05 level, and \*\*\* at 0.01 level or lower.

	Non-Dual class subsample					Dual class subsample				
	Main Effect		Segmented Main Effect			Main Effect		Segmented Main Effect		
	Model 5.1		Model 5.1a			Model 5.2		Model 5.2a		
	Estimate	Pr(> z )	Estimate	Pr(> z )	Estimate	Pr(> z )	Estimate	Pr(> z )	Estimate	Pr(> z )
(Intercept)	0.1107	0.7639	0.3297	0.3780	-1.1225	0.1570	-0.9254	0.2493		
log(market size)	0.0837	0.0008 ***	0.0793	0.0016 ***	0.1069	0.0451 **	0.1026	0.0551 *		
Pension fund join	-0.3859	0.0236 **	-0.4001	0.0191 **	-0.0185	0.9573	-0.0352	0.9189		

Total sponsors	-0.0735	0.0000	***	-0.0722	0.0000	***	-0.0576	0.0073	**	-0.0568	0.0082	***
Total proposal received	-0.1117	0.0000	***	-0.1114	0.0000	***	-0.1479	0.0000	***	-0.1491	0.0000	***
Prior performance: 6 M	0.0061	0.9740		0.0011	0.9954		0.0592	0.8413		0.0629	0.8319	
Prior performance: 2 Y	-0.0548	0.5825		-0.0615	0.5385		-0.0989	0.3726		-0.0928	0.3959	
Other sponsor lead	-0.9597	0.0000	***				0.0925	0.8198				
<b>Governance topic</b>	<b>-01605</b>	<b>0.1770</b>					<b>-0.5163</b>	<b>0.0148</b>	<b>**</b>			
Other sponsor lead & Social responsibility topic				-1.1361	0.0000	***				-0.0562	0.8927	
Public Pension lead & <b>Governance topic</b>				<b>-1.5762</b>	<b>0.0000</b>	<b>***</b>				<b>-1.6555</b>	<b>0.0416</b>	<b>**</b>
Other sponsor lead & <b>Governance topic</b>				<b>-1.1534</b>	<b>0.0000</b>	<b>***</b>				<b>-0.4631</b>	<b>0.2957</b>	

such concession does not inflict on them considerable wealth consequence, which is not true for the management of dual class target. For the dual class sample, as discussed before, the leader effect disappeared, only proposal topic matters i.e., corporate governance proposal is less likely to be accepted.

The facts that most target firms have to entertain social responsibility proposal led by public pension fund and social responsibility proposal receive much less supporting votes on annual conference suggest pension fund doesn't align their concern with the majority of shareholders. Model 4 in table 1.6 use the sub-sample containing all the proposals going through the voting process (i.e., proposal not accepted). Compared with corporate governance proposal, the voting outcome is sweepingly negative and significant for social responsibility proposal, that is, corporate governance proposal is better acknowledged than social responsibility proposal. It is also clear that public pension fund is among the major contributors of the proportion of supporting votes a proposal received. In contrast, the total shares held by all sponsors are not. A possible reason account for this phenomenon is public pension funds are able to garner more votes from their strong social campaign which can not be fully captured by the amount of shares they held of a particular company. The dual class dummy significantly decrease supporting shares received by a proposal, a result can be attributed to the insiders' strong control of voting power.

**Table 1. 6. Voting results for social responsibility and corporate governance proposal**

This table summarizes OLS results of voting for proposal failed to elicit an agreement with the target’s management and submitted to annual shareholder meeting for voting. The **Dependent variable** is the percentage of supporting votes a proposal received on annual shareholder meeting. **Market size** is the target firm’s averaged monthly size during the year receiving the proposal (Unit: Million). **Pension fund join** is a dummy variable indicating if the public pension is one of the proposal sponsors. The case that pension fund leads a proposal is also counted as join; **Total sponsors** denotes how many sponsors jointly sponsor a proposal; **Dual class** is a dummy variable indicating if the target is dual class or not; **Total proposal received** is the number of proposals a company received in a given year; All “**Topic**” variables are dummy and denotes the issue addressed by the proposal, the reference topic is corporate governance. **Prior performance** is the target firms’ aggregated market adjusted performance, either six month before the reception of the proposal or 2 year before the reception of the proposal. **Pension fund as leader** is a dummy denotes if the proposal’s leading sponsor is public pension fund. **Total share held** is the target firm’s share held by all proposal sponsors. \* denotes significance at 0.10 level, \*\* at 0.05 level, and \*\*\* at 0.01 or lower level.

Dependent Variable: Supporting votes (%)		
	Estimate	Pr(> t )
(Intercept)	29.200	0.0000 ***
log(market size)	-0.300	0.3910
Pension fund join	2.120	0.2280
Pension fund as leader	5.120	0.0340 **
Total sponsors	0.039	0.6790
Dual class	-4.610	0.0120 **
Total proposal received	-0.091	0.5270 .
<b>Environmental topic</b>	<b>-12.600</b>	<b>0.0000 ***</b>
<b>Finance topic</b>	<b>5.510</b>	<b>0.3940</b>
<b>Health topic</b>	<b>-14.100</b>	<b>0.0000 ***</b>
<b>Human rights topic</b>	<b>-12.700</b>	<b>0.0000 ***</b>
<b>Inclusiveness topic</b>	<b>-9.470</b>	<b>0.0000 ***</b>
<b>Military topic</b>	<b>-18.600</b>	<b>0.0000 ***</b>
<b>Politic topic</b>	<b>-7.100</b>	<b>0.0310 **</b>
<b>Sustainability topic</b>	<b>-0.863</b>	<b>0.8170</b>
Total shares held	0.000	0.7630

### **1. 6. 2. Effects of board political profile on leading propensity and proposal acceptance (withdrawal)**

The agency problem of public pension fund is the *ex officio* members of public pension fund boards might use shareholder proposal as a social campaign tool to enhance their image (Romano, 1993, 2002) or fight for political ideology (Black et al, 1997). If the activism of public pension funds is politically driven, the political profile of the board *ex officio* members will be correlated with its leading propensity. Panel I of Table 1.7 directly test the impact of board political profile on public pension funds' leading propensity. The sample is composed of proposals with public pension fund as one of the sponsors. The dependent variable for Panel 1 is a dummy indicating the role of public pension i.e., leading or merely joining. Panel 2 tests the effect of board political profile on the settlement of a proposal. The dependent variable for Panel 2 is a dummy variable indicating the proposal's settlement i.e., accepted or voted on annual shareholder meeting.

For each public pension fund, we decide the size of the board, number of *ex officio* members who hold an elected public office, their age and party affiliation, and the year in which a board member ran for a public office. We also create a dummy to indicate if the public pension fund and the target's headquarter is of the same state because the choice between an in-state or an out-state target can be politically relevant.

**Table 1. 7. Board politic profile and public pension fund’s propensity to lead a proposal**

This table summarizes the results between the political profile of public pension board and the fund’s propensity to lead a proposal. The relationship is checked on the sub-sample composed of proposal with public pension fund as one of the sponsors or the only sponsor. The **Dependent variable** is a dummy variable indicating the role pension fund played in the proposal i.e., leading or simply joining. **Market size** is the target firm’s averaged monthly size during the year receiving the proposal (Unit: Million). **Pension fund join** is a dummy variable indicating if the public pension is one of the proposal sponsors. The case that pension fund leads a proposal is also counted as join; **Total sponsors** denotes how many sponsors jointly sponsor a proposal; **Dual class** is a dummy variable indicating if the target is dual class or not; **Total proposal received** is the number of proposals a company received in a given year; All “**Topic**” variables are dummy and denotes the issue addressed by the proposal, the reference topic is corporate governance **Prior performance** is the target firms’ aggregated market adjusted performance, either six month before the reception of the proposal or 2 year before the reception of the proposal. **Number of board members** denotes the board size, all board members counted. **Proportion of ex officio** is the number of board member who holds an elected public office. **Mean age of ex officio** is the average age of ex officio who hold an elected public office. **Num. of ex officio in election** denotes how many ex officio are running for a public office in a given year; **Same state** is a dummy indicating if the headquarter of the target company is located at the state of the public pension fund; \* denotes significance at 0.1 level, \*\* at 0.05 level, \*\*\* at 0.01 or lower level.

	Model 7.1	Model 7.2	Model 7.3	Model 7.4	Model 7.5	Model 7.6
Panel 1: Dummy indicating Lead or Not as dependent Variable						
(Intercept)	2.9356 ***	1.2581 **	-6.0400 **	-6.3615 **	-6.3921 **	-6.4429 **
log(size)	-0.0112	0.0023	-0.0014	-0.0046	0.0128	-0.0330
Total sponsors	-0.5518 ***	-0.5430 ***	-0.5840 ***	-0.5818 ***	-0.5788 ***	-0.5791 ***
Total proposal received	0.0048	0.0103	-0.0078	-0.0144	-0.0154	-0.0168
Prior performance: 2 Y	-0.4669 **	-0.4636 **	-0.6080 **	-0.5595 **	-0.5678 *	-0.5488 **
Environmental topic	-0.1772	-0.4530	-1.2500 **	-1.2182 **	-1.2156 **	-1.2478 **
Health topic	-0.8313 *	-1.2142 ***	-1.6900 **	-1.6551 ***	-1.6465 ***	-1.6501 ***
Human rights topic	-0.3440	-0.7678 **	-1.2200 **	-1.1818 **	-1.1615 **	-1.1913 **
Inclusiveness topic	-0.1923	-0.6090 *	-0.9170 *	-0.8762	-0.8576	-0.8906 *
Military topic	12.9783	12.5335	13.8000	14.0614	14.0675	13.9505



Politic topic	0.2723		-0.1007		-0.5640		-0.5755		-0.5747		-0.5654	
Sustainability topic	6.0173		6.0047		13.7000		13.6909		13.6936		13.6373	
Dual class	0.1676		0.2182		0.2790		0.2899		0.2793		0.2556	
Num. of board members	<b>0.0363</b>	**	<b>0.1227</b>	***	<b>0.2330</b>	***	<b>0.2540</b>	***	<b>0.2533</b>	***	<b>0.2562</b>	***
Proportion of <i>ex officio</i>			<b>1.8573</b>	***	<b>4.3600</b>	***	<b>4.5084</b>	***	<b>4.4789</b>	***	<b>4.5066</b>	***
Mean age of <i>ex officio</i>					<b>0.0891</b>	***	<b>0.0915</b>	***	<b>0.0924</b>	***	<b>0.0927</b>	***
Num. of <i>ex officio</i> in election							<b>-0.1209</b>	*	<b>-0.1204</b>	*	<b>-0.0898</b>	
Pension sponsor and target firm in the same state (Same State) x (Num. of <i>ex officios</i> in election)									<b>-0.1389</b>		<b>0.2544</b>	**
											<b>-0.3142</b>	**

Panel 2: Dummy indicating Acceptance or Not as dependent Variable

(Intercept)	-1.2910	***	-1.0597	**	-2.6811		-2.4508		-2.4475		-2.4529	
log(size)	0.0013		-0.0065		-0.0273		0.0092	**	0.0088		-0.0371	
Total sponsors	-0.0343		-0.0368		-0.1199	***	-0.1237	***	-0.1227	***	-0.1227	***
Total proposal received	-0.0477	**	-0.0487	**	-0.0086		-0.0024		-0.0026		-0.0027	
Prior performance: 2 Y	0.0688		0.0711		-0.0606		-0.0978		-0.0991		-0.0987	
Environmental topic	1.3711	***	1.3874	***	1.7531	***	1.7198	***	1.7188	***	1.7179	***
Health topic	0.4435		0.4755		0.6917		0.6509		0.6517		0.6515	
Human rights topic	1.0534	***	1.0883	***	1.4137	***	1.3447	***	1.3490	***	1.3480	***
Inclusiveness topic	1.3209	***	1.3543	***	1.6939	***	1.6406	***	1.6443	***	1.6434	***
Military topic	2.9639	***	2.9988	***	3.0820	***	2.8794	**	2.8798	***	2.8773	**
Politic topic	0.6086		0.6396		0.8962	*	0.9249	*	0.9245	**	0.9244	*
Sustainability topic	1.4278	***	1.4615	***	1.7951	***	1.7569	***	1.7566	***	1.7553	***
Dual class	0.3056		0.2951		0.4584	*	0.4530	*	0.4519	*	0.4514	*
Num. of board members	<b>-0.0158</b>		<b>0.0264</b>	**	<b>0.0277</b>	*	<b>0.0160</b>	*	<b>0.0155</b>	*	<b>0.0157</b>	*
Proportion of <i>ex officio</i>			<b>0.2311</b>	**	<b>1.5178</b>	**	<b>1.4665</b>		<b>1.4522</b>	*	<b>1.4548</b>	*
Mean age of <i>ex officio</i>					<b>-0.0057</b>		<b>-0.0080</b>		<b>-0.0078</b>		<b>-0.0078</b>	
Num. of <i>ex officio</i> in election							<b>0.0947</b>	**	<b>0.0950</b>	**	<b>0.0958</b>	**
Pension sponsor and target firm in the same state (Same State) x (Num. of <i>ex officios</i> in election)									<b>-0.0538</b>		<b>-0.0365</b>	
											<b>-0.0134</b>	

The *ex officio* board members of public pension funds in our sample are almost exclusively democrats, with rare occurrences of republicans and independents. The only fund with relatively more republican presence is Minnesota State Board of Investments. Consequently, the party affiliation variable is dropped from model fitting to avoid collinearity.

Other constituent variables in the political profile are closely associated with public pension fund's leading propensity. First, the number of board members has significantly positive effect on the leading propensity. The significance has several plausible sources: One is the number of board member might be a crude proxy for the number of *ex officio* members serving the board; another is that a large size board dissipates each board member' sense of responsibility. It is well known in corporate governance literature that large size board is generally less effective than a smaller one.

We noted the proportion of *ex officio* members also enhance the fund's leading propensity, therefore the board size effect is not fully explained by its correlation with the number of *ex officio* board members. These results are reminiscent of the empirical finding the number of *ex officio* members is negatively correlated with a public pension fund's performance (Romano, 1993) and the number of *ex officio* on the board is positively associated with the possibility public pension funds' adjustment of assets return assumption to deal with government fiscal deficit (Hess, 2006).

Probably in contradiction to the allegation that the board *ex officio* members taking advantage of the activism to advance their political career for a higher office, the mean age of *ex officio* board members significantly elevates a fund's leading intention

and the sample mean age of *ex officio* members is around 60. Given the party affiliation profile of the *ex officio* members, the activism is more likely used to peddle ideology. It is noteworthy that the most active funds in the sample, NYCERS, has union representatives seat on board.

Interestingly, the number of *ex officio* members running for a public office weakens a fund's leading motivation. This finding also contradicts the political aspiration allegation. A possible reason for the weakened effect in a campaign year might be the limited time a board member in campaign. Political donation might play a role as well. Van Nueys et al (2003) discussed the relationship between public pension fund and Political Action Committee (PAC) which is a political committee organized for the purpose of raising and spending money to elect and defeat candidates. Most PACs represent business, labor or ideological interests. Local headquartered companies are of major source of political donation. The weakening of public pension fund's activism at election year thus might be attributed to *ex officio* members' efforts in soliciting campaign donation. This conjecture can't be directly tested for lack of data, instead we conducted an indirect test on the interaction between the election year variable and a dummy indicating if the target company is headquartered in the same state of the leading public pension fund. The significant negative coefficient for the interaction term lends some support to the politic donation conjecture. For public pension funds with board member running for public office, they are less likely to lead a proposal targeting on companies headquartered in the same state.

The assumption of a leading status is among the many ways for public pension to affect the settlement of a proposal. In other words, the political profile effect might work

on the settlement without the intermediation of the leading status. Panel 2 tests the effect of board political profile on proposal acceptance. Total board and *ex officio* members remain significant determinants of proposal acceptance whereas the mean age of *ex officio* members is no longer significant. An interesting result surfaces here is that the number of board member in election turns out a significant determinant of proposal acceptance. Therefore the leading status does not fully intermediate the board's political influence. It is not clear why board members in election not assuming the leading status if public attention is important for them to win the office.

To sum up, these findings supports the suspicion that public pension funds' operation is laden with political influence and motivation. The political profile of a public pension fund has significant impact on its propensity to lead a proposal.

### **1. 6. 3. Proposal acceptance and operating performance**

In this section, we examine the impact of shareholder proposal on target firm's operating performance. Existing literature suggests the economical impact of a proposal is contingent on its attributes such as sponsor identity, topic, and settlement. Given that target firms with weaker insider control are more likely to yield to politically motivated public pension funds, we expect no positive performance or even negative performance impact since political motivation and value creation don't necessarily concur, if not mutually exclusive. Meanwhile, we expect a positive performance effect if a proposal is

accepted by the target firm with strong insider control, particularly when the proposal is not related to corporate governance.

The performance measure is the change in mean OROA (ratio of operating incomes to book assets) from a given time span before proposal submission to the same time span after the proposal's submission. If the proposal submission time is not available, we use the time of annual shareholder conference. We also use OROS (ratio of operating income to sales) for robust checking. We calculate OROA change over three time spans i.e., 6-month, 1-year, and 2-year. The operating incomes used to calculate OROA and OROS are EBITDA, EBIT, and NI as defined by Compustat. To control for industry effects, both OROA and OROS are industry-adjusted by subtracting the median value of the corresponding measure for all firms in the primary two-digit SIC industry in which the firm was active. Clarke (1989) has shown that the two-digit SIC code captures similarities among firms as well as industry definitions based on three- or four-digit SIC groupings. The details are given below with EBIT as the example of operating income.

$$PerformanceMeasure = \frac{Aft\_OROA_{sum\_adj}}{N} - \frac{Bef\_OROA_{sum\_adj}}{N}$$

Where:

$$Bef\_OROA_{sum\_adj} = \sum_{n=1}^N (OROA_{i,T-nt} - OROA_{ind.T-nt})$$

$$Aft\_OROA_{sum\_adj} = \sum_{n=1}^N (OROA_{i,T+nt} - OROA_{ind.T+nt})$$

$$OROA_{ind.T\pm nt} = median\left(\frac{EBIT_{m,T\pm nt}}{AT_{m,T\pm nt}}\right), m = 1, \dots, M$$

$$OROA_{i,T \pm nt} = \frac{EBIT_{i,T \pm nt}}{AT_{i,T \pm nt}}$$

$T$  denotes the proposal submission time, in case where the submission time is not available, time of annual shareholder conference is taken as substitution.  $t$  is the unit of the time span. Both  $T$  and  $t$  are constant. In most cases, the annual data is used for the calculation and  $t$  is set as 1-year. Quarterly data is used for the calculation of 6-month performance change; In this case,  $t$  is set to equal 3-month.  $N$  is the length of the time span as measured by  $t$ .  $i$  is the target firm and ind is the industry section as identified by the two-digits SIC code in which firm  $i$  is active.  $M$  is the total number of firms in the same industry section as firm  $i$ .  $AT$  is total book assets.

### 1. 6. 3. 1. Full sample

Table 1.8 cross tabulates target firms' performance measure along interested combinations of proposal attributes i.e., proposal leader, proposal settlement, and its topic. For each interested group of proposals, we calculate the average performance of target firms. The sign of the number in each cell (group average) indicates the target firms outperform (+) or underperform themselves prior to the targeting. Welch's t-test is applied to test the mean difference between pairs of cell means. Target firm's performance is checked on three samples: the full sample, the sample composed of proposal led by public pension funds and targeting on firms with weak insider control, and the sample composed of target firms with strong insiders' control.

Panel 1 of Table 1.8 summarizes the OROA change of target firms with public pension or other sponsor as leading proposal sponsor. Clearly firms targeted by public pension funds tend to underperform themselves prior to the targeting. Firms targeted by other leading sponsors tend to outperform themselves prior to the targeting. However, the differences between the OROA changes of pension leader sample and non-pension leader sample are not significant.

Panel 2 examines the effect of proposal topic. In contrast to panel 1, OROA changes due to topic difference are similar. Cross sectionally, group mean tests are not significant across all performance measures except the one based on net income with 1-year time span. Panel 3 shows target firms accepted proposals tend to perform better as seven out of the nine performance measures improved after proposal acceptance. They also outperform firms in the comparison group who did not accept proposal. This finding confirms the documented positive relationship between proposal acceptance and target firms' performance but contradicts the claim that this connection disappeared in recent year since the majority of proposals in this study are after 1992.

**Table 1. 8. Shareholder proposal attributes and target firms’ operational performance – Full sample**

This table summarizes the full sample performance of target firms along the leader, topic, and settlement attributes of a proposal. The **performance measure** is the **change** in target’s mean industry-adjusted **OROA** (ratio of operating incomes to book assets) from a given time span before to the same time span after the proposal's submission. OROA is constructed against **EBITDA**, **EBIT**, and **NI** (net income), each with two time horizons i.e., 1 year, and 2 year.<sup>11</sup> For each cell, a positive performance measure means the target firm outperform themselves prior to the targeting; a negative performance measure means the target firm underperform themselves prior to the targeting. **p-value** is Welch’s t-test of cell mean difference. “**Other Lead**” denotes the proposal’s leading sponsor is NOT public pension fund but contains the case public pension fund present as a joint sponsor; “**Public Pension Lead**” means the leading proposal sponsor is public pension fund; **GOV** denotes the proposal addressing a corporate Governance Issue. **SRI** denotes the proposal addressing a social responsibility issue. **Reject** denotes the proposal finally proceed to shareholder meeting for a voting, **Acceptance** denotes the proposal is accepted or partially accepted by the management of the target firm. **Negative numbers are in brackets.**

	$\Delta$ EBITDA(1y)	$\Delta$ EBITDA(2y)	$\Delta$ EBIT(1y)	$\Delta$ EBIT(2y)	$\Delta$ NI (1y)	$\Delta$ NI (2y)
<b>Panel 1: Leader Effect</b>						
<b>Other Lead</b>	0.0011	0.0012	0.0014	0.0014	(0.0034)	(0.0065)
<b>Public Pension Lead</b>	0.0004	(0.0022)	(0.0011)	(0.0029)	(0.0030)	(0.0035)
p-value	0.8063	0.2492	0.3862	0.1596	0.9235	0.5233
<b>Panel 2: Proposal Topic Effect</b>						
<b>GOV</b>	0.0005	0.0008	0.0003	0.0000	(0.0122)	(0.0108)
<b>SRI</b>	0.0011	0.0009	0.0012	0.0012	(0.0023)	(0.0057)
p-value	0.7620	0.9348	0.6378	0.5727	<b>0.0574</b>	0.2313
<b>Panel 3: Proposal Settlement Effect</b>						
<b>Reject</b>	0.0004	0.0006	0.0005	0.0009	(0.0049)	(0.0072)
<b>Acceptance</b>	0.0020	0.0015	0.0024	0.0013	(0.0007)	(0.0045)
p-value	0.1484	0.5074	<b>0.0885</b>	0.7007	<b>0.0883</b>	0.1795

<sup>11</sup> The same test is also performed on the 6-month time horizon and the results are basically the same.



### **1. 6. 3. 2. Sample of public pension fund and non-dual-class targets**

Table 1.9 summarizes the performance of non-dual target firm with public pension fund as leading sponsor. This sample accentuates high pressure proposal leader and low resistance targets. Similar to the full sample result in table 1.8, proposal topic does not generate significant performance difference. A noteworthy pattern surfaces on Panel 2, the mean difference tests on six performance measure shows that target firms with proposal acceptance tend to underperform those without. This pattern is in stark contrast to the full sample result.

To pin down the exact source of the reversion, we divide the withdrawal (acceptance) effect alone proposal topic and summarize the results in Panel 2.a and 2.b. This separation shows it clearly that acceptance of social responsibility proposal hurts performance. Panel 2.b shows that firms conceding to social responsibility proposal underperform themselves prior to the targeting (OROA changes are primarily negative). In contrast, firms not conceding outperform themselves (OROA changes are primarily positive). The group mean difference is significant for more than half of the performance measures.

The finding that the negative effect of proposal acceptance on performance is largely independent of proposal topic is particularly interesting. Panel 2.a shows that firms targeted by governance proposal also underperform themselves prior to the targeting. Management's acceptance of the proposal does not alter the trend, if not make it worse. The underperformance of target firms of corporate governance proposal is reminiscent of the great controversy raised in 2004 when CalPERS voted to oust

Safeway's CEO, Steven Burd, from Safeway's board of directors for his harsh dealing with employee unions. Eventually, only 17% of shareholders voted against appointing Burd to Safeway's board. If the proposal is accepted, Safeway's performance might worsen.

To sum up, Table 1.8 and 1.9 support to the argument that shareholder proposal's economic impact depends on the identity of the sponsor (Woidtke, 2002) and target firms' acceptance of proposal due to excessive pressure hurts performance (Chidambaran and Woidtke, 1999).

