

Pension Fund Board Composition and Investment Performance: Evidence from Private Equity*

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Abstract

We examine the governance of public pension funds and its relationship to investment performance. Pension fund board composition – most often set by statute many decades earlier – is strongly related to the performance of private equity investments made by the fund. Funds whose boards have high fractions of members who either sit on the board by virtue of their position in state government (*ex officio*) or were appointed by a state official underperform the most, followed by funds whose boards have a high fraction of members elected by participants. This underperformance is related both to investment category allocation and to selection of managers within category. Funds with worse-performing governance structures invest more in real estate and funds of funds, explaining 20-30% of the performance differential. Poorly governed pension funds also choose poorly within investment categories, overweighting investments in small funds, in-state funds, and in inexperienced GPs with few other investors. Lack of financial experience contributes to poor performance by boards with high fractions of participant elected board members, but does not explain the underperformance of boards heavily populated by state officials. Political contributions from the finance industry to state officials on pension fund boards are strongly and negatively related to performance, but do not fully explain the performance differential.

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1 Introduction

The investment policies of state and local government pension systems have shifted markedly towards alternative investment classes such as private equity, real estate and venture capital. For example, in January 2016, the California Public Employee Retirement System had invested almost 20% of its \$276 billion portfolio in these asset classes, compared to 13% in 2001. This shift raises the stakes in understanding what governance structures tend to promote better performance in these illiquid asset classes. Professional associations such as the Government Finance Officers Association and industry groups such as the National Association of State Retirement Administrators regularly present views on best governance practices, but there is no existing evidence that links governance practices to investment performance in the new world of alternatives investing.

Understanding how governance structures can affect the creation and preservation of value for pension systems, their sponsoring governments, and their employees is of high importance for several reasons. First, large amounts of taxpayer and public employee money are at stake. Public pension systems in the U.S. had \$3.8 trillion in assets at the end of 2014 according to the Federal Reserve Flow of Funds (Federal Reserve, 2015). Their unfunded liabilities are of a similar magnitude (Novy-Marx and Rauh, 2009, 2011). Second, literature on boards in other settings has demonstrated that governance structures can have large impacts on outcomes, as illustrated by the literature on the role of boards of directors in corporate governance (see Adams, Hermalin, and Weisbach (2010) for a survey). Third, other research has suggested that pension funds do not always pursue pure value maximization (Del Guercio and Hawkins, 1999; Agrawal, 2012; Hochberg and Rauh, 2013). In this paper, we study whether some governance structures are more consistent with value maximization in U.S. public pension systems than others by focusing on performance in the pension funds' private equity portfolio.

There is substantial heterogeneity in the performance of the asset classes of private equity,

venture capital, and real estate investments across public pension systems. Prior literature has examined differences in private equity performance of different classes of institutional investors (Lerner, Schoar, and Wongsunwai, 2007; Sensoy, Wang, and Weisbach, 2014). To the extent that there are differences, these have been attributed to differences in investment objectives, incentives, or investor sophistication. All public pension funds should in theory at least share one objective: to provide the benefits promised to the participants as efficiently as possible for taxpayers. But pension fund governance and board structure introduce differences in both incentives and financial experience across the trustees of different pension systems. In this paper, we focus on the relationship between governance of the pension fund, in the form of the composition of the pension fund board, and the performance of the PE investments made by the pension fund.¹

There are generally three types of individuals who sit on public pension fund boards. First, there are government officials, who may sit on the board by virtue of their office (*ex officio*) or are appointed by other government officials. Second, there are members of the pension systems themselves, who may be elected by participants or appointed as trustees. Third, there are members of the general public. Statutes and charters of pension systems, many of them instituted decades ago, dictate the relative representation of these different categories on each pension fund board.

We find that the performance of public pension funds' private equity investments is strongly related to the relative representation of these different categories on the public pension funds' boards. Specifically, each additional ten percentage points of the board who are government officials reduces performance by 0.9 net IRR percentage points if the official is appointed by another government official, and by 0.5 net IRR points if the official sits on the board by virtue of her office (*ex officio*).

¹PE offers an inviting setting for examining investment performance for a number of reasons. First, PE exhibits a large inter-quartile spread in manager performance, even within relatively narrowly defined investment types. Second, each investment has a clear investment date at which it is entered into - the fund's initial closing, commonly referred to as a vintage year. We can therefore attribute each investment decision to the pension fund board members who served on the pension fund board in that year. Were we to focus on public equities or fixed income, making such an attribution would be difficult, if not impossible.

An additional ten percentage points of the board being made up of elected members of the pension plan reduces performance by 0.2-0.4 net IRR points. Appointed members of the general public do not perform better than appointed members of the plan itself. These results are mirrored in analysis of cash-on-cash multiples as a performance measure. They are observed in all the investment categories we examine, and are strongest within venture capital and real estate.

Our analysis allows us to decompose the performance differentials into differences in asset allocation across private investment asset classes versus differences in investment selection within asset classes. The private investments in our sample consist of investments in buyout, venture capital, real-estate, natural resources, funds-of-funds, and other miscellaneous categories. We find that the more state government officials and elected plan participants a board has, the more the fund invests in real estate and fund-of-funds, conditional on board and LP size. However, controlling for these asset classes only attenuates the results by around 20-30%. The remaining performance differentials are explained by substantial differences in selection within these asset classes, most strongly within venture capital and real estate.

Within fund types, we also find that the share of state government officials and the share of elected participants is strongly correlated with several known proxies for poor investment selection in private equity: the extent to which the LP has a bias towards in-state investments, the number of other investors a fund has besides the public pension LP itself, and the fund's sequence number.² Boards more heavily populated by the weaker-performing categories of board member types invest substantially more in smaller funds of earlier sequences numbers (e.g. first-time funds) which attract capital from fewer LP investors. These proxies for poor selection decisions explain an additional

²Private equity managers raise fixed-term funds in overlapping sequences, with a new fund typically raised 3-5 years after the last. The typical fund term is 10-12 years with an option of 1-2 year extension. Funds are numbered in sequence order, with a fund "I" representing the manager's first fund, "II" representing its second, and so forth. Funds with higher sequence numbers indicate a longer history of performance for the fund managers, and, since managers who's initial funds underperform are unlikely to be able to raise further funds in the sequence, higher sequence funds generally indicate higher quality PE managers.

20 to 30 of the underperformance by board members who are state government officials or elected participants.

We hypothesize that variation in risk-adjusted investment performance might be driven by two conflicting factors. Boards with trustees that have more financial skill or investment experience may be expected to outperform boards with less knowledgeable or experienced trustees, *ceteris paribus*. However, boards whose members face conflicts of interest may not allocate assets to maximize financial return for a given risk level and instead may behave opportunistically. Furthermore, board members receive very small remuneration and some members may simply not have an incentive to invest effort to select well-performing investments, if they realize no gain from doing so. Plan participants are expected to have the least financial experience, and may or may not have an incentive to exert effort and care about fund performance, depending on whether they view taxpayers or beneficiaries as residual claimants for surpluses or shortfalls. State trustees, both appointed and ex officio, are expected to have a moderate level of financial sophistication, and some may have extensive knowledge, however, they may be more inclined towards certain types of opportunistic behavior due to personal career and political contribution considerations.³ Finally, public trustees are often chosen for financial or investment experience, but the fact that they themselves are finance practitioners may give rise to potential opportunistic behavior.

We therefore test two possible explanations for our basic findings. First, we explore the extent to which the results are driven by varying financial expertise and experience across the types of board members. The lower financial expertise of elected plan members explains most or all of their underperformance. It does not, however, explain the performance of state appointed and ex

³For example, Paul J. Silvester, a former Connecticut state treasurer, held a CFA, bachelor's degree in finance and MBA, and had worked as an investment banker, but was convicted in 2003 of taking bribes to direct public pension fund money to certain private equity funds. During the testimony in front of Connecticut District Court, Paul J. Silvester admitted that he "devised a scheme to deprive the State of his honest services in connection with the investment of pension funds with a fund known as Keystone." In 1998, Connecticut Retirement Plans and Trust Funds invested \$27.5 million in Keystone Venture V fund and this investment delivered a net IRR of -34.4% and a multiple of invested capital of 0.08.

officio members, who on average score moderately well on financial expertise but display the largest underperformance of the groups in the sample. Second, we examine the relationship between fund performance and political contributions to the campaigns of elected officials, especially from the finance industry. We find that political contributions matter and explain part, but not all, of the negative performance effect that government officials seem to have on boards. These results indicate that at least some of the underperformance of the elected officials relates to political incentives.

Given that we observe substantial differences in performance across different governance structures, an important question is whether these governance structures indeed affect investments and performance, or whether the governance structures have endogenously emerged as a result of the styles and outcomes of the investments the systems have made. We find that there is a great deal of stability in fund structures, particularly for the largest funds, and that regulations pertaining to the board composition of most plans were adopted long ago. For example, the Texas Teachers fund was established in 1937 and state law defined the current board composition in 1974. The composition of the New York State Teachers Retirement System board has remained the same since at least 1976, despite two changes in the election process for participant-elected trustees. The Florida State Board of Administration was established in 1970 and the composition has not changed then. Furthermore, the board composition of county retirement systems in California (Los Angeles County ERS, Orange County ERS, San Diego County ERS etc.) was defined by the County Employees Retirement Law of 1937 and has not changed since at least 1947. To the extent that board structures were established long before private equity became an important part of investor portfolios, concerns regarding reverse causality are less plausible, and our results are robust to excluding boards where there were changes to board structure during the sample period.

Overall, this paper contributes to several different strands of academic literature. First, we add to the finance literature on drivers of differences in private equity performance among types of limited

partners (Lerner, Schoar, and Wongsunwai, 2007; Sensoy, Wang, and Weisbach, 2014; Hochberg and Rauh, 2013) by considering the role of governance structures and documenting differences in performance within public pension funds, the most important type of limited partners based on the number and size of investments. Second, the paper contributes to the literature on public pension underfunding and the investment incentives in current accounting and regulatory regimes (Novy-Marx and Rauh, 2011; Andonov, Bauer, and Cremers, 2015).

Third, the paper relates to a literature that examines the empirical relationship between certain characteristics of pension fund boards and overall fund performance (Mitchell and Hsin, 1999; Useem and Mitchell, 2000; Coronado, Engen, and Knight, 2003; Mitchell and Yang, 2008). More recently, this literature has examined pension fund governance characteristics and the allocation of pension fund assets to equity and other risky asset classes versus bonds and safe asset classes. Cocco and Volpin (2007) document agency conflicts among the corporate executives acting as trustees of UK private pension funds and relate the share of insiders on boards to the share of the fund allocated to equity. Andonov, Bauer, and Cremers (2015) find that pension funds governed by boards heavily populated by with more state officials invest more in risky asset classes such as equity and alternatives. Finally, Bradley, Pantzalis, and Yuan (2016) study the effects of pension board composition, including the extent to which trustees in 16 state pension plans are politically affiliated, on the tendency to tilt the fund’s public equity portfolio towards politically connected local stocks. We examine private equity investments of a larger set of funds with deep information on trustees and direct measures of their political connections.

Fourth, the asset management literature has mainly studied the relationship between characteristics of mutual fund managers or individual investors, like education, age and experience, and their investment performance (Chevalier and Ellison, 1999; Korniotis and Kumar, 2011; Kempf, Manconi, and Spalt, 2014). Our contribution includes the study of the importance of relevant prior professional

experience and education in the context of pension fund boards, a setting that introduces group dynamics.

Fifth, we also contribute to the literature on the relationship between political connections and financial decisions. Goldman, Rocholl, and So (2009, 2013) and Acemoglu, Johnson, Kermani, Kwak, and Mitton (2015) analyze the benefits for firms from maintaining strong political connections. Our paper further contributes to this literature by studying the other side of these connections and analyzes the implications of strong connections to the finance industry for the asset management decisions made by politicians.

This paper proceeds as follows. Section 2 provides an overview of pension fund governance and boards. Section 3 describes the data and sample. Section 4 provides results on board composition and private equity performance. Section 5 investigates how the performance differences relate to specific investment choices, both of asset classes and of individual private equity investments within asset classes. Section 6 examines direct evidence of variation in financial expertise and political connections. Section 7 concludes.

2 Overview of Pension Fund Governance and Boards

The board of administration for a public pension fund is responsible for the management and control of the pension fund. For example, the CalPERS Board has exclusive control of the administration and investment of funds. The Board’s responsibilities include setting employer contribution rates, determining investment asset allocations, providing actuarial valuations, and much more. Similarly, The Teacher Retirement System (TRS) of Texas was established pursuant to Article 16, Section 67 of the Texas Constitution, which requires Texas TRS to have a Board of Trustees to administer TRS and invest its funds. The Board of Trustees of New York City ERS is responsible for investing the assets of the retirement system, establishing the administrative budget of the system and promulgating

rules and regulations necessary to carry out provisions of law. Overall, pension fund board members have the power and responsibility to make investment decisions on behalf of the fund.

If a pension fund has a separate board that makes the investment decisions, we analyze the composition of this investment board. For example, the assets of multiple pension funds from the State of Washington, like Washington PERS 1/2/3, LEOFF 1/2, School Employees 2/3 and Teachers 1/2/3 are pooled together and managed by Washington State Investment Board (SIB).⁴ In our analysis, we collect data on Washington SIB trustees, who are responsible for the investment decisions. Similarly, we analyze the board composition of Illinois State Board of Investment, Massachusetts Pension Reserves Investment Management Board, Nebraska Investment Council, etc.

The compensation of pension fund board members differs substantially from the compensation packages received by directors of corporations. For instance, the board members of the State Teachers Retirement System of Ohio serve without compensation other than actual, necessary expenses. Similarly, board members of Washington SIB who are public employees serve without compensation, while board members who are not public employees are compensated in accordance with RCW 43.03.240 (currently \$50 per day).

Board members can be classified into 9 categories. We first classify board members into three over-arching categories: state, public and participant. State board members are government officials of the state, county, city or other appropriate public entity. State trustees can be appointed by a government executive (*State-appointed*), serve as an ex officio member by the virtue of holding another government position (*State-exofficio*) or be elected to the board by plan participants (*State-elected*). Participant board members are trustees who are currently-employed or retired plan participants. Board members representing plan participants can be appointed to the board (*Participant-appointed*),

⁴According to the Board Charter, the board of Washington SIB is “responsible for establishing the investment philosophy and policies for each fund that the WSIB manages and for periodically reviewing, confirming, or amending said philosophies and policies. These policies include, without limitation, an asset allocation policy, a proxy voting policy, and a portfolio rebalancing policy, as applicable to the funds managed by the SIB.”

serve as an ex officio member (*Participant-exofficio*), or elected by plan members (*Participant-elected*). Public trustees are members of the general public and do not work for the state or participate in the pension plan. General-public board members can be appointed to the board (*Public-appointed*), serve as an ex officio member (*Public-exofficio*), or elected to the board by plan members (*Public-elected*). Of these 9 categories of pension fund board of trustee members, 5 categories represent the vast majority of all pension fund board members: state-appointed, state-exofficio, participant-appointed, participant-elected and public-appointed. Overall, we observe a great deal of heterogeneity in board composition across pension funds.

