Agency and Portfolio Choice in Public Pension Funds

(Very Preliminary)

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Abstract

Boards of public pension funds are prone to unique agency frictions because of their status as being in the public sector. We model public pension boards' hiring and compensating of investment managers to achieve optimal portfolios for constituents. Agency conflicts manifest in board preferences over manager quality and portfolio choice, reflecting underfunding pressures, outrage constraints on paying market compensation to managers, bureaucratic incentives and board political capture. Testing the model in global data covering $5.4 trillion of assets, we find underfunding induces risking-up to hedge funds (a 37% change) and private equity (a 23% change). However, boards cannot hire more skilled managers to oversee these riskier portfolios if worker are prone to outrage (having lower incomes). Whereas underfunded boards act as if less risk averse, funds with bureaucrat trustees instead look overly conservative, taking 0.05 portfolio weight away from risky asset classes. Consistent with a story of picking discrete, politically-favored funds, political boards invest 0.017 away from vanilla equities into hedge funds and private equity, which respectively underperform by 7.4% and 1.8%. We tie the mechanism to a hiring of lower quality managers ($243,293 lower pay), consistent with our model that board influence over investment manager quality and compensation matters.

Keywords: Public pension funds, underfunding, state investment, pension board of directors, trustees, fund management, bureaucracy, governance, politicization, asset allocation, compensation

JEL codes: G11, G23, G30

1 Introduction

Bad news keeps coming from the New York Common pension fund, a $141 billion public fund, overseen by a single elected official, the New York City Comptroller. In a pay-to-play scandal, the Comptroller, his political advisor and the Chief Investment Officer of the fund, received millions of personal payments and donations to the Comptroller's political campaign, in exchange for having directed the fund to invest in specific risky investments. Subsequent investigations by the new comptroller revealed high levels of investments in the riskiest asset classes at the heart of the scandal and underperformance in these asset classes compare to benchmarks, to the tune of $2.8 billion. Moreover, additional investigations suggested it was woefully ill equipped to manage in this risky space, having just two people on staff to manage a $10 billion private equity portfolio, and being unable to pay market wages.

Is this pattern of politicization of decision making, bad choices and poor performance endemic to political asset management funds, or is this an aberration? This is an important question as sovereign and public pension funds (hereafter, *public funds*) control over $10 trillion in assets as of 2015 according to Towers Watson. In this paper, we tackle these questions first by introducing a model that highlights four agency frictions that can be particularly acute in public funds, exploring their theoretical impact on investment manager quality, asset allocation decisions and performance. We then test the theoretical predictions in hand-collected data on board structures, governance, manager compensation, asset class allocations, and performance, accounting for more than $5.6 trillion in assets. While all public funds are potentially exposed to such political agency frictions, we exploit the fact that some have insulated themselves from these risks through board structure choices made long ago and other exogenous factors, giving us cross-sectional and time series variation.

Political agency frictions facing public funds are multi-dimensional. The first two challenges we model are well known – those arising from underfunding of some public funds and those arising from politicians' pursuit of side-benefits, as illustrated in the New York pension plan example. A large literature explores how these frictions can increase risk appetite and lower performance, including Binsbergen and Brandt (2011); Dyck and Morse (2011); Ang, Chen and Sundaresan (2013); Brown, Pollet, and Weisbenner (2015); Hochberg and Rauh (2013);

Bernstein, Lerner, and Schoar (2013); Andonov, Bauer and Cremers (2016); and Andonov, Hochberg and Rauh (2016).

We introduce two additional challenges public funds can face. First, we allow for an 'outrage' pay constraint that public funds face that limits their ability to hire talent. This captures the well-known constraint politically-connected organizations face in setting pay also highlighted in the New York City pension funds example (and something we confirm in our data). We show that board recognition of this pay constraint should change management quality and lower risk appetite, and if ignored should reduce performance in risky asset classes. Second, we introduce an agency friction that we call 'bureaucratic incentives'. The New York fund example is unusual in having one trustee. More common is a board composed of individuals elected and/or appointed by politicians, as well as having beneficiary representatives. In examining detailed information on the identity of political board members, we find that most board members are not politicians in the pure sense that have short time horizons arising from periodic elections, but rather are career civil servants. Reducing fund risk appetite serves the bureaucrats career concerns. Our empirical results show that these two new political agency frictions create distortions in asset management that are of the same order of magnitude in importance as underfunding and political side-benefits, and need to be considered to estimate the overall impact of public status on asset allocation and performance.

We frame our contributions in a mean-variance portfolio choice model, showing how all four of these political agency frictions affect intermediate outcome measures of managerial quality and compensation and final outcome measures of portfolio allocations and performance. The setup is one of a public pension board hiring and compensating an investment manager, who constructs the portfolio over assets. The board's hiring and compensating investment managers involves three dimensions of choice. First, boards choose the experience level of the investment manager. Experience leads to skill in capturing the full risk premium, but has no payoff in fixed income investing. Since the investment manager's outside options are increasing in experience, the board chooses the level of management skill by setting the expected pay level. Second, boards choose the risk of the portfolio by setting a linear contract term on fund performance. Third, in addition to the standard fixed income asset and a mean-variance frontier risky asset, our model includes a third asset that is also risky but non-frontier in returns. This asset produces benefits for politicians. Boards choose the weight, if any, on the political asset by offering a side

payment added to the compensation contract proportional to the investment weight in the political asset.

The ultimate owners of the pension fund are its constituent beneficiaries. If the board represented constituents only, the board would offer the manager a compensation contract that would induce her to invest in a mean-variance efficient portfolio over fixed income and a frontier risky asset. Boards, however, do not always perfectly represent constituents. Board members of public funds derive private benefits or costs from fund choices, and those factors predict differences in compensation contracts, asset allocations and performance.

The first political agency friction we explore is underfunding of liabilities. As Ang, Chen and Sundaresan (2013) have noted, underfunding creates pressures on funds resulting from the costs associated with seeking and securing additional funding if the fund return realization is below that which is needed to cover liabilities. In the Ang et al model, managers respond as if they have lower risk aversion, risking up their portfolios in response. In our comparative statics, a less risk averse board sets a compensation contract to induce the manager to tilt the portfolio away from fixed income and toward the frontier risky asset. In addition, the board will want to hire a skilled manager to capture the risk premium from the now larger risky allocation.

However, a second political agency friction may come into play. There is often outrage when political organizations pay high salaries, and because the careers of board members of public funds are particularly sensitive to negative media attention, they are predicted to more actively avoid such outrage by lowering pay, even if that comes at the cost of asset management performance. We predict that outrage will relate to the average wage of beneficiaries, with more outrage for paying high asset management salaries when the beneficiaries earn the lowest average wages.

A third political agency friction comes from the possibility that board members are pure politicians that face periodic elections. Their prominent position makes them particularly well positioned to benefit from political investments – those that enhance the local economy to produce votes, those that enhance their own careers through campaign contributions, and those that enhance their own, powerful pockets. This, for example, provides them benefits from investing in the political asset that do not flow to fund beneficiaries. Since the political asset does not have as much sensitivity to manager skill, the model predicts that politicized boards will hire lower quality managers and risky asset classes' performance will suffer.

Finally, we allow for the possibility that some board members on public funds are career civil servants. Their bureaucratic incentives provide predictable impacts on how they will approach their trustee role. This individual has little reason to worry about electoral outcomes. Having self-selected a civil servant role, their career concerns are best achieved by seeking stability in public fund returns, which can be modeled as an aversion to risky assets. As Holmstrom (1999) noted, administrators with career concerns might be overly risk averse if their decisions shapes perceptions about their talent. In this case, boards would be afraid to recommend investments with downside risks, possibly resulting in an allocation incongruent with the risk preferences of the beneficiaries.

We leverage the rich set of comparative statics from the modelled frictions for the empirical analysis. For the empirical tests, we hand collect a data set that seeks to include all 'large' politically connected funds globally. The resulting dataset includes data on 166 public pension funds and sovereign funds from five regions – the U.S., Canada, Oceania, Scandinavia and the U.K., and Continental Europe for 1996-2014. Our sample accounts for $5.6 trillion at the end of the sample period. Our use of global data allows us to explore a larger range of governance structures and asset allocations, and ensures that our results speak to a meaningful portion of the world's government pension holdings.

An important aspect of the data is the hand-collected information on board structures and board member characteristics. This data that shows the high proportion of board members that have career civil servant type roles and leads us to consider the impact of bureaucratic incentives on fund choices. The data also includes rich information on management characteristics consistent with skill and novel information on salary levels. This information is not only interesting of itself, it provides additional opportunities to test model hypotheses and flesh out a potential channel through which political agency frictions affect outcomes.

To set the stage for our analysis, we first provide new evidence that outrage constraints can affect compensation practices. As a proxy for cross-sectional variation across funds exposure to outrage constraints, we construct an outrage variable as the inverse of the log of average worker wages, under the assumption that outrage is more likely among lower paid pension workers. We show that our measure of outrage is strongly correlated with the compensation of the investment manager (CEO) of a given pension fund.

Our first contribution is to document the effect of liability concerns on public pension funds. We find that within public funds, the degree of underfunding induces a risking-up. On average, a pension fund with a standard deviation higher underfundedness allocates a statistically significant 0.003 more portfolio weight to hedge funds (a 37% change) and 0.020 more to real estate/private equity (a 23% change). In exchange, they allocate less to fixed income and infrastructure and natural resources. The percentage change in allocation to fixed income is small relative to the mean allocation in fixed income (a 3% change); however, the additional allocation to hedge funds and real estate/private equity is quite large relative to their means. We find no evidence that the risking-up due to underfunding results in higher portfolio performance, but it does result in more portfolio volatility. This is consistent with the new work of Andonov, Bauer and Cremers (2016).