### **1. 6. 3. 3. Sample of dual class targets**

Table 1.10 summarizes the performance impact of proposals targeting dual class or family firms who are more pressure resistant and whose acceptance decision tends to independent of the leading sponsor's identity. Panel 1 summarizes the performance effect of proposal led by sponsors other than public pension fund and panel 2 for proposal led by public pension fund.

Panel 1 shows firms targeted by proposal with leading sponsor other than public pension funds largely outperform themselves prior to the targeting, regardless the topic and settlement. However, this pattern, as panel 2 shows, does not extend to firms targeted by proposal with public pension funds as leading sponsor.

**Table 1. 9. Acceptance effect and target firms' operational performance – Public pension and Non-Dual class firm sample**

This table summarizes the subsample performance of target firms along the topic, settlement attributes of a proposal and their interaction. The subsample is composed of proposals led by public pension funds and targeting on Non-dual class firms. The **performance measure** is the **change** in target's mean industry-adjusted **OROA** (ratio of operating incomes to book assets) from a given time span before to the same time span after the proposal's submission. OROA is constructed against **EBITDA**, **EBIT**, and **NI** (net income), each with two time horizons i.e., 1 year, and 2 year.<sup>12</sup> For each cell, a positive performance measure means the target firm outperform themselves prior to the targeting; a negative performance measure means the target firm underperform themselves prior to the targeting. **p-value** is Welch's t-test of cell mean difference. **GOV** denotes the proposal addressing a corporate Governance Issue. **SRI** denotes the proposal addressing a social responsibility issue. **Reject** denotes the proposal finally proceed to shareholder meeting for a voting, **Acceptance** denotes the proposal is accepted or partially accepted by the management of the target firm. **Negative numbers are in brackets.**

	$\Delta$ EBITDA(1y)	$\Delta$ EBITDA(2y)	$\Delta$ EBIT(1y)	$\Delta$ EBIT(2y)	$\Delta$ NI(1y)	$\Delta$ NI(2y)
<b>Panel 1: Proposal Topic Effect</b>						
<b>GOV</b>	(0.0094)	(0.0122)	(0.0114)	(0.0142)	(0.0292)	(0.0169)
<b>SRI</b>	0.0015	(0.0011)	0.0002	(0.0016)	0.0002	(0.0019)
p-value	0.2292	0.2909	0.2299	0.2567	0.1618	0.4588
<b>Panel 2: Proposal Settlement Effect</b>						
<b>Reject</b>	0.0040	0.0030	0.0041	0.0035	0.0070	0.0044
<b>Acceptance</b>	<b>(0.0023)</b>	<b>(0.0060)</b>	<b>(0.0048)</b>	<b>(0.0076)</b>	<b>(0.0102)</b>	<b>(0.0093)</b>
p-value	0.1947	<b>0.0901</b>	<b>0.0763</b>	<b>0.0409</b>	<b>0.0787</b>	0.1333
<b>Panel 2.a: Topic and Acceptance Effect</b>						
<b>Reject &amp; GOV</b>	(0.0062)	(0.0100)	(0.0077)	(0.0113)	(0.0297)	(0.0153)
<b>Acceptance &amp; GOV</b>	<b>(0.0193)</b>	<b>(0.0192)</b>	<b>(0.0229)</b>	<b>(0.0231)</b>	<b>(0.0275)</b>	<b>(0.0220)</b>
p-value	0.4730	0.6458	0.4710	0.5967	0.9720	0.8943
<b>Panel 2.b: Topic and Acceptance Effect</b>						
<b>Reject &amp; SRI</b>	0.0055	0.0044	0.0058	0.0053	0.0093	0.0062
<b>Acceptance &amp; SRI</b>	<b>(0.0016)</b>	<b>(0.0054)</b>	<b>(0.0044)</b>	<b>(0.0070)</b>	<b>(0.0071)</b>	<b>(0.0083)</b>
p-value	0.1661	<b>0.0820</b>	<b>0.0557</b>	<b>0.0327</b>	<b>0.0921</b>	0.1135

<sup>12</sup> The same test is also performed on the 6-month time horizon and the results are basically the same.

**Table 1. 10. Acceptance effect and target firms’ operational performance – Dual class target sample**

This table summarizes subsample performance of target firms along the leader, topic, and settlement attributes of a proposal. The subsample is composed of all proposals targeting on Dual class firms. Panel 1 and Panel 2 divide the subsample further and give the performance results on each further divided sample. Panel 1 gives results for the subsample composed of proposals led by other sponsor (and target on dual class firm). Panel 2 gives the results for the subsample composed of proposals led by public pension fund (and target on dual class firm). The **performance measure** is the **change** in target’s mean industry-adjusted **OROA** (ratio of operating incomes to book assets) from a given time span before to the same time span after the proposal's submission. OROA is constructed against **EBITDA**, **EBIT**, and **NI** (net income), each with two time horizons i.e., 1 year and 2 year.<sup>13</sup> For each cell, a positive performance measure means the target firm outperform themselves prior to the targeting; a negative performance measure means the target firm underperform themselves prior to the targeting. **p-value** is Welch’s t-test of cell mean difference. “**Other Lead**” denotes the proposal’s leading sponsor is NOT public pension fund but contains the case public pension fund present as a joint sponsor; “**Public Pension Lead**” means the leading proposal sponsor is public pension fund; **GOV** denotes the proposal addressing a corporate Governance Issue. **SRI** denotes the proposal addressing a social responsibility issue. **Reject** denotes the proposal finally proceed to shareholder meeting for a voting, **Acceptance** denotes the proposal is accepted or partially accepted by the management of the target firm. **Negative numbers are in brackets.**

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<sup>13</sup> The same test is also performed on the 6-month time horizon and the results are basically the same.

	$\Delta$ EBITDA(1y)	$\Delta$ EBITDA(2y)	$\Delta$ EBIT(1y)	$\Delta$ EBIT(2y)	$\Delta$ NI (1y)	$\Delta$ NI (2y)
<b>Panel 1: Other Sponsor Leading Sample</b>						
<b>Panel 1.1: Proposal Topic Effect</b>						
<b>GOV</b>	0.0012	0.0019	0.0018	0.0022	(0.0071)	(0.0122)
<b>SRI</b>	0.0071	0.0089	0.0080	0.0100	0.0137	0.0072
p-value	<b>0.0058</b>	<b>0.0023</b>	<b>0.0020</b>	<b>0.0003</b>	<b>0.0020</b>	<b>0.0003</b>
<b>Panel 1.2: Proposal Settlement Effect</b>						
<b>Reject</b>	0.0048	0.0071	0.0041	0.0052	(0.0121)	(0.0206)
<b>Acceptance</b>	0.0031	0.0040	0.0040	0.0050	0.0022	(0.0029)
p-value	0.5760	0.3117	0.9867	0.9333	0.2350	0.0725
<b>Panel 1.3.a: Topic and Acceptance Effect</b>						
<b>Reject&amp; GOV</b>	0.0013	0.0040	0.0009	0.0014	(0.0254)	(0.0303)
<b>Acceptance &amp; GOV</b>	0.0109	0.0128	0.0097	0.0120	0.0117	(0.0031)
p-value	0.1149	0.1435	0.1401	0.0648	0.1402	0.1622
<b>Panel 1.3.b: Topic and Acceptance Effect</b>						
<b>Reject &amp; SRI</b>	0.0012	0.0016	0.0019	0.0023	(0.0043)	(0.0094)
<b>Acceptance &amp; SRI</b>	0.0066	0.0084	0.0078	0.0097	0.0140	0.0088
p-value	<b>0.0196</b>	<b>0.0067</b>	<b>0.0065</b>	<b>0.0014</b>	<b>0.0066</b>	<b>0.0008</b>
<b>Panel 2: Public Pension Fund Leading Sample</b>						

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<b>Panel 2.1: Proposal Topic Effect</b>						
<b>GOV</b>	(0.0030)	(0.0060)	(0.0014)	(0.0040)	(0.0035)	(0.0031)
<b>SRI</b>	0.0092	0.0129	0.0091	0.0137	0.0116	(0.0013)
p-value	0.1060	0.0324	0.1516	0.0253	0.2052	0.8829

<b>Panel 2.2: Proposal Settlement Effect</b>						
<b>Reject</b>	(0.0131)	(0.0169)	(0.0132)	(0.0166)	(0.0269)	(0.0199)
<b>Acceptance</b>	0.0033	0.0030	0.0046	0.0048	0.0063	0.0005
p-value	0.1176	0.1235	0.0890	0.0846	0.0390	0.3033

<b>Panel 2.3.a: Topic and Acceptance Effect</b>						
<b>Reject &amp; GOV</b>	(0.0015)	(0.0045)	(0.0040)	(0.0083)	(0.0153)	(0.0057)
<b>Acceptance &amp; GOV</b>	(0.0251)	(0.0563)	(0.0594)	(0.0585)	(0.0852)	(0.0908)
p-value	0.2761	0.4532	0.4087	0.4968	0.2038	0.0014

<b>Panel 2.3.b: Topic and Acceptance Effect</b>						
<b>Reject &amp; SRI</b>	(0.0027)	(0.0054)	(0.0009)	(0.0031)	(0.0008)	(0.0025)
<b>Acceptance &amp; SRI</b>	0.0146	0.0189	0.0148	0.0197	0.0197	0.0062
p-value	<b>0.0105</b>	<b>0.0021</b>	<b>0.0160</b>	<b>0.0007</b>	<b>0.0690</b>	<b>0.4734</b>

Panel 1.1 reveals that social responsibility proposals tend to generate positive change of performance. All OROA changes for social responsibility proposal are positive and this change is significant in comparison to those of firms targeted by governance proposal. For social responsibility proposal, the withdrawal (acceptance) effect remains significant. Target firms accepted social responsibility proposal outperform themselves prior to the targeting and this performance improvement is significantly higher than that of target firms who did not accept such proposal. This result does not hold true for accepted corporate governance proposal as panel 1.2 and 1.3 show. For proposal led by public pension fund, panel 2.1 shows target firms tend to outperform themselves prior to the targeting if the proposal addresses social responsibility issue. However, the change of performance is not significantly higher than that of firms targeted by corporate governance proposal. Panel 2.2, as Panel 1.2, registers positive change of performance for accepted proposals again the change is not significantly better than that resulting from voted proposals, which are mostly negative.

Particularly interesting is that Panel 2.3.a shows the difference of OROA changes between the two groups of targets i.e., accepted corporate governance proposal and voted corporate governance proposal, is insignificant. Target firms in both groups tend to underperform themselves prior to the targeting. Panel 2.3.b replicates the pattern of panel 1.3.b, target firms accepted the social responsibility proposal outperform themselves prior to the targeting and this performance improvement is significantly higher than that of target firms voted on the proposal.

These findings, taken together, suggest the performance improvement of dual class target firm mainly occurred on those accepted social responsibility proposal. It is possible the outcry and concern the proposal addressed has incited severe customer and sales backlash and the management acknowledge the substance to respond to such social responsibility issue. However, the acceptance of governance proposal is possibly symbolic for assuaging the pressure but less likely to have real effects due to the constraints are imposed directly on the management and their private gain.

#### **1. 6. 3. 4. Main effects and interactions**

Table 1.11 is a full sample multivariate analysis of target firms' performance. The results corroborate our conclusion drawn above. Panel 1 of table 1.11 shows the effects of three proposal attributes over performance measures. Panel 2 adds to the regression interactions among those attributes.

Panel 1 reveals that public pension fund as leading sponsor is negatively associated with performance and this effect is significant for five out of the nine performance measures. Proposal acceptance (withdrawal) is positively associated with performance change. The main effect of proposal topic on performance is not significant. In support of the performance proposition, the coefficients for the dual class targets who accepted the proposal (Acceptance x Dual) are significantly positive across all



**Table 1. 11. Contingent effects of proposal acceptance on target firms' operational performance – Full sample**

This table summarizes the full sample OLS results between proposal attributes and target firm's performance. The **Dependent variable** is the performance measure. Panel 1 gives results for the main effects of proposal attributes. Panel 2 adds to the model all two-way interactions of proposal attributes. The **performance measure** is the change in target's mean industry-adjusted **OROA** (ratio of operating incomes to book assets) from a given time span before to the same time span after the proposal's submission. OROA is constructed against **EBITDA**, **EBIT**, and **NI** (net income), each with two time horizons i.e., 1 year, and 2 year<sup>14</sup>. A positive performance measure means the target firm outperform themselves prior to the targeting; a negative performance measure means the target firm underperform themselves prior to the targeting. **Size** is the total book assets of the target firm. **Dual class** denotes the target firm is of dual class. **PPL** means the leading proposal sponsor is public pension fund; **SRI** denotes the proposal addressing a social responsibility issue. **Acceptance** denotes the proposal is accepted or partially accepted by the management of the target firm. \* denotes significance at 0.1 level, \*\* at 0.05 level, \*\*\* at 0.01 or lower level.

Dependent Variable	$\Delta$ EBITDA (1y)		$\Delta$ EBITDA (2y)		$\Delta$ EBIT (1y)		$\Delta$ EBIT (2y)		$\Delta$ NI (1y)		$\Delta$ NI (2y)	
Panel 1: Main Effects with Control												
(Intercept)	0.0103	*	0.0156	*	0.0082		0.0109	*	0.0317	***	0.0568	***
log(size)	-0.0008	*	-0.0012	**	-0.0007	**	-0.0009	**	-0.0034	***	-0.0050	***
<b>Dual class</b>	<b>0.0037</b>	*	<b>0.0050</b>	**	<b>0.0041</b>	**	<b>0.0055</b>	***	<b>0.0071</b>	**	<b>0.0045</b>	*
<b>PPL</b>	<b>-0.0025</b>		<b>-0.0053</b>	*	<b>-0.0044</b>	*	<b>-0.0061</b>	**	<b>-0.0057</b>		<b>-0.0042</b>	
<b>Acceptance</b>	<b>0.0020</b>	**	<b>0.0011</b>		<b>0.0023</b>	*	<b>0.0007</b>		<b>0.0041</b>	*	<b>0.0022</b>	
SRI	0.0007		0.0005		0.0011		0.0015		0.0107	***	0.0063	*
sample size	4107		4106		4106		4106		4106		4107	
R-square	0.0040		0.0050		0.0050		0.0060		0.0100		0.0200	

<sup>14</sup> The same test is also performed on the 6-month time horizon and the results are basically the same.

<b>Panel 2: Main Effects and Interactional Effects</b>												
(Intercept)	0.0126	**	0.0192	***	0.0108	**	0.0149	**	0.0443	***	0.0693	***
log(size)	-0.0009	**	-0.0012	***	-0.0007	**	-0.0009	**	-0.0035	***	-0.0051	***
<b>Dual class</b>	<b>0.0030</b>		<b>0.0040</b>		<b>0.0016</b>		<b>0.0015</b>		<b>-0.0054</b>		<b>-0.0158</b>	**
<b>PPL</b>	<b>-0.0129</b>	*	<b>-0.0183</b>	**	<b>-0.0168</b>	**	<b>-0.0214</b>	***	<b>-0.0318</b>	**	<b>-0.0217</b>	*
<b>Acceptance</b>	<b>-0.0014</b>		<b>-0.0051</b>		<b>-0.0010</b>		<b>-0.0051</b>		<b>-0.0178</b>	**	<b>-0.0179</b>	***
SRI	-0.0006		-0.0015		-0.0005		-0.0006		0.0012		-0.0041	
SRI x Dual	-0.0017		-0.0025		-0.0001		-0.0002		0.0045		0.0138	.
PPL x Dual	-0.0014		-0.0007		0.0040		0.0045		0.0141		0.0145	
PPL x SRI	0.0105		0.0111		0.0103		0.0112		0.0196		0.0103	
Acceptance x SRI	0.0018		0.0038		0.0013		0.0026		0.0176	**	0.0158	**
<b>Acceptance x Dual</b>	<b>0.0064</b>	**	<b>0.0093</b>	***	<b>0.0067</b>	**	<b>0.0111</b>	***	<b>0.0229</b>	***	<b>0.0226</b>	***
<b>Acceptance x PPL</b>	<b>0.0030</b>		<b>0.0074</b>		<b>0.0066</b>		<b>0.0112</b>	*	<b>0.0170</b>	*	<b>0.0186</b>	
<b>Acceptance x PPL x Dual</b>	<b>0.0022</b>		<b>0.0036</b>		<b>-0.0033</b>		<b>-0.0024</b>		<b>-0.0219</b>		<b>-0.0349</b>	*
sample size	4100		4099		4099		4099		4099		4099	
R-square	0.0060		0.0050		0.0070		0.0080		0.0210		0.0240	

performance measures whereas acceptance of proposal led by public pension funds (Acceptance x PPL) generates no such performance effect.

Notably, with the addition of all two-way interactions and a three-way interaction (Acceptance x PPL x Dual), the main effect of public pension fund remains significant for seven out of nine performance measures and a negative sign for all. This fact suggests the shareholder proposal and its acceptance capture only part of public pension funds' negative effect on operational performance. It is possible that the target firms of public pension funds tend to operate with above average OROA prior the targeting and the negative public pension effect reflects the mean reversion tendency. However, our data shows no significant difference between OROA for firms targeted by public pension funds and other sponsors.

## **1. 7. Conclusion**

This study delves into the dynamics between target firm's management, and proposal sponsors, whose objective functions are not necessarily aligned with those of other shareholders. It contributes to existing literature in four ways. First, it reveals that the settlement of a proposal is the outcome of proposal sponsor's pressure and management's resistance. Second, it empirically demonstrates that the political profile of public pension board significantly influences public pension funds' propensity to lead a proposal and the determination to apply the pressure. Third, it shows management's resistance towards a shareholder proposal varies with its topic. Corporate governance

proposals are more strongly resisted than social responsibility proposals. Fourth, it predicts and empirically confirms that the performance effect of accepted proposals depends on both proposal sponsor and the management of target firm. Public pension funds tend to successfully force through more proposals, but fail to generate positive effect on operational performance. In contrast, dual class firms' acceptance of proposals improves operational performance, and this improvement mainly flows from accepted social responsibility proposals.

These findings, taken together, suggest that further exploration of market reaction to shareholder proposals should consider the strength of management control or the type of the target firm. Incorporating this factor reconciles contradictory empirical findings documented by prior studies considering only the sponsor, settlement, and proposal topic, or a subset thereof. In the meantime, these findings contradict the notion that social responsibility proposals have zero or negative value.

## CHAPTER 2

### MANAGEMENT CONTROL, PUBLIC PENSION FUND AND MARKET VALUATION

Villalonga et al (2006) refers to the classic owner-manager conflict described by Jensen and Meckling (1976) as type I agency problem, and the risk that large shareholder uses its controlling position in a firm to extract private benefits at the expense of small shareholders as type II agency problem.<sup>15</sup> It is believed that type I agency problem can be mitigated by large shareholders for their greater incentive to monitor the manager (Grossman and Hart, 1980; Shleifer and Vishny, 1986; Admati, Pfleiderer and Zechner, 1994; Noe, 2002).<sup>16</sup> The control of type II agency problem on the firm level, however, remains a topic barely touched in theory or empirical investigation, although its variation

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<sup>15</sup> Shleifer and Vishny (1997) and Burkart et al (2000) postulates that block holding is motivated by both shared and private benefits. The voting power wielded by block holders is a double edged knife, it can be used for either firm value maximization or private value maximization (Grossman and Hart, 1988; Shleifer and Vishny, 1997; Burkart et al, 2000). Empirically, Barclay and Holderness (1998) show those large blocks of shares receive disproportionate corporate benefits beyond the due amount conferred by their fractional ownership. The disparity of control and cash flow rights motivates appropriation of small shareholder by pyramiding, siphoning, or tunneling (e.g., Lemmon and Lins, 2003; Kee-Hong, Koo-Kang, and Kim, 2002).

<sup>16</sup> Empirically, the formation of block holding is associated with positive abnormal stock price (e.g., Mikkelsen and Ruback, 1985) and the positive relation between block holding and firm performance is robust to endogeneity (Lemmon and Lins, 2003; Fahlenbrach & Stulz, 2008). Larger shareholder is also found to perform effective monitoring and operational assistance (e.g., Mehran, 1995; Bertrand and Mullainathan, 2000; Kaplan and Minton, 1994; Kang and Shivdasani, 1997) , increase return on equity (e.g., Chaganti and Damanpur,1991)

and prevalence in countries with different system of law has been discussed extensively (LLSV, 1999,2000,2002).

## **2. 1. Growing significance of type II agency problem**

In the past decades, the twin assumptions that shareholders other than management are rationally passive and that they share homogenous interests, have focused scholarship on the “agency cost” problem of protecting dispersed shareholders from managerial overreaching. The assumptions are also instrumental in imposing the fiduciary duty solely on officers, directors, and controlling shareholders<sup>17</sup> in some rare cases (Anabtawi & Stout, 2008).

The corporate landscape has changed substantially to erode the realism of the assumptions. Institutional ownership in public equities has increased from 8 percent of outstanding shares in 1950 to nearly two-thirds today. Large institutions as the dominant shareholders nowadays are economically motivated and know each other, collective action problems is manageable (e.g., Black,1990). Evolution in security law also boosted shareholders’ ability to influence policy in public companies. In 1992, SEC amended its

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<sup>17</sup> the application of fiduciary duty is unequivocal for a large shareholder controlling 50% or more voting rights, it is applied with caution in any other cases.

federal proxy regulations and permit large shareholders to communicate and exercise their voting power more effectively.<sup>18</sup>

The rise of increasingly empowered large shareholders sparked extensive academic discussion on their role in controlling the classic type-I agency problem. Until recently, scholars shifted their attention to and challenge the common belief that shareholder is a monolith with the same overriding objective. Accumulated empirical evidence suggests there is no reason to believe that newly-empowered activist shareholders are immune to the forces of greed and self-interest widely understood to tempt corporate officers and directors. Increasingly it has been apparent that large shareholder can play the part of corporate villain as well as corporate victim.

The control of type II agency problem in the current corporate landscape desires at least as much attention as the classic type I agency problem. Misbehavior by officer and directors is constrained by other powerful forces, above and beyond the threat of liability, that do not apply nearly as strongly to large shareholders. For example, fiduciary duty and reputational concerns that might discourage an executive or board member from entering a blatantly self-interested transaction are far less likely to dissuade a large holder

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<sup>18</sup> Prior to 1992, the SEC had interpreted the phrase “proxy solicitation” to include any communication “reasonably calculated” to influence another shareholder’s vote. Because participation in a proxy solicitation triggers burdensome federal disclosure obligations, this interpretation discouraged investors from communicating with each other over matters that might be subject to a shareholder vote. The 1992 amendments eliminated this problem by exempting from the definition of “proxy solicitation” most shareholder communications not actually accompanied by a formal proxy solicitation. The 1992 amendments also made clear that most shareholders were free to make public statements, including speeches, press releases, newspaper advertisements, broadcast media, and internet communications. The 1992 amendments thus made it much easier for investors—including institutional investors and hedge funds—to coordinate with each other and combine their individual holdings into a single, much larger voting block. It also became much easier for shareholders to communicate with other shareholders, and with the general public, concerning their views on corporate policy. The result proved to be “revolutionary” as the 1992 amendments “largely deregulated proxy contests and other shareholder insurgency activities.”

such as public pension fund or hedge fund. The fund's manager may even be rewarded by his own investors for their overreaching behavior. The market for corporate control is similarly unlikely to deter such shareholders from behaving opportunistically. Where managers who steal from their firms risk being ousted or taken over, activist shareholders who indulge in self dealing do not face this risk. Thus, control of type II agency problem on the firm level desire as much attention as the control of the well known type-I agency problem.

In this study, we look at the flip side of the story of large shareholder as control of agency problem and propose that managerial ownership of cash flow is an effective device to control the type II agency problem. The rest of this paper proceeds as following: we first discuss the difference between public pension fund and private pension fund and identify public pension fund as a typical large shareholder posing type II agency problem; next we lay out the interaction between public pension influence and managerial control and propose managerial control over the type II agency problem posed by public pension fund will be positively valued. Finally, we test our proposals over a large sample of firms which are held by either public or private pension funds after 1992.



## **2. 2. Type II agency problem and pension funds**

### **2. 2. 1. Public pension funds**

While type II agency problem can occur on any large shareholder, it is particularly severe for certain type of institutional investors such as public pension funds. Public pension's board is politicized instead of market oriented. Public pension board consists of a small group of people who are not the stake holders, and who operate under little scrutiny, who may be subject to financial and political pressure, and consequently whose decision may reflect the will of the constituents.

The board members of public pension fund generally include ex officio trustee who, in most cases, are state governor and state treasury or comptroller and they, or a legislative committee, choose appointed trustee. The ex officio board member and the appointed trustee may or may not be the plan member of the fund.