The vast majority of state board members are either appointed by a governmental executive or serve as an ex officio member. Typical examples of state-exofficio board members are: state treasurer, controller, comptroller, personnel director, director of finance, superintendent of public instruction etc. State-appointed trustees are usually appointed by the Governor, Mayor, Speaker of State House of Representatives or President of State Senate etc., and frequent examples are state senators, state representatives, elected officials of local government, school board representatives etc. State-elected board members participate in the boards of only four funds in our sample. They are also governmental officers, but the main characteristic is that they are elected by plan participants. For example, in Michigan Municipal Retirement System, three officers of a municipality or court are elected as state (employer) trustees by the plan participants at the annual meeting.

Trustees representing plan participants are present on the board of almost all public pension funds, but their proportion and appointment procedure varies across funds. The majority of these trustees are either elected by plan participants or appointed to the board. Additionally, nine pension plans in our sample have ex officio plan board members, who are usually (but not always) union representatives. For example, the heads of the three unions with the largest number of participating employees sit on the board of New York City ERS. In case of elections, active and retired plan

participants either vote at the annual meeting or receive the ballots containing each candidate's biographical information by post.

The appointment procedure of trustees representing plan participants involves two groups of stakeholders. Typically, plan participants nominate several candidates and a governmental official appoints one of them to the pension fund board. For instance, in Texas Teachers Retirement System, two board members are appointed by the governor from the three public school active member candidates who have been nominated by employees of public school districts, while one board member is appointed by the governor from the three higher education active member candidates nominated by employees of higher education institutions.

General public board members typically work in the local financial industry and are appointed to the board by governmental officials. In our sample, only four pension funds have general public board members that are elected by plan participants and one fund has general public ex officio board members.⁵ In all other funds these trustees are appointed to the board. For example, CalSTRS has three general public representatives on the board appointed by the Governor and confirmed by the Senate and, in 2014, these trustees worked at a brokerage and investment banking firm, venture capital firm, and insurance company, respectively.⁶

In this setting, we hypothesize that variation in risk-adjusted investment performance might be driven by two conflicting factors. Boards with trustees that have more financial skill or investment experience would be expected to outperform boards with less knowledgeable or experienced trustees, *ceteris paribus*. However, boards whose members face conflicts of interest may not allocate assets to maximize financial return for a given risk level and instead may behave opportunistically. Furthermore,

⁵Kentucky Teachers Retirement System is one example of a pension fund that has two general public board members elected by plan participants. The only pension fund with general public ex-officio trustees is the University of California. The president and vice-president of the Alumni Associations of the University of California are always represented on the Board of Regent of the University of California and we classify them as general public ex officio board members.

⁶The information has been retrieved from the biographies of CalSTRS retirement board members posted on CalSTRS website.

board members receive very small remuneration and some members may simply not have an incentive to invest effort to select well-performing investments, if they realize no gain from doing so.

The clearest variation in skills and incentives comes at the broad level of whether trustees are plan participants, state government officials, or members of the public. Plan participants would be expected to have the least financial experience, as their careers are in teaching, public safety, or another area of public service. However, conflicts of interest are likely low for this group, as their connections to the financial industry are presumably minimal. They may or may not have an incentive to exert effort and care about fund performance, depending on whether they view taxpayers or beneficiaries as residual claimants for surpluses or shortfalls (Novy-Marx and Rauh, 2009). On the one hand, in many states there are strong constitutional or legal provisions that protect vested and even prospective pension benefits from being reduced, suggesting participants are to some extent insulated from the effects of poor investment performance.⁷ On the other hand, legislatures in many states have increased pension benefits following periods of high asset returns.⁸ Furthermore, in states with weaker legal protections of pension benefits, some governments have implemented reforms such as reductions in cost of living adjustments and increases in required employee contributions.

We hypothesize that state trustees, both appointed and ex officio, would be expected to have a moderate level of financial sophistication. Some may have extensive knowledge, particularly those who serve as state treasurer. However, we would expect state trustees to exhibit more opportunistic behavior than the other groups, as they might have incentives to overweight companies contributing money to their political parties or otherwise lending support to their personal career prospects. On the one hand, their incentives to improve pension fund performance should be strong, as the better

⁷For example, in Illinois, the non-impairment constitutional provision was interpreted broadly and Illinois Supreme Court decision No.2014 MR1 declared the pension reform unconstitutional. The court ruled that “membership in any pension system shall be an enforceable contractual relationship, the benefits of which shall not be diminished or impaired. (Illinois Constitution, Article XIII, §5.) This constitutional language is unambiguous and the Pension Protection Clause is given effect without resort to other aids for construction.”

⁸For instance, in 1999, one year before the dot-com bubble burst, CalPERS had an actuarial funding ratio of 128 percent and California Senate Bill 400 increased the retirement benefits of highway patrol, police, firefighters, and other public safety workers retroactively to the date of hire.

the investment performance, the fewer resources taxpayers will need to devote to pension funding. On the other hand, states can exercise substantial discretion in their application of governmental accounting to postpone contributions that would be necessary for economic funding of pension liabilities (Novy-Marx and Rauh, 2014).

Public trustees are the group that we would expect to have the most financial or investment experience, as they are often chosen or appointed on the basis of their expertise. On the other hand, the fact that they themselves are finance practitioners may give rise to potential opportunistic behavior. In some instances, pension systems place explicit restrictions on public employees, such as San Diego County ERS which stipulates that trustees “must not have any personal interests which would create a conflict of interest with the duties of a board member and trustee.” Public trustees receive no direct benefits from pension funding, but presumably would prefer to avoid having to increase the tax dollars devoted to pension funding if investment returns can serve as a partial replacement (Novy-Marx and Rauh, 2011, 2014).

Given that we observe substantial differences in performance across different governance structures, an important question is whether these governance structures indeed affect investments and performance, or whether the governance structures have endogenously emerged as a result of the styles and outcomes of the investments the systems have made. For all of the LPs in our sample, we were able to collect the year when the fund was established. For some funds, particularly the largest, we also know when state laws defined the current board composition. For all funds, we check whether the board composition changed during our sample period.

We find that there is a great deal of stability in fund structures, particularly for the largest funds, and that regulations pertaining to the board composition of most plans were adopted long ago. For example, among large funds, the Texas Teachers fund was established in 1937 and state law defined the current board composition in 1974. The composition of the New York State Teachers Retirement

System board has remained the same since at least 1976, despite two changes in the election process for participant-elected trustees.⁹ The Florida State Board of Administration was established in 1970 and the composition has not changed then.¹⁰ Furthermore, the board composition of county retirement systems in California (Los Angeles County ERS, Orange County ERS, San Diego County ERS, San Bernardino County ERS etc.) was established by the County Employees Retirement Law of 1937 and has not changed since at least 1947.

We identified only 36 instances of changes to board structure during the sample period. Some of these were relatively minor changes for the purposes of this study, such as a 1998 constitutional amendment in Minnesota. This amendment abolished the position of State Treasurer effective in 2003, and therefore reduced the number of ex officio board members on the Minnesota State Board of Investment from 5 members to 4 members, but the percentage of state ex-officio board members remained the same. An example of a more major change is Ohio's changes during the mid-2000s that significantly reduced the number of state trustees and increased the number of general public trustees.

To the extent that board structures were established long before private equity became an important part of investor portfolios, the possibility of reverse causality is less plausible. On the other hand, in cases where there were board changes, such changes are likely to have been affected by investment performance. We check the robustness of the results to excluding boards where there were changes to board structure during the sample period and find that the results remain strongly significant.

⁹See New York State, Article 11 of the Education Law, Section 504.

¹⁰See Florida Statutes, Title XIV Taxation and Finance, Chapter 215 Financial Matters: General Provisions, 215.44 Board of Administration.

3 Data and Sample

Our data is collected from four primary sources. First, we collect data on public pension fund board composition from their Comprehensive Annual Financial Reports (CAFRs). The board composition is reported in the CAFRs Introduction section and the exact regulation is clarified in the Financial section (Notes to the Basic Financial Statements - Plan Description). We also look at the state or municipal codes and statutes to verify the board composition and to understand the election and appointment procedures.¹¹ The time series variation of board composition is limited as only 36 public pension funds experience a change in overall board composition during our sample period, while 174 funds maintain the same board structure over time.

Second, we utilize a generalized web search to collect biographical information regarding each public pension fund board member who served on the board of one of the largest 34 pension funds in our sample. These funds represent almost 12% of the total assets under management for the U.S. pension fund world and around 27% of the assets managed by U.S. defined-benefit pension funds in 2011.¹² Online Appendix Table A.3 lists these 34 funds with collected background data.

We categorize the biographical information into a number of variables representing educational background, union membership, executive experience, financial experience, asset-management experience, and other related experience (real estate, insurance, etc.). Asset management experience is defined as having prior experience in asset management, alternative investments, hedge funds, pension funds (investments, not administration), private equity, commercial real estate or venture capital. Financial experience is defined as having prior experience in banking, risk management, insurance, serving as CEO/CFO/CIO in a large corporation, or practicing financial law (cases in M&A, bond issuance, commercial real estate, private equity, securitization). Related experience is

¹¹For example, the board composition of Texas state pension funds (Texas ERS, Texas Teachers RS, Texas County and District RS etc.) is defined in the Texas Government Code Title 8: Public Retirement Systems.

¹²The comparison is based on the Global Pension Asset Study 2012 conducted by Towers Watson.

defined as having prior experience in public finance (budget analyst, head of budget committee), as treasurer or similar position, actuarial experience, employee benefit management, or managing a credit union. We record the trustee as having director experience if the person held a high executive position in private sector or managed an own business, and as having private sector experience if the person has a prior private sector experience more generally.

Within the public sector, we distinguish between generalized experience in public service and having served either as a candidate in political elections or as an elected official prior to or during board service. We classify a board trustee as having public sector experience if the person has prior public section experience, but has not participated in political elections. (We do not consider experience as a teacher, public educator, police officer or firefighter as public sector experience.) Having classified public sector officials in this manner, we then utilize the website Follow the Money (www.followthemoney.org) to determine whether the candidates received political donations from institutions, particularly financial industry-related institutions, during their election campaigns. We compute the sum of all contributions received by a pension fund trustee up to the year in question, and the total political donations received by the trustee during the last election cycle.

Finally, we obtain data on PE funds and performance from Preqin. The bulk of institutional investment in private equity is made via legally separate funds run by professional managers (referred to as the GPs), as the selection of appropriate direct investments requires resources and specialized human capital that few institutional investors have. PE funds are raised for a specified period (typically 10-12 years, with possible short extensions) and are governed by partnership agreements between the investors and the fund's principals. The agreement specifies the nature of the fund's activities, the division of the proceeds, and so forth. Private equity groups typically raise a fund every few years. Investments are made by the limited partners at the start of the funds life, often referred to as the fund's vintage year. Using the vintage year, we can attribute each investment

decision to the pension fund board members who served on the pension fund board in that year.

We collect the set of investments made by public pension funds into PE funds raised in vintage years 1990-2011. Our sample contains 13,328 investments by 210 unique public pension fund LPs investing in 3,919 PE funds managed by 1,415 GPs. Table 1 presents summary statistics for pension fund board composition and investments. The public pension funds in our sample have an average of \$43.98 billion in assets under management (AUM), and average 9.3 board members. Panel A of Table 1 presents summary statistics for the number of funds and number of investments that have at least one board member belonging to the different categories of pension fund board trustees. On average, state-appointed and state-exofficio trustees represent around 7.6 and 25.4 percent of the board members. Trustees representing plan participants are present in the board of 197 out of 210 U.S. public pension funds and hold on average 40.2 percent of the board positions. The average proportion of participant-elected board members is 26.7 percent, whereas plan members appointed to the board account for 11.7 percent. General public board members hold, on average, 25.5 percent of the pension fund board seats, and almost all of them are appointed. Figure 1 complements the data with histograms of board composition and shows that there is significant cross-sectional dispersion in the representation of the different categories of pension fund board members.

Panel B presents summary statistics for the key performance measures – net IRR and multiple of invested capital – for the subsamples of the 13,328 total investments for which these performance related data items are available. The mean fund in our sample has a net IRR of 10.5%, a net multiple of committed capital of 1.44, and a total committed capital base of \$2.25 billion. On average, the PE funds in our sample have a total of 26.3 LPs, and a sequence number of 4.1. The average investment size by a public pension fund in a PE fund is \$60 million.

In Table 2, we present summary statistics for the fraction of investment allocated to each PE sub-category (private equity = buyout + VC, real estate, natural resources, etc.), at the LP-vintage

year level. Computing allocation fractions by number of investments results in 1,561 LP-vintage observations, whereas using data on the dollar amount committed by the LP results in 1,326 LP-vintage observations. Using the number of investments essentially assigns equal weight to every investment. The advantage is that we do not need the commitment data, which is missing for some investments. A disadvantage is that this approach overweights smaller fund types, such as VC investments. Using the commitments data results in a lower number of observations. The number of observations decreases because smaller pension funds (which typically make fewer investments) are less likely to have complete commitments data. Using the commitments data, the number of LPs that have at least one LP-vintage observation decreases from 210 to 174.

We present our data first at the category level (PE, real estate, natural resources) and then at the sub-category level (buyout, VC, real estate direct, real estate fund-of-funds, fund-of-funds, other PE).¹³ At the category level, allocation percentages are roughly the same for both investment and committed capital calculations. The public pension funds in our sample allocate 71% of both their investments and dollar committed capital to private equity (VC and buyout). Between 25 and 26% of investments and committed capital is allocated to real estate funds, and a little over 3% of both investments and dollars is allocated to natural resources. Within private equity, 42% of investments and 46% of dollars are allocated to buyout. 23% of PE investments, representing 17% of investment dollars, are allocated to VC. The remainder is split nearly equally between fund-of-fund and other PE investment categories.

Table 3 presents summary statistics on the experience and political engagement of public pension fund board members. Panel A shows summary statistics for the skills and professional experience of pension fund board members that served during the 1990-2011 period. We collect background data for the trustees of 34 pension funds (LPs) and match it to the 8,027 investments made by these

¹³Other funds capture investments in distressed debt, secondaries, coinvestments, hybrid and balanced funds.

LPs (7,421 investments with return data). When presenting the summary statistics by person, we assign an equal weight to every trustee in the sample. Of the 847 unique trustees in the subsample, 22.5% have experience in asset management, 13.2% have experience in finance more generally, and 39.1% have other related experience. 2.1% of board members hold a CFA (Chartered Financial Analyst), 13.1% have an MBA degree, and 37.8% have a bachelor, master or PhD degree in finance, economics, business management, business administration, accounting or insurance. More detailed statistics on educational attainment and experience types are provided in the table.

A few patterns emerge from the statistics in Table 3. Public-appointed board trustees appear to have more relevant experience than the other groups, followed by State trustees. Over 48% of public-appointed trustees have experience in asset management, 24% have other general financial experience, and 25% have other related experience. Participant-appointed trustees tend to have more relevant experience than participant-elected trustees; this difference is especially notable for related experience. Participant-appointed trustees have also more executive experience in the private sector. Participant-elected trustees are more likely to be union members or supported by labor unions. Unions typically nominate or recommend candidates during trustee elections. Notably, public-appointed members are more likely to obtain a relevant educational degree or to complete an MBA program.

