The influence of political bias in state pension funds☆

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Abstract

Using a sample of state pension funds' equity holdings, we find evidence of not only local bias, but also bias towards politically-connected stocks. Political bias is detrimental to fund performance. State pension funds have longer holding durations of politically-connected local firms and display disposition behavior in these positions. Political bias is positively related to the percentage of politically-affiliated trustees on the board and Congressional connections. The more politically-affiliated trustees on the board, the more the fund shifts toward risky asset allocations. Overall, our results imply that political bias is likely costly to taxpayers and pension beneficiaries.

Keywords: State pension funds, Political bias, Pension beneficiaries, Disposition effect

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1. Introduction

Investment decisions are often subject to local bias. Ivkovic and Weisbenner (2005), Massa and Simonov (2006), and Seasholes and Zhu (2010) find that individual investors tend to invest more in stocks that are close to home. Coval and Moskowitz (2001), Hong, Kubik, and Stein (2005), and Baik, Kang, and Kim (2010) find evidence that local bias also transcends institutional investors' behavior.[1] Local bias also exists in common equity (Brown, Pollet, and Weisbenner, 2012) and private equity portfolios (Hochberg and Rauh, 2013) of state public pension funds. The most common explanations for local bias suggest that local investors stick close to home because they are more familiar with local firms (Brown, Pollet, and Weisbenner, 2012) or because they can exploit their informational advantage of geographically proximate firms (Baik, Kang, and Kim, 2010; Coval and Moskowitz, 2001).[2]

In this paper, we examine factors that could contribute to local bias in state pension funds from a political perspective and the impact politics can have on fund performance.[3] In our sample of internally managed state pension funds over the 1999 to 2009 period, we first analyze whether corporate political strategies influence local (state) public pension funds' portfolio investments. Consistent with previous studies that show evidence of local bias in various settings, we find that pension funds overweight local firms by 26% relative to the market portfolio. More important, we

[1] Coval and Moskowitz (1999), Chan, Covrig, and Ng (2005), and Van Nieuwerburgh and Veldkamp (2009) also find that money managers have a strong domestic bias in their portfolio investments. Cumming and Dai (2010) find that certain venture capital investments exhibit local bias.

[2] Malloy (2005) suggests that local affiliated analysts have an information advantage about local stocks and perform better than nonlocal affiliated analysts. Cohen, Frazzini, and Malloy (2008) find that mutual funds tend to overweight stocks of firms in which they have board connections through educational networks.

[3] Recently, state pension funds have come under scrutiny for pay-to-play practices. These scandals first appeared in the media and subsequently drew regulators' attention. On June 30, 2010, the Securities and Exchange Commission issued Rule 206(4)-5 under the Investment Advisers Act of 1940 that "prohibits an investment adviser from providing advisory services for compensation to a government client for two years after the adviser or one of its executives or employees make a contribution to certain elected officials or candidates."

estimate that state pension funds overweight local firms that make political contributions to local (state) politicians or have significant lobbying expenditures by 23% and 17%, respectively.

After demonstrating that pensions overweight politically active local stocks, we examine if this political bias impacts performance. We offer three non-mutually exclusive hypotheses highlighting the reasons that politically connected equity investments could influence fund performance. The information advantage hypothesis implies that fund performance should improve when the fund invests in local firms because of superior information available to fund managers about local firms. If political connections lead to better information flow, this effect should be exacerbated in the case of politically-connected firms. The familiarity hypothesis predicts that fund managers overweight local firms simply because they are more familiar with these firms. Familiarity alone, however, should not influence fund performance. Finally, the political bias hypothesis posits that if investment decisions are dominated by conflicted political motivations, then investments made under these conditions are likely to be detrimental to fund performance.

Our evidence is most consistent with the political bias hypothesis. When estimated independently, our baseline results show that local bias in general has a positive albeit insignificant impact on fund performance, whereas local political bias has a pronounced negative effect on it. For instance, a one standard deviation increase in local political bias results in about a 0.25% to 0.28% decline in quarterly equity performance.[4] Given that the equity assets of state pension funds are on average $21 billion, this implies an annual decline in fund performance in the neighborhood of $225 million. When we run a horse race between local and political biases, we find that they largely offset each other. This implies that any potential benefits to fund performance from superior local information are countered by the detrimental effects of political bias.

[4] We study domestic equity holdings of state pension funds. Thus, pension fund performance in our study refers to the domestic equity performance of state pension fund investments.

To obtain a clearer picture of these effects, we also consider the holding durations until equity positions are liquidated. We find that politically connected local firms have significantly longer expected holding durations. For instance, depending on the specification, the hazard of a complete liquidation by state pension funds of local politically connected firms is between 0.61 and 0.76 times the hazard of a complete liquidation for local firms that are not politically active. Funds could be optimally holding politically connected firms longer and excessively trading in their nonpolitical counterparts. However, we find that funds display disposition behavior for politically active stocks. That is, they sell winners too soon and ride losses too long, which can be costly to fund beneficiaries (Odean, 1998; Frazzini, 2006). This disposition effect is not present for non–politically active stocks.