Romano (1993) notes that public pension funds are subject to pressures to take actions that are politically popular, but harm the funds' investment performance. Ex officio members and appointee may take actions to minimize potentially harmful outcomes in the political arena, such as drawing negative media attention, or maximize potentially beneficial outcomes in the political area, such as providing favors for a constituency group. Trustee may give this consideration priority over their duty to take actions for the exclusive benefit of plan beneficiaries. Outside political parties, e.g., a mayor or governor may also wish to achieve the above goal. Thus, trustees may be pressured to behave in ways consistent with these goals. The relevant labor market for

politically-affiliated trustee enhances these trustee's aspirations to stay in good graces with their local political party and constituency.

Compounding the problem of a politicized board, public pension plans are defined benefit which holds taxpayer as the risk bearer. In case of poor fund performance and liabilities are greater than assets, the government will have to rely on tax payer's money to increase plan assets. Further, public funds are not regulated by ERISA whose "exclusive benefit (duty of loyalty)" and "prudent person (duty of care)" rules require trustees to make investment choices for the sole benefit of the plan participants.

As the decision maker of asset allocation, politically affiliated trustees may select investment advisors not based on their performance, but on a preference for in-state managers and further affirmative action goals (Romano, 1993). These investment managers are likely to be small and unable to take advantage of economies of scale on transactions, which will reduce fund performance. These trustees may be tempted to fund local initiatives for its political benefit without giving appropriate weight to the risk return characteristics of the investment<sup>19</sup>. Asset allocation can also be used for the interest of a group represented by the trustee<sup>20</sup>. The most recently exposed rampant kickback

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<sup>19</sup> Empirically, Munnell 's (1983) study of state-administered pension funds showed that 31 states had undertaken some form of targeted or social investment. By far the most prevalent form was the purchase of publicly or privately insured mortgage-backed pass-through securities to increase the supply of mortgage funds for homeownership. Analysis of the risk/return characteristics of these targeted mortgage investments revealed that 10 states either inadvertently or deliberately sacrificed return in an attempt to foster homeownership. The sacrificed return sometimes exceeded 200 basis points.

<sup>20</sup> In 2004, three union trustees of the main New York City pension fund--from the local chapters of the American Federation of State, County, and Municipal Employees (AFSCME), the Teamsters, and the Transport Workers Union--issued a threat to six top Wall Street firms in ensuring major banks and investment firms didn't push too hard for Social Security reform. They warned in a letter that if JPMorgan Chase and its competitors supported private Social Security accounts or kept contributing to lobbying

scandals between private equity and public pension funds adds to the evidences that the operation of public pension fund is plagued by the classical type I agency problem.

As equity holder, public pension funds pose type II agency problem on firms included in the portfolio. The politically-affiliated trustees may be pressured to vote against a merger, takeover in situations where that vote has a high local political value such as preserving local employment, even if it will have a negative effect on share value. Chidambaran and Woitke (1999) documented that approximately 60% of the shareholder activism proposals filed by public pension funds between 1989 and 1991 were social responsibility proposal which generate publicity and enhance the sponsor's reputations. According to Edward Regan, the former head of the New York State and Local Retirement Systems, pension funds exercised their newfound power to crusade mainly for political causes that had little to do with their fiduciary responsibilities (Linden and Rotenier, 1994).

The high-profile proxy battle to remove Steven Burd as Chairman and CEO of Safeway Inc. provides a thought-provoking example of the many ways public pension funds use their shareholder status to push for favorable treatment in their other dealings with the firm. Burd argued that Safeway needed to lower its labor costs to compete with non-unionized chains like Wal-Mart and was taking a hard-line stance in labor negotiations with the United Food & Commercial Workers Union, which represents grocery workers. The California Public Employees' Retirement System (CalPERS), a

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groups that did, the firms risked losing the hundreds of millions of dollars in fees they earn each year from managing public-pension funds.

large pension fund representing California employees, organized a proxy campaign to oust Burd. It was soon revealed that the CalPERS campaign had been initiated by CalPERS' President, Sean Harrigan, who was also a career labor organizer and an official of the United Food & Commercial Workers' Union. Burd survived the attempt to oust him after it was widely reported that the grocery workers' union was using CalPERS as a stand-in in its battle with Safeway over pay and benefits.

The trivial sensitivity between public pension fund's performance and its trustee's wealth or managers' compensation exacerbates the agency problems plaguing public pension funds. Whereas some trustee may be plan members (i.e., elected trustee) bears the wealth consequences of their decision, politically-affiliated trustees, however, do not (Murphy and Van Nuys, 1994). Compared with private pension plans, public pension administrators receive significantly lower pay. This gap widens when the incentive bonuses are considered, as they are common for private pensions but very rare for public pensions (Woidtke, 2002; Murphy and Van Nuys, 1994).

### **2. 2. 2. Private pension funds**

In contrast, private pension funds are less likely to pose the type II agency problem. Private pension funds are structured more market oriented. Trustee of private pension funds are subject to the strict fiduciary standards of ERISA. Most private pension plans are defined contribution plans. For defined contribution plan, the beneficiary bears the risk. The payout to the plan beneficiary at retirement is not a set amount. Instead, the

performance of the fund in the market determines the payout. Besides, private pension plans are required by federal law to meet certain funding levels and insurance requirements, public pension plans face no such requirements (D'Arcy et al, 1999).

Hess (2003) show that private pension fund managers perceive the costs and benefits of shareholder activism differently from public pension fund managers. Private pension fund as equity holder does not play a role regarding shareholder activism. Social investing is a public pension fund phenomenon (Munnell, 2007). For the trustee of private pension funds, it would be a breach of fiduciary duty to take into consideration of certain social benefits when making investment decisions. Other than regulation (such as ERISA), the passivity of private pension and mutual funds on shareholder activism in general is also attributed to the competitive nature of the industry and the possibility that such institutions' managers are less likely to obtain private benefits from engaging in shareholder activism than public and union fund managers.

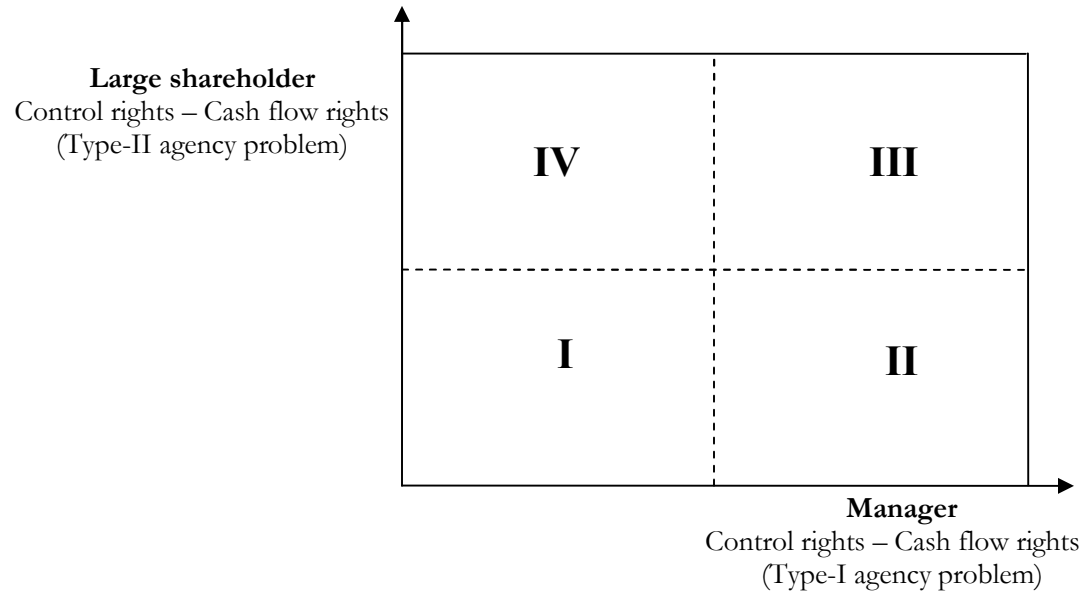
### **2. 3. Managerial control and public pension fund**

Both type II and type I agency problems are the manifestations of the disparity between larger shareholders' control right and cash flow right. For either management or large shareholders, the incentive of expropriation grows with the gap between the rights of control and rights of cash flow.

If we partition the universe of firms along two dimensions i.e., the difference between control rights and cash flow rights for managers and that for large shareholder as

shown in **Figure 1**. All other things equal, firms within **zone I** should have the highest value because they have the lowest agency cost from both management and large shareholders.

**Figure 1: Cross classification of firm by Type-I and Type-II agency problem**



In the meantime, Large shareholder as the solution of type I agency problem is most prevalent for firms residing in **zone II** where large shareholders aligning their objective with small shareholders collides with management mindful of benefits beyond cash flow.

In contrast, for large shareholder in **zone III**, their incentive of expropriation as reflected by the expanded difference between control rights and cash flow rights tends to weaken their function of monitoring in some cases. Brickley, Lease, and Smith (1988)

found that institutions can be influenced by existing business relations with the firm<sup>21</sup>. Van Nuys (1993) drawn a similar conclusion from a case study of a proxy fight at Honeywell Corporation, i.e., bank trusts and insurance companies are more likely to support management-sponsored anti-takeover proposals than public pension funds if they are in existing business relationship with the corporation.

Large shareholders' pursuit of benefits beyond cash flow may diverge from as well as converge with the benefits of managers. For example, Matvos and Ostrivisky (2008) found mutual funds are more likely to vote for a value destruction merger or acquisition if they also hold positions on the target. In this case, a large part of the difference between control rights and cash flow rights for mutual fund sources from the well known merger and acquisition anomaly. The management of target firm thus will be motivated to control the large shareholder's incentive for protection of either their cash flow rights (most likely for zone IV firm) or their rights beyond cash flow or both (for zone III firm).

We are interested in both zone III and IV firms since they are confronted with the extra layer of type II agency problem posed by large shareholders with misaligned objective such as public pension funds in this study.

For both management and large shareholders, positive valuation effects would exist when similarities in objective functions with other shareholders result in a

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<sup>21</sup> They examine voting behavior on management-proposed anti-takeover amendments. Their evidence indicates that institutions such as banks and insurance companies (both can benefit from existing business relationships with management) are more likely to vote with management on anti-takeover amendments than institutions such as college endowments and mutual funds (which seldom have other business relations with management).

convergence of interests, and negative valuation effects would exist when differences in objective functions lead to conflicts of interest. Consequently, a negative value effect<sup>22</sup> between firm value and public pension activism and ownership in general has been documented.

There are two possible forces working separately or together to reduce the negative valuation impact associated with public pension fund.

### **2. 3. 1. Managerial control over public pension fund: the preemptive effect**

A strong managerial control derived from either ownership of cash flow or extra protection device may have a *preemptive effect* on public pension's negative influence. This effect emphasizes the choice of public pension funds in the face of management with established strong control. Zweibel (1995) argue that large investors will invest their money across firms in a manner that maximizes benefits from control and create their own space in the sense that their presence in a firm will deter the private benefits pursuit of other block investors. Shareholder activism is by nature a contest of corporate control

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<sup>22</sup> Wagster and Prevost (1996) find that firms targeted by CalPERS have significantly negative stock price reactions to the announcement of the 1992 proxy rule changes. Gillan and Starks(2000) documented that proposals sponsored by the so-called gadflys (active individual investors) garner fewer votes and are associated with a slight positive impact on stock prices. In contrast, proposals sponsored by public pension funds receive significantly more votes and appear to have some small but measurable negative market response In general. Karpoff, Malatesta, and Walkling (1996) also find that among proposals that receive a majority of shareholder votes, there is no value increases or policy changes attributable to the proposals. Proposals sponsored by public pension funds such as CalPERS are not associated with unusual performance improvements and the receipt of internal governance proposals is negatively related to the change in operating ROA.



(Black, 1993; Pond, 1988). If public pension funds set out primarily for benefits beyond cash flow, Zweibel's argument suggests they may pick fights by avoiding firms with strong management control. In fact, the targets of public pension activism and targets of takeover share ample commonalities<sup>23</sup>.

The preemptive effect might work in two ways. One is a strong management dissuade public pension funds ownership to a less extent; The other is public pension ownership in such firms are less likely to be loaded with or used as the vehicle of the pursuit of benefits beyond cash flow.

If the preemptive managerial control over public pension works by discouraging public pension ownership, we might observe a systematical difference of public pension fund ownership between firms with extremely strong control (Gompers and Metrick, 2008) i.e., dual class or family firms and firms without such strong control. Family controlled firms are the foremost corporation of strong management control modeled by Shleifer and Vishny (1986). Most family firms are also dual class enhanced to the extent that the managerial or insiders wield a proportion of voting rights close to or beyond the absolute control level i.e., 50% (Gompers and Metrick, 2008). Arguably it is less likely that the presence of public pension funds in zone III will be as significant as it is in Zone

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<sup>23</sup> Palepu (1986) hypothesizes that takeovers occur when incumbent managers have performed poorly. Evidence reported by Morck, Shleifer, and Vishny (1989) indicates that external bids for control are more likely at firms with poor performance records. Hasbrouck (1985) and Lang, Stulz, and Walkling (1989) find that Tobin's q ratios of tender offer targets are relatively low and decline over the five years before the tender offer. Mulherin and Poulsen (1994) report that firms subject to dissident proxy challenges also show poor prior performance. If shareholder-initiated corporate governance proposals are made in lieu of, or to facilitate, control contests, firms that receive corporate governance proposals should also be characterized by poor prior performance.

IV where more firms are characterized by low level managerial ownership and lack of extra control.

If the preemptive managerial control over public pension works by reducing the likelihood of public pension targeting, we might expect firms with strong managerial control are less likely to be harassed and distracted by public pension activism since its chance of success is slim. Indeed, target of public pension fund activism are generally characterized by low managerial ownership and high institutional ownership (John and Klein, 1995; Karpoff, Malatesta, and Walkling, 1996; Smith, 1996; Strickland, Wiles, and Zenner, 1996; Thomas and Cotter, 2007). Our another research also reveals that it is much less likely for public pension fund to target dual class and family firms and they bear shadowy chance of pushing their agenda through, if a family or dual class firms is ever targeted. This is particularly true when the firm is targeted for corporate governance issue.

Woidtke (2004) show that public pension fund's activism is detrimental in the sense it attracts unwanted attention and distract the management. If firms with established strong managerial control contain the negative influence of public pension fund by either dissuading their ownership or force them to rein in the misaligned objective, the market will count the probability and react positively to such firms in the sense of smaller expected loss.

Encapsulating this argument, our first proposition predicts the negative value impact will be less severe for firms with strong overall management control which

sources from either managerial ownership of cash flow or extra protection mechanism such as dual class share or both.

**Proposition 1:** *Public pension funds tend to have lower ownership in firms with strong managerial control and thus weaker negative impact on the value of such firms.*

### **2. 3. 2. Managerial control over public pension fund: the cash flow effect**

Managerial strength of control is instrumental for the overall managerial benefits. A strong management is more likely to be highly motivated to protect either cash flow rights or rights beyond cash flow or both. The value implication as sensed by the market, therefore, depends on outside investors' reading of the intention of the management.

Thinking about two firms whose managements have the same stake or the same overall benefits, while the management in one firm has most of their benefits in cash flow, management in the other firm has benefits in cash flow and benefits beyond cash flow. The market will not value their control over public pension fund to the same extent for at least two reasons. First, if a concession made with the public pension fund causes the same amount of losses in cash flow, the two managements will not be equally motivated to ward off the potential loss; Second, management benefits beyond cash flow might offer public pension fund or any other self-serving active shareholder a ground for negotiation and bargaining which leads to convergence of private benefits. This is similar to the case discussed by Brickley, Lease, and Smith (1988) and Van Nuys (1993) where large shareholders and management trade on benefits not shared with outside owners.

Consequently, the cash flow consequence of public pension influence might be the same as in firms with weak management control.

This logic suggest market valuation of managerial control over public pension funds will be trivial should the control mainly source from extra protection. In contrast, managerial ownership of cash flow reflects the extent to which the management bond themselves to the benefits of outside shareholders. If the managerial control is largely derived from the ownership of cash flow, any failure to contain the influence of public pension fund will afflict upon the management a higher cost of cash flow.

This argument, in contrast to the first proposition, emphasizes managerial choice in the face of active public pension fund(s). Outside investors will only value this control to the extent that the management's benefit is aligned with them in terms of cash flow. Therefore we have proposition two as stated below:

**Proposition 2:** *Strong managerial control reduces the negative value impact of public pension funds only if the managerial control is derived from the ownership of cash flow.*

#### **2. 4. Data and sample**

To construct the sample, we first identify all public pension funds available in Thomson financial database for institutional holding. We also identify public pension funds consistently engaged in shareholder activism from the shareholder activism record

of ICCR (Interfaith center on Corporate Responsibility)<sup>24</sup>. ICCR maintains an archive of more than 6000 shareholder proposal targeted on approximately 1000 firms from early 1970s to 2008 (the majority proposal are after 1992). Each proposal contains descriptive information on the topic of the proposal, the name of the targeted company, the sponsors, and the settlement of the proposal.<sup>25</sup> Proposal sponsors are divided into four large categories, public pension fund, asset Management Company, union, and faith based institutions. A proposal, once sponsored, can be either withdrawn (if an agreement reached by negotiation with the target firm's management) or proceed to the shareholder meeting (if the management reject the proposal or the proposal sponsor skip the negotiation with management). ICCR documents both results.

Institutional investors are required to report their portfolio holdings to the SEC under section 13F of the Securities Exchange Act of 1934 (Rule 13F-1)<sup>26</sup>. The law does provide certain institutions with the leeway not to file 13F reports even though their portfolio is larger than \$100 million. The NYC pension system, PSERS, Minnesota State Board of Investment, for example, do not file 13F reports and, thus, ownership data for

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<sup>24</sup> Formed in 1971, ICCR is an association of 275 faith- based institutional investors, including national denominations, religious communities, pension funds, foundations, hospital corporations, economic development funds, asset management companies, colleges, and unions. ICCR and its members press companies to be socially and environmentally responsible. Proposals archived by ICCR are not exclusively sponsored by its members.

<sup>25</sup> ICCR also specifies the role of a sponsor in a proposal i.e., leading or simply joining. About one fifth of the proposals topic on corporate governance issue and the rest focus on target firm's social responsibility which includes environmental issue, tax evasion and local community development, health issues, human and worker rights, inclusiveness, political donation, weapon control, and sustainability.

<sup>26</sup> The institutional disclosure program under this section of the act requires all managers with investment discretion over \$100 million in equity securities to report those holdings to the SEC. In the case of shared investment discretion, only one manager includes information regarding the securities held. For example, while the equity holdings of Calpers may be managed by many money managers, only aggregated holdings are reported by Calpers. This also serves the purpose of avoiding the problem of double counting.

them are unavailable from SEC. Most public pension funds identified from the ICCR data falls in this category, therefore their ownership data are not available from Thomson financial or SEC archive. For these funds, we request from each of them the Comprehensive Annual Financial Report (CAFR)<sup>27</sup> and/or Asset Listings and hand-collect their ownership on each firm in their equity portfolio.

Management ownership is obtained from 10-k reports. We define management as the highest notch officers who include Chairman of the Board (CB), Chief Executive Officer (CEO), Chief Operating Officer (CO), General Counsel (GC), and President (P).

Dual class firms are identified from the dataset by Gompers and Metrick (2008). All Other variables matched to either the sponsor or the target firms are obtained from CRSP, Compustat, and Thomson Financial. The final sample is composed more than 20,000 observations of firms owned by 39 private pension funds and 29 public pension funds from 1993 to 2006. All pension funds are listed in table 2.1.

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<sup>27</sup> Comprehensive Annual Financial Report (more commonly, CAFR) is a government financial statement, which goes beyond the minimums established for public sector companies by NCGA statement (2005 Governmental Accounting, Auditing, and Financial Reporting, page 151). The CAFR is created with a showing of fund accounting and Enterprise Authority accounting. CAFR is similar to the Annual Financial Report (AFR) that publicly traded corporations are required to produce each year and give to every share-holder as a requirement of Securities Exchange Commission (SEC) law. A CAFR has three major sections: Introductory, financial, and statistical. Asset listing showing total shares held of each portfolio firm is generally contained in the statistical section.

**Table 2. 1. List of public and private pension funds**

Pension funds with 13-f filing requirement are from Thomson financial institutional Investor. Pension funds without 13-f filing are from CAFR (Comprehensive Annual Financial Report).

<b>Private</b>	<b>Public</b>
Airways pension scheme	Calif legislators retri
Allstate pension plan	Calif public empl retirm
Allstate retirement plan	Calif public emp ret sys
Ameritech pension trust	Calif state teachers ret
Amica pension fd bd tr	Calif st teachers ret
Atlantic richfield	Florida st board/admin.
Bethlehem stl pension tr	Ky teachers retirement
British airways pension	Maine retirement fund
CBI pension trust	Maryland st retirement
College retirement eq fd	Minesota st board of investment
College retirement equities fd	Missouri st emp ret sys
Commonwealth ed pool fund	Montana st board of investment
Digital equip pension tr	New mexico edu retirement bd
Dow chemical/emp ret pln	New york city employee retirement systems
Dupont capital management corp	New york st common ret.
Du pont de e i nemours	NYS teachers retirement
Evangelical luth bd/pens	Ohio public emp ret sys
Financial inst. retirmnt	Ohio school emp retirmnt
Firestone pension plans	Ontario muni emp retire sys
General elec ins plan tr	Ontario teachers' pens plan bd
General elec med care tr	Pennsylvania public school emp
General electric pen tr	Public emp' retirement assn co
Grumman corp-pension fd	State of mich state treasurer
Grumman corp. pension fd	State univs retirement
Hermes pensions mgmt ltd.	Texas teachers retr sys
Hershey foods corp-mast ret tr	The state teach retire sys oh

Honeywell intl inc. (pension f	TX teacher retirm sys
IBM retirement-eq invt.	Virginia retirement sys
IBM retirement plan	Wisconsin invt board
IDS managed retiremnt fd	
Lutheran brotherhood	
Neuberger&berman pension	
Pension management co	
Pension mgmt company	
Pichin corp (twa retire)	
Shell pensions mgmt serv ltd.	
Trans world airsls-retire	
US stl/Carnegie pension	
Young mens christian ret	

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## 2. 5. Methodology and variables

To test our proposition 1 and proposition 2, we follow Woidtke (2002) and use industry adjusted Tobin's Q to test the valuation effect of ownership by public pension fund(s) firm and the variation of this effect with managerial control. The definitions and descriptive statistics of variables are summarized in table 2.2.

Using Tobin's Q as an encompassing proxy for the impact of the relationship between public pension fund and its portfolio firm sidesteps the drawbacks associated with event study. Technically, adjusted Q avoids the problems pinpointing the time when new information is released which introduces a possible sample selection bias from studying only firms that have been publicly targeted. Theoretically, assuming that financial markets are efficient and that a firm's market value is an unbiased estimate of the present value of its future cash flows, the ratio of the market value of a firm to the



replacement value of its assets is a measure of the contribution of the firm's intangible assets to its market value. Management's actions directly affect the value of intangible assets. Tobin's Q should therefore include any adjustments the market has made to incorporate expected valuation effects associated with the relationship between institutional shareholders and their portfolio firms.

For example, McConnell and Servaes (1990) use ordinary least squares to measure the relation between Q and institutional ownership. In a similar vein, as Woitke argued (2002), one can measure the relation between a firm's Q relative to its industry adjusted Q and pension fund ownership. The valuation effects associated with pension funds should be directly related to the level of pension fund ownership in a firm after controlling for other variables that affect adjusted Q. In particular, a positive valuation effect would be incorporated only if the market perceives that the objective function of an institution's administrator will result in a relationship that aligns management's incentives with those of other shareholders. Given the incentive structure of public pension funds as discussed before, we expect a negative relationship between public pension fund ownership and adjusted Q. No such link, however, should be observed between adjusted Q and private pension fund(s).

**Table 2. 2. Descriptive statistics for sample firms**

This table summarizes the variable definitions. Pension funds ownership is from Thompson financial. Managerial ownership and cash flow rights are from either proxy report or SDC for non-dual class firms and from Gompers & Metrick (2008) for dual class firms. Pension funds ownerships are from Thomson financial and Comprehensive annual financial report (CAFR). All other variables are from CRSP and Compustat. The sample contains around 20000 pension-firm observations from 1993 to 2006.