Unsurprisingly, state trustees are more likely to participate in political elections (many of them become trustees after winning political elections that automatically make them *ex officio* trustees). The variable *Political Elections* measures the percentage of pension fund trustees who participate in political elections before or during their tenure as pension fund board members. For a subset of these trustees, those who serve as elected officials or participate in political elections *during* their tenure as a pension fund board member, we collect data on political contributions received by their campaign. Thus, the existence of financial contributions data is conditional on matching the tenure

of a board member to simultaneous involvement in politics. As a result, the *Political Elections* variable is broader than the contributions data.¹⁴ In general, state-exofficio trustees receive more total contributions and more contributions from the finance industry than other trustee candidates.

4 Pension Fund Board Composition and Performance

We begin our empirical analysis in Table 4 with a simple regression of investment performance on board composition. The observation level is LP-investment. In models (1) to (4) performance is measured using net internal rate of returns (IRR), whereas in models (5) to (8) performance is measured using multiple of invested capital. As independent variables, we utilize the percentage of trustees falling into 4 of the 5 large categories of board member (state-appointed, state-exofficio, participant-elected and public-appointed) for the pension fund board in the year of the observation. The omitted category is participant-appointed. We control for the natural logarithm of LP assets under management, board size, and the natural logarithm of the commitment as a percentage of the assets under management. In each model, we include vintage year fixed effects and independently double cluster the standard errors by pension fund and by vintage (Petersen, 2009). In models (2), (3), (4), (6), (7), and (8) we include additional fixed effects for the state of the LP. Specifications (4) and (8) exclude in-state investments, to demonstrate that the findings are not simply a reflection of the in-state bias documented in Hochberg and Rauh (2013) and Bradley, Pantzalis, and Yuan (2016). The number of observations in columns that include the control for the commitment size is lower as some investments do not have commitment size information.

A clear pattern emerges from the estimates in the table. Recalling that the omitted category is participant-appointed, pension funds with boards that have higher percentages of state-appointed,

¹⁴For example, John W. Douglass served on the Board of Trustees of the Maryland State Retirement and Pension System from 2004 to 2015, while he was an elected member of the Maryland House of Delegates from 1971 to 1994. In the analysis, we classify John W. Douglass as a trustee with political elections experience, but we do not match his tenure as a pension fund board member with political contributions data.

state-exofficio, or participant-elected trustees exhibit consistently lower performance, in terms of both net IRR and multiple of invested capital. Public-appointed members have negative coefficients in some specifications but there is not a robust, statistical difference between their performance and that of the omitted category, participant-appointed.

Of the four categories, state-appointed board members are associated with the lowest performance: an increase of 10 percentage points in the proportion of the board that consists of state-appointed members is associated with a decrease of roughly 0.9 percentage points in annual net IRR investment performance. State-exofficio board members have the next lowest performance. An increase of 10 percentage points in the proportion of the board that consists of state-exofficio members is associated with a decrease of between 0.53 and 0.67 percentage points in annual net IRR, depending on the model estimated. The effects for higher levels of participant-elected board trustees are lower, but remain negative and statistically significant across specifications. An increase of 10 percentage points in the proportion of the board that consists of participant-elected members is associated with a decrease of between 0.19 and 0.40 percentage points in annual net IRR, depending on the model estimated. An increase of 10 percentage points in the proportion of the board that consists of public-appointed members is associated with negative coefficients of between 0.04 and 0.27 percentage points in annual net IRR, but this effect is statistically insignificant once we add commitment sizes and LP state fixed effects. In Online Appendix B, we show that these results are robust to analyzing only the 2000-2011 period, excluding four pension funds that only have a single board member, and excluding Massachusetts-based pension funds (49 small pension funds).

Table 4 Columns (5) to (8) repeat the analysis, substituting multiple of invested capital as the performance measure. We continue to observe that investments made by state-appointed and state-exofficio board members have lower returns. Using multiples as the metric, pension funds governed by 10 percentage points more state-appointed trustees select investments that underperform

by 0.27 to 0.45 (27 to 45 percent of capital). An increase of 10 percentage points in the proportion of the board that consists of state-exofficio members is associated with a decrease of between 0.17 and 0.28 in the multiple of invested capital, depending on the model. We also observe that participant-elected trustees invest in PE funds that deliver lower multiples, while the investments made by public-appointed board members usually do not deliver significantly different returns.

What are the characteristics of investments that lead boards characterized by higher percentage representation of board members in these categories to underperform? Poor performance could be due to poor allocation decisions across PE sub-categories or to poor selection of managers. In Table 5, we explore allocations to the various PE sub-categories. We present estimates from regressions in which the dependent variable is the percentage allocated to different fund types during the 1990-2011 period. Observations are at the LP-vintage year level. In Panel A, the dependent variables are defined based on the number of investments, and in Panel B, the percentage allocations are weighted by the commitments. We focus again on the percentage board representation by the four categories used in Table 4, and the omitted category is participant-appointed. The number of observations is lower in Columns (3), (4) and (5) because we condition on investing in private equity. Some LP-vintage observations only have investments in real estate or natural resources.

Table 5 shows that pension fund board composition is significantly related to the percentage allocated across investment categories. State-appointed, state-exofficio and participant-elected trustees overweight real estate at the expense of private equity. Based on Column (1) in Panel A, an increase of 10 percentage points in the proportion of the board that consists of state-appointed members is associated with a 2.45 percentage point higher allocation to real estate funds and 2.40 percentage points lower allocation to private equity funds.¹⁵ We also observe that, within private equity, state-appointed, state-exofficio and participant-elected trustees overweight fund-of-funds

¹⁵The coefficients reported in Table 5 Columns (1) and (2) are not exactly the opposite and do not sum up to zero, because we classify the investments in natural resources as a separate sub-category, but do not analyze it separately as the number of observations is relatively low.

primarily at the expense of buyout funds. For instance, based on Panel A Column (5), a pension fund governed by 10 percentage points more state-exofficio board members allocates 1.34 percentage points more to fund-of-funds. We also document that larger pension funds overweight private equity instead of real estate funds, and within private equity they increase the allocation to buyout funds and avoid fund-of-funds.

Having looked at the allocations across categories, we now turn to selection of managers within categories. Table 6 presents regressions in which the dependent variable is investment performance, measured by net IRR or multiple of invested capital. In this analysis, observations are at the LP-investment level. We start by analyzing the performance in all investments together (*All*) while controlling for allocation to different categories using indicator variables. The omitted category in Table 6 Columns (1) and (2) is buyout funds and we include indicators for real estate, natural resources, venture capital, fund-of-funds and other private equity fund types. Even after controlling for difference in allocation, state-appointed, state-exofficio and participant-elected trustees invest in PE fund managers who deliver lower returns. If we compare the coefficients reported in Table 6 Columns (1) and (2) with the coefficients reported in Table 4 Columns (1) and (2), we can conclude that poor asset allocation decisions explain 20 to 30 percent of the performance differential. The remainder can be potentially attributed to poor selection of PE funds.

Next, we analyze the performance separately in real estate (RE) and private equity (PE). In columns (5) and (6), we also distinguish between performance in buyout funds (BO) and venture capital funds (VC). We find that state-appointed, state-exofficio and participant-elected trustees underperform within both real estate and private equity. The underperformance in private equity cannot be explained solely by higher allocation to fund-of-funds, and it is strongly concentrated in VC funds. We do not observe significant differences in buyout funds.

Moreover, as we document above, state-appointed, state-exofficio and participant-elected trustees

overweight investments in real estate and fund-of-funds. In Table 6 Columns (1) and (2), we find that real estate and fund-of-funds are the worst performing types within private equity. However, even within the real estate category, pension funds governed by boards heavily populated by state-appointed, state-exofficio and participant-elected trustees select worse funds. Based on Panel A Column (7), an increase of 10 percentage points in the proportion of state-appointed board members is associated with a decrease of 0.80 percentage points in annual net IRR on real estate investments.

Overall, Table 6 documents that state-appointed, state-exofficio and participant-elected exhibit both worse asset allocation and selection of managers. A natural question is whether the lower returns we observe for these groups are perhaps the result of their investing in less risky funds, which on average would be expected to have lower returns. Due to the nature of private equity, it is impossible to obtain an exact, ex ante measure of risk for PE fund investments.¹⁶ That said, there are several reasons why the results are unlikely to be driven by differences in risk.

First, a number of indicators suggest that real estate and venture capital are among the riskiest categories of private equity. The fact that boards heavily populated by state-appointed, state-exofficio, and participant-elected members overweight these categories in particular, is not consistent with the idea that they are investing in less-risky private investments and expecting lower returns for that reason. Second, Andonov, Bauer, and Cremers (2015) and Bradley, Pantzalis, and Yuan (2016) examine the extent to which boards with different types of trustees invest in equity and other risky asset classes. They find that pension funds governed by boards populated with more state-appointed and state-exofficio board members invest more in risky asset classes.¹⁷

¹⁶In the context of private equity investments, there is little that can be done by the econometrician to measure risk in a similar fashion to that which is done in the context of continuously traded assets whose values are repeatedly observed. In practice, we observe one return number for the entire twelve-year life of any one private equity fund: the ultimate return to LPs net of fees. Computing a beta for a given fund in the traditional manner as is done for public securities is thus impossible. Given this, the best the PE literature has been able to accomplish in the area of computing the risk of PE is to arrive at widely variable estimates of a beta for the asset class as a whole. It is not clear that employing these betas, if it were feasible to compute them, would actually be a better risk adjustment than demeaning by the return of similar funds in the same narrow asset class, location, and vintage year, as we do here.

¹⁷Specifically, Andonov, Bauer, and Cremers (2015) find that an increase of one standard deviation in the proportion of board that consists of these two categories is associated with approximately 3 percent higher allocation to risky

Third, Table 7 and Figure 2 resemble a value-at-risk analysis and present evidence suggesting that risk cannot be the explanation for the poor performance we observe in Table 6. The observation is an LP-investment and we present the distribution of returns for the five main categories of board members. In Panel A, performance is measured using the net internal rate of return (IRR) minus [vintage x fund type] group mean, whereas in Panel B performance is measured using the multiple of invested capital minus [vintage x fund type] group mean. When calculating the group means, we include investments made during the 1990-2011 period and we split the investments in the following fund types: real estate, natural resources, buyout, venture capital, fund-of-funds and other private equity funds.

If participant-appointed and public-appointed trustees obtain higher returns by taking on riskier investments, we should expect that they have a higher likelihood of having funds in the lowest performance percentiles. Actually, the better performance of participant-appointed and public-appointed trustees comes mainly from the limited down-side. When examining the 5th and 10th percentiles, we see that these better performing trustee categories avoid selecting the really bad funds, and the worse performing categories have worse performance in these percentiles. For example, the 5th percentile for plans with no state-exofficio members is -15.7 net IRR points, and for plans with an above-median percentage of state-exofficio members it is -21.5 net IRR points. On the right side of the distribution, their performance is closer to the average performance. This suggests that it is not simply the case that state trustees are picking less-risky funds.

5 Board Composition and Investments Selection

In this section, we aim to understand the characteristics of the poor performing funds that state-appointed, state-exofficio and participant-elected trustees select. What explains the underperformance asset classes, while Bradley, Pantzalis, and Yuan (2016) document a positive relation between the fraction of state trustees and the annual time series change in the allocation to risky assets.

of these funds in particular?

We first turn to in-state investing, as in Hochberg and Rauh (2013). Table 8 presents regressions in which the dependent variable is the LP's excess share of in-state investments, relative to the benchmark representing the share of investments in the state by out-of-state LPs, over the preceding five-year period. The analysis is on an LP-vintage year level and we examine the overweighting in all investments as well as separately in real estate (RE) and private equity (PE). In Columns (5) and (6), we also distinguish between overweighting in buyout funds (BO) and venture capital funds (VC), whereas Column (7) is estimated conditional on investing in private equity.

Looking at the estimates in the table, it appears that state-appointed, state-exofficio and participant-elected board members overweight in-state investments even after controlling for differences in percentage allocation to PE sub-categories. In Column (2), the coefficients on the percentage of state-exofficio board members is positive and significant, indicating that a 10 percentage point increase in the proportion of state-exofficio members is associated with a 1.31 percentage point higher allocation to local in-state investments. Based on the economic magnitudes, the overweighting of local investments is even larger among state-appointed trustees.

The coefficients on the size of the LP's assets under management are significant, reflecting the fact that larger LPs do less in-state overweighting, other things equal. A one-unit increase in the log of assets under management is correlated with a reduction in overweighting by 1.6 percentage points, when analyzing all assets together.

The next columns of Table 8 present the results separately for investments in real estate, private equity, VC and buyout funds, respectively. We document that the in-state overweighting by state-appointed, state-exofficio and participant-elected board members is particularly strong for real estate and VC, but is not significant for buyout funds. For VC, the coefficient on state-appointed trustees is not significant, but the magnitude points in the overweighting direction. Overall, the

estimates in Table 8 suggest that the overweighting of local investments may potentially explain part of the underperformance by state-appointed, state-exofficio and participant-elected trustees, given the Hochberg and Rauh (2013) finding that public pension funds' in-state investments achieve performance that is lower than the performance on their own similar out-of-state investments.

How else do the investment choices of differently composed boards differ? Table 9 presents regressions in which the dependent variables capture three different investment characteristics. First, in columns (1) and (2), the dependent variable measures the total number of LP investors in the fund. Second, in columns (3) and (4), the dependent variable is the natural logarithm of the fund size in which the LP invested. Third, in columns (5) and (6), the dependent variable is the sequence number of the fund in which the LP invested.

We choose these three characteristics because they are generally associated with poorer performance in PE. Generally speaking, larger PE funds tend to exhibit higher performance, perhaps unsurprisingly, given that the ability to raise large sums of money is likely to be positively correlated with the perceived quality of the PE fund manager. Managers of funds of low sequence number are relatively new, and have not yet proven their ability to perform, as would be the case with managers in higher sequence funds-which will only be raised if the manager returns good performance on his earlier sequenced funds. Finally, having a limited number of LPs suggests that the manager may not have been able to secure broad support for his/her fundraising efforts.

Based on the results in Table 8, we additionally introduce two new control variables. *In-state RE* and *In-state VC* are indicators equal to one if the general partner of a real estate or venture capital fund is located in the same state as the pension fund (LP). The number of observations is lower in columns (2), (4) and (6) because we control for the commitment as a percentage of the assets under management.

In Table 9, we find that state-appointed, state-exofficio and participant-elected trustees invest in

smaller funds, funds with fewer investors and funds with a lower sequence number. The number of investors counts not only the number of public pension funds acting as LP, but also the number of other LPs, like private pension funds, endowment funds and foundations. Similarly, fund size reflects the total PE fund size, which is a sum of the commitments from all investors. Thus, we document that public pension funds governed by state-appointed, state-exofficio and participant-elected board members invest more in PE funds that were shunned by other public pension funds and institutional investors.

In columns (5) and (6), we focus on the PE fund sequence number, which proxies for the experience of the GP. Our results indicate that state-appointed, state-exofficio and participant-elected board members exhibit substantial bias towards inexperienced GPs. This effect is particularly pronounced for state-appointed trustees, where a 10 percentage point increase in their proportion is related to investing in PE funds with 0.28 to 0.37 lower sequence number.