Our second contribution is to show that outrage of the media and of part of the constituents can distort the hiring decisions of the board of a given pension fund. We provide evidence that a one standard deviation larger outrage variable associates with hiring an investment manager (CEO) with total compensation 20.4% ($138,419) lower than the manager with optimal quality. Outrage also induces overweighting in natural resources and infrastructure, which can be interpreted as an orientation asset classes perceived as having potential to impact on the welfare of citizens, thus improving their image of the board towards the public and the media.

Our third contribution is that political control of the board, captured by a politician as board chair, is associated with underperformance and greater allocations to risky assets. We estimate that pensions with political chairs have 1.8 percentage points lower returns within private equity and real estate. This finding is consistent with a similar finding in Adonov, Hochberg and Rauh (2016) and Hochberg and Rauh (2012) for private equity. We show, in addition that this underperformance extends to other risky asset classes. We find underperformance in hedge funds (by 7.4 percentage points) and perhaps (statistically weakly) in infrastructure and natural resources.

We find that in addition political chairs risk-up portfolios by switching into the riskier asset classes within the set of risky asset classes, keeping fixed income allocations constant. Political chairs invest 0.009 more portfolio weight in hedge funds (a 109% change) and 0.012 more in private equity and real estate (an 14% change) in exchange for less weight in vanilla public equities.

A question emerges as to the motivation for this risking-up. We document that these politicized chairs have more professional financial industry experience than other board chairs. Thus, it could be that the risking-up reflects an effort to enhance reputation through increasing returns in asset classes that have a greater variation in returns. The other possibility is that these riskier asset classes (hedge funds and private equity / real estate) present greater opportunities for providing political favors with their more discrete investment choices vis-a-vis public equities. Facts that push interpretation towards a political favoritism explanation include the underperformance in these asset classes, and the lower compensation levels for chief investment officers on boards with a political chair. This result suggests an additional cost to politicization of public pensions, with poorer quality management contributing to underperformance, a real cost to workers and retirees.

Consistent with the importance of the political channel for asset allocation choices, we also find evidence that a shock to the importance of politicization affects subsequent asset allocations. As in Adonov et al (2016), the shock we take advantage of is an abnormally large increase in political contributions at the state level, that we find leads pension funds with a political chair to invest substantially more in hedge funds and real estate/private equity. As before, the size of these effects is small 0.009 more allocations to hedge funds and 0.013 more to real estate/private equity, but the change represents a 107% increase for the hedge funds and 15% increase for real estate/private equity.

Our final contribution is to provide evidence that the friction arising from board exposure to political bureaucrats works in the opposite direction of the other political agency frictions, leading to a de-risking of the portfolio. We find that a pension fund with a single extra bureaucrat on the board of trustees allocates 0.021 (6% change) more of portfolio weight to fixed income and 0.024 (72% change) more portfolio weight to natural resources and infrastructure, while allocating a significant 0.02 less (23% change) in allocations to real estate/private equity and a 0.03 less (5% change) in vanilla equities. This suggests that the relationship between politicization and risk taking is complex, with a mitigating role provided by politicians with bureaucratic incentives.

2 A Model

The owners of a pension fund are its constituents, the beneficiaries. Constituents, if perfectly represented, would invest in a mean-variance efficient portfolio over a risky asset and fixed income, incorporating their risk aversion λ_C. Pension boards, however, represent the constituents imperfectly over three decision dimensions that affect portfolio choice – investment manager skill, risk level, and portfolio weight on politically-motivated assets.

2.1 Assets and Investment Manager Quality

The pension board hires and compensates an investment manager to allocate the pension's capital among asset classes and to construct within-asset class portfolios (often via delegation choices). Managers are risk averse, with the same risk aversion as the constituents of the pension fund λ_C. Managers are heterogeneous in only one dimension, their degrees of experience, represented by the quality parameter *s*. The supply of any type of manager is transparent and perfectly competitive. A manager of type *s* has an outside option $O(s)$, where $O(\cdot)$ is an increasing function such that more experienced managers have higher outside options.

The manager chooses portfolio weights among three assets: fixed income, mean-variance efficient securities and political assets. Fixed income pays a riskless return r_f:

$$Fixed\ Income: E[R_f] = r_f$$

We assume that there is a mean-variance efficient risky security variance σ_{MV}^2 and risk premium φ_{MV}. Intuitively, this asset represents an arbitrary frontier portfolio of risky securities, and any pension fund not affected by agency problems would invest in a combination of the MV-efficient security and fixed income. Managers only earn a fraction *s* of the potential premium φ_{MV}, in proportion to their skill. Only managers with maximal skills (i.e., $s = 1$) can capture the full underlying risk premium:

$$\text{Mean variance efficient securities: } E[R_{MV}] = r_f + s\varphi_{MV}$$

The political asset has variance σ_P^2 and risk premium φ_P. It has a worse Sharpe ratio than the MV-efficient security, but bestow upon the board a political gain, which we describe on the next subsection.

$$\text{Political Asset: } E[R_P] = r_f + s\varphi_P \text{ where } \varphi_P/\sigma_P < \varphi_{MV}/\sigma_{MV}$$

For tractability, we assume that the MV-efficient securities and political assets have a joint normal distribution with correlation ρ, which is large enough to prevent hedging between asset classes.[1]. The manager's job is to form the portfolio by selecting the weights on MV-efficient securities, political assets, and fixed income as w_{MV}, w_P, and $(1 - w_{MV} - w_P)$, respectively.

2.2 Preference for Risk

Although investment managers and constituents have the same risk aversion λ_C, effective board risk aversion, denoted by λ_B, can be affected by liability obligations. Ang, Chen, and Sundaresan (2012) model the tensions pensions face due to the constant need to fund payments to retirees. Their main inference is that when funding is low, pension boards have a lower effective risk aversion, i.e., a desire to "swing for the fences". The resulting risk-taking behavior is similar to gambling for resurrection ideas of Addoum, van Binsbergen, and Brandt (2012).

Another reason for incongruity in risk preferences stems from the career concerns of the board members. As Holmstrom (1999) noted, administrators take into account that the results from their decisions will impact beliefs about their true skills, which in turn influences their future career possibilities. This leads, in theory, to an overly conservative portfolio allocation.

Because our agenda is mainly empirical, we adopt reduced form conclusions from these models by assuming that career concerns and underfunded status results in a higher risk appetite, as in:

$$\lambda_B = \frac{\lambda_C}{\theta} \tag{2}$$

where θ is an exogenous variable capturing the risking-up pressure.

2.3 Political Incentives

Another conflict of interest between the constituents and the board comes from the incentive to tilt the portfolio allocation towards assets that might provide some political gain to the board, which we call political assets. Andonov, Hochberg and Rauh (2016) find that U.S. pension funds with political boards tend to invest in less profitable private equity funds, and Dyck and Morse

[1] Hochberg and Rauh (2012) find no evidence of such hedging. The preclusion of any hedging is admittedly overly strong for practice. However, the gist of the model is about risking up or down and tilt toward politicized asset classes, which focuses on the asset class mix as the mechanism to achieve risk preferences. See the appendix for the explicit restriction on ϱ that prevents the portfolio manager from taking short positions in any asset class.

(2009) and Bernstein, Lerner and Schoar (2009) show a similar pattern in the investments of sovereign wealth funds.

We incorporate the incentive to invest in political assets in our model by assuming that the board receives an additional riskless payment of L dollars for each dollar invested in political assets. The compensation could be in for quid pro quo favors with financial intermediaries or simple in the form of votes rewarded for local investment. If *pay* is the compensation to the manager and R is the total return of the portfolio, the assumption of mean-variance preferences implies that the utility of the board is given by:

$$U_B = E[R - pay] + Lw_P - \frac{1}{2}\lambda_B Var[R - pay] \tag{3}$$

2.4 Outrage Constraint

The final agency issue affecting the board is what we call an *outrage constraint*. In practice, many state pensions have a limit to which they can compensate managers. Such a limit may be explicit (e.g., the managers may not earn more than twice the salary of the prime minister) or explicit (e.g., driven by the possibility of negative media coverage and subsequent political action). We write the outrage constraint in a reduced form, assuming the existence of an exogenous fund-specific upper bound s^{out} on the quality of the manager that the board can hire. In mathematical terms,

$$\text{Outrage Constraint: } s \leq s^{out} \tag{4}$$

2.5 Compensation Contract

The board asserts its preferences for risk and for political investments by offering a compensation contract to the investment manager. We restrict our model to linear contracts. First, the manager receives a cash salary c, independent of her performance. In order to motivate risky investments, the board gives a share $1-a$ of the realized financial return to the manager. The board also asserts its political preferences by giving an additional transfer of T dollars for each dollar invested in political assets. Linear compensation is given by:

$$pay\left(R, w_p\right) = c + (1 - a)R + Tw_p \tag{5}$$

We assume that the portfolio manager has CARA utility with risk aversion λ_C. Incorporating (4), the manager chooses risk and political asset weight (w_{mv}, w_p) solving the following program:

$$\max_{w_{mv},w_P} U_M = \max_{w_{mv},w_P} \left\{ E[pay] - \frac{1}{2}\lambda_M Var[pay] \right\} \tag{6}$$

3 Model Solution

We solve the model by calculating how the outcome variables of the model relate to the exogenous parameters. As our agenda is mainly empirical, we focus on obtaining comparative statics describing how portfolio allocation, manager quality and return moments depends on (i) political incentives, (ii) risk-up pressures, and (iii) outrage constraints. Mathematically, the solution method starts in the last period of the model, assuming that a manager with quality *s* already is hired, from which the optimal contract is computed. Next, we calculate the optimal manager quality *s* chosen by the board, from which we can figure out the resulting asset allocation.