Variable	Description	Mean	Max	Min	SD
Tobin's q	(Replacement value)/(Total assets)	0.9742	86.773	-7.112	2.7633
Adj. Tobin's q	(Tobin's q)-(Industry median of tobin's q). Industry is defined by 2-digits SIC code	0.6637	75.518	-8.6361	2.1550
private pension funds(%)	(shares held by private pension funds with 13f filings)/(total number of shares outstanding)	0.0093	0.1076	0.0000	0.0071
Public pension funds(%)	(Shares held by public pension or CAFR)/(total number of shares outstanding)	0.0245	0.2100	0.0000	0.0187
<b>Control variable</b>					
Ownership by other insts excluding pension(%)	(Shares held by other institutional investors with 13f filings)/(total number of shares outstanding)	0.6039	0.9933	0.0181	0.2224
Dual-Class or family firm dummy	1 for firms which is dual-class or family firm, 0 otherwise.	0.0888	1.0000	0.0000	0.2844
S&P 500 listing dummy	1 for firms of S&P 500, 0 otherwise	0.2796	1.0000	0.0000	0.4488
(for all ranking dummies below, 0 for firms not rated)					
S&P ranking A dummy	1 for firm with a S&P ranking of A+, A, or A	0.2648	1.0000	0.0000	0.4412
S&P ranking B+ dummy	1 for firm with a S&P ranking of B+	0.2099	1.0000	0.0000	0.4073
S&P ranking B&B- dummy	1 for firm with a S&P ranking of B or B-	0.2208	1.0000	0.0000	0.4148
S&P ranking C&D dummy	1 for firm with a S&P ranking of C or D or reorgan./liqu.	0.1847	1.0000	0.0000	0.3880
<b>Instruments for Adj Q</b>					
Managerial ownership of	(cash flow rights of ordinary shares + cash flow rights of sup-	0.0268	0.7836	0.0000	0.0661

cash flow	rior shares) / total cash flow rights				
Leverage(%)	book value of long term debt / Total asset	0.5642	2.6715	0.0143	0.2527
R&D expense ratio(%)	Research and development expense / Total asset	0.0326	7.7956	0.0000	0.1065
Missing R&D dummy	1 for firms reporting research and development expense, 0 otherwise.	0.4218	1.0000	0.0000	0.4939
Advertising expense ratio(%)	Advertising expense / Total asset	0.0115	0.7822	0.0000	0.0368
Missing advertisement expense dummy	1 for firms with advertising expense 0 otherwise.	0.3336	1.0000	0.0000	0.4715
Firm size	log(total asset)	7.2688	14.449	1.0512	1.7767
Return of assets	(EBIT)/(total assets)	0.1204	1.0833	-4.4767	0.1472
<b>Instruments for ownership</b>					
by pension funds					
Transaction cost	Estimated transactions costs	0.7975	124.5800	-0.2474	1.5633
Previous performance dummy	1 for positive EBITDA last two consecutive years 0 otherwise	0.8888	1.0000	0.0000	0.3144

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We calculate a firm's Q value as the ratio between its replacement value and total book assets. The replacement value is defined as the market value of outstanding shares plus the value of preferred shares and book debt. We follow Villalonga et al (2006) to calculate the market value of dual class firms. For firms with multiple classes of tradable shares, the procedure is the same for each class of stock and only requires adding the market value of all classes (Zingales, 1995; Nenova, 2003). For firms with multiple share classes, including at least one class that is not publicly traded, we multiply the total shares outstanding of all classes by the price of the tradable shares to estimate the market value of common equity. This approach, which is also used in Gompers et al. (2004), amounts to valuing the nontradable shares at the same price per share as the tradable shares<sup>28</sup>.

A potential problem of our method is the endogeneity issue between public pension's ownership and the Q value. For example, a pension fund's investment decision may be related to the level of a firm's adjusted Q. Firms performing poorly within their industry would tend to have lower adjusted Q. Pension funds may invest more in these firms, expecting the benefits from shareholder activism to be larger. Pension funds may also be able to identify firms that are undervalued and invest more heavily in them to

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<sup>28</sup> Two alternative approaches have been used to value nontradable shares. One is to ignore the shares outstanding of all nontradable classes (Anderson and Reeb, 2003). This approach amounts to valuing the nontradable shares at zero, and therefore underestimates q for firms with nontradable share classes. Another approach is to value the nontradable shares at the average premium on traded supervoting shares relative to the common traded shares, e.g. 2% to 10% (Cronqvist and Nilsson, 2003). This approach ignores the liquidity discount that nontradable shares are subject to, and therefore overestimates q for firms with this type of shares.

realize the gains when the undervaluation is corrected. These two strategies imply a negative relation between pension fund ownership and adjusted Q.

In the mean time, Del Guercio (1996) reports evidence that institutions subject to the prudent-man laws tilt their portfolios more toward large capitalization stocks with low book-to-market ratios. In addition, some pension funds may engage in window dressing or shed firms with low adjusted Q before reporting their holdings (Lakonishok, Shleifer, Thaler and Vishny, 1991). Thus, pension funds' investment behavior could lead to a positive relation between adjusted Q and their ownership even if the ownership does not operate to enhance the firm value.

As with Woidtke (2002), we controls for the endogeneity issue by estimating the following system of simultaneous equations:

$$Q_{it}^{Adj} = \alpha_1 + \beta_1 PB\_Fund_{it} + \beta_2 Mgt_{it} + \beta_3 PV\_Fund_{it} + \beta_4 (PB\_Fund * Mgt_{it}) + \phi X_{it} + \psi C_{it} + \varepsilon_{it} \quad (\text{seq. 1})$$

$$Fund_{it} = \alpha_2 + \beta_5 Q_{it}^{Adj} + \beta_6 Mgt_{it} + \tau Z_{it} + \theta C_{it} + \varepsilon_{it} \quad (\text{seq. 2})$$

Where  $Q_{it}^{Adj}$  is industry adjusted Tobin's Q of a firm owned by either public or private pension fund. Tobin's Q is the ratio between replacement value and total book assets. Replacement value is the sum of market value, book value of debt and preferred shares.  $Q_{it}^{Adj}$  is the difference between a firm's Q value and the median Q value of the industry into which the firm is categorized according to 2-digit SIC code.  $Mgt_{it}$  denotes managerial control proxied by either the dual-class firm dummy or the collective ownership of cash flow by the management. For dual class firms, managerial ownership

of cash flow is the sum of the cash flow ownership from shares with superior voting rights and the cash flow ownership from shares with inferior voting rights.

$PB\_Fund_{it}$ ,  $PV\_Fund_{it}$  are the collective ownership of firm  $i$  by public pension funds and private pension funds, respectively. Table 2 shows the mean ownership by public pension fund(s) is 2.45% which is almost 3 times the ownership by private pension funds. The interaction ( $PB\_Fund_{it} \times Mgt_{it}$ ) examines our proposed valuation effect of managerial control over public pension fund. The definition of  $Fund_{it}$  in the second equation changes as the group of interested pension fund change.  $Fund_{it}$  is  $Pub\_Fund_{it}$  when the fund considered is public pension funds, otherwise it is  $PV\_Fund_{it}$ .  $C_{it}$  is a vector of control variables related to both  $Q_{it}^{Adj}$  and  $Fund_{it}$ .  $X_{it}$  and  $Z_{it}$  are predetermined variables correlates only with  $Q_{it}^{Adj}$  and  $Fund_{it}$ , respectively. We use basically the same set of control and predetermined variable as in Woitke (2004). Control variables ( $C_{it}$ ) include Stand and Poor's rankings on common stock, S&P 500 listing, ownership by institutions excluding pension funds, and managerial ownership of cash flow.

S&P dividend and earning rankings are based on firm's earning and dividends. The constituent companies of S&P 500 index has larger capitalization, both characteristics may be correlated to adjusted  $Q$ . These two variables also affect pension funds' investment decision. S&P dividend and earning rankings are used repeatedly by public pension funds as evidence in court cases to defend a stock investment as prudent (Del Guercio, 1996). The fact that many pension funds index at least some portfolio of their investment implies pension funds are more likely to pick companies included in the S&P 500 index. As S&P dividend and earnings ranking, institutional ownership is also

used by public pension funds to justify the acceptability of a company stock with respect to prudent-man laws (Del Guercio, 1996). In the meantime, the documented significant positive relation between institutional ownership and Q (McConnell and Servaes, 1990) qualifies institutional ownership (excluding pension ownership) as a control variable for both equations.

We also include  $Mgt_{it}$  i.e., managerial ownership of cash flow as a control variable because a nonlinear relationship has been shown between Q and overall managerial ownership. Since institutional ownership can be deployed in a way for both shared and private benefits (Shleifer and Vishny, 1986) and large investor tends to create their own space of private benefits (Zweibel, 1995), we expect pension funds to consider managerial ownership when make investment decision for either value maximization or private benefit maximization.

Several variables have been well documented in previous research (e.g., Morck et al., 1988; McConnell and Servaes, 1990) as determinants of adjusted Q, of which include leverage, R&D expenses, advertising expenses, and firm size. Pension fund administrators are believed to be more concerned about historical or tangible measures. These variables are included in  $X_{it}$  as instruments for the adjusted Q. We also include return of assets as an additional instrument variable. Both R&D and advertising expenses are normalized by total asset. To avoid firms not reporting R&D or advertising expenses are discretely different from reporting firms and to avoid a significant reduction in sample size, we create a dummy variable for each of them (Woidtke, 2004; Himmelberg et al., 1999).

$Z_{it}$  is a vector of instruments for  $Fund_{it}$  which include transaction cost and performance of previous years. Given the scale of pension funds and their sizable holding within individual firms, transaction cost or liquidity can be an important factor in their investment strategy. As with Woidtke (2004), we use the model by Keim and Madhavan (1997)<sup>29</sup> to estimate the transaction cost.

$$Cost_{it} = 0.687 + 0.238D^{NASDAQ} - 0.076Logmcap_{it} + 9.924[1/P_{it}]$$

Where  $Cost_{it}$  is the total trading cost in percent,  $D^{NASDAQ}$  is a dummy variable equal to one for Nasdaq stocks,  $Logmcap_{it}$  is the natural log of a firm's market value of equity, and  $1/P_{it}$  is the inverse of a firm's calendar tear-end closing stock price.

Other than Standard & Poors earnings ranking and institutional ownership, positive earnings in previous year is another indicator of stock quality pension fund will consider for investment decision (Del Guercio, 1996). We create a dummy for previous year performance with 1 indicates positive EBITDA in previous two year and 0 otherwise.

The definition and descriptive statistics of all variable are summarized in table 2. Table 2.3 summarizes descriptive statistics of continuous variables on the sample composed of firms with low managerial ownership of cash flow and the one composed of firms with high managerial ownership of cash flow.

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<sup>29</sup> Keim and Madhavan's (1997) model also includes trade size and dummies for aggressive institutional traders. I follow Woidtke (2002) to set these to zero to obtain conservative estimates.



Table 2.4 repeats the same procedure as in Table 2.3 on the sample composed of firms with low ownership by public pension fund(s) and the one composed of firms with high ownership by public pension fund(s), respectively.

## 2. 6. Empirical results

Wahal (1996) and Del Guercio and Hawkins (1999) documented that public pension funds generally hold shares for longer periods than other institutional investors and many are passively indexed. Wahal (1996) found private pension funds are more likely to reduce their ownership in firms with poor performance than public pension funds. In light of these studies, we first test the endogeneity of private pension fund holdings and public pension fund holdings. Confirming the finding of Woitke (2004), Hausman's (1976) and Pyndick and Rubinfeld's (1991) tests for simultaneity both reject the null hypothesis of no simultaneity between private pension fund holding and adjusted Q, however these tests do not reject the null hypotheses for public pension fund. These results suggest that public pension fund holdings are exogenous with respect to firm performance, while private pension fund holdings are endogenously determined by firm performance.

We conduct a two stage least square regression to estimate the simultaneous equation system with instruments  $X_{it}$  and  $Z_{it}$  for adjusted Q and private pension funds, respectively.

$$Q_{it}^{Adj} = \alpha_1 + \beta_1 PB\_Fund_{it} + \beta_2 Mgt_{it} + \beta_3 PV\_Fund_{it} + \beta_4 (PB\_Fund * Mgt_{it}) + \phi X_{it} + \psi C_{it} + \varepsilon_{it} \quad (\text{seq. 1})$$

$$PV\_Fund_{it} = \alpha_2 + \beta_5 Q_{it}^{Adj} + \beta_6 Mgt_{it} + \tau Z_{it} + \theta C_{it} + \varepsilon_{it} \quad (\text{seq. 2})$$

**Table 2. 3. Descriptive statistics by managerial ownership of cash flow right**

Panel I summarizes descriptive statistics for firms with managerial ownership of cash flow rights in the bottom one thirds. Panel II for firms with managerial ownership of cash flow rights in the top one thirds. The definitions of variables can be found in table 2.

	Mean	Max	Min	SD	Mean	Max	Min	SD
	Panel I: Low mgt ownership of cash flow				Panel II: High mgt ownership of cash flow			
Industry Adj. TQ	0.5756	46.952	-8.3146	1.8503	0.8421	73.506	-8.6361	2.4032
Ownership by private pen. funds	0.0098	0.0743	0.0000	0.0063	0.0086	0.1076	0.0000	0.0078
Ownership by public pen. funds	0.0263	0.2100	0.0001	0.0167	0.0218	0.1892	0.0000	0.0198
Managerial ownership of cash flow	0.0003	0.0008	0.0000	0.0002	0.0639	0.7836	0.0072	0.0928
Leverage	0.5808	1.8599	0.0200	0.2274	0.5271	2.6715	0.0237	0.2669
R&D expense ratio	0.0331	1.6196	0.0000	0.0778	0.0346	2.8474	0.0000	0.0942
Advertisement expense ratio	0.0119	0.3192	0.0000	0.0296	0.0126	0.7822	0.0000	0.0428
log(Total Asset)	8.1724	14.194	1.6862	1.9150	6.5676	13.709	1.0512	1.5330
Transaction cost	0.6616	124.58	-0.2474	2.4827	0.9328	79.942	-0.1925	1.4510
Ownership by other Inst.	0.6100	0.9933	0.0229	0.2146	0.5765	0.9879	0.0181	0.2246
Return of assets	0.1273	0.9053	-1.9089	0.1316	0.1188	1.0833	-2.3830	0.1591

**Table 2. 4. Descriptive statistics by public pension fund ownership**

Panel I summarizes descriptive statistics for firms with public pension fund ownership in the bottom one thirds. Panel II for firms with public pension ownership in the upper one thirds. The definitions of variables can be found in table 2.

	Mean	Max	Min	SD	Mean	Max	Min	SD
	Panel I: Low public pension ownership				Panel II: High public pension ownership			
Industry Adj. TQ	0.8194	73.5060	-2.0799	3.2401	0.5001	24.1900	-8.6361	1.3312
Ownership by private pen. funds	0.0068	0.0851	0.0000	0.0076	0.0108	0.1076	0.0000	0.0070
Ownership by public pen. funds	0.0044	0.0084	0.0000	0.0022	0.0405	0.2100	0.0273	0.0186
Managerial ownership of cash flow	0.0461	0.7836	0.0000	0.0973	0.0166	0.5065	0.0000	0.0417
Leverage	0.5867	2.6715	0.0143	0.3001	0.5545	2.0452	0.0249	0.2169
R&D expense ratio	0.0439	7.7956	0.0000	0.1984	0.0271	1.2593	0.0000	0.0546
Advertisement expense ratio	0.0094	0.7822	0.0000	0.0398	0.0123	0.5805	0.0000	0.0340
log(Total Asset)	6.2636	12.6520	1.0512	1.4509	7.7645	14.4490	2.2716	1.7310
Transaction cost	1.2239	124.5800	-0.1925	2.7086	0.5822	18.1200	-0.1709	0.5581
Ownership by other Inst.	0.4332	0.9933	0.0181	0.2392	0.6824	0.9654	0.0305	0.1771
Return of assets	0.0669	0.9127	-4.4767	0.2187	0.1424	0.9651	-0.9251	0.1029

The simultaneous estimation allows mutual dependence between private pension fund holdings and adjusted Q. For example, to estimate the coefficients for equation (1), we first apply ordinary least square regression to predict PV\_Fund<sub>it</sub>. In the second stage, the predicted value of PV\_Fund<sub>it</sub> is feed to equation (1) for estimation. The reversed procedure is applied to estimate the coefficients of equation (2) i.e., adjusted Q is fitted in the first stage. The fitted adjusted Q is used to estimate the coefficients of equation (2). We follow the procedure in Green (2002) to adjust the standard error of the estimated coefficients.

Since the ownership by public pension fund holdings are exogenous with respect to adjusted Q, we also perform ordinary least square as a robust check on results related to public pension fund holdings and adjusted Q.

$$Q_{it}^{Adj} = \alpha_1 + \beta_1 PB\_Fund_{it} + \beta_2 Mgt_{it} + \beta_4 (PB\_Fund * Mgt_{it}) + \phi X_{it} + \psi C_{it} + \varepsilon_{it} \quad (\text{ols. 1})$$

$$PB\_Fund_{it} = \alpha_2 + \beta_5 Q_{it}^{Adj} + \beta_6 Mgt_{it} + \tau Z_{it} + \theta C_{it} + \varepsilon_{it} \quad (\text{ols. 2})$$

Ownership by private pension fund as an endogenous variable with  $Q_{it}^{Adj}$  is excluded from the first ordinary least equation i.e., (ols. 1).

## **2. 6. 1. Negative valuation effect and performance insensitivity of public pension fund ownership**

Model (1) and (2) of table 2.5 summarize the results of the simultaneous equations (seq. 1) and (seq. 2). Model (3) of table 2.5 summarizes the ordinary least square results (ols. 1) and (ols. 2).

In panel A, the dependent variable for all models is adjusted Q. In panel B, Ownership by private pension fund is the dependent variable for model (1) and (2) and ownership by public pension funds for model (3).

Reflecting the index strategy, panel B shows that ownership by both public pension funds and private pension funds are higher in S&P 500 firms. They also tend to own more shares of firms with higher institutional ownership. In support of the argument that private pension funds are more likely to chase performance, the ownership of private pension funds increase with previous year performance. In contrast, public pension ownership is not sensitive to a firm's prior performance. This finding is corroborated by the observation that private pension funds have higher ownership in firms residing high on the Standard and Poor's earnings and dividend ranking whereas public pension funds ownership does not or only marginally vary with the standard and poor earning and dividend ranking.

As we move to Panel A, the coefficient of ownership by public pension fund is significantly negative across all models. This finding is consistent with Woidtke (2002), though we include in our sample public pensions funds without SEC 13-f filing. It appears that the addition of public pension funds without SEC 13-f filing doesn't change

the documented negative valuation effect of ownership by public pension. In contrast to Woidtke (2002), we do not observe a significant positive correlation between private pension funds and adjusted Q while such a relationship exist between adjusted Q and the collective ownership of institutions excluding pension funds.

As for other variables in panel A, both R&D and advertising expenses are positively related to adjusted Q. S&P 500 listing does not improve adjusted Q value. In contrast, return of assets seems a strong predictor of the adjusted Q, firms with higher return of asset also tends to have higher adjusted Q. Firms with the lowest Standard and Poor's dividends and earning ranking also has significantly lower Q value.

## **2. 6. 2. Managerial control over public pension fund**

### **2. 6. 2. 1. Valuation effect of overall managerial control on public pension fund**

Our first hypothesis states that strong managerial control, however it is achieved, tends to dissuade public pension ownership. With dual class or family firms as the proxy of overall strong managerial control based on both ownership of cash flow and extra protection device, evidence reflecting public pensions' lower ownership in firms with strong managerial control can be found in table 2.5. Model (3) in panel B shows that ownership by public pension fund in dual class or family firms is significantly lower than in other firms whereas model (1) and (2) reveals no such systematic ownership difference for private pension funds.

**Table 2. 5. Simultaneous equations and ordinary least square analyses of adjusted Q and ownership by pension funds**

Model (1) and (2) are simultaneous equations and the coefficients for both equations are estimated by two stage least square.

$$Q_{it}^{Adj} = \alpha_1 + \beta_1 PB\_Fund_{it} + \beta_2 Mgt_{it} + \beta_3 PV\_Fund_{it} + \beta_4 (PB\_Fund_{it} * Mgt_{it}) + \phi X_{it} + \psi C_{it} + \varepsilon_{it} \quad (\text{seq. 1})$$

$$PV\_Fund_{it} = \alpha_2 + \beta_5 Q_{it}^{Adj} + \beta_6 Mgt_{it} + \tau Z_{it} + \theta C_{it} + \varepsilon_{it} \quad (\text{seq. 2})$$

Equation 1 of Model (1) does not contain the interaction between  $PB\_Fund_{it}$  and  $Mgt_{it}$ .

$Mgt_{it}$  is management control proxied by dual class or family dummy.

$Q_{it}^{Adj}$  and  $PV\_Fund_{it}$  are the endogenous variables.  $X_{it}$  is a vector of instruments for  $Q_{it}^{Adj}$ ;  $Z_{it}$  is a vector of instruments for  $PV\_Fund_{it}$ .  $C_{it}$  is a vector of common variables for both equations.

Model (3) in panel 1 is an ordinary least regression of  $Q_{it}^{Adj}$  on the same variables of equation (1) except the endogenous variable  $PV\_Fund_{it}$  is removed. Model (3) in Panel 2 is an ordinary least regression of  $PB\_Fund_{it}$  on the same variables of equation (2). The definitions of all variables can be found in table 2. The sample contains 21442 firm-year observations from 1993 to 2006. Significance at 10%, 5%, 1% and <1% are indicated by \*, \*\*, and \*\*\*, respectively.

	(1)			(2)			(3)		
	seq. 1			seq. 1			ols. 1		
	<i>dv=Industry Adj. TQ</i>			<i>dv=Industry Adj. TQ</i>			<i>dv=Industry Adj. TQ</i>		
(Intercept)	0.5634	1.04		0.6665	1.25		1.2130	14.77	***
<b>Ownership by private pension funds</b>	77.7985	1.25		65.1977	1.06				
<b>Ownership by public pension funds</b>	-17.8968	-2.67	***	-17.2236	-2.47	**	-6.5009	-13.65	***
<b>Dual class or family firm dummy</b>	0.2057	2.83	***	0.0529	0.73		0.1427	3.33	**
Leverage	-0.5592	-7.37	***	-0.5522	-7.52	***	-0.1884	-4.99	***
R&D expense ratio	11.6040	21.32	***	11.6802	22.21	***	10.9541	37.89	***
Missing R&D expense dummy	-0.2238	-6.36	***	-0.2203	-6.46	***	-0.1873	-9.15	***
Advertisement expense ratio	1.3942	2.17	**	1.4482	2.26	**	1.6794	5.88	***
Missing advertisement expense dummy	0.0686	2.03	**	0.0642	1.96	**	0.0222	1.27	
log(Total Asset)	0.0519	2.57	**	0.0490	2.45	**	0.0071	1.16	
S&P ranking C & D	-0.1654	-2.68	***	-0.1682	-2.75	***	-0.2039	-10.18	***
S&P ranking B & B-	-0.0504	-0.75		-0.0555	-0.83		-0.1268	-5.64	***
S&P ranking B+	-0.0120	-0.22		-0.0109	-0.2		-0.0368	-1.6	

S&P ranking A+, A, & A-	-0.0153	-0.25		-0.0103	-0.17		-0.0050	-0.18			
Ownership by Inst. excluding pension	0.2218	3.35	***	0.2190	3.36	***	0.2677	8.26	***		
S&P 500 listing dummy	-0.1663	-0.87		-0.1262	-0.67		0.0489	2.46	**		
Return of assets	5.8544	14.67	***	5.9351	15.3	***	5.3973	53.57	***		
<b>(Ownership by public pension funds)</b>				3.0328	2.44	***	4.1102	3.4221	***		
<b>X (Dual class or family firm dummy)</b>											
<i>N</i>	21442			21442			21442				
<i>DF</i>	21425			21424			21436				
<i>Adj R-squared</i>	0.1622			0.1650			0.2810				
		<i>seq. 2</i>				<i>seq. 2</i>				<i>ols 2</i>	
		<i>dv=Ownership by PV Fun</i>				<i>dv=Ownership by PV Fund</i>				<i>dv=Ownership by PB Fund</i>	
(Intercept)	0.0075	10.91	***	0.0082	10.92	***	0.0088	10.16	***		
Industry Adj. TQ	0.0005	8.25	***	-0.0011	8.20	***	-0.0003	-9.33	***		
Previous performance	0.0010	3.98	***	-0.0009	3.96	***	-0.0002	-0.68			
Transaction cost	0.0000	-0.43		-0.0002	-0.44		0.0000	0.10			
S&P ranking C & D	-0.0006	-2.81	***	-0.0002	-2.80	***	-0.0006	-1.84	*		
S&P ranking B & B-	-0.0011	-4.90	***	-0.0004	-4.89	***	-0.0006	-1.70	*		
S&P ranking B+	-0.0004	-2.08	**	-0.0002	-2.07	**	0.0005	1.55			
S&P ranking A+, A, & A-	-0.0001	-0.45		-0.0004	-0.44		0.0002	0.52			
Ownership by Inst. excluding pension	0.0012	4.67	***	0.0014	4.67	***	0.0202	50.69	***		
S&P 500 listing dummy	0.0037	27.52	***	0.0039	27.52	***	0.0122	42.41	***		
Dual class or family firm dummy	0.0000	0.14		0.0000	0.14		-0.0011	-3.03	***		
<i>N</i>	21442			21442			21442				
<i>DF</i>	21430			21430			21430				
<i>Adj R-squared</i>	0.0207			0.0207			0.1124				



This pattern adds to the aforementioned evidences that public pension fund are not as concerned by a firm's performance as private pension funds. All Models in panel A show that family firms or dual class firms have significantly higher adjusted Q. The comparatively higher Q value for dual class or family firms can be explained by the fact that 93% dual class firms are also family firms and family firms tends to have better performance and higher Q value (Anderson and Reeb, 2002).