Importantly, in Table 9, we control for local in-state investments as well as indicators for different fund types. We thus document a third channel through which the investments made by state-appointed, state-exofficio and participant-elected trustees differ from other pension funds – these trustees select poorly-performing managers even when investing outside of their own state and the differences are not due to overweighting some PE fund sub-categories.

Overall, we have looked at a number of different potential explanations for poor performance by certain board representatives. Next, we examine how much of the poor performance of state-appointed, state-exofficio and participant-elected trustees within asset classes that we explored in Table 6 can be explained by controlling for the overweighting of in-state investments in real estate and VC and selection of small funds with fewer investors and a lower sequence number that we found in Tables 8 and 9. That is, we measure how much overweighting of in-state investments and selection of small funds with few investors and low sequence numbers contributes to underperformance

above and beyond the 20-30% of the performance differentials that is explained by allocation to worse-performing categories such as real estate and fund-of-funds that we calculated in Table 6.

Table 10 presents regressions in which the dependent variable is again the performance of public pension funds and estimates can be compared to Table 4 as well as Table 6 columns (1) and (2). We note that we cannot include *Fund size* and *#Investors* in the same regression as these two variables are highly correlated. The number of observations is lower in columns (3), (4), (7) and (8) because fund size is missing for some investments.

The three channels that we identified are significantly negatively related to performance and explain larger part of the underperformance by state-appointed, state-exofficio and participant-elected board members. Similar to Table 6, in Table 10 we observe that investing in real estate and fund-of-funds is negatively related performance. However, the underperformance is especially large among local in-state real estate investments. Based on columns (1) and (5), local real estate investments deliver 7.899 ($=-4.560-3.339$) percentage points lower net IRR and 0.372 ($=-0.292-0.080$) lower multiple of invested capital (37 percent of capital). Local investments in VC funds also deliver lower returns. Variables *#Investors* and *Fund size*, as expected, proxy for better performing investments that were selected by multiple LPs. For instance, based on column (3) a one-unit increase in the log of PE fund size (doubling the fund size) is associated with 1.027 percentage points higher net IRR. The sequence number, that proxies for GP's experience is positive, but not always significantly related to returns.

Even after controlling for all these variables, still we observe significant underperformance by pension fund boards heavily populated by state-appointed, state-exofficio and participant-elected trustees. However, in Figure 3, we compare the coefficients reported in Table 10 Column (1) with the coefficients reported in Table 4 Column (1) and Table 6 Column (1), and we can conclude that our proxies for poor investment decisions explain approximately 50 to 60 percent of the performance

differential. Namely, the coefficient on state-appointed board members is reduced from -9.384 in Table 4 to -6.455 in Table 6 (controls for allocation differences) and further to -3.901 in Table 10 (additional controls for in-state investments and funds shunned by other LPs). Therefore, we conclude that we manage to identify multiple failures in the asset management decisions of pension funds governed by state-appointed, state-exofficio and participant-elected trustees.

6 Skills and Incentives of Board Members

The factors we have explored up to this point explain about half of the poor performance by boards with heavy representation of state trustees. In this section we examine whether state-appointed, state-exofficio and participant-elected trustees are susceptible to making poor investment decisions because they have lower skills or potentially different incentives.

In Table 3 we saw that different categories of trustees have various backgrounds. In Table 11, we use the biographical data on the individual board members to explore whether different skill sets explain the underperformance. For this analysis, we obtained background data for the 34 largest LPs in our sample. These LPs account for 6,996 out of 11,438 observations with net IRR data; and for 7,080 out of 11,710 observations with data on multiples. Thus, we currently match more than half of the investments.

Table 11 presents regressions in which the dependent variable is the performance of U.S. public pension funds during the 1990-2011 period. When analyzing board member characteristics, we focus on the prior professional experience of the trustees. In particular, we measure the percentage of trustees with prior *Asset Management*, *Financial* and *Related* professional experience. *Executive Experience* measures the percentage of board members with prior executive experience in the private sector, while *Union Members* is the percentage of pension fund trustees who are union members.

Table 11 suggests that prior professional experience is related to performance. Pension funds

governed by a higher percentage of trustees with asset management experience, financial experience or related experience obtain higher returns on their PE investments. In columns (3) and (7), we estimate the relationship between performance and prior experience using LP fixed effects.¹⁸ The coefficients on the three variables measuring prior experience remain highly significant, indicating that even within a particular pension fund, adding more board members with prior experience is positively related to performance. Comparing column (1) to (4), we see that the negative performance of participant elected trustees is fully explained by a financial experience effect.

To illustrate the magnitude of these coefficients, consider two similar pension funds governed by a five-member board with the same composition of trustees. Fund A has two board members with prior asset management experience, whereas Fund B has only one board member with such experience. Based on column (4), Fund A will select PE investments that deliver 1.27 ($=1/5 \times 6.343$) percentage points higher net IRR and 3.72 ($=1/5 \times 0.186$) percent higher multiple of capital than the investments selected by Fund B.

In Table 11, we focus on the variables measuring valuable prior professional experience, because our model estimates indicate that this is the most important characteristic of the board members. In the Online Appendix, we compare the importance of prior experience with education variables and document that the education variables are not significantly related to performance after controlling for past professional career experience.

We conclude that lower financial skills can almost entirely explain the underperformance of participant-elected trustees, but do not explain the lower returns of state-appointed and state-exofficio trustees. Indeed, the coefficients on these state trustee groups are, if anything, *larger* in column (4) of Table 11 than in column (1). The main reason for this, based on the summary statistics, is likely due to state-appointed and state-exofficio trustees having relatively high prior financial skills and

¹⁸In the other tables and columns, we do not use LP fixed effects, because the time series variation of board composition is limited as only 36 public pension funds experience a change in overall board composition during our sample period, while 174 funds maintain the same board structure and size over time.

experience.

Turning to the role of political incentives and potential agency conflicts, we next focus on the political contributions received by pension fund board members when they participated in political elections on a local, state or federal level. In Table 12, *Political Elections* measures the percentage of pension fund trustees who have participated in political elections before or during their tenure as pension fund board members. The political contribution variables capture contributions to board members who serve as elected officials or participate in political elections during their tenure as a pension fund board member. We thus match a given individuals tenure as a board member to simultaneous involvement in politics in order to more precisely capture potential political incentives and agency conflicts.

We use political contributions from the finance industry as a proxy for opportunistic incentives and focus on two variables. First, *FinanceContrib / LP size* measures contributions from the finance industry relative to the assets under management by the LP. When estimating this ratio, the contributions from the finance industry are expressed in \$ million and the LP assets under management are expressed in \$ billion. Second, *%Finance Contributions* measures political contributions received from institutions in the finance industry as a percentage of total contributions. In the analysis, we control for the natural logarithm of the total contributions, board composition and prior professional experience of the trustees.

Table 12 shows the results of the regression analysis including the trustee categories and the contributions variables. The ratio of finance contributions to LP size enters significantly and robustly in all specifications. Its magnitude in the first column suggests that for an additional \$100,000 of financial contributions, a \$10 billion pension fund would have worse performance by 0.27 net IRR percentage points. Adding prior professional experience controls does not materially attenuate the result. While the significance and magnitude of the effect of state trustees is slightly reduced, our

measure of political connections based on campaign contributions from the finance industry does not explain all of the basic difference in performance.

Our results are also robust to an alternative definition of the variables measuring political contributions. In columns (3) and (7), the variables measuring political contributions are defined based on the contributions received during the last election cycle rather than the cumulative contributions received by the trustee. Our results remain the same. In another robustness test, we use only the sub-sample of observations during 1998-2011 time period, when the political contributions data provides broader coverage. For instance, we have no contributions data for the governor of Florida (who sits on the Florida State Board of Administration) before 1998, even though we are certain that the governor received political contributions during the election campaign. In general, there are very few missing contribution observations after 1997. Table 12 Columns (4) and (8) present the results for the sub-sample of observations during 1998-2011 time period and confirm the negative relationship between the ratio of finance contributions to LP size and performance.

Overall, our proxy for political incentives, political contributions from the financial industry, appears to be negatively related to performance. Pension funds managed by trustees who have received relatively more contributions from the financial industry have lower returns. The vast majority of trustees that receive political contributions are state board members and controlling for political contributions explains part of their underperformance.

Importantly, our political contributions proxy captures only one of the channels through which poor incentives can affect performance. There are also other channels. For example, many state-appointed and state-exofficio trustees are appointed to their position by another government official who serves in a higher position in the hierarchy. We do not control for the incentives of that person. Another potential channel is that a financial institution provides contributions to the political party and the political party donates to the candidate.

7 Conclusion

In this paper, our innovation is to exploit variation in board composition across public pension funds at a given point in time and examine their performance in private equity investments. We find that board composition is important: pension funds governed by boards heavily populated by state-appointed, state-exofficio and participant-elected trustees invest in PE funds that deliver net IRR and multiple of invested capital.

We document three failures that explain approximately half of the underperformance by state-appointed, state-exofficio and participant-elected board members. First, pension funds with worse-performing governance structures invest more in real estate and funds of funds that deliver lower returns. Second, these board members overweight local in-state investments in real estate and VC, which negatively affects performance. Third, poorly governed pension funds are also more likely to invest in small funds with few other investors and managed by inexperienced GP.

Establishing a successful governance structure depends on the skills and incentives of the board members. Another innovation in this paper is to exploit variation in political contributions and professional experience of the board members across pension funds at a given point in time. Prior asset management, financial or related experience is valuable and is associated with selection of PE funds that deliver higher performance. Low prior financial experience explains the poor performance by boards with high proportion of participant elected board members, but does not explain the underperformance of state-appointed and state-exofficio trustees. However, part of the underperformance by state officials can be explained by controlling for the political contributions received from the finance industry relative to the pension fund assets under management. We document that pension funds governed by board members who have received relatively more contributions from the finance industry obtain lower returns.

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Figure 1: Histograms of board composition

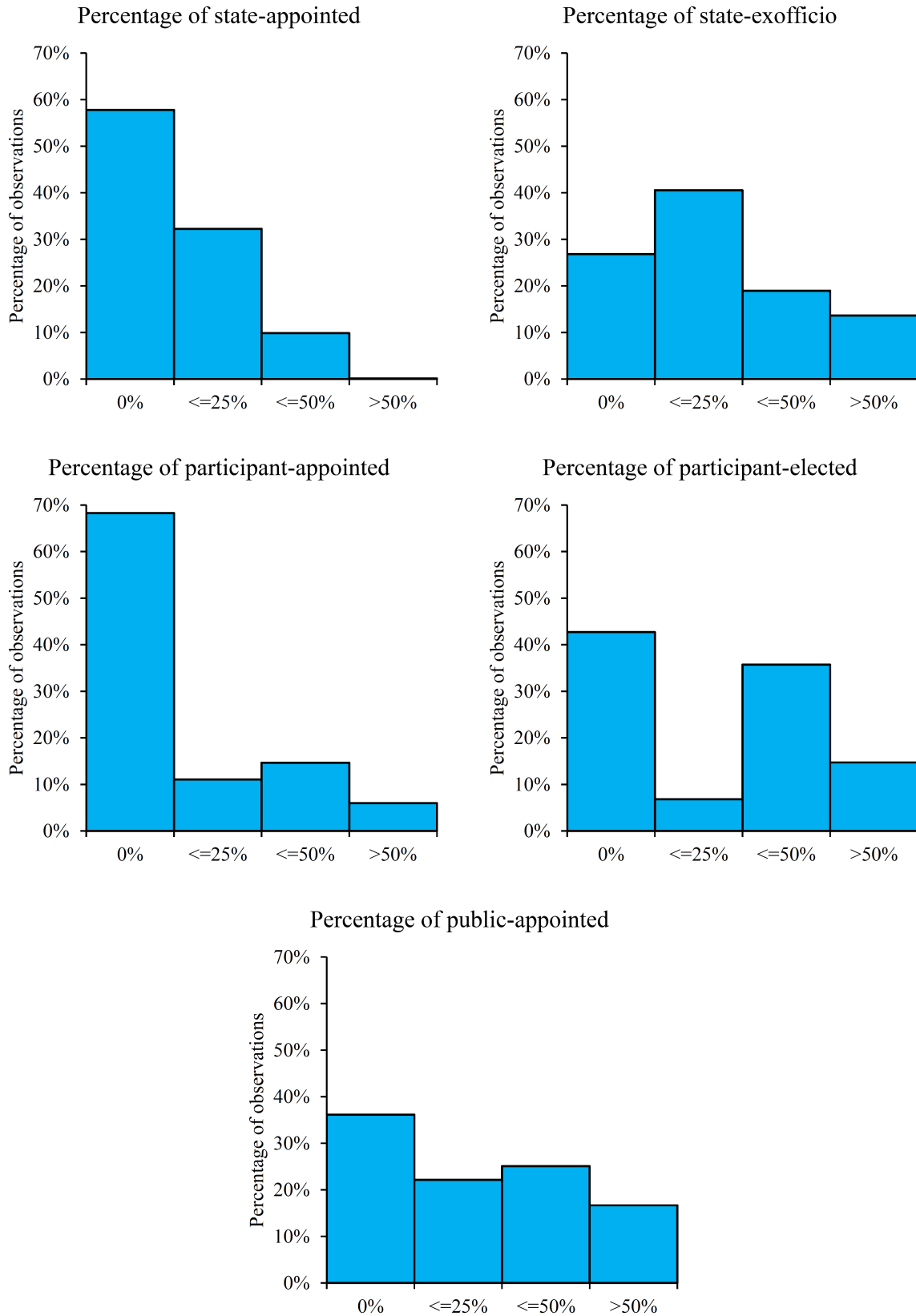
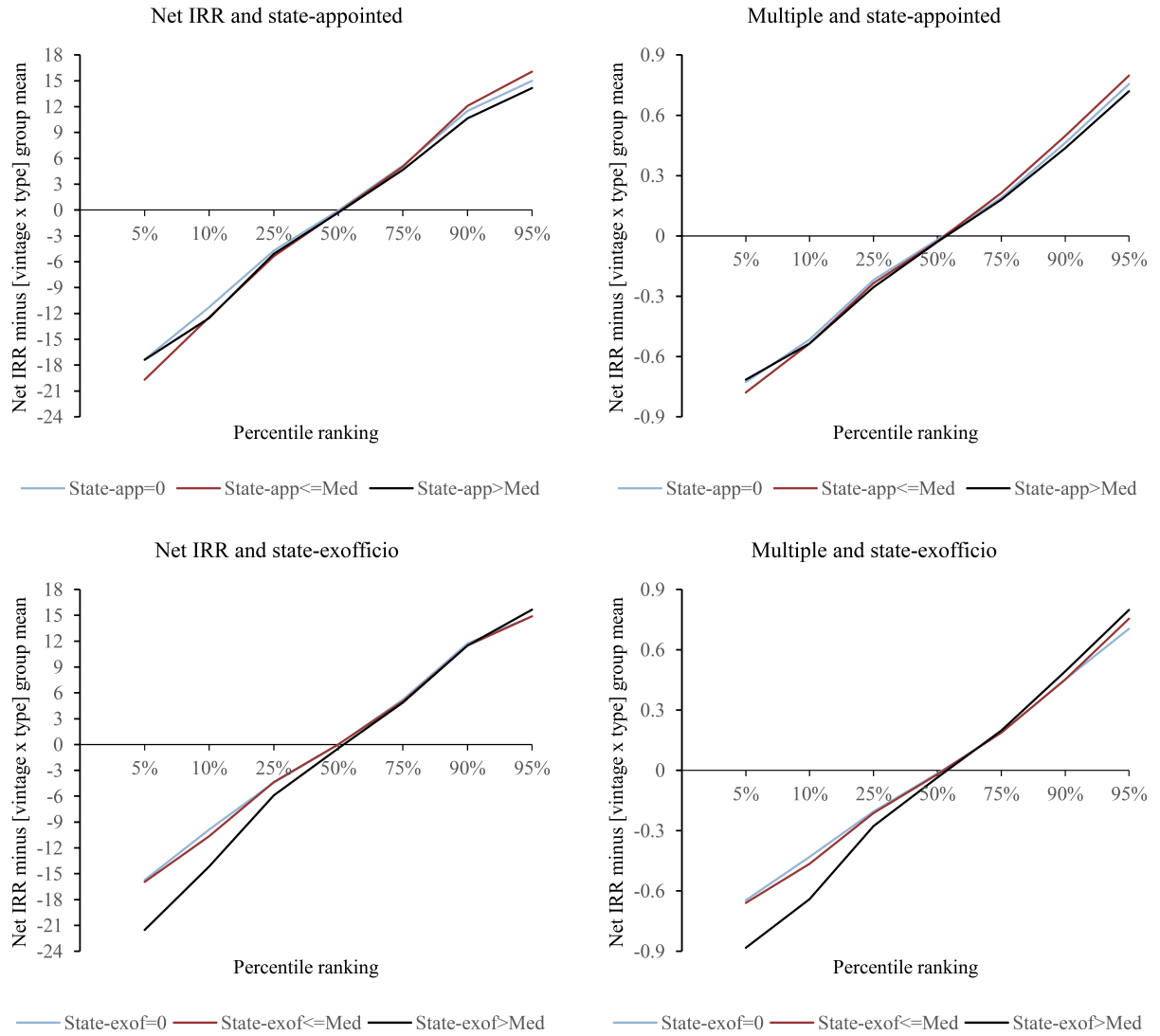