3.1 Optimal Contract

The board maximizes the expected monetary payoff penalized by the variance, with penalizing factor $\lambda_B = \lambda_C/\theta$, which depends on the risk-up pressure θ capturing agency problems inducing excess (or deficit) of risk taking. The optimization problem is restricted by (i) the manager incentive constraint, and by (ii) the manager participation constraint, which obligates the board to offer a contract that generates an expected utility for the manager not smaller than his outside option $O(s)$. The participation constraint is the channel connecting political incentives and within-asset class performance: political boards have little gains when hiring skilled managers, so they minimize compensation by choosing managers with small outside options and poor investment skills.

The underlying program, which defines the optimal contract and the indirect utility $V_B(s)$ of the board when hiring the manager with experience *s*, is given by:

$$V_B(s) \equiv \max_{c,a,T} U_B = E[R - pay] + Lw_P - \frac{1}{2}\lambda_B Var[R - pay]$$
$$= (L - T)w_P + aE[R] - c - \frac{1}{2}\lambda_B a^2 Var[R] \quad (7)$$

subject to:

(participation constraint) $$c + (1 - a)E[R] + Tw_P - \frac{1}{2}\lambda_M (1 - a)^2 Var[R] \geq O(s)$$

(incentive constraint) $$\{w_{mv}, w_P\} = \underset{w_{mv},w_P}{\operatorname{argmax}}\{U_M | c, a, T\}$$

In the appendix, we show that the optimal contract is given by:

$$a^* = \frac{\lambda_C}{\lambda_C + \lambda_B}, T^* = (1 - a^*)L. \quad (8)$$

The optimal variable payment factor a^* reflects the standard sharing rule in which the less risk averse agent receives a larger component of the risky outcome, while the more risk averse agent receives a larger component of riskless payoff. The additional transfer to the manager for each unit of investment in the political asset will be a share $1 - a^*$ of the total transfers received by the board as a reward for those investments. Consequently, on the optimal contract, the manager receives the same fraction $1 - a^*$ of the financial return and of the "political return". The resulting base salary c^* will be the number that makes the participation constraint binding.

Let $B(s) = (s\varphi_{MV}, s\varphi_L + L)^\intercal$ and $\lambda = (\lambda_M^{-1} + \lambda_C^{-1})^{-1}$. In the appendix, we show that the board's indirect utility when hiring a manager with experience *s* is:

$$V_B(s) = \frac{1}{2\lambda} B(s)^\intercal \begin{pmatrix} \sigma_{MV}^2 & \rho\sigma_{MV}\sigma_P \\ \rho\sigma_{MV}\sigma_P & \sigma_P^2 \end{pmatrix}^{-1} B(s) - O(s) \quad (9)$$

3.2 Manager Experience

The board will choose the manager experience that satisfies the outrage constraint and maximizes their ex-ante utility:

$$\max_s V_B(s), \text{ s.t. } s \leq s^{out} \quad (10)$$

The solution to problem (10) will provide the comparative statics illustrating how different pension funds face diverse performance-cost tradeoffs when choosing the manager quality. Highly politicized and outrage-constrained funds might prefer to hire low quality managers,

while funds with better governance would choose a larger value for s, in accordance to the constituents' preferences.

In the appendix, we show that, if the outrage constraint is not binding, then marginal disturbances around the optimal s^* are such that the marginal increase on the squared Share ratio is equal to the marginal cost of hiring a slightly better manager:

$$\frac{(\sigma_P^2\varphi_{MV}^2 - 2\rho\sigma_P\sigma_{MV}\varphi_{MV}\varphi_P + \sigma_{MV}^2\varphi_P^2)s^* + (\sigma_{MV}^2\varphi_P - \rho\sigma_P\sigma_{MV}\varphi_{MV})L}{\lambda\sigma_P^2\sigma_{MV}^2(1-\rho^2)} = O'(s^*). \qquad (11)$$

We use equation (11) to draw comparative statics conclusions on the table below. The signals of the partial derivatives follow the intuition presented on the discussion of the model on the previous paragraphs. We will refer to those results systematically when we connect our empirical results to the mechanisms highlighted by the model.

A closed form solution for the manager experience can be obtained through a simple second-order approximation of the outside option function. Under a few assumptions explained in the appendix, the Taylor approximation of $O(\cdot)$ around the minimal manager experience $\underline{s}$ is given by:

$$O(s) \approx o + \frac{\kappa}{2}\left(s - \underline{s}\right)^2 \text{ for } s \in \left[\underline{s}, 1\right] \qquad (12)$$

The number o represents the outside option of the most inexperienced manager, while κ represents how quickly the wages of portfolio managers increase with their experience. Plugging this formulation of the outside option on the first order condition for the manager experience (11) we find:

$$s^*(\theta, L) \approx \frac{\lambda\kappa\sigma_P^2\sigma_{MV}^2(1-\rho^2)\underline{s} + (\sigma_{MV}^2\varphi_P - \rho\sigma_P\sigma_{MV}\varphi_{MV})L}{\lambda\kappa\sigma_P^2\sigma_{MV}^2(1-\rho^2) - (\sigma_P^2\varphi_{MV}^2 - 2\rho\sigma_P\sigma_{MV}\varphi_{MV}\varphi_P + \sigma_{MV}^2\varphi_P^2)} \qquad (13)$$

Equation (13) will be employed on the calibration section of the paper, when we directly compare the model's predictions with our sample of public pension funds for a choice of parameters supported by previous research in finance and microeconomics.

Table: Univariate Comparative Statics

Panel A: Outrage Constraint Not Binding

		Partial Derivative With Respect To	
Variable	Model Notation	Political Pressure ∂L	Risk Up Pressure $\partial\Theta$
Outcomes:			
Weight on MV	∂w_{MV}	<0	>0
Weight on political	∂w_P	>0	?
Weight on FI	$\partial(1 - w_P - w_{MV})$	?	>0
Weight on risky	$\partial(w_P + w_{MV})$	?	<0
Manager experience	∂s	<0	>0
Return Implications:			
Return on MV	$\partial E[R_{MV}]$	<0	>0
Return on political	$\partial E[R_P]$	<0	>0
Total return	$\partial E[R]$	<0	>0
Volatility	$\partial\sigma[R]$	?	<0

Panel B: Outrage Constraint Binding

		Partial Derivative With Respect To	
Variable	Model Notation	Political Pressure ∂L	Risk Up Pressure $\partial\Theta$
Outcomes:			
Weight on MV	∂w_{MV}	<0	>0
Weight on political	∂w_P	>0	?
Weight on FI	$\partial(1 - w_P - w_{MV})$	?	>0
Weight on risky	$\partial(w_P + w_{MV})$	?	<0
Manager experience	∂s	=0	=0
Return Implications:			
Exp. return on MV	$\partial E[R_{MV}]$	=0	=0
Return on political	$\partial E[R_P]$	=0	=0
Total return	$\partial E[R]$	?	>0
Volatility	$\partial\sigma[R]$	?	<0

4 Data & Statistics

4.1 Funds

Our sample comes from the intersection of two datasets of public pensions – data on U.S. public pensions funds from the Center for Retirement Research at Boston College and data on global public pension funds (defined benefit plans) with over $10 billion in assets under management identified in *Pensions & Investments*.

Because of the need to manually search for trustees and managers (and their biographies), we restrict our sample to institutions located in the North America, Oceania, and Europe. For each fund, we collected asset allocations and performance over the 1996-2011 period in a series of steps. We first gather as much information as possible from annual reports, funds' websites and funds' cached websites, and via direct requests to the funds. We then filled in missing data, when available, with information from the Boston College CRR dataset and CEM Benchmarking. Table 1, panel A reports the geographic distribution of funds. In sum, we have 158 funds, 56% from the United States, with the other 44% divided very equally among Canada, Continental Europe, Scandinavia and the UK, and Oceania. Panel B of table 1 shows that, for each year, we have reasonable geographical variation on the distribution of funds. As of the last year in the sample, the pension funds cover $5.4 trillion in assets. Because the sample represents a broad number of countries outside the U.S. and 49 of the U.S. states in the U.S, the sample speaks to a meaningful proportion of the practices of pension funds around the world.

4.2 Boards & Managers

Our research design calls for data on fund investment officers (CEOs and CIOs). We look up the names of the current officers on the website. The website usually records a short bio of these individuals, including hiring date, education, and experience. With this starting point, we search backwards, finding the managerial turnover and prior executives education and experience. Using publicly available sources (e.g., the data collected based on the Freedom of Information Act and similar legislation in other countries), we also gather information on the compensation of top managers through internet searches. The compensation data is sometimes dynamic but is admittedly quite incomplete going back in time. Thus, we never use the data to speak to the compensation sensitive to performance, but we do have sufficient data to speak to level

differences in the cross section of pension funds. Thus, we want a single measure of compensation per fund. We interpolate the data for funds for which we have a time series, and then take an average for each fund. Out of the 158 pensions in our data, we have average manager compensation for 69 of them.

We then turn to the board, collecting the same biographical education and experience for the chairperson of the board as we did for executives. We also record each current member of the board, and whether they have any financial background in education or experiences. We quantify the political structure of the fund, recording the percent of board members appointed or elected by the politicians, working constituents, and retired constituents. To do so, we identify the legislation that regulates how the fund is organized; if such legislation is not available, we use materials issued by the fund instead, or eventually identify political affiliation directly from board member bios. To address the demographic variation across funds' members, we collect information on the age structure of constituents, retiree-versus-worker composition, and pension liability-to-assets ratio from each pension fund's website.