Given our evidence that state pension funds' overweighting of politically connected stocks has negative implications, we attempt to explain this phenomenon from a fund governance perspective. A key difference between state pensions and actively managed mutual funds is that trustees of state pension funds can be active or they can be former state legislators, members of Congress, ex officio members with official positions in the state's public sector, or appointed by the governor. By design, this governance structure creates variation in how politically infused the fund's board of trustees likely is. We exploit such variation and examine if it is related to political bias.

We find that state funds having boards with a larger percentage of politically affiliated trustees invest more in politically connected local firms and those having boards with more financial experts invest less in such firms. Next, we consider the political atmosphere and the power of local congressional politicians, which we measure by the degree of their influence in the congressional bills' cosponsoring network.[5] Our findings suggest that the existence of more powerful politicians in a state is positively related to political bias in funds of the same state. Using the Bipartisan Campaign

[5] We use the connectedness measure constructed by Fowler (2006) to assess politicians' congressional connection. The connectedness index is computed as the inverse of the shortest social distance from one legislator to other legislators. It measures the strength of the political connections of a politician in the legislative network, and it also gauges the level of a politician's legislative influence in drafting, gathering support for, and passing new bills.

Reform Act (BCRA), which became effective on November 6, 2002 and banned unregulated soft money contributions to political parties, serving as an exogenous shock to firms' political activities landscape, we find a decrease in political bias after the act and, in particular, for states with stronger ties in Congress. These results suggest that powerful politicians can impose more political pressure on state pensions to invest in politically connected local firms. Moreover, we find that pensions with a higher proportion of politically affiliated trustees invest in riskier assets.

Our baseline analyses could suffer from omitted variables bias due to the possibility that dimensions of governance quality we did not control for are correlated with funds' tendency to engage in politically connected investments, which can also affect fund performance and funding levels. To help establish causality and address this potential endogeneity problem, we estimate a two stage least squares (2SLS) instrumental variable (IV) model using the predicted political bias measures generated from the first stage model. We find these predicted values are negative and highly significant in the second stage estimation of fund performance, confirming our baseline results. Furthermore, we exploit a plausibly exogenous shock to fund governance when the board of trustees shifts to a more politically affiliated structure. We use a difference-in-differences (DID) approach by comparing treatment funds with like controls not experiencing such turnover. Following the transition, we find that political bias measures significantly increase and fund performance deteriorates for treatment funds compared with controls.

Our study adds to the extant literature on local bias and expands on the developing literature focused on the interplay between politics and investment behavior. For example, Bonaparte, Kumar, and Page (2012) suggest that investors are more optimistic and willing to invest in riskier assets when the president belongs to the party they support and that they become more conservative and tend to invest more in local stocks when the opposition party is in power. Sinclair (2011) and Hochberg and Rauh (2013) imply that political pressure could explain local bias in private equity holdings by state

pension funds, but they do not provide direct empirical evidence.[6] Aabo, Pantzalis, and Park (2014) suggest that political interference with markets can induce geographic segmentation in the domestic (US) stock market and cause stock prices to exhibit a local component. Our paper extends this line of research and provides further insights into how political factors can cause local investors to make suboptimal portfolio investment decisions.

Our paper also has important policy implications. Our evidence of politically influenced investment decisions by state pension fund managers that are detrimental to fund performance suggests that at least some managers (trustees) are not upholding their fiduciary duty to act solely on behalf of the plan's beneficiaries.

The rest of this paper proceeds as follows. Section 2 presents our hypotheses and data. Section 3 investigates the impact of local and political biases on equity pension fund performance. Section 4 takes a closer look at pension fund governance. Section 5 provides identification, and Section 6 concludes.

2. Hypothesis development and data

In this section we develop our hypothesis and describe the data. Section 2.1 reviews the literature and motivates our hypotheses. Section 2.2 describes the data and provides summary statistics.

2.1. Hypotheses

Pirinsky and Wang (2006) find strong local co-movement in returns of local stocks that cannot be explained by local fundamentals and suggest that investors should consider geography in their portfolio diversification. Several studies, such as Brown, Pollet, and Weisbenner (2012), Hochberg and Rauh (2013) and Sinclair (2011) find strong local bias in state public pension funds in the form of overweighting in-state stocks compared with out-of-state stocks. One possible

[6] Brown, Pollet and Weisbenner (2012) find that campaign contributions to local politicians by citizens in a county are related to local bias in state pension funds.

explanation behind state pension funds' local bias is based on the assumption that state pension funds have better information about in-state stocks compared with out-of-state stocks. This is the informational advantage hypothesis and predicts that local bias will lead to higher portfolio returns. The Brown, Pollet, and Weisbenner (2012) evidence is consistent with this story by showing that local firms outperform nonlocals in pension fund holdings. However, Hochberg and Rauh (2013) provide evidence that overweighting in-state private equity has a negative impact on fund performance. Thus, the evidence is mixed regarding this hypothesis.