Figure 2: **Board composition and performance distribution (Value-at-Risk analysis)**

This figure presents the distribution of returns for the five main categories of board members and resembles a value-at-risk analysis. The observation is an LP-investment. The performance is measured using either the net internal rate of returns (IRR) minus [vintage x fund type] group mean or the multiple of invested capital minus [vintage x fund type] group mean. When calculating the group means, we include investments made during the 1990-2011 period and we split the investments in the following fund types: real estate, natural resources, buyout, venture capital, fund-of-funds and other private equity funds. State-appointed and State-ex-officio measure the percentage of appointed or ex-officio board members who are government officials, i.e. of the state, city or other public entity. Participant-appointed captures the percentage of board members appointed from the plan participants. Participant-elected captures the percentage of board members elected by plan participants. Public-appointed measures the percentage of board members appointed from the general public. For every category, we split the observations in three groups. The first group includes investments made by a board that has no members belonging to that category. The second group includes investments made by a board that has a below median percentage of members belonging to that category. Finally, the third group includes investments made by a board that has an above median percentage of board members belonging to that category.



Board composition and performance distribution (Value-at-Risk analysis)

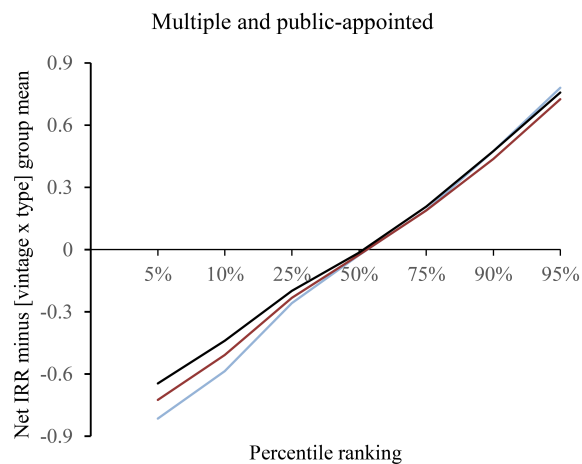
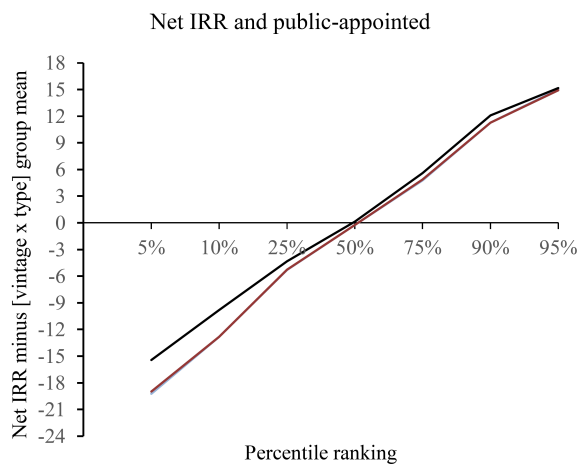
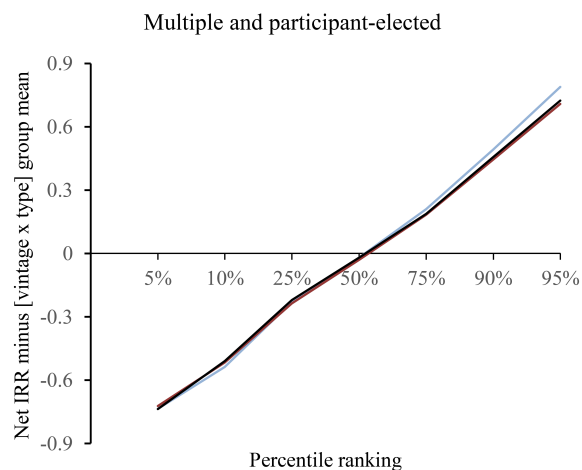
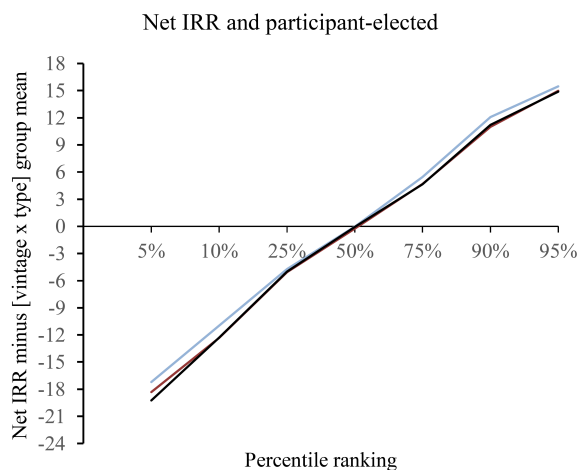
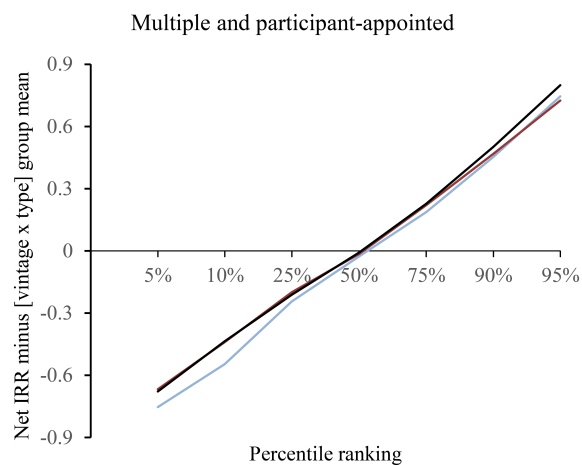
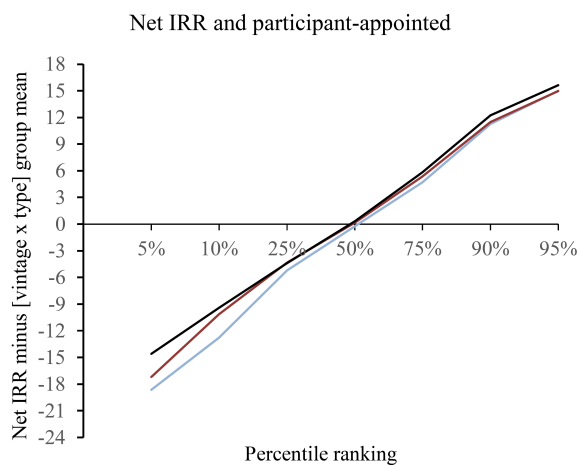


Figure 3: **Explaining pension fund performance: Comparison of coefficient estimates**

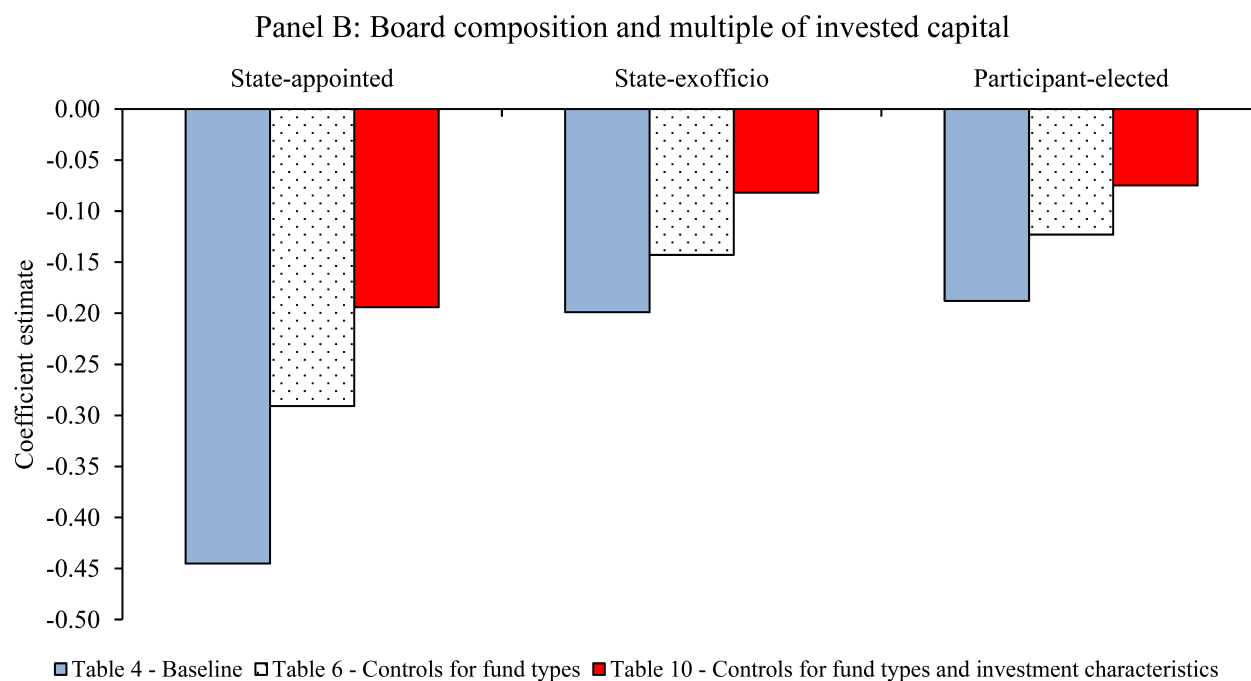
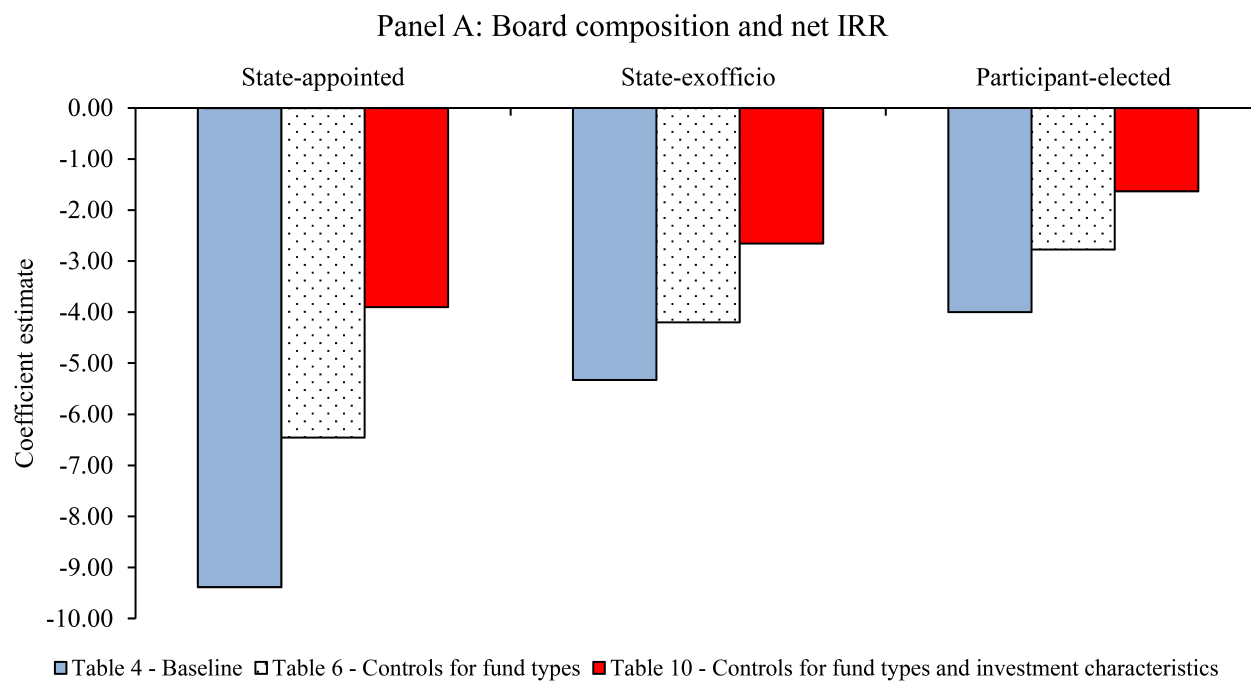


Table 1: **Summary statistics: Pension fund board composition and their investments**

Panel A presents summary statistics for the pension fund board composition. We match the board composition data of 210 pension funds with 13,328 investments during the 1990-2011 period. Board size and LP AUM (\$ mil.) present summary statistics for the number of board members and the pension fund (LP) assets under management in million dollars. In Panel A, columns *LPs* and *Investments* present the number of pension funds and corresponding investments that have at least one board member belonging to that category. We split the board members into three categories. *State* measures the percentage of board members who are government officials, i.e. of the state, county, city or other public entity. State trustees can be appointed by a government executive (*State-appointed*), serve as an ex-officio member by the virtue of holding another government position (*State-exofficio*) or elected to the board by plan participants (*State-elected*). *Participant* measures the percentage of board trustees who are currently employed and retired plan participants. Board members representing plan participants can be appointed to the board (*Participant-appointed*), serve as an ex-officio member (*Participant-exofficio*), or elected by plan members (*Participant-elected*). *Public* measures the percentage of board members who are members of the general public and do not work for the state or participate in the pension plan. General public board members can be appointed to the board (*Public-appointed*), serve as an an ex-officio member (*Public-exofficio*), or elected to the board by plan members (*Public-elected*). *Mean* and *Median* present the average and median percentage representation of every board category. *SD* column shows the standard deviation of every board group. Panel B presents summary statistics for the key performance measures, net IRR, and multiple of invested capital, for the subsamples of the 13,214 total investments for which these performance related date items are available. We also show the size of the commitments in million dollars, size of the funds in which the LPs invest in million dollars, the total number of investors in the private equity fund and the sequence number of the private equity fund. *In-state* is an indicator equal to one if the general partner is located in the same state as the pension fund (LP).