An alternative explanation for public pensions' systematic lower holding of dual class firms is the high ownership by the management. It is not unusual for the management to control more than 50% shares in dual class firms (Gompers and Metrick, 2008) and a significant portion of shares with superior voting rights is not traded. If this alternative explanation is true, we should observe the same systematic ownership difference for private pension funds which, as equation (seq. 2) of Model (1) and (2) in table 2.5 reveals, is not the case. The ownership by private pension funds in dual class or family firm is not significantly different with their ownership in other firms.

Given public pension funds' insensitivity toward performance and the strong management control in dual class and family firms, public pension funds' systematic lower ownership in such firms lends support to Zweibel's (2004) argument that large shareholders after benefits beyond cash flow tend to shun firms with established control and form their own space.

Our primary interest is whether strong managerial control can reduce the cost of public pension funds with misaligned objective. The first hypothesis proposes that the low ownership by public pension fund in firms with strong managerial control implies a

lower likelihood for public pension fund to interfere with the management and consequently the negative valuation effect associated with public pension fund ownership is weaker. To examine the valuation effect of managerial control over public pension fund, we add to the simultaneous equation 1 (seq. 1) of model (2) in table 2.5 the interaction between public pension ownership and the dual class or family firm dummy. The coefficient for this interaction is significantly positive. This result suggests that public pension ownership becomes less negative if the firm is dual class protected or family controlled than a firm who is not. The same result holds true for the ordinary least square equation 1 (ols. 1) of model (3).

#### **2. 6. 2. 2. Valuation effect of managerial control of different origins on public pension fund**

While our first proposition suggests the positive valuation of managerial control sources from the market expectation that strong managerial control tends to rein in public pensions' misaligned objective more effectively, it disregards the means by which the managerial control is achieved. Our second proposition postulates that the positive valuation of managerial control over public pension funds is limited to the case in which the managerial control is derived from ownership of cash flow. Dual class share, as an extra protection adopted by many family firms, is among the most effective and extreme design to enhance managerial control. The disparity between cash flow right and voting rights resulted from such design may encourage the market to expect with caution that the

managerial control will result in common goods thereby discourage an immediate link between firm value and managerial control over public pension funds.

To examine the second proposition, we replace the dual class dummy with managerial ownership of cash flow. For dual class firms, managerial ownership of cash flow is the sum of the cash flow right from shares with superior voting rights and the cash flow right from shares with inferior voting rights.

Model (1) and (2) in table 2.6 summarize the first equation of the simultaneous system (seq. 1). The negative valuation effect of ownership by public pension funds remains significantly negative. While managerial ownership of cash flow significantly improves a firm's adjusted Q, the valuation effect of dual class share dummy turns out to be negative though not significant. Most importantly, with control of management cash flow rights, proposition 2 predicts the absence of a significant relationship between adjusted Q and the interaction between dual class dummy and public pensions' ownership. The coefficient for the interaction turns out to be as predicted. The market does not expect management strength for the protection of benefits beyond the cash flow rights creates value for shareholders. This conclusion is corroborated by model (3) and (4) in which this relationship is checked with ordinary least square regression.

In contrast, we expect managerial control over public pensions will be translated into firm value if the control is derived from managerial ownership of cash flow. An efficient market will expect management with high cash flow rights are motivated more than management with low cash flow rights to resist the misaligned objective of public pension thus preserve better the cash flow shared by both management and outside

shareholders. In support of proposition 2, the univariate analysis in table 2.7 shows that adjusted Q increases with the managerial ownership of cash flow and decreases with the ownership by public pension funds. Particularly, significant dropping of adjusted Q due to increased ownership by public pension occurs only for firms with low or intermediate managerial ownership of cash flow rights. For firms with high managerial control of cash flow rights, adjusted Q does not change significantly with ownership by public pension funds. These results are robust to both t-test on mean difference and Mann-Whitney U test on median difference of adjusted Q.

We also verify the univariate analysis pattern by augmenting models in table 2.6 with an addition of the interaction between management control of cash flow and public pension ownership. The coefficient for this interaction, as shown in table 2.8, is significantly positive. That is, the increase of managerial ownership of cash flow effectively dents public pension funds' negative value effect or, in other words, management control derived from the ownership of cash flow is more valuable with the presence of public pension influence. By having higher cash flow rights, the manager bonds herself to giving more weight to the interests of outside share-holders in her objectives (Morck, Shleifer, and Vishny, 1988; Stulz, 1988). Consequently the market expect management with higher cash flow right to be better gatekeeper and more mindful of shareholder value.

**Table 2. 6. Simultaneous equations and ordinary least square analyses for the valuation effect of extra managerial**

**control over public pension fund**

Model (1) and (2) are simultaneous equations and the coefficients for both equations are estimated by two stage least square.

$$Q_{it}^{Adj} = \alpha_1 + \beta_1 PB\_Fund_{it} + \beta_2 Mgt_{it} + \beta_3 PV\_Fund_{it} + \beta_4 (PB\_Fund_{it} * Mgt_{it}) + \phi X_{it} + \psi C_{it} + \varepsilon_{it} \quad (\text{seq. 1})$$

$$PV\_Fund_{it} = \alpha_2 + \beta_5 Q_{it}^{Adj} + \beta_6 Mgt_{it} + \tau Z_{it} + \theta C_{it} + \varepsilon_{it} \quad (\text{seq. 2})$$

For simplicity, results for eq. 2 are not reported.

Mgt<sub>it</sub> is management control proxied by dual class or family dummy.

Managerial ownership of cash flow is added to X<sub>it</sub> of equation 1.

Q<sub>it</sub><sup>Adj</sup> and PV\_Fund<sub>it</sub> are the endogenous variables. X<sub>it</sub> is a vector of instruments for Q<sub>it</sub><sup>Adj</sup>; Z<sub>it</sub> is a vector of instruments for PV\_Fund<sub>it</sub>.

C<sub>it</sub> is a vector of common variables for both equations.

Model (3) and (4) are ordinary least regression of Q<sub>it</sub><sup>Adj</sup> on the same variables of equation 1 except the endogenous variable PV\_Fund<sub>it</sub> is removed. The definitions of all variables can be found in table 2. The sample contains 14600 firm-year observations from 1993 to 2006. Significance at 10%, 5%, 1% and <1% are indicated by \*, \*\*, and \*\*\*, respectively.

	(1)		(2)			(3)		(4)		
	<i>seq. 1</i>	<i>dep. var: Industry Adj. TQ</i>				<i>ols. 1</i>	<i>dep. var: Industry Adj. TQ</i>			
(Intercept)	2.4483	3.32 ***	2.7562	3.66 ***	2.4934	11.06 ***	2.5058	11.11 ***		
<b>Ownership by private pension funds</b>	4.2338	0.06	23.6979	-0.35						
<b>Ownership by public pension funds</b>	-8.5641	-2.24 **	-7.6679	-1.75 *	-8.3262	-8.83 ***	-9.1529	-8.93 ***		
<b>Dual class or family firm dummy</b>	-0.0472	-0.8	-0.0478	-0.81	-0.0473	-0.80	-0.0473	-0.8		
<b>Managerial ownership of cash flow</b>	1.1836	1.96	0.5437	1.17	1.1485	4.39 ***	0.6470	1.81		
Leverage	-0.7219	-8.17 ***	-0.7086	-8.06 ***	-0.7206	-8.39 ***	-0.7150	-8.32 ***		
R&D expense ratio	6.0426	20.14 ***	6.1236	19.83 ***	6.0561	28.28 ***	6.0461	28.23 ***		
Missing R&D expense dummy	-0.1011	-2.44 **	-0.0934	-2.27 **	-0.1003	-2.54 **	-0.0972	-2.46 **		

Advertisement expense ratio	0.7187	1.26		0.8318	1.46		0.7340	1.42		0.7484	1.45	
Missing advertisement expense dummy	0.0478	0.87		0.0312	0.56		0.0453	1.15		0.0449	1.14	
log(Total Asset)	-0.2124	-8.68	***	-0.2203	-8.81	***	-0.2136	-13.80	***	-0.2135	-13.8	***
S&P ranking C & D	-0.2294	-2.4	**	-0.2597	-2.68	***	-0.2339	-3.58	***	-0.2347	-3.59	***
S&P ranking B & B-	-0.1348	-1.35		-0.1670	-1.64		-0.1397	-2.10	**	-0.1401	-2.11	**
S&P ranking B+	0.0611	0.81		0.0432	0.57		0.0586	0.91		0.0574	0.9	
S&P ranking A+, A, & A-	0.0740	1.16		0.0697	1.09		0.0736	1.16		0.0717	1.13	
Ownership by Inst. excluding pension	-0.3243	-3.61	***	-0.3065	-3.41	***	-0.3219	-3.94	***	-0.3194	-3.91	***
S&P 500 listing dummy	0.6683	3.79	***	0.7452	4.17	***	0.6791	13.15	***	0.6856	13.25	***
Return of assets	2.5500	7.38	***	2.6734	7.45	***	2.5698	16.38	***	2.5610	16.32	***
<b>(Ownership by public pension funds)</b>				28.3895	1.43					34.8382	1.06	
<b>X (Dual class or family firm dummy)</b>												
<i>N</i>	14600			14600			14599			14599		
<i>DF</i>	14582			14581			14583			14582		
<i>Adj R-squared</i>	0.1380			0.1390			0.1390			0.1390		

**Table 2. 7. Univariate test of adj Q by managerial ownership and public pension ownership**

This table partitions all sample firms into nine categories by managerial ownership of cash flow and public pension fund ownership. For both managerial ownership of cash flow and public pension fund ownership, high level denotes the top one thirds firm, low level denotes the bottom one thirds firm, intermediate level include firms fall between. T-statistics are reported for mean differences and Mann–Whitney U statistics are reported for median difference. Significance at 10%, 5%, 1%, and <1% are indicated by •, \*, \*\*, and \*\*\*, respectively.

	Mean [median] of Adjusted Q for firms with low managerial ownership of cash flow	Mean [median] of Adjusted Q for firms with intermediate managerial ownership of cash flow	Mean [median] of Adjusted Q for firms with high managerial ownership of cash flow
Low public pension ownership	0.6224 [0.6876] <i>N</i> =873	0.5872 [0.6124] <i>N</i> =1671	1.0055 [1.1321] <i>N</i> =1836
Intermediate public pension ownership	0.6729 [0.6432] <i>N</i> =1996	0.6478 [0.6222] <i>N</i> =2294	0.9648 [1.0117] <i>N</i> =1550
High public pension ownership	0.4187 [0.3973] <i>N</i> =1511	0.3464 [0.4198] <i>N</i> =1875	0.8169 [0.8322] <i>N</i> =994
t-statistic [Mann–Whitney U] for difference in means [median] of row 2 and row 1	1.93 [-0.87]	2.01 [0.35]	1.77 [-1.22]
t-statistic [Mann–Whitney U] for difference in means [median] of row 3 and row 2	-3.17*** [-2.84***]	-2.98*** [-2.86***]	-1.22 [-1.58]

**Table 2. 8. Simultaneous equations and ordinary least square analyses for the effect of managerial ownership of cash flow on adjusted Q**

Model (1) and (2) are simultaneous equations and the coefficients for both equations are estimated by two stage least square.  
 $Q_{it}^{Adj} = \alpha_1 + \beta_1 PB\_Fund_{it} + \beta_2 Mgt_{it} + \beta_3 PV\_Fund_{it} + \beta_4 (PB\_Fund * Mgt_{it}) + \phi X_{it} + \psi C_{it} + \varepsilon_{it}$  (seq. 1)

$PV\_Fund_{it} = \alpha_2 + \beta_5 Q_{it}^{Adj} + \beta_6 Mgt_{it} + \tau Z_{it} + \theta C_{it} + \varepsilon_{it}$  (seq. 2)

For simplicity, results for eq. 2 are not reported.

$Mgt_{it}$  is management control proxied by both dual class or family dummy and managerial control of cash flow.  $Q_{it}^{Adj}$  and  $PV\_Fund_{it}$  are the endogenous variables.  $X_{it}$  is a vector of instruments for  $Q_{it}^{Adj}$ ;  $Z_{it}$  is a vector of instruments for  $PV\_Fund_{it}$ .  $C_{it}$  is a vector of common variables for both equations.

Model (3) and (4) are ordinary least regression of  $Q_{it}^{Adj}$  on the same variables of equation 1 except the endogenous variable  $PV\_Fund_{it}$  is removed. The definitions of all variables can be found in table 2. The sample contains 14600 firm-year observations from 1993 to 2006. Significance at 10%, 5%, 1%, and <1% are indicated by •, \*, \*\*, and \*\*\*, respectively.

	(1)		(2)		(3)		(4)	
	Seq. 1	dep. var: Industry Adj. TQ	Seq. 1	dep. var: Industry Adj. TQ	ols. 1	dep. var: Industry Adj. TQ	ols. 1	dep. var: Industry Adj. TQ
(Intercept)	2.4426	3.31 ***	2.7507	3.65 ***	2.4881	11.03 ***	2.5004	11.09 ***
<b>Ownership by private pension funds</b>	4.2589	0.06	-23.6756	-0.35				
<b>Ownership by public pension funds</b>	-8.9177	-2.32 **	-8.0087	-1.82 .	-8.6772	-8.86 ***	-9.4974	-8.98 ***
<b>Dual class or family firm dummy</b>	-0.1506	-1.55	-0.1484	-1.52	-0.1504	-1.55	-0.1495	-1.54
<b>Managerial ownership of cash flow</b>	1.1909	1.97 **	0.5526	1.19	1.1556	4.42 ***	0.6559	1.84 .
Leverage	-0.7205	-8.16 ***	-0.7073	-8.05 ***	-0.7192	-8.37 ***	-0.7137	-8.31 ***
R&D expense ratio	6.0437	20.15 ***	6.1247	19.84 ***	6.0573	28.28 ***	6.0473	28.23 ***
Missing R&D expense dummy	-0.0998	-2.41 **	-0.0921	-2.24 **	-0.0990	-2.51 **	-0.0959	-2.43 **
Advertisement expense ratio	0.7074	1.24	0.8208	1.44	0.7229	1.40	0.7373	1.43



Missing advertisement expense dummy	0.0464	0.85		0.0299	0.54		0.0440	1.11		0.0435	1.10	
log(Total Asset)	-0.2118	-8.65	***	-0.2198	-8.78	***	-0.2130	-13.76	***	-0.2129	-13.76	***
S&P ranking C & D	-0.2264	-2.36	**	-0.2567	-2.64	***	-0.2309	-3.53	***	-0.2317	-3.54	***
S&P ranking B & B-	-0.1311	-1.31		-0.1634	-1.6		-0.1360	-2.04	**	-0.1365	-2.05	**
S&P ranking B+	0.0652	0.86		0.0471	0.62		0.0626	0.98		0.0614	0.96	
S&P ranking A+, A, & A-	0.0751	1.17		0.0707	1.1		0.0746	1.17		0.0727	1.14	
Ownership by Inst. excluding pension	-0.3250	-3.62	***	-0.3072	-3.42	***	-0.3226	-3.95	***	-0.3201	-3.92	***
S&P 500 listing dummy	0.6676	3.78	***	0.7445	4.17	***	0.6785	13.13	***	0.6849	13.24	***
Return of assets	2.5548	7.40	***	2.6782	7.47	***	2.5747	16.41	***	2.5659	16.35	***
<b>(Ownership by public pension funds)</b>	4.3676	1.33		4.2490	1.3		4.3546	1.33		4.3135	1.32	
<b>X (Dual class or family firm dummy)</b>												
<b>(Ownership by public pension funds)</b>				28.2613	2.02	**				34.7019	2.05	**
<b>X (Managerial ownership of cash flow)</b>												
<i>N</i>	14600			14600			14599			14599		
<i>DF</i>	14581			14580			14582			14581		
<i>Adj R-squared</i>	0.1380			0.1390			0.1390			0.1400		

## **2. 7. Conclusion**

In this study, we show that public pension funds subject to severe agency problem due to the disparity between fund administrator's control rights and cash flow rights. All other things equal, an efficient market will value firms held by public pension fund less for the translation of such agency problem into the firms through a variety of implicit or explicit channels.

We empirically verified the negative link between firm value and public pension funds influence as gauged by public pension funds' collective ownership is robust with consideration of ownership of public pension funds who are not obligated to file SEC form 13-f. Comparing to private pension funds, public pension funds are less performance sensitive and more likely to own less shares of firms with strong management control, this is particularly true when the managerial strength of control is built on extra protection mechanism such as dual class shares.

We propose and confirm that managerial control of cash flow reduces the negative valuation effect associated with public pensions whereas managerial control derived from extra protection mechanism such as dual class shares has no such effect. To sum up, a firm with higher managerial ownership of cash flow are valued more not only because the managers promise less private consumption but also the managerial control over large investor with misaligned incentive are less likely driven by private benefits

## CHAPTER 3

### INSTITUTIONAL HOLDING ADJUSTMENT AND PRIVATE BENEFITS

The motivation of block holding, in defiance of the diversification principle, is a running debate. In general, related studies are under the roof of three major arguments; The first argument postulates that block holding is established for the attainment of shared benefits which flows from their active role on the control of agency problem; The second argument entertains the antitheses that block holding is aimed for private benefits. Finally, the eclectic view suggests that the two motivations are not mutually exclusive, they can exist simultaneously. These perspectives reflected the fact that the voting power wielded by block holders is a two-sided knife. It can be used to create shared value if functioning as a monitoring mechanism to reduce agency cost, misused for private benefits, or a conduit for both.

This study augments the private benefits perspective with a focus on institutional holders. The conjecture is that, if private benefit is a driver of institutional block holding, the change of private benefits will impact its adjustment. Institutional privates is discussed with two broad cases, the first is self-dealing and conflict of interest (e.g., Djankov, La Porta, and Shleifer, 2005; Heard and Sherman, 1987; Sherman, 1980; Santos and Rumble, 2006 ), the second is political crusading misaligned with the purpose of share holders' value maximization (e.g., Romano, 1993; Murphy & Van Nuys, 1994; Black, 1997). While the first case involves various types of institutions such as banks, insurance companies, investment advisors etc, the second case has its focus on public pension fund, a fast growing investment behemoth surfaced in recent decades.

To examine the conjecture, this study use a cross sectional variable i.e., dual-class as an empirical proxy to demarcate two types of firms: the first type is dual class firm in which institutions in general capture less private benefits due to the voting structure,

insiders' dominant control, and low demand in control contest for coalition which makes institutional holding pivotal. Therefore dual class firm is called private benefits meager; the second type is non-dual class firms in which block institutional holders capture more private benefits because the comparatively more dispersed ownership structure endorses institutional shareholders with more control and larger space. Consequently, Non-dual class firm is called private benefits affluent.

A firm's Institutional holding and the benefits, shared or private, conferred by the holding are assumed to be at equilibrium before a change. To detect a link between institution holding and private benefits, the equilibrium must be broken. This logic motivates the introduction of an exogenous variable i.e., market sentiment, as the equilibrium breaker which poses a trade-off to private benefits and leave the shared benefits intact. Consequently, any change made by an institutional holder can be attributed to the private benefits. A high sentiment market is featured by strong speculative propensity which leads to abundant liquidity and overvaluation. The abundant liquidity, affluent speculation propensity (Baker and Stein, 2004; Baker and Wurgler, 2006), and weakened price impact of institutional selling (Chiyachantana et al, 2004), make a high sentiment market a good time for institutional holder to enhance diversification, adjust portfolio, or cash in the overvaluation. Therefore an institutional holder is forced to make a choice between capitalizing on this chance and keep pocketing private benefits. Consequently, given an institutional investor, the less is the private benefits captured at the equilibrium, the more likely is a downward adjustment at high market sentiment. In contrast, this cross sectional pattern is not expected to show up when the market sentiment is low.

An empirical test yields supportative evidence for the hypothesis. It is found that institutions holders tend to held fewer shares of dual class firms (private benefits meager firms) when the market sentiment is high, this pattern does not show up when the

market sentiment is low. To obtain an unequivocal support for the hypothesis, the held-fewer intention (a negative coefficient for dual class at high sentiment period) is anatomized by conducting the analysis on incumbent holding disposition (negative change) and new share acquisition (positive change), the results show the held-fewer intention is disposition driven. In other words, when the market sentiment is high, institutional shareholders shed more shares loaded with less private benefits than those loaded with more private benefits. This result offers strong support for the private benefit hypothesis.

For the purpose of comparison, the same procedure of test is executed on insiders who are different with institutional investors in the sense that, while both of them share private benefits in non-dual class firms, insiders take all or nearly all in dual class firms. The insiders, as expected, do exhibit different pattern of holding adjustment in contrast to institutional investors. In contrast to institutional holders, when market sentiment is high, insiders of dual class firms tend to shed more share than their peers in non-dual class firms, but the difference is not significant. Surprisingly, when the market sentiment is low, insiders of dual class firms also tend to shed more shares than their peers in the non-dual class firms and the effect is marginally significant. This pattern is explained in the light of dual class insiders generally own a much higher percentage of the firm than those in non-dual class firm. This fact, combined with the unique voting structure facilitating a low cost control, might evoke a stronger needs to diversify.

Institutions are not homogeneous with regard to the principles of investment and pursuit of benefits. Some institutions may adhere more consistently and firmly to the diversification principle than others. To identify which institutions are driving the results, the institutions are divided into three groups. The first group includes well known disciples of the diversification motto i.e., mutual fund, investment advisor, and investment company; the second group include the oft-mentioned player in conflict of

interest and self-dealing i.e., bank and insurance company. The last group includes the widely noted "maverick" i.e., public pension fund. Empirical tests are conducted separately for each type of institutional holders. Notably, the supportative pattern does not show up in the first group composed of disciples of diversification, collectively or individually. The pattern does surface under a dim light in the second group composed of commercial banks and insurance companies, the signs are all in the direction as predicted i.e., when market sentiment is high, they tend to shed more dual class shares. However, the effect is not significant. The patterns rise on pension fund in its most robust form, high sentiment market induce pension fund shed more dual class shares than non-dual class shares. This effect is significant at the 0.001 level.

### **3. 1. Motivations of institutional holding**

The role played by large shareholders attracts enormous attention in the ebb of takeover and the burgeoning of shareholder activism since middle 1980s. This pursue is also driven by the prominent rise of institutional holding of the total market value of equity. As recently as 1980, institutional investors---principally banks, insurance companies, mutual funds, private pension funds, and state and local government pension funds---held only 36 percent of U.S. equities. The single institutional investor CalPERS has a market capitalization exceeding \$80 billion in 1994. By 1997, this figure had risen to 55 percent. Among the stocks in the Standard & Poor's 500, the concentration is even greater, with 57 percent held by institutional investors in 1997, up from 46 percent in 1980. Over the last two decades, theoretical and empirical investigations concerning the block holding, in defiance of diversification principle, cast lights on the motivation of their establishment.