Table 2 reports summary statistics of pension fund characteristics. Our first characteristic of interest is the level of funding or the pensions' liabilities, following Novy-Marx and Rauh (2014) and Andonov, Bauer and Cremers (2016). We have data on the funded ratio, the level of assets to liabilities, but not for all funds. The other measure of liability strains comes from Rauh (2008), who finds intuitively that funds with a higher age profile of pension beneficiaries have more liabilities concerns. Thus, we first construct the average age of pension constituents, combining the average age of workers and retirees with the fraction of members being retired. Consistently with Rauh (2008), Panel B in Table 2 shows that the correlation between *age* and *funded ratio* is a significant -0.29. Finally, we construct an *Underfunded Index*, defined as the negative of the standardized funded ratio plus the standardized age variable. The underfunded index has correlations of 0.81 with age and of -0.79 with the funded ratio.

The second group of variables in panel A report the characteristics of the pension fund board that relates to political, bureaucratic and outrage pressures. *Chair Political* is an indicator capturing, in almost equal proportions, chairs appointed by the governor or ex officio. Twenty-two percent of funds have *Chair Political* equal to 1. Appointees often (63%) have direct private finance sector experience (i.e., generally in asset management), which is much higher than the one third of overall chairs that have private financial sector experience. The ex officio chairs have

different histories, but are powerful politicians. Often, they are the governor, the mayor (if a municipal fund), or the state treasurer. For example, Michael Bloomberg is included in the sample as the chair of the New York City Retirement Fund when he was mayor. We put these groups together because: (i) Both groups are subject to political influence as highlighted by Andorov, Hochberg and Rauh (2016), and (ii) both groups are politically connected and thus, per our model, more prone to tilt the portfolio towards securities that could yield to political dividends. It is interesting to note that *Chair Political* is equal to zero outside of the U.S. This is a mechanical result, but only a fact in the data.

The *Bureaucrat* variable is the proportion of non-chair trustees that are ex-officio members. Ex officio trustees are generally not politicians per se, but one step lower in government ladders, making them more distant from elections and political motives. We posit that these are the trustees with the strongest career concerns, which could lead to an overly conservative management style, or a low effective risk aversion as in our model. As Table 2 shows, across the whole sample, an average board has 53% bureaucrats, with an interquartile range expanding from almost 0 to 1. In the U.S., the mean pension board has 65% bureaucrats, while pension boards in other countries have 32% bureaucrats. Hence, any bureaucrat story is not solely a US phenomenon.

The titles of ex-officio trustees support labeling them as bureaucrats. Table 3 presents the distribution of titles. The largest category (24%) is that of treasurer. Other financial categories involve the revenue commissioners and controllers, auditors, and the finance director. But equally likely are the superintendent of education (9.89%), personnel commissioner (7.69%), and city commissioner (6.59%). These ex officio board members have some, albeit somewhat distant, finance training. More importantly, these titles are highly suggestive of career government officials that face bureaucratic incentives and are likely to be averse to downside risks.

We construct a measure of *outrage* to large compensation to fund managers by using the average wage from the constituents, computed from the Public Pension Census. Anecdotal evidence suggests that public outrage is more likely when the wages of the constituents are low when compared to the compensation of the portfolio manager (e.g., public pension of teachers), which can be interpreted in our model as a tighter constraint on the choice of the quality of the manager. This motivates the definition of the *outrage* variable as the inverse of the log-average salary of beneficiaries of the pension plan. Simple regressions on the panel C of the table 2

confirm the intuition that motivates our construction: the *outrage* variable is strongly negatively correlated with *Log of CEO Total Compensation*. This strong relationship is robust to controls for the funds size or for the state median income.

Liabilities and political pressures acting on the board are exogenous parameters in our model. The last group of variables reported in Table 2, the characteristics of the manager, are the empirical counterparts of the endogenous manager experience *s*. *CEO Total Compensation* is important because it will shed light on the mechanisms through which agency problems affect performance. Our model predicts that incentives to invest in political assets makes skilled managers less attractive to the board, and hiring worse managers might impact the performance in all asset classes. The median and mean CEO makes respectively $ 296,894 and $ 677,695. In the U.S., the median and mean CEO earns $109,895 and 260,847 respectively, roughly half the global standard.

We use the total political donations received by the current governor of a given state from financial firms as a proxy for political pressure to invest in specific assets. Aggregate donations from financial firms for each state come from FollowTheMoney.org. We define a measure of abnormal political contribution, simply called *Political Contribution*, by dividing the total donation received by the current governor in a given state in the last election by the average donation received by the last three governors in the same state. As Table 2 shows, the average abnormal contribution is 17%, which indicates an increasing trend for this type of contribution.

4.3 Allocations & Performance

We analyze how pension funds allocate assets and perform in five asset classes: (i) hedge funds, (ii) real estate and private equity, (iii) public equities, (iv) natural resources and infrastructure, and (v) fixed income. This rank ordering reflects expected underlying risk, going from highest to lowest. We conjecture that that hedge funds, real estate/private equity, and infrastructure/natural resources are the asset classes with the greatest ex ante opportunities for providing private benefits to politicians. This is related in part to their typical "2 and 20" compensation structure, with the potentially larger payoffs for fund managers providing a larger pool of capital that can be diverted providing kickbacks or other benefits than is available for vanilla public securities and bonds, which are subject to more intense transparency and compliance regulations.

Table 4 reports summary statistics of portfolio weights and realized returns in each asset class. As expected, fixed income and public equities account for the largest fraction of pensions' portfolios. They are also the classes with the largest average raw returns, perhaps an initial indication of underperformance on classes subject to political pressures or perhaps due to benchmarking. Panel B reports the correlations between portfolio weights and shows a noteworthy pattern: allocation on fixed income is negatively correlated with the weight in any other asset class. This is coherent with our model prediction that risk-up pressures (i.e., θ) might induce the board to consider shifting the allocation from riskless securities to high volatility assets.

5 Results

The theory section above shows how four political agency frictions may affect allocations, and performance, working through manager quality. Below we organize the discussing of tables by agency issues measured at the board – *Underfundeness, Outrage, Bureaucrats* and *Chair Political*.

5.1 Underfunding

A pension fund facing greater underfunded liabilities would have a higher risk-up pressure (θ) as in the terminology of our model. According to the comparative statics table, the first theoretical implication would be a reduction in the allocation in fixed income and an increase in the allocation in the other riskier asset classes. Do underfunded pension funds follow this prediction by tilting their portfolios towards riskier securities? We answer this question in Table 5, which reports a system of seemingly unrelated regressions with portfolio weights on the left-hand side, controlling for country fixed effects and year. We focus on column 1 within each panel to isolate the effect of the *Underfundeness* variable.

We find that underfunded pension funds incline their investments towards riskier asset classes. A standard deviation increase in *Underfundeness* (one standard deviation =1.47) implies 0.003 more portfolio weight allocated to hedge funds (a 37% change) and 0.020 more to private equity and real estate (a 23% change). In exchange, they allocate 0.01 less to fixed income (a 3% change) and 0.004 less to infrastructure and natural resources (an 11% change) and 0.008 more to vanilla stocks (a 1% change). The overall shift is a 0.023 from less risky to more risky assets,

very much in line with the finding and magnitude of Adonov, Bauer and Cremers (2016). Note that we focus on column 1 of the tables for now, but we only interpret results than appear robust when including the other variables studied below (column 3) and when adding controls for the quality of the board member experience (column 4 includes fraction of the board with private sector financial experience and fraction of the board with public sector experience).

The distortions on the asset allocation created by risk-up pressures have a strong impact on the overall risk of the portfolio. Table 6 reports the results of regressing pension fund volatility, defined as the standard deviation of the funds' returns on a 3-years rolling window, on *Underfundeness* and time effects. Column 1 reports a positive significant relationship. An increase of one standard deviation of *Underfundeness* is accompanied by an increase of 81 basis points in annualized volatility. Using the language of Ang, Chen, and Sundaresan (2012), this result is coherent with managers increasing the standard deviation of the pension fund payoff in order to increase the value of the liability shortfall put option.

Next, we focus on the prediction of the model relatively to the manager quality (s) and portfolio performance. On this regard, the model gives ambiguous predictions, depending on whenever the outrage constraint is binding or not. If unrestricted, pensions facing greater underfunded liabilities would hire better managers to take advantage of the risk premia on asset classes that represents a large proportion of their portfolios, thus increasing the resulting within-asset class expected performance. If the outrage constraint is binding, then boards would prefer to increase the manager quality s, but wouldn't be able to do so, thus resulting in unchanged expected performance.

Tables 7 reports that *Underfundedness* is uncorrelated with the manager (CEO) compensation (columns 1 and 2), which is coherent with boards being constrained on their abilities to hire high-quality investment managers. Not surprisingly, the resulting pension fund performance is also uncorrelated with the *Underfundedness* variable, as shown in table 8. In short, the observed behavior of underfunded pension funds is coherent with risking-up motivated by liability pressures, while the unchanged manager quality is coherent with outrage constraints. This implies that the constituents don't enjoy the full benefits of risking-up in an optimal policy in terms of our model, which would involve hiring more skilled managers.

5.2 Outrage

In practice, boards of pension funds might be constrained on the types of managers that they can hire. Highly skilled managers require large salaries, which could trigger outrage of the media and of part of the constituents. Board members of pensions susceptible to outrage could preventively (and non-optimally) hire low quality managers, adversely affecting the probability of the fund to meet its obligations. In our model, this translates into a tighter outrage restriction, or a smaller value for the upper bound on the manager quality s^{out}.