	LPs	Investments	Mean	Median	SD
Panel A: Pension fund board composition					
Board size	210	13,328	9.262	9.000	4.735
LP AUM (\$ mil.)	210	13,328	43,981	25,248	52,071
State	193	11,421	0.344	0.286	0.290
State-appointed	117	5,625	0.076	0.000	0.115
State-exofficio	164	9,748	0.254	0.167	0.303
State-elected	4	325	0.013	0.000	0.085
Participant	197	11,159	0.402	0.444	0.228
Participant-appointed	49	4,226	0.117	0.000	0.208
Participant-exofficio	9	637	0.017	0.000	0.080
Participant-elected	164	7,635	0.267	0.286	0.259
Public	162	8,820	0.255	0.222	0.245
Public-appointed	159	8,512	0.245	0.200	0.243
Public-exofficio	1	268	0.002	0.000	0.011
Public-elected	4	310	0.008	0.000	0.056
Panel B: Pension fund investments					
Net IRR		11,438	10.456	9.900	17.571
Multiple		11,710	1.435	1.350	0.875
Commitment (\$ mil.)		11,320	60	30	104
Fund size (\$ mil.)		12,040	2,245	878	3,382
#Investors		13,328	26.309	17.000	25.688
#Sequence		12,270	4.096	4.000	2.665
In-state		13,328	0.173	0.000	0.378

Table 2: **Summary statistics: Percentage allocated to fund types**

This table shows summary statistics for the percentage allocated to different fund types during the 1990-2011 period. The analysis is at the LP-vintage level. We estimate the statistics either based on the number of investments or weighted by the commitments. Using the number of investments results in 1,561 LP-vintage observations, whereas using the commitments data results in 1,326 LP-vintage observations. We split the funds in three types: *%PE*, private equity funds; *%RE*, real estate funds; and *%NR*, natural resources funds. Within private equity we distinguish between buyout (*%BO*), venture capital (*%VC*), fund-of-funds (*%FOF*) and other (*%Other*) funds. Other funds capture investments in distressed debt, secondaries, coinvestments, hybrid and balanced funds. Within private equity, using the number of investments results in 1,390 LP-vintage observations, whereas using the commitments data results in 1,204 LP-vintage observations. In real estate, we distinguish between direct investments in real estate funds (*%Direct*) or investing through fund-of-funds (*%FOF*). Within real estate, using the number of investments results in 954 LP-vintage observations, whereas using the commitments data results in 737 LP-vintage observations.

Based on:	Number of investments			USD commitments		
	Mean	Median	SD	Mean	Median	SD
Panel A: Fund types						
%PE (Private equity)	0.712	0.800	0.318	0.713	0.818	0.328
%RE (Real estate)	0.257	0.143	0.313	0.254	0.113	0.322
%NR (Natural resources)	0.031	0.000	0.097	0.033	0.000	0.108
Panel B: Private equity subcategories						
%BO (Buyout)	0.418	0.467	0.326	0.463	0.501	0.350
%VC (Venture capital)	0.226	0.167	0.275	0.168	0.056	0.258
%FOF (Fund-of-funds)	0.185	0.000	0.321	0.190	0.000	0.331
%Other	0.170	0.083	0.240	0.179	0.068	0.254
Panel C: Real estate subcategories						
%Direct	0.981	1.000	0.122	0.982	1.000	0.113
%FOF (Fund-of-funds)	0.019	0.000	0.122	0.018	0.000	0.113

Table 3: **Summary statistics: Experience and political engagement of board members**

Panel A shows summary statistics for the skills and professional experience of pension fund board members that served during the 1990-2011 period. We collect background data for the trustees of 34 pension funds (LPs) and match it to the 8,027 investments made by these LPs (7,421 investments with return data). When presenting the summary statistics by person, we assign an equal weight to every trustee. *#Trustees* refers to the number of trustees matched with background data, while *Vacant* refers to the number of positions that remained vacant. Variables *Asset Management*, *Financial* and *Related* are indicators that capture prior asset management, financial or related professional experience. *Executive* and *Private Sector Experience* are indicators for prior executive experience or other experience in the private sector. In the public sector, we distinguish between experience in political elections (*Political Elections*) or just working in the public sector (*Public Sector Experience*). *Union Members* is an indicator for union membership. Education related variables *CFA*, *Relevant Degree*, and *MBA* are indicators for Chartered Financial Analyst professional credential, relevant educational degree and master degree in business administration. *Educational Attainment* is an ordinal variable equal to 0 for not obtaining a bachelor degree, 1 for bachelor, 2 for master and 3 for obtaining PhD degree. When presenting the summary statistics by pension fund (on an LP-investment level), we calculate the averages of all trustees sitting on the board in the year of the observation. Panel B presents summary statistics of the political contributions received by the board members. *#Receive* shows the number of trustees who have received political contributions. *Cumulative Contributions* is the sum of cumulative contributions received by the trustees until that election year in \$ million, while *Finance Contributions* is the sum of cumulative contributions from the finance industry. *FinanceContrib / LP size* presents the contributions from the finance industry relative to the assets under management by the LP. When estimating this ratio the contributions from the finance industry are expressed in \$ million and the LP assets under management are expressed in \$ billion. Variable *%Finance Contributions* measures the political contributions received from institutions in the finance industry as a percentage of the total cumulative contributions until that election year.

	Statistics by person						Statistics by fund		
	All trustees	State appointed	State exofficio	Participant appointed	Participant elected	Public appointed	Mean	Median	SD
Panel A: Experience and skills of board members									
#Trustees	847	92	205	131	177	222			
Vacant	16	2	0	1	1	12			
Asset Management Experience	0.225	0.217	0.181	0.076	0.079	0.482	0.209	0.167	0.209
Financial Experience	0.132	0.098	0.108	0.107	0.045	0.239	0.140	0.091	0.208
Related Experience	0.391	0.489	0.564	0.504	0.227	0.248	0.407	0.364	0.254
Executive Experience	0.317	0.337	0.206	0.137	0.023	0.748	0.278	0.273	0.205
Private Sector Experience	0.202	0.283	0.333	0.130	0.096	0.176	0.230	0.167	0.241
Political Elections	0.243	0.576	0.603	0.084	0.017	0.045	0.286	0.222	0.314
Public Sector Experience	0.434	0.337	0.392	0.573	0.525	0.356	0.415	0.417	0.258
Union Members	0.202	0.022	0.020	0.321	0.599	0.054	0.232	0.267	0.202
CFA	0.021	0.033	0.015	0.000	0.017	0.041	0.022	0.000	0.068
Relevant Degree	0.378	0.380	0.309	0.313	0.158	0.635	0.397	0.333	0.267
MBA	0.131	0.109	0.137	0.053	0.051	0.243	0.131	0.091	0.175
Educational Attainment	1.578	1.609	1.750	1.511	1.333	1.680	1.612	1.571	0.387
Panel B: Political contributions received by board members									
#Receive	115	37	76	1	0	0			
Cumulative Contributions	4.958	1.175	6.743	0.403			7.975	0.235	19.431
Finance Contributions	0.607	0.159	0.819	0.037			1.112	0.034	2.702
FinanceContrib / LP size	0.008	0.003	0.011	0.000			0.010	0.001	0.020
%Finance Contributions	0.128	0.128	0.128	0.093			0.074	0.059	0.082

Table 4: **Regressions: Board composition and performance**

This table presents regressions in which the dependent variable is the performance of U.S. public pension funds during the 1990-2011 period. The observation is an LP-investment. In columns (1) to (4) the performance is measured using the net internal rate of returns (IRR), whereas in columns (5) to (8) the performance is measured using the multiple of invested capital. *State-appointed* and *State-exofficio* measure the percentage of appointed or ex-officio board members who are government officials, i.e. of the state, city or other public entity. *Participant-elected* captures the percentage of board members elected by plan participants. *Public-appointed* measures the percentage of board members appointed from the general public. We also control for the percentage representation by the other types of trustees: State-elected, Participant-exofficio, Public-exofficio and Public-elected. The omitted category is Participant-appointed. We control for the natural logarithm of LP assets under management and board size. *Log%Commitment* is the natural logarithm of the commitment as a percentage of the assets under management. We include vintage year fixed effects and independently double cluster the standard errors by pension fund and by vintage. In columns (2), (3), (4), (6), (7), and (8) we include LP state fixed effects. In columns (4) and (8), we exclude all in-state (local) investments and analyze only investments outside of the LP's own state. We report standard errors in brackets. *, **, and *** indicate significance levels of 0.10, 0.05, and 0.01, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Net IRR				Multiple of invested capital			
State-appointed	-9.384*** [2.801]	-9.039*** [2.390]	-8.941*** [2.189]	-7.105*** [1.914]	-0.445*** [0.129]	-0.398*** [0.150]	-0.284** [0.125]	-0.268** [0.107]
State-exofficio	-5.331*** [1.572]	-6.738*** [1.468]	-5.775*** [1.033]	-5.883*** [1.175]	-0.199*** [0.077]	-0.275*** [0.090]	-0.169*** [0.047]	-0.236*** [0.064]
Participant-elected	-3.997*** [1.048]	-2.823*** [0.742]	-1.885*** [0.273]	-3.147*** [0.601]	-0.188*** [0.054]	-0.137** [0.054]	-0.079*** [0.018]	-0.141*** [0.046]
Public-appointed	-2.738** [1.277]	-1.616** [0.673]	-0.385 [1.167]	-1.264 [0.964]	-0.109* [0.063]	-0.053 [0.062]	0.050 [0.066]	-0.040 [0.053]
LP size	0.231 [0.180]	0.347** [0.169]	0.411 [0.424]	0.432*** [0.160]	0.014** [0.007]	0.024*** [0.008]	0.013 [0.016]	0.026*** [0.008]
Board size	-0.053 [0.049]	-0.063 [0.051]	-0.050 [0.055]	-0.078 [0.060]	-0.001 [0.002]	-0.001 [0.002]	-0.001 [0.002]	-0.004* [0.002]
Log%Commitment			0.175 [0.740]				-0.017 [0.033]	
Other trustees	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vintage FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LP state FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Observations	11,438	11,438	9,906	9,467	11,710	11,710	10,145	9,697
R-squared	0.084	0.090	0.090	0.092	0.111	0.117	0.122	0.123

Table 5: **Regressions: Board composition and allocation to fund types**

This table presents regressions in which the dependent variable is the percentage allocated to different fund types during the 1990-2011 period. The observation is an LP-vintage. In Panel A, the dependent variables are defined based on the number of investments. In Panel B, the percentage allocations are weighted by the commitments. %RE is the percentage allocated to real estate investments, while %PE is the percentage allocated to private equity investments. In columns (3), (4) and (5) we focus on the subsample of private equity investments. %BO, %VC and %FOF measure the percentage allocated to buyout, venture capital and fund-of-fund investments within private equity. *State-appointed* and *State-exofficio* measure the percentage of appointed or ex-officio board members who are government officials, i.e. of the state, city or other public entity. *Participant-elected* captures the percentage of board members elected by plan participants. *Public-appointed* measures the percentage of board members appointed from the general public. We also control for the percentage representation by the other types of trustees: State-elected, Participant-exofficio, Public-exofficio and Public-elected. The omitted category is Participant-appointed. We control for the natural logarithm of LP assets under management and board size. We include vintage year fixed effects and independently double cluster the standard errors by pension fund and by vintage. We report standard errors in brackets. *, **, and *** indicate significance levels of 0.10, 0.05, and 0.01, respectively.

	(1) %RE	(2) %PE	(3) %BO	(4) %VC	(5) %FOF
Panel A: Percentage allocated based on the number of investments					
State-appointed	0.245* [0.135]	-0.240* [0.131]	-0.282* [0.154]	0.018 [0.117]	0.257 [0.161]
State-exofficio	0.144** [0.072]	-0.131* [0.073]	-0.058 [0.084]	-0.065 [0.073]	0.134** [0.064]
Participant-elected	0.200*** [0.061]	-0.184*** [0.057]	-0.101 [0.073]	-0.050 [0.050]	0.157** [0.069]
Public-appointed	0.094 [0.077]	-0.076 [0.076]	-0.027 [0.094]	-0.085 [0.086]	0.140* [0.074]
LP size	-0.022* [0.013]	0.025** [0.012]	0.064*** [0.008]	-0.002 [0.010]	-0.061*** [0.012]
Board size	-0.001 [0.003]	0.001 [0.003]	0.002 [0.005]	-0.003 [0.004]	-0.002 [0.003]
Other trustees	Yes	Yes	Yes	Yes	Yes
Vintage FE	Yes	Yes	Yes	Yes	Yes
Observations	1,561	1,561	1,390	1,390	1,390
R-squared	0.127	0.130	0.207	0.155	0.183
Panel B: Percentage allocated based on the commitments					
State-appointed	0.221 [0.151]	-0.252** [0.120]	-0.172 [0.161]	-0.109 [0.088]	0.327* [0.172]
State-exofficio	0.065 [0.083]	-0.053 [0.078]	-0.035 [0.089]	-0.063 [0.068]	0.127* [0.068]
Participant-elected	0.207*** [0.065]	-0.208*** [0.056]	-0.135 [0.084]	-0.033 [0.051]	0.201** [0.081]
Public-appointed	0.083 [0.085]	-0.072 [0.078]	-0.003 [0.099]	-0.089 [0.082]	0.140* [0.078]
LP size	-0.005 [0.011]	0.006 [0.010]	0.077*** [0.009]	-0.019* [0.011]	-0.057*** [0.015]
Board size	-0.004 [0.003]	0.004 [0.003]	0.002 [0.005]	-0.001 [0.005]	-0.003 [0.003]
Other trustees	Yes	Yes	Yes	Yes	Yes
Vintage FE	Yes	Yes	Yes	Yes	Yes
Observations	1,326	1,326	1,204	1,204	1,204
R-squared	0.108	0.113	0.204	0.139	0.145

Table 6: **Regressions: Board composition and performance within fund types**

This table presents regressions in which the dependent variable is the performance of U.S. public pension funds during the 1990-2011 period. The observation is an LP-investment. In Panel A, the performance is measured using the net internal rate of returns (IRR), whereas in Panel B, the performance is measured using the multiple of invested capital. We analyze the performance in all investments as well as separately in real estate (*RE*) and private equity (*PE*). In columns (5) and (6), we also distinguish between performance in buyout funds (*BO*) and venture capital funds (*VC*) within private equity. *RE*, *NR*, *VC*, *FOF* and *Other* are indicator variables for investments in real estate, natural resources, venture capital, fund-of-funds and other private equity funds (the omitted category is buyout funds). We include vintage year fixed effects and independently double cluster the standard errors by pension fund and by vintage. In models (2), (4), and (8) we include LP state fixed effects. We report standard errors in brackets. *, **, and *** indicate significance levels of 0.10, 0.05, and 0.01, respectively.