Large-block ownership can be motivated by shared benefits of control. This benefits is the consequence of superior management or monitoring flowing from the substantial collocation of decision rights and the scale effects of wealth of large-block ownership. Several theoretical models, such as Shleifer and Vishny (1986), stress the shared benefits of control. Huddart (1994) argue that large holding biases large holder toward monitoring and intervention in that gains from monitoring grow in proportion to a shareholder's stake, whereas the costs of monitoring is not as sensitive. Empirical evidence in support of the implied positive relationship between concentrated block holding and improved firm performance has been widely documented.<sup>30</sup>

In contrast, another stream of literature noted that holders of large blocks of shares receive a disproportionate corporate benefits beyond the due amount conferred by their fractional ownership. On the theory side, Jensen and Rubak (1983) and Grossman and Hart (1988), among others, discuss private benefits of block holding.<sup>31</sup> On the empirical side, private benefits are generally implied and measured by block transaction premium (Barclay and Holderness, 1991, 1992) and premium of shares with superior voting rights (e.g., Lease, McConnell, and Mikkelson, 1983; Levy, 1983; and Zingales, 1994). The existence of private benefits is documented domestically and internationally (e.g., Zingales, 1994; Nenova, 2004; Doidge, 2004). A wide array of factors associated with the extraction and distribution of private benefits have been identified, Of them the

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<sup>30</sup> There are evidence that block holders perform effective monitoring and operational assistance (e.g., Mehran, 1995; Bertrand and Mullainathan, 2000; Kaplan and Minton, 1994; Kang and Shivdasani, 1997) and formations of blocks are associated with abnormal stock price increases (e.g., Mikkelson and Ruback, 1985). Short and Keasey (1997) have reported the presence of institutional investors has a positive effect on corporate performance. Similarly, Chaganti and Damanpur (1991) found that institutional ownership has a significantly positive effect on return of equity (ROE).

However, not all studies are in consensus, for example, Holderness and Sheehan (1988), Murali and Welch (1989), McConnell and Servaes (1990), and Denis and Denis (1994) find no evidence to suggest that there exists a difference in firm performance between majority-owned firms and diffused owned ones.

<sup>31</sup> Also see Demestz (1986), Grossman and Hart (1988), Harris and Raviv (1988a and b), Barclay and Holderness (1989); Bergstrom and Rydqvist(1990), Hart and Moore(1990), and Dewatripont(1993).

most notable include legal environment (e.g., LLSV, 1997, 1998, 1999), large shareholders' identity (e.g., Anderson and Reeb, 2003; Bushee, 1998), and the distribution pattern of block sizes (e.g., Zweibel, 1995; Barclay and Holderness, 1992).

Finally, the eclectic view postulates that block holding is established for both of shared and private benefits (e.g., Shleifer and Vishny, 1997; Burkart et al, 2000). This perspective construes the voting power wielded by block holders as a two-sided knife, it can be used to create shared value by functioning as a monitoring mechanism to reduce agency cost, misused for private benefits, or a tool for both.

### **3. 2. Institutional private benefits: cases**

One notable origin of private benefits of institutional block holding, among plausible sources, is self-dealing and situations involving conflict of interest (e.g., Djankov, La Porta, and Shleifer, 2005; Heard and Sherman, 1987; Sherman, 1980; Santos and Rumble, 2006).

#### **3. 2. 1. Conflict of interest and self-dealing**

A most recent example reminiscent of such conflict of interests is Deutsch bank's votes for Hewlett-Packard's acquisition of Compaq. On March, 15th, 2002, the proxy committee of Deutsche Asset Management Inc (DeAM), the investment advisor unit of Deutsche Bank, cast all 17 million proxies on HP stock it controlled against the merger. On 18th, HP management, upon learning that DeAM had voted against the merger, called senior-level officials of Deutsche Bank's investment banking division, and asked them to arrange for HP to make a last-minute presentation to the DeAM proxy committee. Immediately following these presentations, DeAM proxy committee discussed whether they should switch their vote and cast the proxies in favor of the merger. During the



discussion, the voting members were informed that Deutsche Bank's investment banking division was working for HP on the merger and that HP had an enormous banking relationship with Deutsche Bank. The committee then held a re-vote, and changed its vote in favor of the merger. Shortly before shareholder voting on the merger closed, DeAM personnel succeeded in recasting all 17 million of its clients' votes in favor of the merger.

Another case involves self-dealing between Interfirst Bank Dallas and Southwest Pump Company (SPC). Interfirst Bank had a long-standing banking relationship with SPC which, at the time, included outstanding loans. Interfirst Bank had also served as trustee for the company's deferred compensation plan. Furthermore, a loan officer of Interfirst Bank later testified on court that the bank was interested in maintaining the then-existing management structure of SPC as well as ensuring that its loans would be repaid. In 1995, Interfirst Bank in its capacity as trustee sold share of SPC to SPC's managers at one-third the fair market value and done without publicizing the sale, soliciting offers, or obtaining an appraisal. The Texas Court of Appeals affirmed a lower court decision and held that Interfirst Bank had breached its fiduciary duty to the beneficiaries through self-dealing in the sale of the stock to Southwest Pump Company.<sup>32</sup> A plethora of such cases are documented in U.S. and possibly more in countries where banks are less regulated. Banks in Japan and Europe are allowed to directly hold the equity of a firm bearing the bank's outstanding loan, Morck, Nakamura, and Shivdasani (2000) found that Japanese banks tend to practice excessive interest charge over firms under their control, consequently, the q-ratio decrease with bank's holding.

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<sup>32</sup> Source: Self-dealing trustees and the exoneration clause: Can trustees ever profit from transactions involving trust property? St. John's Law Review, Winter 1998 by Baron, Charles Bryan.

### **3. 2. 2. Pursue of political benefits by public pension funds.**

It is well known that managers' hubris on empire building, choice of pet projects are symptoms of severe agency problem in that they are usually not aligned with the target of shareholder value maximization. The diversion away from shareholder value maximization is not necessarily a consequence of agency problem, block holder with significant control over a firm may divert as well.

The most noted block holder inclined to such diversion are public pension fund. Public pension benefit is backed by a state's taxing power rather than by a corporate promise; Bankruptcy is therefore not a serious possibility. Furthermore, the managers and board member of public pension fund are more often than not state officer or union leader, their compensation are not connected to fund performance. Romano (1993) argues that public pension funds are subject to pressures to take actions that are politically popular, but that harm the funds' investment performance. Murphy and Van Nuys (1994) maintain that public pension funds are run by individuals who do not have the proper incentives to maximize fund value. Both studies argue that public fund managers may use proposals to generate publicity or enhance their reputations in order to gain future employment or political opportunities.

For example, California state treasurer, a member of CalPERS' board, proposed that firms in the portfolio pay "prevailing wages" and other benefits.<sup>33</sup> Holtzman, New York City comptroller and a trustee for the city's pension funds, publicized her active approach to corporate governance while campaigning for the Democratic Party's nomination for U.S. Senator.<sup>34</sup> Bloomberg, among others, endorses NYCERS, TRS,

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<sup>33</sup> Source: Public Pension Fund Activism in Corporate Governance Reconsidered, Roberta Romano, Columbia Law Review, Vol. 93, No. 4. (May, 1993), pp. 795-853.

<sup>34</sup> Source: Public Pension Fund Activism in Corporate Governance Reconsidered, Roberta Romano, Columbia Law Review, Vol. 93, No. 4. (May, 1993), pp. 795-853.

NYCPPF, NYCFDP, BERS's campaigning against companies permitting human rights abuses. The allegations have resulted in negative publicity, lawsuits, public protests and calls for consumer boycotts of Coca-Cola products.<sup>35</sup> Most recently, Robert Doyle, director of regulations and interpretations at the Labor Department, issued a letter this January to the U.S. Chamber of Commerce intended to clarify how much activism is permissible from pension-related funds and what kinds of shareholder resolutions they are permitted to sponsor. The Chamber promptly heralded the news as "a clear message that union pension trustees need to put workers' retirement security first, instead of any political agenda."<sup>36</sup>

There is a growing empirical literature reveals that activist funds are politically motivated. Romano (1993) documented a negative relationship between public pension fund performance and the number of state officer on the board. Based on a sample of Fortune 500 firms, Woidtke (1996) identified a negative relation between firm performance (industry-adjusted Tobin's Q) and percentage ownership by activist public pension funds. Wahal (1996) and Karpoff (2003) documented neither accounting improvement nor positive market valuation for firms targeted by active pension funds, although the proxy proposal initiated by the funds were adopted by management in many cases. The firm's response might be a sop to the shareholder rather than a substantial change (Black, 1998). Wagster and Prevost (1996) showed that firms targeted by CalPERS have significantly negative stock price reactions to the announcement of the 1992 proxy rule changes. Johnson et al. (1997) found that a dummy variable for CalPERS 1992 hit-list firms is negatively related to both CEO compensation changes and pay-for-

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<sup>35</sup> Source:NYC PENSION FUNDS CALL FOR SHAREHOLDER VOTES ON HUMAN RIGHTS ISSUES ,PR05-02-018 Press Office

<sup>36</sup> Source:U.S. Department of Labor, Employer Benefits, Security Administration, Jan 32, 2008. The letter reads" This is in response to your recent letter in which you express concern about the use of pension plan assets by plan fiduciaries to further public policy debates and political activities through proxy resolutions that have no connection to enhancing the value of the plan's investment in a company....."

performance sensitivity changes, which they interpret as evidence that CalPERS acts more like a populist crusader against executive pay levels than a wealth-maximizing shareholder.

### **3. 3. Research interest and contribution**

In contrast to the argument that pursuit of share benefits motivates block holding and a causal link points from shareholder concentration to firm performance, that is, firm performance can be predicted by shareholding concentration, This paper augments the alternative postulation i.e., block holding is private benefits driven, specifically, the change of block holding can be predicted by private benefits. Serving this purpose, two questions are asked 1) Is there relationship between private benefits and institutional holding adjustment; 2) if the answer is confirmative, does the relationship hold invariantly for all types of institution or just for some of them. For both question, the independent variable of interest is private benefits and the explanatory variable is the change of institutional holding.

#### **3. 3. 1. Studies on private benefits**

Whatever the private benefits is, a direct assessment and measurement of private benefits is hard in that if private benefits can be easily measured, it will be claimed on court (Zingales, 1994). Some early studies trace private benefits with inferential evidence. Gordon and Pond (1988) found the percentage of votes cast for shareholder proposals varies systematically with the ownership structure of the firm. Large non-management block holders who sit on the board are more likely to vote with insiders. Brickley, Lease, and Smith (1988) presented direct evidence that institutions can be

influenced by existing business relations with the firm. They examine voting behavior on management-proposed anti-takeover amendments. Their evidence indicates that institutions such as banks and insurance companies (both can benefit from existing business relationships with management) are significantly more likely to vote with management on anti-takeover amendments than institutions such as college endowments and mutual funds (which seldom have other business relations with management).

Barclay and Holderness (1989) is among the trend to empirically decide the size of private benefits. They focused on block transaction and argue that, because the exchange price reflects the value of corporate benefits that accrue to all shareholders in proportion to their fractional ownership, then the difference between the block price and the exchange price reflects benefits that accrue to the block holder alone i.e., the private benefits from control.

By far the most widely used measure of private benefits is the valuation discrepancy of shares with differential voting rights i.e., the premium of share loaded with superior or more voting rights over the ostensibly identical class of shares with inferior or less voting rights. Lease, McConnell, and Mikkelsen (1983) argue that the premium exists because the future consumption opportunities provided by the two securities are different, therefore the price difference can be taken as a measurement of private benefits. In a similar vein, Zingales (1995) argues that, in equilibrium, the value of a vote will be associated with the value of controlling a corporation, and thus with the large shareholders' private benefits. His study steps further and reveals the magnitude of the premium is not only a function of the private benefits obtainable by controlling a firm but also the probability that a vote is pivotal in a control contest. This premium measure is also applied internationally to draw a world map of private benefits (Zingales, 1994; Dyck and Zingales, 2004; Nenova, 2004; Dojige, 2004). Globally, extant investigations

show that the premium is low for US in the 5% to 10% range, high for Italy at 82% (Zingales, 1994), and typical in the range of 10% to 20%.

A noteworthy point is private benefits such measured is its lower bound. If the premium of superior share are jointly decided by the magnitude of obtainable private benefits and the probability of control contest (Zingales, 1994, 1995), The measured private benefits for a firm with absolute control (a holder hold more than 50%) will be close to 0 due to the negligible probability of control contest, however enormous the actual private benefits is.

### **3. 3. 2. Studies on block holding adjustment**

Change of block holding has long been associated with liquidity, overvaluation, and private benefits. Bhidé (1993) and Coffee (1991) argue that liquid market allows large investors to sell out if they receive adverse information about a company, by contrast, a less liquid market forces them to hold on to their investment and to use their votes to influence the company to achieve better returns or enhance corporate Governance. In a similar vein, Huddart (1993) and Admati, Pfleiderer, and Zechner (1994) show how such a market may induce a large shareholder to sell rather than incur the cost of monitoring. Mayer (1988), Bhidé (1993), Roe (1994) and Kojima (1995) step further to contend that the strength of Japanese and German corporate governance systems is that they ensure better involvement in firms of large (institutional) shareholders by restricting their ability to trade controlling blocks in secondary markets. They argue that shareholder activism in the US and the UK can only work effectively when similar trading restrictions on active institutional investors are set up. Accordingly, they advocate the reversal of US stock market regulations which, they argue, have systematically pursued secondary market liquidity over effective shareholder control.

Overvaluation is another widely discussed factor motivating block holding's disposition. Kahn and Winton (1998) break a large shareholder's gain into two parts: trading gain and monitoring gain, they argue that the shareholder will cut-and-run if the market overvalue the firm.

The link between private benefits and block holding adjustment are also theoretically and empirically touched. DeMarzo and Urosevic (2006) modeled the adjustment of block holding by considering both the trading gain and private benefits. They show that the speed of adjustment is negatively correlated with the private benefits of control. Cheng, Nagar, and Rajan (2004) empirically examined the relationship between holding adjustment and control benefits. They infer the value that managers place on the control rights conferred by stock ownership by using the introduction of second-generation anti-takeover legislation as a natural experiment. The argument is managers will reduce their stockholdings in the post-legislation period because they can ensure their prior level of control while holding fewer risky shares. This study demonstrates control considerations plays a key role in managers' stockholding decisions, the insider ownership, as predicted, reduced in the post-legislation period and the reductions are concentrated in management teams with higher levels of initial ownership and in firms without poison pills.

An ideal way to examine the relationship between private benefits and institutional holding adjustment is directly check if the change of private benefits causes the change of institutional holding. However, such an attempt faces enormous difficulty. Empirically, time series data on private benefits (either premium of block transaction or premium of superior share) is difficult, if not impossible, to obtain. For example, given a firm, find a long enough series of block transaction record is difficult. Further, One institution's realized premium doesn't reliably map others' magnitude and inflow territory of private benefits. This fact renders an empirically extrapolated difference measure of

private benefits unreliable. On the other hand, the problem harassing the superior votes premium is that it's a measure of lower bound. Lower bound private benefits difference and actual private benefits difference are conceptually and, in most cases, practically remote from each other.

### **3. 4. Linking private benefits to holding change by market sentiment: A simplified scenario**

Similar to the methodology used by Cheng, Nagar, and Rajan (2004), this study uses a unique experiment to test if institutional holding are private benefits driven. Market sentiment is introduced as an exogenous factor which is assumed to induce change of private benefits by imposing on block holders an opportunity cost.

Market sentiment is the general attitude, pessimism or optimism, towards the market (Baker and Stein, 2004; Baker and Wurgler, 2006). In the presence of short-sale constraints, high liquidity is a symptom of market dominated by irrational investors. A market dominated by irrational investors is called market of high sentiment. Irrational investors tend to consider others to be less well-informed than they are. This aspect of overconfidence lowers the price impact of trades, boost liquidity, and overvalue the market at aggregate (Baker and Wurgler, 2006). The argument that liquidity and overvaluation are both symptoms of market sentiment is a sharp resonance of the discovery that insider sales in internet companies---unlike similar transactions in "old economy" firms---were not accompanied by negative stock-price impacts (Schultz and Zaman, 2001; Meulbroek, 2000) and the finding that the beta-adjusted returns of the high-spread portfolio exceed those of the low-spread portfolio by 0.7 percent per month (Amihud and Mendelson, 1986). In bullish markets, institutional sells have weaker price



impact than purchases (Chiyachantana et al, 2004). It's not so far fetching to suspect that block holders time their holding adjustment when the market sentiment is high.

To operationize this idea, We compare an institutional holder's decision on the holding loaded with less private benefits (in the extreme case the private benefits is 0) to the holding loaded with less private benefits. Following table demonstrates, with a simplified example, how market sentiment affect block holders' decision on holding adjustment by posing an opportunity cost of private benefits.

	Fundamental Value	High Sentiment Benefits	Private Benefits	Net Profit from Selling	Decision
Firm H	10	+1	+2	-1	Not Sell
Firm M	10	+1	+1	0	(Indifference)
Firm L	10	+1	0	+1	Sell

The fundamental value of three firms held by a given institution is assumed, for simplicity, to have the same value 10. Current private benefits obtained from different firms are 2,1, and 0 (the benchmark company), respectively. When the market sentiment is high, all three firms present the institutional holder 1 unit of market sentiment associated benefit which can be captured by selling out 1 share. The origin of the benefits, among plausible sources, is overvaluation<sup>37</sup> or enhanced diversification. It

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<sup>37</sup> Overvaluation is associated with firm characteristics (Kahn and Winton, 1998; Baker and Stein, 2004; Baker and Wurgler, 2006), for example, firms with severe information asymmetry are more likely to be overvalued. Empirically, Chiyachantana et al (2004) verified that high sentiment overvaluation is associated with firm characteristics. Particularly, size premium doesn't exist when market sentiment is high (Baker and Stein, 2006). Firm size is controlled for empirical test.

follows that selling in this market condition brings net profits -1,0, and 1. Consequently, while the holder is indifferent of selling or not for its holding in the firm (M) with private benefits the same magnitude of market sentiment associated benefits, he will be better off if downsizing its holding in the firm (L) with lower private benefits and remain holding unchanged in the firm (H) with higher private benefits.

### **3. 5. Hypothesis and test design**

This logic suggests that, when the market sentiment is high, private benefits as the motivation of institutional holder can be detected by its different holding adjustment decision with regard to shares loaded with variant private benefits. Precisely, the hypothesis to be examined is: When market sentiment is high, institutions tend to shed more shares loaded with less private benefits. This will not be true when market sentiment is low. The less is the private benefits obtained in a firm, the more likely an institutional investor will reduce the holding when market sentiment is high. The same pattern won't be observed when market sentiment is low.

Methodologically, the introduction of market sentiment enables us to circumvent the difficult of using changed private benefits as an explanatory variable. However, a cross sectional measure of private benefits still needs to be obtained to map the affluence and meagerness of private benefits among firms held by an institutional holder. In this study, a firm is categorized as private benefits affluent if the firm's share is of dual class, otherwise the firm is categorized as private benefits meager.<sup>38</sup>

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<sup>38</sup> The alternative is a continuous measures based on either block transaction premium or superior share premium. However, sample size will be small in both cases, especially for certain type of institutional holders. Block transaction data is not available for most institutional holders, measuring superior share premium mandates the firm has all classes of share float, this is not the case for most multi-class share

### 3. 5. 1. Private benefits: Where is more and where is less

It is well acknowledged that block holders of dual-class firms consume less private benefits. Zweibel (1995) assume private benefits are divisible and large investors would like to invest their money across firms in a manner that maximizes benefits from control. The model predicts, and a preliminary empirical examination confirms that large block shareholders will create their own space in the sense that their presence in a firm will deter other block investors; In equilibrium, there are three different types of block holding structure: firms with one very large shareholder and no small block shareholders, firms consisting of numerous small block shareholders but no dominant shareholders, and firms with one large shareholder and many small block shareholders. The last holding structure mirrors dual class firm whose insiders' proportion of voting rights are generally close to or beyond an absolute control i.e., 50%.

Zingales (1995) use Shapley-value<sup>39</sup> to quantify the probability of potential control contest in the future. Zingales contends that When only one entity controls a majority of votes, the probability (shapley value) of control contest will be close to zero. When there is only one large shareholder who owns a minority of votes, then we can expect this probability to be low, but not nil. By contrast, we expect this probability to be high when there are multiple large shareholders with similar stakes. If control benefits is divisible and the probability of control contest is small for dual class firms, it is not far fetching to conclude that block holders of dual class firms will expect less private benefits than that from firms without a dominant shareholder since in dual class firms the

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firms. The method employed by this study is not constrained by the limitation and significantly increases the sample size.

Further, the focus of this study is not to quantify private benefits. Any indicator capable of differentiating firm of affluent private benefits from firm of meager private benefits will serve the purpose sufficiently.

<sup>39</sup> see Milnor and Shapley (1978) and Rydqvist(1987) for an application.

dominant shareholder needs no coalition to ward off potential or de facto contest. For example, in the HP and Deutsche bank case, a dual class HP might need no vote from Deutsche bank to defeat Walter Hewlett the contesteer. It follows that Deutsche bank won't be able to capture its share of private benefits from HP.

Zweibel's classification of ownership structure is reminiscent of DeAngelo and DeAngelo's (1985) argument that the dual class system facilitates investors' segmentation. The majority shareholders can concentrate on superior vote stocks and establish a majority vote at low costs. Other public investors, who are less interested in control, hold inferior vote stocks primarily; yet receive a fair share of the dividends. Indeed, many dual class firms pay a higher dividend on the low-voting share class to compensate for the reduced voting rights (Doidge, 2004)

Brennan and Frank's (1997) reduced monitoring hypothesis postulates that private benefits explain IPO underpricing. Greater underpricing generates excess demand for IPO shares, which in turn allows an issuer to increase outside ownership dispersion. Smart and Zutter (2003) conjecture and empirically verified that this motive is absent or substantially reduced for dual-class issuers because their capital-structure design concentrates voting power among management. With voting control secured, dual-class managers lack the incentive to underprice to prevent subscription-market block formation.

Finally, in the universe of dual class firms, only 20% to 30% have all classes of common stock trading. For the rest of majority cases, some classes of common shares are not traded and the traded shares are of inferior class. This fact technically enhances the reliability of the private benefits measure. Even if an institution holds superior share of dual class firm, the shares adjusted are most likely of inferior class which is not private benefits charged.

Essentially, the hypothesis can be verified by testing following specification.

$$\Delta_{it} = \alpha + \beta_2 X + \beta_1 \text{SEN}_t + \beta_3 [\text{SEN}_t * \text{DUAL}] + \varepsilon_{it}$$

Given an institutional holder,  $\Delta_{it}$  stands for the net adjustment of its holding on firm  $i$  at time  $t$ .  $X$  is a vector composed of macro and firm level control variables.  $\text{SEN}_t$ , a two level dummy with high market sentiment as reference level, denotes market sentiment at time  $t$ ;  $\text{DUAL}_t$ , also a two level dummy with non-dual as reference level, represents the firm is of dual class or not at time  $t$ .  $[\text{SEN}_t * \text{DUAL}]$  serves the purpose of teasing the dual class (private benefits) effect at high sentiment market from a lump-sum or stand alone dual class effect. A lump-sum dual class effect is not interested for two reasons: 1) Although dual class might impact the an institutions' motivation of entry, as suggested by DeAngelo and DeAngelo's segmentation theory, the effect of dual class itself on the change of an institution's incumbent holding is not clear. 2) the transformation from dual class to non-dual class or the other way is generally rare, therefore it makes no much sense to use a time stable factor to predict the change. The paramount interest of research is  $\beta_3$ , the hypothesis will be supported if  $\beta_3$  is negative when market sentiment is high and otherwise when market sentiment is low.

### 3. 6. Data and sample

The dependent variable, change of institutional holding, is calculated from Thomson financials CDA/Spectrum database derived from Form 13(f).<sup>40</sup> The database is composed

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<sup>40</sup> Under the Securities Exchange Act of 1934 (rule 13 f), Institutional investment managers who exercise investment discretion over \$100 million or more in Section 13(f) securities (Primarily Exchange traded and NASDAQ-quoted securities) must report their holdings on Form 13F with the SEC. An institution manager is defined as an entity that either invests in, or buys and sells securities for its own account or exercise such investment discretion over the account of any other natural person or entity. All holdings in excess of 10,000 shares and/or with a market value over \$200,000 must be reported at the last day of each quarter. The report includes issuer name of the securities traded, a description of the class of

of two parts, S12 and S34. S12 contains mutual funds only, S34 contains all other institutions. This study identifies from S34 five other types of institutions of which include insurance company, commercial bank, investment company, investment advisor, and public pension fund. Thomson financial assigns a unique code to all types of institutions in S34 except public pension fund which is listed with all other institutions such as endowment funds, charity funds etc under a single code "other". Public Pension fund is identified from the mix by matching the name of institutions in the "other" category with a comprehensive list of public pension funds identified from SEIU (Service Employee International Union) and other sources.<sup>41</sup>

For each type of institutional holders held more than 5% of a firm, the quarter change of holding in a firm is annually aggregated. Financial and foreign firms are not considered. The aggregation excludes all convertibles, rights, and grants. Since market sentiment is measured at the end of each year, the holding change aggregation starting at the third quarter of year t and ends at the second quarter(exclusive) of year t+1 to be compatible with the equity price pattern as discussed in Baker and Wurgler (2005).<sup>42</sup> Besides the institutional holding change, insiders' holding change is also calculated from Thomson's insider trading database derived from the first table of Form 3, Form 4, Form 5, and Form 144 which are SEC mandated to file for insiders' trading. The change of holding made by an insider on any of the three levels as specified by Thomson Financial

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security, number of shares owned, and the fair market value of the securities, as of the end of the calendar quarter.