We test for the existence of outrage constraints by analyzing the correlation between our proxy for *outrage* – defined as the inverse of the log wages of constituents – and the total compensation of the pension fund CEO. The underlying assumption is that outrage is more likely when the gap between constituents' income and managers' compensation is large. In terms of our model, the more binding the outrage constraint is (i.e., the smaller s^{out} is), the smaller the resulting quality of the manager will be. Thus, we expect a negative correlation between CEO compensation and our proxy for outrage, simply called *outrage*.

The CEO total log compensation is the left-hand variable of our baseline regression on table 7, where we focus on the coefficients of the *Outrage* variable. We use several controls to partially address the possibility that both the constituents' wages and the optimal CEO salary (i.e., the manager compensation under no agency frictions) could be correlated with other pension fund characteristics. Importantly, we include the median household income of each state to account for geographical heterogeneity on the level of salaries. However, we are unable to totally rule out the possibility of omitted variables biases in our estimates.

We find a robust negative correlation between *Outrage* and *Log Of Manager Compensation*. The first column of table 7 reports that a one standard deviation increase of the outrage variable ($18,470 in wages) associates with 10.6% (or $43,028) lower total compensation of the investment manager. The coefficient of *Outrage* is significant in all regressions, evidencing the robustness of this relationship.

In terms of asset allocation, table 5 reports that outrage associates with disinvestment in real estate and private equity and an increase on the weights on natural resources and infrastructure. This is unrelated to the predictions of our model, but one possible interpretation is that pensions subject to outrage tries to orientate their investments towards asset classes perceived to have

potential to impact on the welfare of citizens, thus improving their image towards the public and the media. Coherently with this portfolio shift, table 6 reports a weak decrease in the resulting volatility.

Our model ties performance and manager quality through a monotonic relationship, so we expect a negative correlation between *outrage* and expected excess of returns. Table 8 reports the sensitivity of within-asset class performance to *outrage* (first column in each panel). Point estimates are almost always negative, but statistically insignificant in face of the large volatility of returns and the consequent low power of our tests. Still, we can't reject that outrage has a negative effect on performance as predicted by our model.

In a nutshell, we find that the correlations in the data are consistent with boards of pension funds making non-optimal decisions because of outrage constraints. We also provide evidence that this type of agency problem might be more prevalent in funds with less wealthy constituents, such as the teachers' pensions.

5.3 Chair Political

Another agency issue in the board which we investigate concerns political capture. When chairpersons of the board are closely tied to the government, either directly ex officio being the governor, for instance, or directly by appointment of the governor, the chair may have incentives to tilt portfolios to politically favored investments or to local oriented investments. These investments are likely to be in less commoditized asset classes, i.e. not in S&P indexing but in private equity and hedge funds. Like Andonov et al (2016), our theory posits that performance in politically-tilted investments should be lower. Our theory also suggests that politically compromised boards will not have the incentive to pay for highly-skilled managers, since the political chair will be making selections into political assets and thus the portfolio need for skill is lower. Using the language of our model, a large reward for political investments L leads to a manager with low quality (s), large weights in political assets (w_P), and small weights on vanilla assets (w_{MV}).

The correlations between portfolio weights and our proxy for political pressures (*Chair Political*) reported on Table 5 are very consistent with this theory. Political chairs reduce allocations to the more commodity-like vanilla stocks by 0.017 in portfolio weights and allocate toward securities more prone to political and career favoritism – hedge funds (+0.009) and real

estate and private equity (+0.012). De facto this is a risking-up. Table 6 does not show that the portfolios of politicized boards realize greater volatility, however. In fact, risk may have little to do with the decision-making. One hypothesis is simply that the asset classes easiest to extract favoritism happen to be riskier. A competing hypothesis is when chairs are political appointees or themselves governors (e.g.), they will have convex career reputation gain over positive excess returns. They try to be the next Swensen, the Yale endowment manager famous for outperforming. In this story, the risking-up we observe in Table 5 is exactly that, risking-up to achieve performance.

We can look to the manager compensation to disentangle these stories abou the real motivations of political chairs. In Table 7, we find (weak) evidence that political boards hire worse managers, with salaries 35% lower than the managers hired by non-political chairs per column 3. Estimates on columns 5 to 8 are still negative and economically relevant, but statistically insignificant. If risking-up were political boards' agenda, they would hire better managers, not worse ones, which doesn't seem to be the case.

Table 8 reports, consistently with the predictions of the model, that funds with a political chair have worse performance in all asset classes. We find and confirm the finding of Andonov, Hochberg and Rauh (2016) that political boards have poorer returns on private equity. Pension funds with political chairs have 1.8 percentage points lower excess returns in that asset class. We build on their evidence and document the novel finding that political boards hire managers with even worse performance on hedge funds, performing 7 percentage points lower excess returns in hedge funds. The hedge fund result draws into question whether local tilt is driving the result, rather supporting the interpretation of Andonov et al (2016) that it is political favoritism into less good investments that is likely a major cause of the lost returns. Furthermore, our result does not support risking-up for the sake of adding risk premia to returns.

Why do political chairs distort the choices of the pension fund? One possible mechanism is that some state governors would like to give kickbacks to financial institutions that contributed to their winning political campaigns. Therefore, if the governor appoints the chair, he can more easily tilt the portfolio allocation towards assets that generates benefits to the political contributors. We test this conjecture by including the interaction of *Chair Political* with *Political Contribution* on the regressions of portfolio weights (table 9) and returns (table 10). Consistently with our hypothesis, political chairs will bias the allocation towards hedge funds, real estate and

private equity following large abnormal contributions of financial firms: we find that when the standing governor experienced a standard deviation higher campaign contribution in the last election cycle relative to the prior three governor elections in that state, pension funds with a political chair invest in hedge funds and real estate/private equity. As before, the size of these effects is small 0.009 more allocations to hedge funds and 0.013 more to real estate/private equity, bit the change represents a 107% increase for the hedge funds and 15% increase for real estate/private equity.

Our model predicts that chairs enjoying political benefits from the portfolio allocation should hire less qualified managers, implying in worse performance within each asset class. We don't find evidence that the level of political contribution by financial firms can affect the pension fund performance. Table 10 reports that the coefficient of the interaction between *Chair Political* and *Political Contribution* is negative and statistically insignificant if the dependent variable is the return on hedge funds or the return on real estate/private equity. Given the small power of our tests resulting from the large variance of returns and from the small sample size, we are unable to assess the correlation between contributions and returns.

5.4 Bureaucrats

As a final factor for understanding the risk appetite of a pension fund, we consider the impact of those board members that have bureaucratic incentives. Holmstrom (1999) argues that administrators with career concerns might be overly risk averse if their decisions shapes perceptions about their talent. In this case, boards would be afraid to recommend investments with downside risks, possibly resulting in an allocation incongruent with the risk preferences of the beneficiaries. This might be particularly relevant when a large fraction of trustees are political bureaucrats, individuals that by self-selection are risk averse and seeking stability. In this case, bureaucrat boards would be associated with a low risk-up pressure (θ), leading to overinvestment in fixed income and disinvestment in the riskier asset classes.

We find that the position of political bureaucrats on boards affects fund portfolio allocation, a new finding to the literature. Column 2 in each panel of Table 5 shows that pension funds with a standard deviation higher fraction of bureaucrats in the cross section invest 0.021 (= 0.531 coefficient * 0.40 sd) more portfolio weight into fixed income, a 6% increase against the mean fixed income portfolio weight of 0.346. They also invest 0.01 more in infrastructure and natural

resources. The 0.031 risking-down of the portfolio comes at the expense of portfolio weights in private equity (reduction of 0.02 in portfolio weight), vanilla equities (-0.01), and hedge funds (-0.002). Bureaucratic risking-down does not appear to reduce overall portfolio realized risk, however. In Table 6, starting in column 2, we find that bureaucratic boards have slightly higher realized volatility, but this correlation is not robust to other controls.

Our model predicts that bureaucrat boards, as having higher effective risk aversion, would hire worse portfolio managers. However, this is not the supported by correlations in our sample: table 7 shows that the coefficients of *Fraction of Bureaucrats Trustees* is statistically indistinguishable from zero. One possible reason for this finding is that bureaucrats might have a disutility in hiring bad managers, in terms that are no incorporated to our model. For example, the board could be blamed for bad portfolio performance when the manager in inexperienced, which could be especially costly for a public servant that wishes for a stable career. Hence, hiring high quality managers might be a shield from public scandals and criticism for bureaucrats. Not surprisingly, the performance in each asset class is also insensitive to the *Fraction of Bureaucrats Trustees* variable, as reported by table 8.

In conclusion, bureaucratic incentives can be classified as the agency problem acting on the exact opposite direction of undefended liabilities: they don't modify the manager quality or the portfolio performance, but only the risk profile and overinvestment or underinvestment in fixed income. By inducing deviations from the optimal level of risk, those agency problems directly affect the probability of those funds reaching their obligations in the future and calling for additional resources from future generations. This is especially critical in a world of low interest rates, which makes the gap between risk-free yields and pensions' discounts rates extremely wide. Taking the California Public Employees' Retirement system (CalPERS) as an example, this gap was around zero on the nineties, and is projected to be about 5% in 2018.