	(1) All	(2) All	(3) PE	(4) PE	(5) BO	(6) VC	(7) RE	(8) RE
Panel A: Net IRR								
State-appointed	-6.455** [2.641]	-6.155*** [1.826]	-6.048* [3.446]	-4.764* [2.533]	2.033 [1.425]	-22.315* [11.685]	-7.970** [3.109]	-5.190*** [1.238]
State-exofficio	-4.203*** [1.394]	-5.584*** [1.276]	-3.724** [1.689]	-4.504*** [1.623]	-0.885 [1.136]	-10.007** [4.783]	-6.920*** [2.419]	-6.843*** [1.255]
Participant-elected	-2.773*** [0.802]	-1.980*** [0.515]	-2.350** [1.008]	-1.721* [0.905]	-0.610 [0.945]	-6.686** [2.916]	-4.421*** [1.686]	-3.267* [1.780]
Public-appointed	-1.664 [1.019]	-1.323 [0.926]	-0.887 [1.098]	0.611 [1.190]	0.578 [1.008]	-1.264 [3.872]	-5.761** [2.244]	-6.296*** [2.363]
LP size	0.098 [0.174]	0.153 [0.157]	0.013 [0.155]	0.075 [0.162]	-0.038 [0.079]	0.134 [0.382]	0.289 [0.388]	0.065 [0.319]
Board size	-0.046 [0.045]	-0.045 [0.047]	-0.025 [0.033]	-0.054 [0.045]	-0.045 [0.029]	-0.034 [0.108]	-0.143 [0.126]	-0.093 [0.132]
VC	-3.111 [3.152]	-3.077 [3.153]	-2.967 [3.077]	-2.971 [3.091]				
FOF	-3.190*** [1.060]	-3.076*** [1.021]	-3.121*** [1.104]	-3.038*** [1.058]				
Other	-0.144 [0.843]	-0.173 [0.830]	-0.017 [0.915]	0.011 [0.903]				
RE	-6.073** [2.538]	-6.004** [2.501]						
NR	1.364 [2.200]	1.396 [2.209]						
Other trustees	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vintage FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LP state FE	No	Yes	No	Yes	No	No	No	Yes
Observations	11,438	11,438	9,023	9,023	4,501	2,318	2,032	2,032
R-squared	0.106	0.111	0.090	0.095	0.179	0.225	0.298	0.314
Panel B: Multiple of invested capital								
State-appointed	-0.291*** [0.110]	-0.258** [0.114]	-0.349** [0.146]	-0.321** [0.137]	0.035 [0.053]	-1.065** [0.464]	-0.219** [0.096]	-0.053*** [0.007]
State-exofficio	-0.143** [0.064]	-0.226*** [0.072]	-0.162** [0.079]	-0.256*** [0.089]	-0.080 [0.050]	-0.335 [0.209]	-0.146** [0.068]	-0.094*** [0.026]
Participant-elected	-0.123*** [0.043]	-0.084** [0.036]	-0.127** [0.051]	-0.104** [0.047]	-0.054 [0.047]	-0.374** [0.185]	-0.096 [0.068]	-0.067 [0.069]
Public-appointed	-0.056 [0.048]	-0.031 [0.059]	-0.047 [0.054]	-0.029 [0.075]	-0.008 [0.047]	0.011 [0.173]	-0.163* [0.090]	-0.093 [0.071]
LP size	0.007 [0.006]	0.015** [0.006]	0.004 [0.006]	0.012* [0.007]	0.002 [0.003]	0.017 [0.020]	0.019* [0.011]	0.008 [0.010]
Board size	-0.001 [0.002]	-0.001 [0.001]	-0.001 [0.002]	-0.002 [0.002]	-0.001 [0.001]	-0.004 [0.005]	-0.001 [0.002]	-0.000 [0.002]
VC	-0.116 [0.144]	-0.118 [0.143]	-0.108 [0.142]	-0.112 [0.142]				
FOF	-0.135*** [0.042]	-0.128*** [0.041]	-0.135*** [0.043]	-0.128*** [0.043]				
Other	-0.034 [0.036]	-0.033 [0.037]	-0.029 [0.039]	-0.026 [0.039]				
RE	-0.337*** [0.076]	-0.330*** [0.076]						
NR	0.026 [0.099]	0.030 [0.099]						
Other trustees	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vintage FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LP state FE	No	Yes	No	Yes	No	No	No	Yes
Observations	11,710	11,710	9,144	9,144	4,464	2,380	2,182	2,182
R-squared	0.137	0.143	0.122	0.130	0.248	0.230	0.268	0.284

Table 7: **Board composition and performance distribution (Value-at-Risk analysis)**

This table presents the distribution of returns for the five main categories of board members and resembles a value-at-risk analysis. The observation is an LP-investment. In Panel A, the performance is measured using the net internal rate of returns (IRR) minus [vintage x fund type] group mean, whereas in Panel B the performance is measured using the multiple of invested capital minus [vintage x fund type] group mean. When calculating the group means, we include investments made during the 1990-2011 period and we split the investments in the following fund types: real estate, natural resources, buyout, venture capital, fund-of-funds and other private equity funds. *State-appointed* and *State-exofficio* measure the percentage of appointed or ex-officio board members who are government officials, i.e. of the state, city or other public entity. *Participant-appointed* captures the percentage of board members appointed from the plan participants. *Participant-elected* captures the percentage of board members elected by plan participants. *Public-appointed* measures the percentage of board members appointed from the general public. Column *N* presents the number of investments and the other columns show the performance percentiles.

	N	1%	5%	10%	25%	50%	75%	90%	95%	99%
Panel A: Net IRR										
All	11,438	-34.629	-18.103	-11.848	-4.933	-0.207	5.007	11.492	14.992	36.675
State-appointed= 0	6,629	-34.059	-17.349	-11.277	-4.708	-0.039	5.167	11.498	14.992	38.354
State-appointed<=Med	2,652	-39.959	-19.678	-12.435	-5.341	-0.242	5.046	12.097	16.081	38.354
State-appointed>Med	2,157	-35.411	-17.366	-12.525	-5.080	-0.308	4.658	10.658	14.154	32.269
State-exofficio= 0	3,054	-30.678	-15.733	-9.882	-4.402	0.000	5.193	11.752	14.897	33.620
State-exofficio<=Med	4,179	-30.831	-15.946	-10.633	-4.346	0.020	5.018	11.479	14.897	34.389
State-exofficio>Med	4,205	-46.438	-21.533	-14.163	-5.902	-0.437	4.852	11.492	15.641	38.354
Participant-appointed= 0	7,760	-36.731	-18.643	-12.771	-5.224	-0.242	4.697	11.264	14.992	36.675
Participant-appointed<=Med	1,898	-37.793	-17.202	-10.133	-4.342	0.169	5.363	11.492	14.969	33.550
Participant-appointed>Med	1,780	-30.808	-14.605	-9.403	-4.383	0.322	5.847	12.250	15.641	38.354
Participant-elected= 0	4,875	-33.941	-17.202	-10.993	-4.728	-0.046	5.458	12.082	15.486	38.354
Participant-elected<=Med	3,825	-34.059	-18.303	-12.337	-5.059	-0.259	4.671	10.991	14.969	35.142
Participant-elected>Med	2,738	-46.438	-19.231	-12.303	-5.012	-0.080	4.658	11.230	14.897	34.115
Public-appointed= 0	4,077	-39.970	-19.231	-12.839	-5.300	-0.242	4.758	11.271	14.992	36.781
Public-appointed<=Med	3,685	-38.014	-19.002	-12.833	-5.259	-0.242	4.867	11.257	14.897	35.061
Public-appointed>Med	3,676	-30.653	-15.450	-9.831	-4.343	0.132	5.600	12.082	15.152	36.675
Panel B: Multiple of invested capital										
All	11,710	-1.289	-0.733	-0.521	-0.231	-0.024	0.190	0.467	0.755	1.542
State-appointed= 0	6,848	-1.341	-0.727	-0.516	-0.220	-0.019	0.190	0.463	0.755	1.653
State-appointed<=Med	2,603	-1.249	-0.778	-0.536	-0.235	-0.027	0.213	0.497	0.798	1.594
State-appointed>Med	2,259	-1.276	-0.715	-0.536	-0.255	-0.030	0.181	0.437	0.720	1.141
State-exofficio= 0	3,191	-1.077	-0.646	-0.431	-0.205	-0.015	0.188	0.453	0.704	1.321
State-exofficio<=Med	4,279	-1.137	-0.659	-0.465	-0.212	-0.019	0.188	0.452	0.755	1.439
State-exofficio>Med	4,240	-1.947	-0.882	-0.640	-0.277	-0.035	0.199	0.493	0.798	1.900
Participant-appointed= 0	8,019	-1.407	-0.754	-0.547	-0.244	-0.028	0.186	0.453	0.744	1.542
Participant-appointed<=Med	1,873	-1.093	-0.667	-0.440	-0.200	-0.015	0.220	0.468	0.724	1.236
Participant-appointed>Med	1,818	-1.224	-0.678	-0.436	-0.212	-0.008	0.227	0.501	0.798	1.603
Participant-elected= 0	5,003	-1.341	-0.736	-0.538	-0.230	-0.019	0.210	0.493	0.789	1.669
Participant-elected<=Med	3,909	-1.266	-0.723	-0.516	-0.236	-0.030	0.184	0.446	0.709	1.293
Participant-elected>Med	2,798	-1.436	-0.737	-0.510	-0.220	-0.020	0.188	0.457	0.724	1.446
Public-appointed= 0	4,200	-1.856	-0.816	-0.587	-0.259	-0.028	0.189	0.474	0.780	1.691
Public-appointed<=Med	3,714	-1.166	-0.726	-0.509	-0.233	-0.026	0.188	0.437	0.724	1.336
Public-appointed>Med	3,796	-1.047	-0.646	-0.440	-0.200	-0.015	0.207	0.474	0.757	1.542

Table 8: **Regressions: Board composition and overweighting of in-state investments**

This table presents regressions in which the dependent variable is the LP's excess share of in-state investments, relative to the benchmark representing the share of investments in the state by out-of-state LPs, over the preceding five-year period. The observation is an LP-vintage. We analyze the overweighting in all investments as well as separately in real estate (*RE*) and private equity (*PE*). In columns (5) and (6), we also distinguish between overweighting in buyout funds (*BO*) and venture capital funds (*VC*). Column (7) is estimated conditional on investing in private equity. *State-appointed* and *State-exofficio* measure the percentage of appointed or ex-officio board members who are government officials, i.e. of the state, city or other public entity. *Participant-elected* captures the percentage of board members elected by plan participants. *Public-appointed* measures the percentage of board members appointed from the general public. We also control for the percentage representation by the other types of trustees: State-elected, Participant-exofficio, Public-exofficio and Public-elected. The omitted category is Participant-appointed. We control for the natural logarithm of LP assets under management and board size. *%RE* is the percentage allocated to real estate investments, while *%NR* is the percentage allocated to investments in natural resources. Variables *%VC*, *%FOF*, *%Other* measure the percentage allocated to venture capital, fund-of-funds and other private equity fund types (the omitted category is buyout funds). The percentage allocation variables are defined based on the number of investments. We include vintage year fixed effects and independently double cluster the standard errors by pension fund and by vintage. We report standard errors in brackets. *, **, and *** indicate significance levels of 0.10, 0.05, and 0.01, respectively.

	(1) All	(2) All	(3) RE	(4) PE	(5) BO	(6) VC	(7) PE
State-appointed	0.269** [0.124]	0.248** [0.126]	0.372*** [0.112]	0.243* [0.139]	-0.027 [0.091]	0.236 [0.149]	0.195 [0.138]
State-exofficio	0.132** [0.055]	0.131** [0.055]	0.139*** [0.049]	0.120** [0.061]	0.061 [0.041]	0.172* [0.091]	0.142** [0.059]
Participant-elected	0.143*** [0.049]	0.134*** [0.050]	0.134*** [0.046]	0.165*** [0.061]	0.084 [0.051]	0.196** [0.082]	0.171*** [0.058]
Public-appointed	-0.009 [0.058]	-0.006 [0.057]	0.137** [0.055]	-0.069 [0.066]	-0.023 [0.039]	-0.095 [0.082]	-0.033 [0.060]
LP size	-0.016** [0.008]	-0.016** [0.008]	-0.018** [0.008]	0.003 [0.009]	0.008 [0.009]	0.017 [0.013]	-0.004 [0.011]
Board size	0.002 [0.003]	0.002 [0.003]	0.001 [0.003]	0.003 [0.003]	0.003 [0.002]	-0.000 [0.005]	0.003 [0.003]
%VC		0.134** [0.062]					0.163*** [0.051]
%FOF		-0.002 [0.049]					0.024 [0.052]
%Other		0.043 [0.050]					0.055 [0.045]
%RE		0.095*** [0.031]					
%NR		0.045 [0.063]					
Other trustees	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vintage FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,561	1,561	1,561	1,561	1,390	1,390	1,390
R-squared	0.129	0.152	0.096	0.096	0.066	0.095	0.149

Table 9: **Regressions: Board composition and selection of investments**

This table presents regressions in which the dependent variables capture different investment characteristics. The observation is an LP-investment. In columns (1) and (2), the dependent variable measures the total number of LP investors in the fund. In columns (3) and (4), the dependent variable is the natural logarithm of the fund size in which the LP invested. In columns (5) and (6), the dependent variable is the sequence number of the fund in which the LP invested. *State-appointed* and *State-exofficio* measure the percentage of appointed or ex-officio board members who are government officials, i.e. of the state, city or other public entity. *Participant-elected* captures the percentage of board members elected by plan participants. *Public-appointed* measures the percentage of board members appointed from the general public. We also control for the percentage representation by the other types of trustees: State-elected, Participant-exofficio, Public-exofficio and Public-elected. The omitted category is Participant-appointed. We control for the natural logarithm of LP assets under management and board size. *RE*, *NR*, *VC*, *FOF* and *Other* are indicator variables for investments in real estate, natural resources, venture capital, fund-of-funds and other private equity funds (the omitted category is buyout funds). Variables *In-state RE* and *In-state VC* are indicators equal to one if the general partner of a real estate or venture capital fund is located in the same state as the pension fund (LP). *Log%Commitment* is the natural logarithm of the commitment as a percentage of the assets under management. We include vintage year fixed effects and independently double cluster the standard errors by pension fund and by vintage. We report standard errors in brackets. *, **, and *** indicate significance levels of 0.10, 0.05, and 0.01, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	#Investors		Fund size		#Sequence	
State-appointed	-36.048*** [5.913]	-31.730*** [5.925]	-1.511*** [0.265]	-1.744*** [0.280]	-3.682*** [0.685]	-2.823*** [0.572]
State-exofficio	-22.154*** [3.720]	-19.424*** [3.483]	-0.956*** [0.159]	-0.958*** [0.151]	-2.394*** [0.366]	-1.965*** [0.299]
Participant-elected	-16.231*** [3.596]	-9.617*** [2.808]	-0.778*** [0.185]	-0.381*** [0.127]	-1.663*** [0.320]	-1.185*** [0.294]
Public-appointed	-16.387*** [3.509]	-14.296*** [3.750]	-0.653*** [0.128]	-0.641*** [0.157]	-1.857*** [0.408]	-1.450*** [0.370]
LP size	-0.008 [0.520]	1.373** [0.610]	0.082** [0.041]	0.242*** [0.032]	-0.077 [0.047]	-0.045 [0.051]
Board size	-0.291** [0.119]	-0.323** [0.130]	-0.015** [0.007]	-0.016** [0.007]	-0.037** [0.018]	-0.043*** [0.017]
RE		-21.605*** [2.398]		-0.891*** [0.089]		-0.849*** [0.142]
NR		-3.235 [4.326]		-0.141 [0.179]		1.853** [0.740]
VC		-15.982*** [2.163]		-1.033*** [0.100]		1.001*** [0.207]
FOF		-21.013*** [2.601]		-1.357*** [0.141]		-0.319 [0.247]
Other		-5.234* [2.935]		-0.236** [0.108]		0.109 [0.269]
In-state RE		-0.378 [1.656]		-0.240** [0.115]		0.002 [0.183]
In-state VC		-1.086 [1.095]		-0.263*** [0.066]		-0.492** [0.242]
Log%Commitment		4.361*** [0.949]		0.409*** [0.045]		0.163** [0.070]
Other trustees	Yes	Yes	Yes	Yes	Yes	Yes
Vintage FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	13,328	11,315	12,040	10,434	12,270	10,608
R-squared	0.070	0.223	0.144	0.408	0.062	0.110