<sup>41</sup> Due to a misalignment of Thomson Financial data merge, the category "Other" after 1999 contains many institutions which should be have been categorized otherwise. To rectify this error, Commercial Bank, Insurance Company, Investment Advisor, Investor Company after 1999 is picked out of the "other" category by name matching. Consequently, changes of holding for institution identified with any of the four types and report only after 1999 is not included in the sample.

<sup>42</sup> Baker and Wurgler (2005) fund the market overvalued when sentiment is high. Especially, size premium disappeared. Annual return coined for this study has its time range centered on December when the sentiment measure is calculated. In other words, this treatment allows the market sentiment took some time to build up, stay for a while, and then wane.

database is counted.<sup>43</sup> It makes intuitive sense that holding change is linked with firm size. Trading volume for large size firm are most likely bigger than that for small size firm. To alleviate any size effect irrelevant to impact the test, the holding change is normalized by the firm size. Due to the missing of report from some institutions, missing of report for some quarter, or both of them, it's possible that the holding change of an institution made on a firm exceeds 1 in magnitude. All such cases are excluded from the sample. For the remaining sample, the top and lower 5% percent of observations are also removed.

Market sentiment is from Wurgler's website.<sup>44</sup> This measure is the principal component of six sentiment indicators of which includes the closed-end fund discount, NYSE share turnover, the number and average first-day returns on IPOs, the equity share in new issues, and the dividend premium. Dual class data is from Metrick's website.<sup>45</sup> Market return, risk free rate, and stock prices are from CRSP, HML and SMB are from Kenneth French's website, market momentum data is from wrds; market liquidation data is from wrds and a detailed instruction for the measure can be found in Pastor and Stambaugh (2003).

### **3. 7. Empirical tests**

Table 3.1 summarizes the descriptive statistics of institutional ownership structure and adjustment on all their portfolio firms. An institutional investor is described along three

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<sup>43</sup> For example, the first level include: CB, Chairman of the Board; CEO, Chief Executive Officer; CO, Chief Operating Officer; GC, General Counsel; P, President

<sup>44</sup> For a detailed description of the coining of the measure, see Baker and Wurgler (2005).

<sup>45</sup> For detailed description of the dataset, see Gompers, Ishii, and Metrick (2006). The dual class data includes years 1990,1993,1995,1998,2000,2002,2004,2005,2006

dimensions. The first dimension is its overall ownership adjustment in one year. The second dimension is the average ownership of the institutional investors over its portfolio firms, and the last dimension is if it owns a firm beyond a given threshold. Each dimension is broke into 5 categories with cut-off points 1%, 5%, 10%, and 15%.

Table 3.2 repeat the same procedure on four different samples of firms. In the upper panel, the first sample is composed of dual-class and the second sample non-dual class firms. In the lower panel, the firms sample is composed of small firms and the second sample is composed of large firms.

Table 3.3 describes the same statistics for different institutional investors which are Bank, Insurance Company, Investment Advisor, Investment Company, Public Pension Fund, and Mutual Fund.

Table 3.4 shows the results of regression of share holding change over explanatory variables. The first panel is the full sample results. The change made by institutions and insiders are all included. Panel 2 and panel 3 are the results for institutions and insiders, respectively. For each panel, the test is conducted on two model specifications. The difference is the first model contains a lump-sum effect of dual class over time, the second model disentangles the lump-sum effect by examining its effect separately at time periods of high and low market sentiment. Several evident patterns surfaces: First, the coefficient for market sentiment (reference level is high market sentiment) is significantly negative. This effect held invariant with regard to holders' identity and model specifications. This fact implies institutions and insiders in general tends to held fewer in low sentiment period in comparison to their holding in high sentiment period (a hot market).

Second, the lump-sum effect of Dual class is significantly negative for insiders (Panel 3) but not for institutions (Panel 2), which suggests, over time, insiders of dual



class firms tend to downsize more in comparison to non-dual class firms. This result makes intuitive sense in that insiders of dual class firms hold the majority of superior voting shares, disposition of inferior shares or a small fraction of superior shares enhance wealth diversification and pose no serious threats to their control.

Third, the second regression in each panel disentangles the lump-sum effect of dual class by dividing it into two parts, dual class effect at high sentiment period and dual class effect at low sentiment period. For the full sample, the dual class effect at low market sentiment is not significant. In contrast, dual class effect at high market sentiment turns out to be significant. This pattern will buttress the hypothesis if it is driven by institutional holding. Noteworthy, in the institution subsample, a significant negative dual class effect shows up when the market sentiment is high. For insiders, the dual class effect at high sentiment period, while stay negative, is not significant. Therefore the pattern is institutional holding driven and lends strong support to the hypothesis, i.e., due to lack of private benefits, institutional holders of dual class firms are inclined to held fewer when the market is at high sentiment.

Interestingly, for insiders, the sign of dual class effect are negative at both high sentiment and low sentiment period, with the latter marginally significant. These two effects aggregated to a significant lump-sum dual class effect in the first regression. As discussed above, dual class insiders' holdings are less diversified, compare to peers in non-dual class firms, they are either more likely to dispose or less likely to increase their holding.

**Table 3. 1. Descriptive statistics of holding change and ownership structure**

This table presents the full sample descriptive statistics of institutional holding change and institutional ownership structure of firms included in the sample. **Total changes by holders  $\geq 1\%$**  denotes the institutional total change (firm size normalized) of holding for a given company in a particular time range (from 06/30 of year t to 06/30 of year t+1, the sample start from 1990, not all years included, only years where dual class and non-dual class identified in the dual class data are included). For a change to be included, the holder who makes the change must hold at least 1% of the company's outstanding share one quarter before the change (special classes of share such as rights, deferred shares etc are excluded). The statistics is repeated for holding threshold set at 5%, 10%, and 15%. Foreign companies, firms in financial sectors and REIT not included. **Ave. Holding of Holders  $\geq 1\%$**  denotes the average holding proportion (%) of institutional shareholders whose holding are at least 1%. This statistics are repeated for holding threshold set at 5%, 10%, and 15%. **Num. of Holders  $\geq 1\%$**  denotes the total number of institutional holders who hold at least 1% of a firm. This statistics is also repeated for holding threshold set at 5%, 10%, and 15%.

	Sum	Mean	Var	Max	Min	N
Total Change by holders $\geq 1\%$	-313.4	-0.003172	0.01021	0.9992	-0.9933	98790
Total Change by holders $\geq 5\%$	132.1	0.001337	0.007294	0.9992	-0.9933	98810
Total Change by holders $\geq 10\%$	71.81	0.00134	0.01028	0.9992	-0.9933	53600
Total Change by holders $\geq 15\%$	-34.57	-0.0009582	0.01301	0.9992	-0.9933	36080
Ave. Holding of Holders $\geq 1\%$	3536	0.04785	0.001343	0.995	0.01468	73900
Ave. Holding of Holders $\geq 5\%$	6307	0.08534	0.001982	0.995	0.05	73900
Ave. Holding of Holders $\geq 10\%$	4258	0.1443	0.003997	0.995	0.1	29500
Ave. Holding of Holders $\geq 15\%$	2433	0.2095	0.006931	0.9989	0.15	11620
Num. of Holders $\geq 1\%$	1322000	17.89	343.1	152	1	73900
Num. of Holders $\geq 5\%$	313500	4.242	16.73	47	1	73900
Num. of Holders $\geq 10\%$	78664	2.666	4.137	21	1	29503
Num. of Holders $\geq 15\%$	23722	2.042	1.882	12	1	11617

**Table 3. 2. Subsample descriptive statistics of holding change and ownership structure**

This table presents the descriptive statistics of institutional holding change and institutional ownership structure of non-dual class firms vs. dual class firms (Panel 1) and upper 50% market size firm vs. lower 50% market size firms (panel 2). **Total changes by holders  $\geq 1\%$**  denotes the institutional total change (firm size normalized) of holding for a given company in a particular time range (from 06/30 of year t to 06/30 of year t+1, the sample start from 1990, not all years included, only years where dual class and non-dual class identified in the dual class data are included). For a change to be included, the holder who makes the change must hold at least 1% of the company's outstanding share one quarter before the change (special classes of share such as rights, deferred shares etc are excluded). The statistics is repeated for holding threshold set at 5%, 10%, and 15%. Foreign companies, firms in financial sectors and REIT not included. **Ave. Holding of Holders  $\geq 1\%$**  denotes the average holding proportion (%) of institutional shareholders whose holding are at least 1%. This statistics are repeated for holding threshold set at 5%, 10%, and 15%. **Num. of Holders  $\geq 1\%$**  denotes the total number of institutional holders who hold at least 1% of a firm. This statistics is also repeated for holding threshold set at 5%, 10%, and 15%.

	Non-dual Firms						Dual Firms					
	Sum	Mean	Var	Max	Min	N	Sum	Mean	Var	Max	Min	N
Ave. Holding of Holders $\geq 5\%$	-354.9100	-0.0112	0.0101	0.9427	-0.9243	31609	-49.7100	-0.0147	0.0146	0.9607	-0.9820	3374
Ave. Holding of Holders $\geq 10\%$	-106.2100	-0.0034	0.0055	0.9427	-0.9243	31610	-22.9100	-0.0068	0.0090	0.9607	-0.9820	3375
Ave. Holding of Holders $\geq 15\%$	-58.1900	-0.0035	0.0063	0.9427	-0.9243	16701	-17.6400	-0.0094	0.0116	0.9607	-0.9820	1879
Num. of Holders $\geq 1\%$	-53.5600	-0.0049	0.0070	0.9427	-0.9243	10928	-15.5700	-0.0118	0.0137	0.9607	-0.9820	1315
Num. of Holders $\geq 5\%$	970.0000	0.0403	0.0007	0.8480	0.0152	24084	104.9000	0.0415	0.0007	0.4592	0.0161	2529

Num. of Holders >=10%	1960.5000	0.0814	0.0012	0.9278	0.0500	24084	215.8000	0.0853	0.0018	0.5575	0.0500	2529
Num. of Holders >=15%	1267.9000	0.1366	0.0022	0.9278	0.1000	9283	157.3000	0.1494	0.0039	0.6764	0.1000	1053
	Small Size Firms (Lower 50%)						Large Size Firms (Upper 50%)					
	Sum	Mean	Var	Max	Min	N	Sum	Mean	Var	Max	Min	N
Total Change by holders >=1%	11.4000	0.0003	0.0070	0.9911	-0.9806	37479	-352.6000	-0.0061	0.0120	0.9992	-0.9902	57784
Total Change by holders >=5%	101.7890	0.0027	0.0062	0.9911	-0.9806	37492	2.5840	0.0000	0.0076	0.9992	-0.9902	57786
Total Change by holders >=10%	108.2100	0.0054	0.0096	0.9911	-0.9806	20151	-64.1500	-0.0021	0.0103	0.9992	-0.9902	29923
Total Change by holders >=15%	74.4300	0.0054	0.0124	0.9911	-0.9806	13723	-136.7500	-0.0073	0.0132	0.9992	-0.9902	18825
Ave. Holding of Holders >=1%	1659.0000	0.0594	0.0020	0.9950	0.0164	27928	1877.0000	0.0408	0.0008	0.8829	0.0147	45973
Ave. Holding of Holders >=5%	2493.0000	0.0893	0.0026	0.9950	0.0500	27928	3814.0000	0.0830	0.0016	0.9278	0.0500	45973
Ave. Holding of Holders >=10%	1660.0000	0.1498	0.0053	0.9950	0.1000	11082	2598.0000	0.1410	0.0032	0.9278	0.1000	18421

**Table 3.3. Descriptive statistics of holding change and firm ownership structure by different institutions**

This table presents the descriptive statistics of holding change and ownership structure of firm for different types of institutional holders. **Total changes by holders  $\geq 1\%$**  denotes the institutional total change (firm size normalized) of holding for a given company in a particular time range (from 06/30 of year t to 06/30 of year t+1, the sample start from 1990, not all years included, only years where dual class and non-dual class identified in the dual class data are included). For a change to be included, the holder who makes the change must hold at least 1% of the company's outstanding share one quarter before the change (special classes of share such as rights, deferred shares etc are excluded). The statistics is repeated for holding threshold set at 5%, 10%, and 15%. Foreign companies, firms in financial sectors and REIT not included. **Ave. Holding of Holders  $\geq 1\%$**  denotes the average holding proportion (%) of institutional shareholders whose holding are at least 1%. This statistics are repeated for holding threshold set at 5%, 10%, and 15%. **Num. of Holders  $\geq 1\%$**  denotes the total number of institutional holders who hold at least 1% of a firm. This statistics is also repeated for holding threshold set at 5%, 10%, and 15%.

	<b>Bank</b>						<b>Insurance Company</b>					
	Sum	Mean	Var	Max	Min	N	Sum	Mean	Var	Max	Min	N
Total Change by holders $\geq 1\%$	-37.0768	-0.0048	0.0029	0.3604	-0.7500	7676	8.2968	0.0020	0.0027	0.5024	-0.8111	4197
Total Change by holders $\geq 5\%$	15.5638	0.0020	0.0022	0.3604	-0.7500	7677	15.5854	0.0037	0.0024	0.4936	-0.8090	4198
Total Change by holders $\geq 10\%$	13.5667	0.0061	0.0056	0.3604	-0.7500	2239	11.7904	0.0100	0.0063	0.4936	-0.8090	1181
Total Change by holders $\geq 15\%$	7.2174	0.0077	0.0108	0.3604	-0.7500	943	7.9962	0.0164	0.0126	0.4936	-0.8090	487
Ave. Holding of Holders $\geq 1\%$	403.7000	0.0526	0.0031	0.8250	0.0147	7677	273.0000	0.0650	0.0036	0.8825	0.0172	4198
Ave. Holding of Holders $\geq 5\%$	683.4000	0.0890	0.0040	0.9278	0.0500	7677	365.4000	0.0870	0.0041	0.8825	0.0500	4198
Ave. Holding of Holders $\geq 10\%$	369.5000	0.1638	0.0085	0.9278	0.1000	2256	190.7000	0.1589	0.0093	0.8825	0.1000	1200
Ave. Holding of Holders $\geq 15\%$	229.9000	0.2397	0.0125	0.9278	0.1500	959	116.6000	0.2337	0.0158	0.8825	0.1501	499
Num. of Holders $\geq 1\%$	76098	9.9120	38.5900	41	1	7677	21913	5.2200	10.1000	24	1	4198
Num. of Holders $\geq 5\%$	19170	2.4970	2.4690	12	1	7677	9723	2.3160	1.9340	12	1	4198
Num. of Holders $\geq 10\%$	5291	2.3450	1.9947	9	1	2256	2573	2.1440	1.5664	9	1	1200
Num. of Holders $\geq 15\%$	2225	2.3200	1.8358	8	1	959	964	1.9320	1.4974	9	1	499
	<b>Investment Advisor</b>						<b>Investment Company</b>					
Total Change by holders $\geq 1\%$	84.6418	0.0096	0.0021	0.4295	-0.2969	8845	177.6550	0.0088	0.0035	0.4950	-0.6258	20217
Total Change by holders $\geq 5\%$	101.2207	0.0114	0.0018	0.4295	-0.2759	8849	188.6800	0.0093	0.0027	0.5450	-0.6272	20218

Total Change by holders >=10%	78.8807	0.0226	0.0024	0.4234	-0.3001	3487	102.7469	0.0147	0.0047	0.4950	-0.6016	6986
Total Change by holders >=15%	50.1428	0.0510	0.0030	0.4234	-0.3158	983	42.9238	0.0172	0.0090	0.4950	-0.5951	2492
Ave. Holding of Holders >=1%	484.5000	0.0548	0.0007	0.5181	0.0172	8849	935.1000	0.0463	0.0011	0.9950	0.0154	20218
Ave. Holding of Holders >=5%	753.6000	0.0852	0.0010	0.6360	0.0500	8849	1698.4000	0.0840	0.0021	0.9950	0.0500	20218
Ave. Holding of Holders >=10%	467.0000	0.1321	0.0013	0.7407	0.1000	3536	1060.2000	0.1476	0.0050	0.9950	0.1000	7181
Ave. Holding of Holders >=15%	186.0000	0.1858	0.0026	0.7407	0.1500	1001	576.6000	0.2202	0.0087	0.9950	0.1500	2619
Num. of Holders >=1%	68133	7.7000	38.5100	61	1	8849	319882	15.8220	151.7000	90	1	20218

**Public Pension Fund**

**Mutual Fund**

Total Change by holders >=1%	-776.0476	-0.0381	0.0243	0.8369	-0.9527	20378	228.9028	0.0182	0.0019	0.4687	-0.8813	12573
Total Change by holders >=5%	-361.0536	-0.0177	0.0129	0.9308	-0.7275	20383	171.8996	0.0137	0.0014	0.4687	-0.8813	12576
Total Change by holders >=10%	-217.8983	-0.0182	0.0117	0.9735	-0.7275	12008	82.4975	0.0295	0.0031	0.4623	-0.8813	2796
Total Change by holders >=15%	-172.2363	-0.0301	0.0141	0.8768	-0.6599	5721	29.1602	0.0535	0.0105	0.4622	-0.8813	545
Ave. Holding of Holders >=1%	949.9000	0.0466	0.0010	0.8941	0.0158	20383	489.9000	0.0390	0.0006	0.9861	0.0152	12576
Ave. Holding of Holders >=5%	1849.5000	0.0907	0.0016	0.8941	0.0500	20383	956.4000	0.0761	0.0010	0.9861	0.0500	12576
Ave. Holding of Holders >=10%	1781.9000	0.1444	0.0029	0.8971	0.1000	12343	388.6000	0.1301	0.0030	0.9861	0.1000	2987
Ave. Holding of Holders >=15%	1203.0000	0.2018	0.0045	0.9989	0.1500	5962	121.4000	0.2104	0.0107	0.9861	0.1500	577
Num. of Holders >=1%	307897	32.7670	663.8500	152	1	20383	168046	13.3620	90.9600	74	1	12576
Num. of Holders >=5%	61675	7.4410	32.0060	47	1	20383	32413	2.5770	3.4460	19	1	12576
Num. of Holders >=10%	13169	3.4970	6.0855	21	1	12343	4565	1.5280	0.9197	13	1	2987
Num. of Holders >=15%	3159	2.2070	2.2015	12	1	5962	778	1.3480	0.6927	9	1	577

**Table 3. 4. Holding change results over full sample and subsamples for institutions and Insiders**

This table summarizes the dual effects on holding change, both the lump-sum effect and separated effect at high sentiment and low sentiment market. The effects are checked against the full sample and two contrasting subsampels, institutions as a whole and insiders. **Dependent Variable** is firm size normalized total change of holding for a given company in a particular time range (from 06/30 of year t to 06/30 of year t+1). For a change to be included, the holder who makes the change must hold at least 5% of the company's outstanding share one quarter before the change (special classes of share such as rights, deferred shares etc are excluded). Foreign companies, firms in financial sectors and REIT not included. *rf* denotes yearly risk free rate of Treasury bond; *exmret* denotes yearly equity market excess return; *exfret* is the difference between firm return and the sum of risk free rate and market excess return. *hml* and *smb* are the Fama-French factors, *umd* is the yearly market momentum factor; *liq* is the yearly market liquidity innovation factor from Pastor and Stambaugh (2003). It is measured at 12/30 of each year. Size is a dummy variable; *sizeL* denotes the firm is large (top 50%) based on market size calculated as the average of its quarter sizes which is price multiplied by outstanding shares; *sent* is a dummy variable; *sentC* denotes low market sentiment (cold market) if the sentiment index (Baker and Wurgler, 2005) used is smaller than 0; Dual is a dummy variable; *Dual* indicates dual class firm, this index is from Gompers, Ishii, and Metrick (2006). \* denotes significance at 0.10 level, \*\* at 0.05 level, \*\*\* for 0.01 or lower level.

	All		Institutions		Insiders	
(Intercept)	0.202***	0.202***	0.264***	0.263***	0.097***	0.098***
	(34.02)	(33.96)	(40.42)	(40.31)	(6.42)	(6.42)
Excessive Market Return	-16.645***	-16.629***	-22.26***	-22.23***	-6.482***	-6.492***
	(-41.19)	(-41.13)	(-49.73)	(-49.64)	(-6.37)	(-6.37)
Risk Free Return	-31.793***	-31.779***	-42.886***	-42.86***	-12.981***	-12.989***
	(-33.45)	(-33.43)	(-41)	(-40.98)	(-5.4)	(-5.41)
Excessive Firm Return	0.001*	0.001**	0	0	-0.001	-0.001

	(1.89)	(1.83)	(0.46)	(0.37)	(-0.88)	(-0.86)
Fama_French HML	-8.222***	-8.215***	-10.92***	-10.906***	-3.247***	-3.251***
	(-42.92)	(-42.86)	(-51.37)	(-51.28)	(-6.74)	(-6.74)
Fama_French SMB	-0.092	-0.091	-0.7***	-0.7***	1.502***	1.502***
	(-0.8)	(-0.8)	(-5.46)	(-5.46)	(5.16)	(5.16)
Liquidity	-2.165***	-2.166***	-3.548***	-3.55***	0.629***	0.629***
	(-25.52)	(-25.53)	(-37.23)	(-37.25)	(3.05)	(3.05)
Momentum	18.746***	18.74***	25.877***	25.865***	5.569***	5.573***
	(54.07)	(54.05)	(66.65)	(66.62)	(6.52)	(6.52)
Firm Size	-0.001	-0.001	0.003*	0.003*	-0.01***	-0.01***
	(-0.61)	(-0.62)	(1.73)	(1.71)	(-3.43)	(-3.42)
Low Market Sentiment	-0.061***	-0.06***	-0.073***	-0.073***	-0.041***	-0.041***
	(-21.36)	(-21.15)	(-23.26)	(-22.95)	(-5.7)	(-5.72)
Dual Class Firm	-0.003**		-0.002		-0.006**	
	(-2.04)		(-1.39)		(-2.08)	
		-0.001		0.001		-0.007*
Low Market Sentiment x Dual Class		(-0.61)		(0.47)		(-1.79)
		-0.004*		-0.006**		-0.005
High Market Sentiment x Dual Class		(-2.32)		(-2.54)		(-1.14)
R-square	0.1616	0.1616	0.3256	0.3257	0.0073	0.0072
DF	34620	34619	22535	22534	8136	8135

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For institutional holdings, the significance of dual class effect at high market sentiment can stem from several sources: 1) Institutions dispose more holding in dual class firms, 2) institutions acquire less shares of dual class firms; 3) Institutions dispose more dual class holding but also acquire more dual class shares, however, the disposition effect dominates. The first scenario provides unequivocal support for the hypothesis. The third scenario is also in favor of the hypothesis but hints it doesn't tell the whole story. The second scenario is a rejection.

Separated analysis on the subsample of disposition (negative change) and acquisition (Positive change) will decide which scenario is true. The first panel of Table 3.5 summarizes the results for institutional holders. The lump-sum effect of dual class is significant only for disposition but not acquisition. Separating the lump-sum dual class effect on high and low market sentiment indicates dual class has no effect on acquisition whatever the market sentiment is. In contrast, a significant dual class effect on disposition shows up only when market sentiment is high. This pattern caters to the first scenario which is an unequivocal support of the hypothesis i.e., institutional holders dispose significantly more dual class holding at high sentiment market. Meanwhile, the pattern for insiders suggests they dispose more shares and also acquire more but the disposition effect dominates. Surprisingly, in stark contrast to institutional holders, this pattern occurs at low sentiment period instead of high sentiment period. The difference between insiders and institutions are expected. The insiders, unlike institutional holders, capture private benefits, their disposition tendency may be motivated by diversification, this diversification motivation is amplified in a cold market possibly because they try to avoid a collision with institutional holders and liquidity crunch.

So far, we ask the question: Is this effect held universally across the spectrum of institutional holders or only for some of them. The question is justifiable in the light some

institutional holders, such as mutual fund, are well known follower of the diversification principle. Private benefits as an idiosyncratic characteristic might fail to play any role in their portfolio adjustment, consequently, we should not observe any dual class effect, either lump-sum or interaction with market sentiment.

Tests conducted on different types of institutional holders will answer the question. Institutional holders are divided into three groups; the first group includes mutual fund, investment company, and investment advisor; the second group includes bank and insurance companies; the last group contains public pension funds.