6 Conclusion

In this paper, we develop hypotheses as to how political agency frictions affect management selection, asset allocation and performance and then test those predictions using a hand-collected global panel data set. The model includes well-researched political agency frictions that create incentives for allocations to riskier asset classes – such as pressures from underfunding and the

greater opportunities for political benefits in the riskier asset classes. The model introduces a neglected political agency friction that can work in the opposite direction and de-risk portfolios coming from the fact that many politicians are bureaucrats and this colors their incentives. Finally, the model extends the discussion of political costs by highlighting the possibility for politicization to also affect management choice, introducing 'outrage' constraints on management pay. This highlights an additional risk with politicization – creating pressures to risk up, while at the same time constraining boards from hiring those managers best positioned to succeed in the riskier asset classes.

We find evidence consistent with all four frictions affecting management choices, asset allocations and performance. Consistent with prior work, we find that underfunded pensions risk-up. Our new evidence suggests that such pension boards are constrained from hiring better managers who could better put these risky aspects of the portfolio at work in earning risk premia. We find evidence of the costs of such constraints in underperformance in particular in the riskier asset classes.

Perhaps our most novel evidence concerns the career concerns of bureaucrats, who have a strong impact on the portfolio allocation. Ex-officio trustees have important (other) positions in the public sector, such as state treasurers, superintendents of education or auditors. Any type of public scandal related to losses on pension funds they are administrating could greatly damage their careers as public administrators. Our evidence suggests these career concerns lead to conservative management style, with an additional 3 percent of portfolio weights being tilted toward low-risk investment.

Finally, we find evidence on politicization of the board chair, supporting anecdotes and prior work that public funds are captured by private interests. This is especially relevant in the recent scenario of steady growth on the population age expectancy, with the associated problems on the retirement systems worldwide. For instance, recent estimates accounts for a pension shortfall worth $78 trillion in the G20. Hence, misallocation of investments of pension funds can be extremely harmful, to the extent that they can increase the unfundedness of retirement plans and the burden on the new generations. Our paper calls for measures to improve the governance of public pension funds and for more academic work to help in enlightening and freeing boards from frictions on hiring and paying the qualified managers and not compromising their incentives to maximize value for pension beneficiaries.

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Table 1: Pension Fund and Geography and Time Breakdowns

This table reports the distribution of the years and geographies of the sample of pension funds. First two columns on panel A are the number of states (for U.S. and Canada) or countries (for other regions) and the number of pension funds. Last four columns on the panel A are summary statistics of the total assets under management (AUM) for each region. Panel B reports the number of funds in each region and in each year.

Panel A: Geography Breakdown and AUM Summary Stats

			AUM summary statistics			
	number of states or countries	count	Mean	25th Percentile	Median	75th Percentile
Canada	4	171	39.019	12.116	17.685	62.600
Continental Europe	4	107	27.444	8.208	13.183	26.427
Oceania	2	124	16.821	8.976	13.533	20.796
Scandanavia and UK	4	108	299.720	19.768	70.612	322.169
United States	49	872	27.132	6.894	13.233	32.593
Total		1382	49.004	8.367	14.820	37.748

Panel B: Geography and Year Breakdown

	Canada	Continental Europe	Oceania	Scandinavia and UK	United States	Total
1996	0	0	0	0	10	10
1997	0	0	0	0	13	13
1998	0	0	0	0	19	19
1999	0	0	0	2	28	30
2000	8	1	3	2	38	52
2001	14	1	4	1	49	69
2002	14	2	5	4	55	80
2003	15	2	8	5	59	89
2004	15	7	8	5	64	99
2005	15	9	9	8	72	113
2006	15	11	13	10	77	126
2007	15	13	15	12	78	133
2008	15	15	14	15	81	140
2009	16	17	16	15	82	146
2010	16	18	15	15	85	149
2011	13	11	15	15	88	142

Table 2: Summary Statistics

This table reports the summary statistics of the main variables characterizing the pension funds in our sample. Funded ratio is the ratio of the pension's assets to its liabilities. Underfundedness Index is the standardized funded ratio if the funded ratio is available, and it is the standardized average age of constituents otherwise. 'Chair Political' is a dummy taking value 'one' if the chair is indicated by the governor, and 'zero' otherwise. Bureaucratic Fraction of Trustees is the fraction of ex-officio Trustees. 'Outrage Index' is the inverse of the log of the average wage of the constituents of the pension plan. 'Political Contribution' are the total contributions received by the current governor from finance, insurance and real estate companies in the previous elections, normalized by the average contributions received by the three previous governors (from the same type of firms) on the elections in the same state. CEO compensation is measured in dollars and includes the total compensation in each year. Panel C reports the results of the regression of the log CEO compensation on the outrage index and on selected controls, including the logarithm of the median household income in each U.S. state, collected from the U.S. census.

Panel A: Summary Stats

	count	mean	Standard Deviation	25th percentile	Median	75th percentile
Liability Variables						
% of members retired	1106	0.283	0.084	0.229	0.274	0.331
Average age of retired	389	70.930	6.452	68.819	69.900	71.700
Average age of workers	702	44.323	2.777	43.610	44.600	45.700
Average age of members	1106	51.801	3.095	50.182	51.705	53.279
Funded ratio	871	0.843	0.161	0.741	0.852	0.970
Underfundedness Index	1106	0.000	1.466	-0.917	-0.085	0.771
Board Variables						
Chair Political Dummy	1393	0.219	0.414	0.000	0.000	0.000
Bureaucratic Fraction of Trustees	1368	0.530	0.398	0.045	0.556	1.000
% trustees with private sector experience	1194	0.261	0.210	0.091	0.222	0.400
% trustees with public sector experience	1194	0.341	0.214	0.154	0.364	0.500
Average Wage of Constituints ($)	533	40,758	18,473	30,013	37,963	49,926
Outrage Index	787	0.0950	0.0050	0.0920	0.0950	0.0970
Abnormal Contribution	677	0.175	0.303	0.042	0.195	0.307
Manager Variables						
CEO total compensation ($)	533	677,695	1,180,367	174,797	296,894	684,523
Log CEO total compensation	787	12.839	0.959	12.071	12.601	13.436

Panel B: Pairwise Correlations

	Age	Funded Ratio	Unfunded	Chair Pol.	Bureaucratic	Private. Exp.	Public. Exp.	Outrage
Funded Ratio	-0.24***							
Unfunded	0.81***	-0.79***						
Chair Political	0.03	0.09***	-0.03					
Bureaucratic	0.08**	0.15***	-0.02	0.40***				
Private Experience	-0.01	0.21***	-0.14***	0.21***	0.29***			
Public Experience	0.01	0.11***	-0.05*	0.40***	0.17***	0.41***		
Outrage	-0.09**	0.18***	-0.17***	-0.02	0.07*	-0.20***	0.03	
Fund Size	-0.06*	0.21***	-0.06*	-0.05*	-0.10***	0.34***	0.40***	-0.09**

Panel C: Regression of Log CEO Compensation on Outrage Index and Controls

Outrage Index	-37.18***			-43.27***	-30.57***	-41.36***
	[13.86]			[12.43]	[11.36]	[9.169]
Log of Median State Household Income		-0.0731		-0.519		-1.216**
		[0.542]		[0.539]		[0.549]
Log of Fund Size			0.402***		0.168**	0.239***
			[0.0734]		[0.0741]	[0.0719]
Observations	100	114	258	99	100	99
R-squared	0.105	0.000	0.232	0.125	0.215	0.307

Table 3: Bureaucrats Positions

This table reports the frequency of the main positions held by trustees ex-officio in our sample.

Other Position	Frequency	Cummulative
Treasurer	24.18%	24.18%
Superintendent of Education	9.89%	34.07%
Auditor	8.79%	42.86%
Revenue Director / Controller	8.79%	51.65%
Finance Director	7.69%	59.34%
Personnel Commissioner	7.69%	67.03%
City Commissioner	6.59%	73.63%
Retirement Committee	4.40%	78.02%
Bank Commissioner	3.30%	81.32%
Secretary of State	3.30%	84.62%
Union President	3.30%	87.91%
Attorney General	2.20%	90.11%
Other	9.89%	100.00%

Table 4: Asset Classes

This table reports summary statistics of the asset classes invested by pension funds in our sample. Asset classes are: (i) hedge funds, (ii) real estate and private equity, (iii) public equities, (iv) natural resources and infrastructure, and (v) fixed income. The first five lines on panel A are statistics about portfolio weights, while the last lines are statistics about funds realized returns. Panel B reports pairwise correlations of portfolio weights.

Panel A: Summary Stats

	count	mean	Standard Deviation	25th percentile	Median	75th percentile
Portfolio Weights						
Hedge Funds	1388	0.008	0.027	0.000	0.000	0.000
Real Estate / PE	1410	0.087	0.065	0.040	0.081	0.130
Public Equities	1410	0.513	0.146	0.439	0.548	0.610
Natural Resources and Infrastructure	1410	0.033	0.057	0.000	0.000	0.046
Fixed Income	1410	0.346	0.147	0.260	0.315	0.390
Fund Return By Asset Class						
Hedge Funds	139	0.046	0.115	0.002	0.070	0.111
Real Estate / PE	728	-0.004	0.099	-0.016	0.000	0.025
Equities	1040	0.071	0.191	-0.091	0.105	0.205
Natural Resources and Infrastructure	892	0.003	0.080	0.000	0.000	0.000
Fixed Income	1073	0.067	0.056	0.039	0.065	0.090
Benchmark Return By Asset Class						
Hedge Funds	111	0.038	0.086	0.023	0.052	0.078
Real Estate / PE	740	0.099	0.680	0.000	0.067	0.147
Equities	891	0.059	0.190	-0.106	0.118	0.203
Natural Resources and Infrastructure	902	0.022	0.299	0.000	0.000	0.000
Fixed Income	849	0.064	0.038	0.044	0.064	0.086
Excess return over Benchmark by Asset Class						
Hedge Funds	103	0.013	0.095	-0.011	0.026	0.054
Real Estate / PE	728	-0.103	0.741	-0.137	-0.041	0.000
Equities	818	0.010	0.051	-0.026	0.006	0.038
Natural Resources and Infrastructure	892	-0.018	0.348	0.000	0.000	0.000
Fixed Income	842	0.005	0.039	-0.003	0.003	0.013
Overall Returns						
Fund Overall Return	1388	0.063	0.122	-0.000	0.096	0.144
Benchmark Overall Return	893	0.063	0.114	-0.020	0.098	0.140
Excess return over Benchmark	893	0.000	0.103	-0.022	0.004	0.019