Table 10: **Regressions: Board composition and performance within investment types**

This table presents regressions in which the dependent variable is the performance of U.S. public pension funds during the 1990-2011 period. The observation is an LP-investment. In models (1) to (4) the performance is measured using the net internal rate of returns (IRR), whereas in models (5) to (8) the performance is measured using the multiple of invested capital. *State-appointed* and *State-exofficio* measure the percentage of appointed or ex-officio board members who are government officials. *Participant-elected* captures the percentage of board members elected by plan participants. *Public-appointed* measures the percentage of board members appointed from the general public. We also control for the percentage representation by the other types of trustees: State-elected, Participant-exofficio, Public-exofficio and Public-elected. The omitted category is Participant-appointed. We control for the natural logarithm of LP assets under management and board size. *RE*, *NR*, *VC*, *FOF* and *Other* are indicator variables for investments in real estate, natural resources, venture capital, fund-of-funds and other private equity funds (the omitted category is buyout funds). Variables *In-state RE* and *In-state VC* are indicators equal to one if the general partner of a real estate or venture capital fund is located in the same state as the pension fund (LP). *#Investors* measures the total number of LP investors in the PE fund. *Fund size* is the natural logarithm of the assets managed by the PE fund in which the LP invested. *#Sequence* is the sequence number of the fund in which the LP invested. We include vintage year fixed effects and independently double cluster the standard errors by pension fund and by vintage. In models (2), (4), (6) and (8), we include LP state fixed effects. We report standard errors in brackets. *, **, and *** indicate significance levels of 0.10, 0.05, and 0.01, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Net IRR				Multiple of invested capital			
State-appointed	-3.901*	-4.353**	-3.781*	-4.225**	-0.194**	-0.196*	-0.206**	-0.207*
	[2.216]	[1.789]	[2.268]	[1.839]	[0.093]	[0.115]	[0.094]	[0.113]
State-exofficio	-2.658**	-4.189***	-2.631**	-4.238***	-0.082	-0.179***	-0.098*	-0.193***
	[1.208]	[1.062]	[1.195]	[1.105]	[0.062]	[0.064]	[0.059]	[0.065]
Participant-elected	-1.635***	-1.087*	-1.433**	-0.901	-0.075**	-0.054	-0.074**	-0.058
	[0.621]	[0.564]	[0.631]	[0.578]	[0.033]	[0.036]	[0.032]	[0.039]
Public-appointed	-0.450	-1.029	-0.378	-1.241	-0.007	-0.021	-0.010	-0.023
	[0.981]	[0.810]	[0.939]	[0.818]	[0.049]	[0.057]	[0.046]	[0.057]
LP size	0.112	0.136	0.022	0.032	0.008	0.013**	0.006	0.010*
	[0.148]	[0.140]	[0.138]	[0.138]	[0.005]	[0.006]	[0.006]	[0.006]
Board size	-0.013	-0.009	-0.010	-0.003	0.000	0.001	-0.000	0.000
	[0.047]	[0.046]	[0.047]	[0.045]	[0.002]	[0.002]	[0.002]	[0.002]
RE	-4.560*	-4.544*	-4.472	-4.451*	-0.292***	-0.286***	-0.305***	-0.299***
	[2.751]	[2.696]	[2.737]	[2.689]	[0.079]	[0.079]	[0.077]	[0.077]
NR	1.100	1.125	1.654	1.644	0.029	0.033	-0.008	-0.002
	[2.323]	[2.325]	[2.523]	[2.509]	[0.102]	[0.102]	[0.082]	[0.083]
VC	-1.610	-1.696	-0.900	-1.003	-0.025	-0.031	-0.023	-0.029
	[3.438]	[3.401]	[3.343]	[3.307]	[0.162]	[0.159]	[0.162]	[0.160]
FOF	-2.546**	-2.448**	-2.099*	-2.023*	-0.109***	-0.103**	-0.116**	-0.111**
	[1.136]	[1.094]	[1.217]	[1.194]	[0.042]	[0.042]	[0.047]	[0.047]
Other	0.067	0.029	0.138	0.102	-0.028	-0.027	-0.029	-0.028
	[0.925]	[0.906]	[0.953]	[0.938]	[0.036]	[0.036]	[0.038]	[0.039]
In-state RE	-3.339**	-3.259**	-3.156**	-3.126**	-0.080**	-0.081**	-0.072**	-0.075**
	[1.328]	[1.303]	[1.255]	[1.243]	[0.034]	[0.036]	[0.033]	[0.035]
In-state VC	-3.546**	-3.143**	-3.274*	-2.912*	-0.230**	-0.215**	-0.230**	-0.216**
	[1.704]	[1.535]	[1.706]	[1.523]	[0.108]	[0.099]	[0.108]	[0.100]
#Sequence	0.199*	0.194*	0.158	0.153	0.002	0.001	0.003	0.002
	[0.112]	[0.111]	[0.134]	[0.132]	[0.006]	[0.006]	[0.006]	[0.006]
#Investors	0.034**	0.034**			0.001**	0.002**		
	[0.015]	[0.015]			[0.001]	[0.001]		
Fund size			1.027***	1.021***			0.026**	0.027**
			[0.291]	[0.288]			[0.011]	[0.011]
Other trustees	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vintage FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LP state FE	No	Yes	No	Yes	No	Yes	No	Yes
Observations	11,438	11,438	11,242	11,242	11,710	11,710	11,493	11,493
R-squared	0.113	0.117	0.116	0.120	0.142	0.147	0.143	0.148

Table 11: **Regressions: Experience of the board members and performance**

This table presents regressions in which the dependent variable is the performance of U.S. public pension funds during the 1990-2011 period. The analysis focuses on a smaller sample of investments for which the background data is available. We collect background data for the trustees of 34 pension funds (LPs) and match it to the 7,421 investments made by these LPs. The observation is an LP-investment. In models (1) to (4) the performance is measured using the net internal rate of returns (IRR), whereas in models (5) to (8) the performance is measured using the multiple of invested capital. Variables *Asset Management*, *Financial* and *Related* capture prior asset management, financial or related professional experience. Education related variables *Relevant Degree*, and *MBA* measure the percentage of pension fund trustees with relevant educational degree and master degree in business administration. *Educational Attainment* captures the average educational level of the trustees and it is an average of the ordinal variables constructed separately for every trustee that are equal to 0 for not obtaining a bachelor degree, 1 for bachelor, 2 for master and 3 for obtaining PhD degree. *Executive Experience* measures the percentage of board members with prior executive experience in the private sector, while *Union Members* is the percentage of pension fund trustees who are union members. We also control for the natural logarithm of LP assets under management and board size. We include vintage year fixed effects and independently double cluster the standard errors by pension fund and by vintage. In columns (3) and (7), we include LP fixed effects. We report standard errors in brackets. *, **, and *** indicate significance levels of 0.10, 0.05, and 0.01, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Net IRR				Multiple of invested capital			
State-appointed	-6.184*			-7.745*	-0.477***			-0.492***
	[3.417]			[4.045]	[0.171]			[0.146]
State-exofficio	-4.650***			-5.117***	-0.215**			-0.193***
	[1.533]			[1.400]	[0.084]			[0.063]
Participant-elected	-3.474**			-0.177	-0.197***			-0.025
	[1.374]			[0.672]	[0.050]			[0.024]
Public-appointed	-1.388			-3.687**	-0.075			-0.159**
	[1.339]			[1.572]	[0.073]			[0.064]
Asset Management Experience		5.484**	14.463***	6.343**		0.121*	0.366**	0.186**
		[2.452]	[4.143]	[3.089]		[0.070]	[0.157]	[0.094]
Financial Experience		6.503***	13.834***	6.905***		0.216***	0.385***	0.253***
		[2.120]	[3.680]	[2.636]		[0.050]	[0.147]	[0.069]
Related Experience		4.922**	11.507***	5.641*		0.169***	0.327***	0.227***
		[2.269]	[3.086]	[2.938]		[0.062]	[0.100]	[0.087]
Executive Experience		2.063	0.079	1.389		0.207***	0.072	0.182***
		[1.330]	[1.844]	[1.500]		[0.065]	[0.109]	[0.068]
Union Members		0.065	-0.807	-2.131		-0.012	-0.035	-0.085
		[1.084]	[6.138]	[1.463]		[0.072]	[0.204]	[0.059]
LP size	-0.662**	-1.109***	1.794	-0.488	-0.024	-0.038**	0.054	-0.015
	[0.278]	[0.428]	[4.686]	[0.366]	[0.016]	[0.016]	[0.225]	[0.014]
Board size	-0.092	0.159		0.076	0.002	0.008		0.009
	[0.074]	[0.165]		[0.174]	[0.005]	[0.005]		[0.005]
Other trustees	Yes	No	No	Yes	Yes	No	No	Yes
Vintage FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LP FE	No	No	Yes	No	No	No	Yes	No
Observations	6,996	6,996	6,996	6,996	7,080	7,080	7,080	7,080
R-squared	0.080	0.081	0.086	0.083	0.113	0.113	0.118	0.115

Table 12: **Regressions: Political contributions to the board member and performance**

This table presents regressions in which the dependent variable is the performance of public pension funds during the 1990-2011 period. The analysis focuses on a smaller sample of investments for which the background data is available. We collect background data for the trustees of 34 pension funds (LPs) and match it to the 7,421 investments made by these LPs. The observation is an LP-investment. In models (1) to (4) performance is measured using net internal rate of returns (IRR), whereas in models (5) to (8) performance is measured using multiple of invested capital. The board composition variables are the same as in the previous tables. *Political Elections* is the percentage of pension fund trustees who have participated in political elections. *FinanceContrib / LP size* presents the contributions from the financial industry as a percentage of the assets under management by the LP. Variable *%Finance Contributions* measures the political contributions received from organizations in the financial industry as a percentage of the total cumulative contributions until that election year. *Log Contributions* is the natural logarithm of the total cumulative contributions received by the trustees. When analyzing board member characteristics, we measure the percentage of trustees with prior *Asset Management*, *Financial* and *Related* professional experience. *Executive Experience* measures the percentage of board members with prior executive experience in the private sector, while *Union Members* is the percentage of pension fund trustees who are union members. In model (3), the variables measuring political contributions are defined based on the contributions received during the last election cycle instead of using the cumulative contributions received by the trustee. In model (4), we use only the sub-sample of observations during 1998-2011 time period, when the political contributions data provides broad coverage. We include vintage year fixed effects and independently double cluster the standard errors by pension fund and by vintage. We report standard errors in brackets. *, **, and *** indicate significance levels of 0.10, 0.05, and 0.01, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Net IRR				Multiple of invested capital			
State-appointed	-5.865 [3.668]	-7.902 [4.838]	-7.694 [5.012]	-6.861*** [2.053]	-0.403** [0.181]	-0.487*** [0.173]	-0.475*** [0.173]	-0.420** [0.172]
State-exofficio	-4.624*** [1.573]	-5.451*** [1.707]	-5.559*** [1.737]	-4.914*** [1.273]	-0.192** [0.080]	-0.213*** [0.075]	-0.213*** [0.074]	-0.222*** [0.056]
Participant-elected	-3.207** [1.440]	0.113 [0.931]	-0.094 [1.001]	-0.447 [0.792]	-0.190*** [0.053]	-0.030 [0.026]	-0.039 [0.032]	-0.029 [0.034]
Public-appointed	-1.345 [1.254]	-4.039** [1.671]	-3.896** [1.865]	-3.735** [1.419]	-0.066 [0.065]	-0.216*** [0.077]	-0.202** [0.080]	-0.193** [0.085]
Political Elections	0.073 [0.919]	0.267 [0.890]	0.398 [0.942]	1.541 [1.267]	-0.065 [0.066]	-0.067 [0.064]	-0.067 [0.064]	0.070 [0.046]
FinanceContrib / LP size	-27.327*** [9.251]	-27.115*** [9.107]	-33.214** [14.378]	-26.324*** [8.446]	-0.950*** [0.336]	-1.059*** [0.198]	-1.375*** [0.516]	-1.187*** [0.302]
%Finance Contributions	-1.141 [5.981]	1.145 [5.314]	-0.843 [3.447]	-1.614 [5.159]	-0.464* [0.245]	-0.253 [0.236]	-0.177 [0.124]	-0.375** [0.159]
Log Contributions	0.059 [0.077]	0.043 [0.083]	0.057 [0.094]	0.007 [0.073]	0.009*** [0.003]	0.008*** [0.003]	0.008** [0.003]	0.005** [0.002]
Asset Management Experience		5.892** [2.802]	6.254** [2.912]	4.127** [1.997]		0.158* [0.082]	0.161* [0.083]	0.114* [0.058]
Financial Experience		6.222** [2.510]	6.430** [2.509]	5.200*** [1.371]		0.208*** [0.069]	0.211*** [0.069]	0.214*** [0.047]
Related Experience		4.805* [2.850]	4.974* [2.822]	2.630* [1.312]		0.169** [0.080]	0.177** [0.080]	0.077 [0.060]
Executive Experience		1.652 [1.646]	1.289 [1.643]	1.234 [1.607]		0.206** [0.092]	0.197** [0.093]	0.144* [0.084]
Union Members		-2.594** [1.227]	-2.433* [1.305]	-1.829* [1.020]		-0.091 [0.056]	-0.088 [0.061]	-0.070 [0.072]
LP size	-0.680** [0.265]	-0.494 [0.454]	-0.536 [0.461]	-0.252 [0.274]	-0.032** [0.016]	-0.024 [0.016]	-0.027 [0.016]	-0.013* [0.007]
Board size	-0.082 [0.093]	0.069 [0.188]	0.057 [0.195]	0.003 [0.092]	-0.001 [0.005]	0.003 [0.006]	0.003 [0.006]	0.002 [0.006]
Other trustees	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vintage FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6,996	6,996	6,996	6,498	7,080	7,080	7,080	6,584
R-squared	0.081	0.083	0.083	0.055	0.114	0.116	0.116	0.060