Institutions in the first group are supposed to follow diversification principles, private benefits might not be a determinant of their holding change. The tests are conducted on investment companies and investment advisors for two reasons: 1) Given a firm, Thomson financial database aggregate mutual fund holding when it comes to holding of investment company and advisors. For example, both the Magellan fund and the Freedom 2000 fund are managed by Fidelity; the holding of Fidelity includes both fund's holding and its holding via other channels. If difference between mutual fund and investment company or advisors surfaces, it is possible that investment company or investment advisors invest assets other than mutual funds with different strategies. 2) There is empirical evidence on investment advisor's pursuit of private benefits. For example, Bodnaruk, Massa, and Simonov (2007) find that investment advisors to the bidders often have positions in the target before the deal announcement and they profit from such a position. Advisors also directly affect the outcome of the deals, negotiating conditions that increase the probability of success. Bank and insurance companies, as discussed before, tend to be involved in self-dealing and conflicted interest. Finally, pension funds tend to exercise their power on purpose which is not aligned with shareholders' value maximization but more akin to political crusading.

**Table 3. 5. Acquisition and disposition subsample results for institution and insider**

This table gives the results of model fitting over acquisition (positive change) and disposition (negative change) subsample of both institutions and insiders. **Dependent Variable** is firm size normalized acquisition/disposition for a given company in a particular time range (from 06/30 of year t to 06/30 of year t+1). For a change to be included, the holder who makes the change must hold at least 5% of the company's outstanding share one quarter before the change (special classes of share such as rights, deferred shares etc are excluded). Foreign companies, firms in financial sectors and REIT not included. *rf* denotes yearly risk free rate of Treasury bond; *exmret* denotes yearly equity market excess return; *exfret* is the difference between firm return and the sum of risk free rate and market excess return. *hml* and *smb* are the Fama-French factors, *umd* is the yearly market momentum factor; *liq* is the yearly market liquidity innovation factor from Pastor and Stambaugh (2003). It is measured at 12/30 of each year. Size is a dummy variable; *sizeL* denotes the firm is large (top 50%) based on market size calculated as the average of its quarter sizes which is price multiplied by outstanding shares; *sent* is a dummy variable; *sentC* denotes low market sentiment (cold market) if the sentiment index (Baker and Wurgler, 2005) used is smaller than 0; Dual is a dummy variable; *Dual* indicates dual class firm, this index is from Gompers, Ishii, and Metrick (2006). \* denotes significance at 0.05 level, \*\* at 0.01 level, and \*\*\* at 0.001 level.

	Panel 1: Institutions				Panel 2: Insiders			
	Disposition		Acquisition		Disposition		Acquisition	
(Intercept)	0.173*** (13.69)	0.172*** (13.67)	0.008 (1.37)	0.008 (1.35)	-0.074* (-2.22)	-0.075* (-2.23)	0.122*** (8.24)	0.121*** (8.19)
Excessive Market Return	-17.528*** (-20.52)	-17.527*** (-20.52)	1.907*** (3.91)	1.917*** (3.92)	5.467* (2.42)	5.502* (2.44)	-8.702*** (-8.78)	-8.66*** (-8.73)
Risk Free Return	-32.181*** (-15.94)	-32.208*** (-15.95)	2.086* (2.08)	2.097* (2.09)	1.999 (0.38)	2.235 (0.43)	-12.593*** (-5.34)	-12.536*** (-5.31)
Excessive Firm Return	0.002 (1.47)	0.002 (1.42)	-0.001 (-1.75)	-0.001 (-1.77)	-0.001 (-0.92)	-0.001 (-0.84)	0.004** (2.86)	0.004** (2.85)

Fama_French HML	-8.789***	-8.788***	1.19***	1.195***	3.371**	3.379**	-4.651***	-4.633***
	(-21.82)	(-21.82)	(4.97)	(4.99)	(3.16)	(3.17)	(-9.89)	(-9.85)
Fama_French SMB	-0.84***	-0.836**	0.043	0.042	-1.334*	-1.331*	1.984***	1.985***
	(-3.29)	(-3.28)	(0.49)	(0.48)	(-2.22)	(-2.21)	(6.78)	(6.79)
Liquidity	-2.281***	-2.279***	-0.284***	-0.285***	0.284	0.26	0.329	0.323
	(-12.23)	(-12.22)	(-3.36)	(-3.37)	(0.67)	(0.61)	(1.58)	(1.56)
Momentum	19.577***	19.593***	-1.143*	-1.147*	-5.326**	-5.346**	7.812***	7.795***
	(27.97)	(27.99)	(-2.25)	(-2.26)	(-2.88)	(-2.89)	(9.26)	(9.24)
Firm Size	-0.006*	-0.006*	0.007***	0.007***	0.005	0.005	-0.009**	-0.009**
	(-2.3)	(-2.32)	(6.19)	(6.2)	(0.76)	(0.8)	(-3.14)	(-3.16)
Low Market Sentiment	-0.059***	-0.058***	0.01***	0.01***	0.011	0.01	-0.042***	-0.041***
	(-9.41)	(-9.32)	(3.81)	(3.85)	(0.75)	(0.65)	(-5.93)	(-5.79)
Dual Class Firm	-0.006*		0.002		-0.018***		0.012***	
	(-2.45)		(1.56)		(-3.58)		(3.57)	
Low Market Sentiment x Dual		-0.002		0.002		-0.027***		0.015***
Class		(-0.56)		(1.64)		(-3.89)		(3.43)
High Market Sentiment x Dual		-0.009**		0.001		-0.008		0.007
Class		(-2.69)		(0.41)		(-1.13)		(1.57)
R-square	0.2339	0.234	0.0327	0.0326	0.017	0.0179	0.0286	0.0287
DF	9897	9896	12627	12626	2948	2947	5103	5102

Table 3.6 summarizes the tests conducted on subsamples in the first group; the first panel is for mutual fund, the second panel for the subsample containing both investment advisors and investment company, the third and last panel for their separated results. The dual effects are not significant all across the four subsamples, either lump-sum or interaction with market sentiment. Table 3.7 is the results conducted for subsamples in the second group, the first panel is for the combination of bank and insurance, the second and third panel for bank and insurance company, respectively. While the signs are correct in most cases, no dual class effect is significant. A separated check on disposition and acquisition is thus not necessary.

The supportative pattern comes up for public pension fund (Table 3.8). The first panel is the regression results with holding change as the dependent variable; the second and third panel aim to identify the driver of the significance by executing the test separately on the disposition and acquisition subsample. To sum up, Public pension funds tend to held fewer of the dual class shares when the market sentiment is high, and this result is driven by disposition. The conclusion is that public pension funds shed more dual class shares when the market sentiment is high.

### **3. 8. Robust test and discussion**

Badrinath and Wahal (2002) fund the institutional entry of a firm can be explained by momentum but the adjustment of incumbent holding are contrarian. Intuitively market sentiment is associated with momentum; a high sentiment market might be a market riding on the upward momentum as well. If institutional entry is momentum driven, the dual class effect observed on change might be weaker or even

**Table 3. 6. Holding change results for mutual fund, investment company, and investment advisor**

This table summarizes the dual effects on holding change, both the lump-sum effect and separated effect at high sentiment and low sentiment market. The effects are checked against the subsamples of mutual fund, Investment Company, and investment advisors. **Dependent Variable** is firm size normalized total change of holding for a given company in a particular time range (from 06/30 of year t to 06/30 of year t+1). For a change to be included, the holder who makes the change must hold at least 5% of the company's outstanding share one quarter before the change (special classes of share such as rights, deferred shares etc are excluded). Foreign companies, firms in financial sectors and REIT not included. *rf* denotes yearly risk free rate of Treasury bond; *exmret* denotes yearly equity market excess return; *exfret* is the difference between firm return and the sum of risk free rate and market excess return. *hml* and *smb* are the Fama-French factors, *umd* is the yearly market momentum factor; *liq* is the yearly market liquidity innovation factor from Pastor and Stambaugh (2003). It is measured at 12/30 of each year. Size is a dummy variable; *sizeL* denotes the firm is large (top 50%) based on market size calculated as the average of its quarter sizes which is price multiplied by outstanding shares; *sent* is a dummy variable; *sentC* denotes low market sentiment (cold market) if the sentiment index (Baker and Wurgler, 2005) used is smaller than 0; *Dual* is a dummy variable; *Dual* indicates dual class firm, this index is from Gompers, Ishii, and Metrick (2006). \* denotes significance at 0.05 level, \*\* at 0.01 level, and \*\*\* at 0.001 level.

	Mutual fund		IA&IC		Inv Adv.		Inv Com.	
(Intercept)	0.023**	0.023**	0.163***	0.163***	0.104***	0.104***	0.178***	0.178***
	(2.74)	(2.8)	(31.52)	(31.48)	(9.15)	(9.17)	(27.44)	(27.4)
Excessive Market Return	-1.013.	-1.04.	-13.92***	-13.917***	-8.88***	-8.906***	-14.913***	-14.907***
	(-1.85)	(-1.89)	(-37.7)	(-37.68)	(-9.61)	(-9.63)	(-33.29)	(-33.27)
Risk Free Return	-1.281	-1.315	-24.274***	-24.271***	-15.055***	-15.091***	-26.374***	-26.372***
	(-0.97)	(-0.99)	(-29.16)	(-29.15)	(-7.97)	(-7.99)	(-25.78)	(-25.77)
Excessive Firm Return	-0.001***	-0.001***	0.003***	0.003***	0.011***	0.011***	0.001	0.001
	(-3.93)	(-3.82)	(4.06)	(4.04)	(6.39)	(6.41)	(0.76)	(0.73)

Fama_French HML	-0.587*	-0.599*	-6.902***	-6.901***	-4.492***	-4.506***	-7.357***	-7.355***
	(-2.27)	(-2.32)	(-39.11)	(-39.09)	(-9.92)	(-9.94)	(-34.46)	(-34.44)
Fama_French SMB	0.336*	0.334*	0.606***	0.606***	0.865***	0.868***	0.483***	0.483***
	(2.38)	(2.36)	(5.52)	(5.52)	(3.61)	(3.62)	(3.43)	(3.44)
Liquidity	-0.02	-0.019	-1.735***	-1.735***	-1.356***	-1.356***	-1.644***	-1.645***
	(-0.17)	(-0.16)	(-20.81)	(-20.81)	(-6.32)	(-6.32)	(-16.89)	(-16.89)
Momentum	1.026*	1.039*	15.038***	15.037***	9.805***	9.82***	15.853***	15.854***
	(2.22)	(2.25)	(44.9)	(44.89)	(10.37)	(10.38)	(40.33)	(40.33)
Firm Size	0.001	0.001	0.005***	0.005***	0.004*	0.004*	0.005**	0.005**
	(0.69)	(0.68)	(3.5)	(3.5)	(2.04)	(2.05)	(2.83)	(2.83)
Low Market Sentiment	-0.006	-0.007	-0.053***	-0.053***	-0.031***	-0.032***	-0.06***	-0.06***
	(-1.54)	(-1.66)	(-20.6)	(-20.44)	(-5.23)	(-5.27)	(-19.04)	(-18.87)
Dual Class Firm	0.001		0.001		0.001		0.001	
	(0.51)		(0.76)		(0.4)		(0.47)	
Low Market Sentiment x Dual Class		-0.001		0.001		0		0.002
		(-0.59)		(0.74)		(-0.07)		(0.83)
High Market Sentiment x Dual Class		0.003		0.001		0.003		0
		(1.36)		(0.32)		(0.77)		(-0.14)
R-square	0.0055	0.0058	0.2814	0.2813	0.0691	0.0689	0.3534	0.3534
DF	3905	3904	9867	9866	3197	3196	6659	6658

**Table 3. 7. Holding change results for bank and insurance company**

This table summarizes the dual effects on holding change, both the lump-sum effect and separated effect at high sentiment and low sentiment market. The effects are checked against the subsamples of Banks and insurance company. **Dependent Variable** is firm size normalized total change of holding for a given company in a particular time range (from 06/30 of year t to 06/30 of year t+1). For a change to be included, the holder who makes the change must hold at least 5% of the company's outstanding share one quarter before the change (special classes of share such as rights, deferred shares etc are excluded). Foreign companies, firms in financial sectors and REIT not included. *rf* denotes yearly risk free rate of Treasury bond; *exmret* denotes yearly equity market excess return; *exfret* is the difference between firm return and the sum of risk free rate and market excess return. *hml* and *smb* are the Fama-French factors, *umd* is the yearly market momentum factor; *liq* is the yearly market liquidity innovation factor from Pastor and Stambaugh (2003). It is measured at 12/30 of each year. Size is a dummy variable; *sizeL* denotes the firm is large (top 50%) based on market size calculated as the average of its quarter sizes which is price multiplied by outstanding shares; *sent* is a dummy variable; *sentC* denotes low market sentiment (cold market) if the sentiment index (Baker and Wurgler, 2005) used is smaller than 0; Dual is a dummy variable; *Dual* indicates dual class firm, this index is from Gompers, Ishii, and Metrick (2006). \* denotes significance at 0.05 level, \*\* at 0.01 level, and \*\*\* at 0.001 level.

	Bank & Insurance		Bank		Insurance	
(Intercept)	0.078***	0.078***	0.056***	0.056***	0.129***	0.129***
	(10.54)	(10.49)	(6.12)	(6.06)	(9.86)	(9.87)
Excessive Market Return	-6.575***	-6.561***	-4.873***	-4.845***	-10.744***	-10.77***
	(-12.96)	(-12.92)	(-7.94)	(-7.9)	(-11.94)	(-11.95)
Risk Free Return	-12.628***	-12.615***	-10.219***	-10.197***	-19.358***	-19.385***
	(-10.65)	(-10.64)	(-7.2)	(-7.18)	(-8.98)	(-8.99)
Excessive Firm Return	0	0	0	0	0.001	0.001
	(1.03)	(0.98)	(0.65)	(0.52)	(1.13)	(1.16)



Fama_French HML	-3.007***	-3***	-2.409***	-2.397***	-4.798***	-4.812***
	(-12.43)	(-12.4)	(-8.22)	(-8.18)	(-11.2)	(-11.22)
Fama_French SMB	-0.299.	-0.296.	-0.269	-0.26	-0.247	-0.248
	(-1.81)	(-1.8)	(-1.26)	(-1.22)	(-0.95)	(-0.95)
Liquidity	-1.114***	-1.115***	-1.2***	-1.203***	-1.145***	-1.148***
	(-9.75)	(-9.75)	(-8.73)	(-8.75)	(-5.52)	(-5.53)
Momentum	7.738***	7.732***	6.397***	6.395***	11.519***	11.541***
	(17.32)	(17.3)	(11.96)	(11.96)	(14.17)	(14.17)
Firm Size	0.004*	0.004*	0.006*	0.005*	0.004	0.004
	(2.35)	(2.35)	(2.1)	(2.07)	(1.55)	(1.54)
Low Market Sentiment	-0.023***	-0.022***	-0.01*	-0.009*	-0.047***	-0.047***
	(-6.11)	(-6)	(-2.23)	(-2.06)	(-7.11)	(-7.13)
Dual Class Firm	-0.001		0.002		-0.005	
	(-0.45)		(0.69)		(-1.57)	
Low Market Sentiment x Dual Class		0.001		0.006.		-0.006
		(0.23)		(1.73)		(-1.58)
High Market Sentiment x Dual Class		<b>-0.002</b>		<b>-0.002</b>		<b>-0.003</b>
		(-0.86)		(-0.59)		(-0.53)
R-square	0.1264	0.1263	0.1035	0.104	0.1954	0.1951
DF	5367	5366	3470	3469	1886	1885

**Table 3. 8. Holding change results for public pension funds**

This table summarizes the dual effects on holding change, both the lump-sum effect and separated effect at high sentiment and low sentiment market. The effects are checked over the subsample for public pension fund. **Dependent Variable** for the left panel is firm size normalized total change of holding for a given company in a particular time range (from 06/30 of year t to 06/30 of year t+1). Dependent variable for the right panel is the acquisition (positive change) / disposition (negative change). For a change to be included, the holder who makes the change must hold at least 5% of the company's outstanding share one quarter before the change (special classes of share such as rights, deferred shares etc are excluded). Foreign companies, firms in financial sectors and REIT not included. *rf* denotes yearly risk free rate of Treasury bond; *exmret* denotes yearly equity market excess return; *exfret* is the difference between firm return and the sum of risk free rate and market excess return. *hml* and *smb* are the Fama-French factors, *umd* is the yearly market momentum factor; *liq* is the yearly market liquidity innovation factor from Pastor and Stambaugh (2003). It is measured at 12/30 of each year. Size is a dummy variable; *sizeL* denotes the firm is large (top 50%) based on market size calculated as the average of its quarter sizes which is price multiplied by outstanding shares; *sent* is a dummy variable; *sentC* denotes low market sentiment (cold market) if the sentiment index (Baker and Wurgler, 2005) used is smaller than 0; Dual is a dummy variable; *Dual* indicates dual class firm, this index is from Gompers, Ishii, and Metrick (2006). \* denotes significance at 0.05 level, \*\* at 0.01 level, and \*\*\* at 0.001 level.

	Public Pension Fund					
	Net Change		Disposition		Acquisition	
(Intercept)	0.482***	0.481***	0.405***	0.404***	-0.034	-0.034
	(17.37)	(17.35)	(8.22)	(8.2)	(-1.43)	(-1.44)
Excessive Market Return	-41.628***	-41.547***	-38.713***	-38.605***	6.395***	6.418***
	(-22.42)	(-22.39)	(-11.63)	(-11.61)	(3.65)	(3.66)
Risk Free Return	-83.566***	-83.593***	-72.398***	-72.358***	6.072	6.081

Excessive Firm Return	(-18.76)	(-18.78)	(-9.18)	(-9.19)	(1.58)	(1.58)
	-0.001	-0.001	0.002	0.002	-0.002**	-0.002**
Fama_French HML	(-1.21)	(-1.31)	(0.71)	(0.61)	(-2.9)	(-2.91)
	-20.299***	-20.259***	-19.366***	-19.316***	3.662***	3.674***
Fama_French SMB	(-22.96)	(-22.93)	(-12.27)	(-12.26)	(4.29)	(4.3)
	-6.835***	-6.833***	-5.08***	-5.09***	-0.699*	-0.695*
Liquidity	(-19.33)	(-19.33)	(-8.2)	(-8.23)	(-2.29)	(-2.28)
	-3.021***	-3.012***	-1.184	-1.139	-1.815***	-1.815***
Momentum	(-5.89)	(-5.88)	(-1.33)	(-1.28)	(-4.85)	(-4.85)
	48.607***	48.586***	43.387***	43.443***	-5.033**	-5.053**
Firm Size	(31.83)	(31.84)	(16.27)	(16.31)	(-2.95)	(-2.96)
	0.014***	0.014***	0.002	0.001	0.01**	0.01**
Low Market Sentiment	(3.52)	(3.49)	(0.3)	(0.19)	(3.24)	(3.25)
	-0.136***	-0.134***	-0.138***	-0.135***	0.036***	0.036***
Dual Class Firm	(-10.25)	(-10.13)	(-5.91)	(-5.81)	(3.49)	(3.51)
	-0.009**		-0.023***		0.004.	
Low Market Sentiment x Dual Class	(-2.83)		(-4.55)		(1.86)	
		0		-0.004		0.005.
		(0.05)		(-0.5)		(1.85)
High Market Sentiment x Dual Class		-0.021***		-0.038***		0.003
		(-4.38)		(-5.7)		(0.6)
R-square	0.5864	0.587	0.5346	0.5361	0.053	0.0529
DF	7289	7288	3369	3368	3909	3908

disappear when the first entry holding is included. With the first entry holding<sup>46</sup> included, the result doesn't change at all, the stability suggest that the holding adjustment difference between dual class and non-dual class at high sent market can't be attributed to the first entry factor. This result corroborates the finding that the significant dual class effect on change is disposition driven instead of acquisition driven.

Since the dependent variable holding change is created on the firm level, the observed pattern might be confounded by firm characteristics not considered. Further, time consistent firm characteristics tend to causes time series correlation in the error thus reduce the inference validity. To address this issue, a random effect model is fitted with an AR(1) error structure, the observed pattern survived this test. Outliers presents another challenge to the analysis, the discussed analysis is conducted on samples removing the top and bottom 5% observations. To ensure the result is not outlier driven, the tests are repeated on samples removing the top and bottom 10% and 20% observations. Alternatively, Robust regression is applied to the sample with top and bottom 5% observations removed. Again, the results survived both tests. Different versions of market sentiment measure are also checked. The market sentiment index, crude or orthogonalized with fundamental pricing factors, is feed into the test in its continuous form, the results come out without material change. Particularly, in some cases the hypothesis supporting patterns turns out to be marginally significant for banks and insurance companies.

Notable differences rise when the dependent variable includes all changes made by institutional holders whose holding is at least 1% instead of 5%. In this case, the observed pattern doesn't held well, in fact, the effect is only marginally significant in the public pension fund case, it doesn't come up at all in some cases with different market

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<sup>46</sup> A change is identified as first entry holding if, at time  $t$ , the holding change equals total holding.

sentiment measure or outlier removing threshold. The effect's fading with the lowered ownership threshold may reflect the fact that institutions with small stake are not private benefit seekers, such investor in a dual class firm and non-dual class firms may simply follow the same strategy. Consequently, in aggregate and overtime, their holding adjustments with regard to both types of firms don't exhibit any difference. As side evidence, the pattern hold well if the ownership threshold is larger than 5%, such as 10% and 15%.

Dual class as a categorical measure of private benefits can be a parcel of many factors. These factors present alternative explanations for institutional holding change and they might partially or fully take away the power of private benefits. Two alternatives are worthy of consideration. Firstly, it can be that institutions holding dual class firms are systematically less diversified than those holding non-dual class firms; Secondly, dual class firms are more prone to overvaluation than non-dual class firms. If these alternatives are true, the same pattern might be observed as well even if dual class firm and non-dual class firm are identical along the private benefits dimension. In the first case, high market sentiment elicits a stronger motivation of diversification for institutions in dual class firms. In the second case, institutional holders of dual class firm faces a better trade-off opportunity.

There are several ways to address the first alternative. A strenuous method is to control each qualified institution's extent of diversification e.g., a Herfindahl index. However, an equally valid method is to directly control the institution. If institutions holding dual class firms won't hold non-dual class firms and they are less diversified, the alternative will be supported providing the institution control takes away the explaining power of dual class. Technically, given an ownership threshold, institution owning at least one dual firm is labeled as 1, others are labeled as 0. For the public pension fund sample, the correlation between this variable and the dual class dummy is about 0.31, far

from 1, when a 5% threshold is used and rise to 0.67 when the threshold is 15%. Therefore, each public pension funds qualified by the 5% threshold roughly has equal presentation in both dual and non-dual firms. The high correlation in the 15% threshold sample can be understood in the light that it's risky to hold at least 15% in two or more than two firms, especially when the firm size is large. A noteworthy point is the correlation is likely underestimated, especially when the threshold is high. When an institution is counted as one holding both dual and non-dual firms, it is possible the two firms are not held simultaneously. Generally, it seems safe to conclude the pattern observed in the sample with a 5% threshold is driven by private benefits of dual and non-dual firm instead of systematic difference among institutions who hold them. The second concern can be assuaged by the fact that firm level excess return is controlled and the firm level random effects model doesn't dispute the hypothesis.

There are patterns which can't be fully addressed in this study due to space limitation or lack of immediate relevance. For example, while the institution shareholders shed more dual class share at high market sentiment, the insiders of dual class firms tends to shed more shares at low market sentiment. This is not the case for non-dual class firms. A possible explanation is that insiders do this methodically to avoid credit crunch.

### **3. 9. Conclusion**

This study is aimed to answer the question if private benefit is a driver of institutional block holding. It is assumed that the change of institutional holding will signal the existence of private benefits when the market sentiment is high. A high sentiment market poses for institutional shareholders a chance to cash in the overvaluation or enhance their diversification by taking advantage of the abundant liquidity and weaker selling impact on price. In effect, the alternative chances might

induce an institutional block holder, while stay with shares loaded with private benefits overwhelming the alternative, to shed more shares loaded with less private benefits.

In support of the conjecture, the empirical examination yields evidence showing that institutional block holders are inclined to hold fewer shares of dual class firms, this inclination can be attributed to the fact that they dispose more dual class shares instead of acquiring less. In comparison to institutional holders, insiders of dual class behave somewhat different due to the fact they capture private benefits with institutional holder in non-dual class firms and dominate private benefits in dual class firms. The insiders of dual class firms are to dispose more than insiders of non-dual class firm at both high and low sentiment market, A possible reason might be their highly concentrated holding and control facilitating voting structure in dual class firms evoke stronger demand for diversification. Finally, the significant effect of institutions are mainly driven by pension funds, banks and insurance companies hints the effect, and diversification principle follower such as mutual fund, investment advisors, and investment companies shows no such effect at all.

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