Panel B: Portfolio Weights Correlations

Hedge Funds	1				
Real Estate / PE	0.17	1			
Public Equities	-0.18	-0.19	1		
Natural Resources and Infrastructure	0.05	0.01	-0.12	1	
Fixed Income	-0.14	-0.29	-0.75	-0.26	1

Table 5: Agency and Portfolio Allocation

Dependent variables are the portfolio weights in each one of the five asset classes described in table 3. 'Underfunded' is the standardized funded ratio if the funded ratio is available, and it is the standardized average age of constituents otherwise. 'Chair Political' is a dummy taking value 'one' if the chair is indicated by the governor, and 'zero' otherwise. 'Fraction of bureaucrat trustees' is the fraction of ex-officio Trustees. Private and public sector experience variables are the fraction of trustees with private or public experience. 'Outrage' is the inverse of the logarithm of the average constituent's wages. Country fixed effects and third order polynomials on time are included as controls, but their coefficients are omitted in this table. All five equations are jointly estimated as a system of seemingly unrelated regression, and all standard errors are robust. *** denotes p<0.01, ** denotes p<0.05, and * denotes p<0.1.

	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
	Equation 1: Portfolio Weight on Hedge Funds				Equation 2: Weight on Real Estate and PE				Equation 3: Portfolio Weight on Equities			
Underfunded	0.00165**		0.00143*	0.00137*	0.0121***		0.0117***	0.0122***	-0.00257		-0.0026	-0.00171
	[0.000745]		[0.000743]	[0.000747]	[0.00141]		[0.00138]	[0.00139]	[0.00264]		[0.00261]	[0.00263]
Outrage	-0.295		-0.276	-0.377*	-0.881**		-0.863**	-0.589	0.196		0.123	0.53
	[0.220]		[0.224]	[0.227]	[0.417]		[0.417]	[0.422]	[0.779]		[0.785]	[0.799]
Chair Political		0.0105***	0.0120***	0.0147***		0.0136***	0.00349	0.000319		-0.0190**	-0.0242***	-0.0255***
		[0.00217]	[0.00259]	[0.00272]		[0.00473]	[0.00482]	[0.00507]		[0.00919]	[0.00909]	[0.00960]
Fraction of Bureaucrat Trustees		-0.000847	0.00231	0.00313		-0.0486***	-0.0420***	-0.0440***		-0.0353***	-0.0491***	-0.0519***
		[0.00227]	[0.00328]	[0.00327]		[0.00495]	[0.00611]	[0.00609]		[0.00962]	[0.0115]	[0.0115]
Private Sector Experience				-0.0139**				0.0395***				0.0603**
				[0.00681]				[0.0127]				[0.0240]
Public Sector Experience				-0.0135*				0.00608				-0.0167
				[0.00712]				[0.0133]				[0.0251]
Log Size	-0.000963	-0.00228***	-0.00240**	-0.000602	0.0129***	0.00622***	0.0129***	0.0106***	-0.00466	-0.00154	-0.00144	-0.00263
	[0.000915]	[0.000718]	[0.000978]	[0.00114]	[0.00173]	[0.00157]	[0.00182]	[0.00212]	[0.00324]	[0.00304]	[0.00344]	[0.00400]
	Equation 4: Natural Resources and Infrastructure				Equation 5: Portfolio Weight on Fixed Income				Number of Obseration			
Underfunded	0.00078		0.00125	0.000743	-0.0121***		-0.0121***	-0.0130***	780	1338	772	772
	[0.00135]		[0.00135]	[0.00134]	[0.00260]		[0.00258]	[0.00260]				
Outrage	1.307***		1.392***	1.017**	-0.259		-0.266	-0.486				
	[0.398]		[0.405]	[0.406]	[0.767]		[0.775]	[0.789]				
Chair Political		-0.00941**	-0.00484	0.000962		0.00636	0.0178**	0.0129				
		[0.00424]	[0.00469]	[0.00488]		[0.00940]	[0.00897]	[0.00948]				
Fraction of Bureaucrat Trustees		0.0140***	0.0270***	0.0298***		0.0656***	0.0533***	0.0545***				
		[0.00444]	[0.00594]	[0.00586]		[0.00984]	[0.0114]	[0.0114]				
Private Sector Experience				-0.0533***				-0.0353				
				[0.0122]				[0.0237]				
Public Sector Experience				-0.0194				0.0516**				
				[0.0128]				[0.0248]				
Log Size	0.0000206	0.00143	0.000726	0.00479**	-0.00307	-0.00245	-0.00585*	-0.00883**				
	[0.00165]	[0.00140]	[0.00177]	[0.00204]	[0.00319]	[0.00311]	[0.00339]	[0.00396]				

Table 6: Overall Portfolio Volatility

The dependent variable is the standard deviation of the pension fund return calculated on a 3-years rolling window. 'Underfunded' is the standardized funded ratio if the funded ratio is available, and it is the standardized average age of constituents otherwise. 'Chair Political' is a dummy taking value 'one' if the chair is indicated by the governor, and 'zero' otherwise. 'Fraction of bureaucrat trustees' is the fraction of ex-officio Trustees. 'Outrage' is the inverse of the logarithm of the average constituent's wages. Private and public sector experience variables are the fraction of trustees with private or public experience. All standard errors are robust. *** denotes p<0.01, ** denotes p<0.05, and * denotes p<0.1.

	(1)	(2)	(3)	(4)
Dep. Variable:		Volatility		
Underfunded	0.00451***		0.00404***	0.00418***
	[0.00131]		[0.00129]	[0.00130]
Outrage	-0.381		-0.633*	-0.534
	[0.380]		[0.375]	[0.391]
Chair Political		0.00795**	-0.00287	-0.000609
		[0.00349]	[0.00400]	[0.00444]
Fraction of		0.00685*	-0.00987*	-0.0106**
Bureaucrat Trustees		[0.00395]	[0.00530]	[0.00538]
Private Sector				0.016
Experience				[0.0130]
Public Sector				-0.0195**
Experience				[0.00986]
Constant	0.180***	0.130***	0.211***	0.204***
	[0.0365]	[0.00262]	[0.0358]	[0.0383]
Obs	621	1046	615	615
R2	0.030	0.014	0.042	0.049

Table 7: Manager Compensation

The dependent variables is the natural logarithm of the CEO total compensation. 'Underfunded' is the standardized funded ratio if the funded ratio is available, and it is the standardized average age of constituents otherwise. 'Chair Political' is a dummy taking value 'one' if the chair is indicated by the governor, and 'zero' otherwise. 'Fraction of bureaucrat trustees' is the fraction of ex-officio Trustees. 'Outrage' is the inverse of the logarithm of the average constituent's wages. 'Lagged Performance' is the total return of the pension fund in the previous year. All standard errors are robust and clustered on the state level. *** denotes p<0.01, ** denotes p<0.05, and * denotes p<0.1.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Dep. Variable: Log Of CEO Compensation							
Underfunded	-0.0426	-0.0488			-0.033	-0.0374	-0.0248	-0.0276
	[0.0376]	[0.0388]			[0.0402]	[0.0413]	[0.0415]	[0.0430]
Outrage	-40.85***	-41.37***			-35.75**	-34.29**	-33.47**	-32.32**
	[10.62]	[10.78]			[15.45]	[16.44]	[15.65]	[16.02]
Chair Political			-0.359**	-0.262**	-0.158	-0.155	-0.113	-0.116
			[0.144]	[0.121]	[0.126]	[0.135]	[0.126]	[0.134]
Fraction of Bureaucrat Trustees			-0.2	-0.133	0.0122	0.00566	0.0531	0.0464
			[0.213]	[0.187]	[0.195]	[0.210]	[0.193]	[0.209]
Private Sector Experience							0.0229	0.0542
							[0.238]	[0.251]
Public Sector Experience							-0.403	-0.374
							[0.292]	[0.305]
Log State Income	-0.599	-0.581	-0.076	-0.0311	-0.491	-0.459	-0.365	-0.364
	[0.452]	[0.473]	[0.482]	[0.429]	[0.436]	[0.453]	[0.425]	[0.443]
Lagged Performance	-0.051	-0.311	0.265	-0.0406	-0.0551	-0.299	-0.073	-0.358
	[0.214]	[0.294]	[0.352]	[0.340]	[0.249]	[0.343]	[0.243]	[0.335]
Log Size	0.119	0.152*	0.169**	0.225***	0.136	0.178*	0.158*	0.195**
	[0.0728]	[0.0769]	[0.0769]	[0.0837]	[0.0826]	[0.0934]	[0.0872]	[0.0951]
Constant	20.57***	19.89***	10.59**	9.081**	18.71***	17.51***	16.88***	16.13***
	[4.444]	[4.797]	[4.909]	[4.049]	[4.464]	[4.842]	[4.582]	[4.837]
Year FEs?	NO	YES	NO	YES	NO	YES	NO	YES
Observations	98	98	110	110	95	95	95	95
R-squared	0.234	0.263	0.226	0.391	0.25	0.28	0.27	0.296

Table 8: Within Asset Class Performance

Dependent variables are the fund return in each one of the five asset classes described in table 3. 'Underfunded' is the standardized funded ratio if the funded ratio is available, and it is the standardized average age of constituents otherwise. 'Chair Political' is a dummy taking value 'one' if the chair is indicated by the governor, and 'zero' otherwise. 'Fraction of bureaucrat trustees' is the fraction of ex-officio Trustees. Private and public sector experience variables are the fraction of trustees with private or public experience. 'Outrage' is the inverse of the logarithm of the average constituent's wages. Country fixed effects and third order polynomials on time are included as controls, but their coefficients are omitted in this table. All five equations are jointly estimated as a system of seemingly unrelated regression, and all standard errors are robust. *** denotes p<0.01, ** denotes p<0.05, and * denotes p<0.1.

	Dep Variable: Return on Hedge funds				Dep Variable: Return on Real Estate and PE				Dep Variable: Return on Public Equities			
Underfunded	0.00376		0.00466	0.00636	-0.000484		-0.000158	-0.00023	-0.00125		-0.00116	-0.00105
	[0.00769]		[0.00871]	[0.00980]	[0.00254]		[0.00248]	[0.00246]	[0.000783]		[0.000777]	[0.000765]
Outrage	-1.134		-1.465	-1.426	0.0172		0.224	0.318	-0.326		-0.3	-0.363
	[3.502]		[4.053]	[4.093]	[0.676]		[0.667]	[0.748]	[0.235]		[0.233]	[0.245]
Chair Political		-0.0743***	-0.0655**	-0.0610**		-0.0179**	-0.0193**	-0.0174**		-0.0022	-0.00211	-0.00014
		[0.0254]	[0.0255]	[0.0302]		[0.00872]	[0.00808]	[0.00795]		[0.00236]	[0.00245]	[0.00210]
Fraction of		0.0303	0.015	0.0181		-0.00378	-0.00943	-0.00934		-0.00372	-0.00366	-0.0034
Bureaucrat Trustees		[0.0334]	[0.0335]	[0.0369]		[0.00707]	[0.00901]	[0.00885]		[0.00319]	[0.00405]	[0.00406]
Private Sector				-0.049				0.000693				-0.00899
Experience				[0.0748]				[0.0230]				[0.00579]
Public Sector				0.000432				-0.032				-0.0103
Experience				[0.112]				[0.0201]				[0.00692]
Log Size	-0.0204*	-0.00612	-0.0116	-0.00744	0.00626*	0.0109***	0.00869**	0.0118***	-0.00376***	-0.00199**	-0.00347***	-0.00228*
	[0.0117]	[0.0100]	[0.0142]	[0.0169]	[0.00359]	[0.00341]	[0.00425]	[0.00409]	[0.00124]	[0.000941]	[0.00120]	[0.00136]
Obs	67	102	66	66	465	694	463	463	538	841	536	536
R2	0.318	0.337	0.394	0.4	0.136	0.18	0.157	0.164	0.182	0.144	0.188	0.197
	Dep Variable: Ret. on Nat. Res. and Infra.				Dep Variable: Return on Fixed Income							
Underfunded	-0.00264**		-0.00249**	-0.00360***	-0.000216		-0.000227	-0.00007				
	[0.00107]		[0.00108]	[0.00110]	[0.000872]		[0.000874]	[0.000871]				
Outrage	-0.879		-0.864	-1.338	-0.0227		-0.00103	0.0588				
	[0.758]		[0.762]	[0.824]	[0.195]		[0.195]	[0.205]				
Chair Political		-0.0112	-0.0114	-0.00714		-0.00191	-0.00187	-0.00203				
		[0.00690]	[0.00729]	[0.00746]		[0.00238]	[0.00250]	[0.00239]				
Fraction of		0.00498	0.0119	0.0156*		-0.00311	-0.00356	-0.0037				
Bureaucrat Trustees		[0.00797]	[0.00750]	[0.00801]		[0.00284]	[0.00372]	[0.00373]				
Private Sector				-0.0687**				0.00749				
Experience				[0.0269]				[0.00694]				
Public Sector				0.034				-0.00704				
Experience				[0.0249]				[0.00531]				
Log Size	0.00206	0.00434	0.00339	0.00308	-0.00171	-0.000743	-0.00129	-0.000925				
	[0.00285]	[0.00321]	[0.00346]	[0.00250]	[0.00161]	[0.00153]	[0.00162]	[0.00172]				
Obs	546	852	543	543	556	825	555	555				
R2	0.061	0.031	0.069	0.091	0.202	0.141	0.206	0.208				

Table 9: Effect of Political Contributions on Asset Allocation

Dependent variables are the portfolio weights in each one of the five asset classes described in table 3. 'Chair Political' is a dummy taking value 'one' if the chair is indicated by the governor, and 'zero' otherwise. 'Political Contribution' are the total contributions received by the current governor from finance, insurance and real estate companies in the previous elections, normalized by the average contributions received by the three previous governors (from the same type of firms) on the elections in the same state. 'Fraction of bureaucrat trustees' is the fraction of ex-officio Trustees. Private and public sector experience variables are fraction of trustees with private or public experience. All standard errors are robust. *** denotes p<0.01, ** denotes p<0.05, and * denotes p<0.1.

	Hedge Funds	Real Estate / PE	Stocks	Natural Res. And Infrastructure	Fixed Income
Chair Political	0.0102***	0.00254	-0.0105	-0.0178***	0.0144
	[0.00330]	[0.00635]	[0.0100]	[0.00563]	[0.00942]
Political Contribution	0.000579	-0.0190*	0.00666	-0.0174*	0.0141
	[0.00577]	[0.0111]	[0.0175]	[0.00983]	[0.0165]
(Chair Political) ∗ (Political Contribution)	0.0189**	0.0363**	-0.0811***	0.0291**	0.00769
	[0.00845]	[0.0163]	[0.0257]	[0.0144]	[0.0241]
Fraction of Bureaucrat Trustees	0.00284	-0.0506***	-0.0506***	0.0311***	0.0576***
	[0.00410]	[0.00789]	[0.0125]	[0.00699]	[0.0117]
Observations	668	668	668	668	668
R-squared	0.1399	0.1373	0.1589	0.0912	0.0618

Table 10: Effect of Political Contributions on Performance

Dependent variables are the fund return in each one of the five asset classes described in table 3. 'Chair Political' is a dummy taking value 'one' if the chair is indicated by the governor, and 'zero' otherwise. 'Political Contribution' are the total contributions received by the current governor from finance, insurance and real estate companies in the previous elections, normalized by the average contributions received by the three previous governors (from the same type of firms) on the elections in the same state. 'Fraction of bureaucrat trustees' is the fraction of ex-officio Trustees. Private and public sector experience variables are fraction of trustees with private or public experience. All standard errors are robust. *** denotes p<0.01, ** denotes p<0.05, and * denotes p<0.1.

	Hedge Funds	Real Estate / PE	Stocks	Natural Res. And Infrastructure	Fixed Income
Chair Political	-0.0428*	-0.0236**	-0.00166	-0.0145**	0.000585
	[0.0235]	[0.0117]	[0.00221]	[0.00671]	[0.00311]
Political Contribution	0.0592	0.023	-0.00591	-0.0194	0.0103
	[0.0400]	[0.0214]	[0.00418]	[0.0166]	[0.00790]
(Chair Political) ∗ (Political Contribution)	-0.0932	-0.00393	0.00496	0.0183	-0.00673
	[0.0868]	[0.0238]	[0.00476]	[0.0237]	[0.00823]
Fraction of Bureaucrat Trustees	-0.000324	-0.00698	0.0013	0.0119	-0.00675
	[0.0313]	[0.0102]	[0.00302]	[0.00844]	[0.00464]
Observations	65	406	480	457	488
R-squared	0.372	0.179	0.121	0.065	0.243

Appendix Table 1: Instances of Fraud in Allocations of Investments from Public Pension Funds

	Fund	Position of Perpetrator	Type of Fraud	Date
1	Alabama Retirement	CEO	Insider trading	2008
2	California Public Employees (CalPERS)	CEO	Pay-to-play: Investments made to a consulting agency friend for whom the CEO later goes to work.	2008
3	California State Teachers	State Comptroller	Pay-to-play: Campaign contributions in return for investment contracts	1989
4	California State Teachers	Chairman of the Pension Board	Pay-to-play: Kickbacks for investment	2009
5	California Public Employees (CalPERS)	State Comptroller	Pay-to-play: Campaign contributions in return for investment	1989
6	Chicago Teachers	Governor	Alleged pay-to-play: Connection between governor and investment consulting	1989
7	Connecticut Retirement Plans & Trust Funds	State Treasurer	Pay-to-play: Kickbacks for investment	1997
8	Hawaii Employees	Investment adviser	Alleged pay-to-play: Fund's placement manager had financial relationship with 14 of 16 money managers	2004
9	Illinois Teachers	Governor	Pay-to-play: Governor sought campaign donations in exchange for investment influence	2009
10	Kansas Public Employees	Chairman of the Pension Board	Conflict of interest investing	1987
11	New York State Common	State Comptroller	Pay-to-play: Kickbacks for investment	2011
12	North Carolina Retirement Systems	State Treasurer	Alleged pay-to-play	2009
13	Ohio Police & Fire	Chairman of the Pension Board	Chairman pleads guilty to three counts of ethics violations	2006
14	Ohio Public Employees	State Treasurer	Pay-to-play: Kickbacks for investment	2004
15	Utah State Retirement	CIO	Insider trading / kickbacks	2003
16	Wisconsin Investment Board	Governor	Alleged pay-to-play	2005