A second possible explanation is that local investors tend to invest in firms they are more familiar with. Investing in familiar stocks does not hinge on the availability of superior information and thus it would not, per se, benefit fund performance. Thus, the familiarity hypothesis could explain overweighting of local firms, but it does not predict differential performance of local versus nonlocal firms.

A third explanation is the political bias hypothesis. We conjecture that if investment decisions are made because of political considerations, fund performance would likely be affected. On one hand, performance could suffer when trustees make investment decisions for political reasons. On the other hand, if strong local politicians have a positive impact on the local economy, we expect to see a positive relation between political bias and fund performance. Hochberg and Rauh (2013) indicate that political pressure is likely to be an explanation for local bias in the private equity holdings of state pension funds, but they do not provide direct empirical evidence on the matter.

We hypothesize that political factors such as policy risk, state government integrity, and political networks are related to local bias. We also conjecture that pension funds are more likely to select local firms with active corporate political strategies, such as those that have made political action committee (PAC) contributions to local politicians (or candidates) or spent a large amount of

money in lobbying.[7] State pension funds could choose to select politically connected firms because trustees (or managers) can get private information about these firms through their social interactions. However, if this were the case, we would expect a positive relation between political bias and fund performance.

2.2 Data and summary statistics

Equity holdings of state public pension funds are collected from 13-F reports filed with the Securities and Exchange Commission (SEC) over the period 1999 to 2009. The SEC requires funds with total assets greater than $100 million to file on a regular basis. We require our sample to have at least 20 consecutive quarterly reports. Our final sample consists of 16 state pension plans.[8] We hand-collect information on characteristics of board trustees from the annual financial reports published by these state public pension funds. We also collect other information on pension plans available after 2000 from the Public Plans Database provided by the Center for Retirement Research at Boston College. Returns and accounting information of individual firms held by state pension funds are from Center for Research in Security Prices (CRSP) and Compustat. Our PAC contribution data and lobbying data are from the Center for Responsive Politics (CRP).[9]

We collect cosponsorship network data in the US Senate and House of Representatives from Fowler's website.[10] The sample period for this set of data ends in 2004. Data on the Public Integrity Index are collected from the State Integrity Investigation Project sponsored by the Center for Public

[7] Even though regulations by the Federal Election Committee state that PACs, on behalf of organizations, can contribute to each candidate or candidate committee only $5,000 during an election, loopholes allow firms to target contributions. According to the *New York Times* (January 8, 2012), "In the first six months of 2011, for example, the Super PAC operating on Romney's behalf, Restore Our Future, reported corporate contributions of $1 million each from Eli Publishing Inc. and F8 LLC, both based in Provo, Utah. $250,000 from The Villages of Lake Sumter, Inc. in The Villages, Fla.; and $100,000 from 2GIG Technologies in Lehi, Utah." The article can be accessed at http://campaignstops.blogs.nytimes.com/2012/01/08/happy-lobbyists-unhappy-citizens/.

[8] State pension funds with external managers do not report their holdings independently, so their 13F reports are not available on the SEC's website (http://www.sec.gov/) at the pension fund level. Appendix A presents detailed information regarding fund names and the sample period for each fund.

[9] The data provided by CRP are at the federal level.

[10] The data are available at http://jhfowler.ucsd.edu/cosponsorship.htm.

Integrity, Global Integrity, and PRI (Public Radio International). We collect macroeconomic variables using the Federal Reserve Economic Data (FRED) provided by the Federal Reserve Bank at St. Louis. We collect firms' historical headquarter information before 2006 from Compact Disclosure, and for years after 2006, we use the most recent headquarter information from Compustat.[11]

Table 1, Panel A, provides summary statistics of state pension funds based on information included in the last quarter's report from each year. We have 668 fund-quarter observations at the fund level. Each state pension fund in our sample holds, on average, 1,611 firms with an average holding value of $13.06 million per firm. The average total assets (*Total Assets*), computed as the aggregate value of equity holdings in a fund, are about $21 billion. New York State Common Retirement Fund (NYCRF) is the largest pension with an aggregate equity portfolio of $47 billion, and Missouri State Employees Retirement Fund (MOSERS) is the smallest with about $660 million in assets. *Portfolio Return* is the quarterly value-weighted equity portfolio return for the fund, which averages 1.08%. The average trading return is negative in our sample. *Portfolio Turnover* is the sum of total buys and total sells minus net flows scaled by *Total Assets*. The average is 0.12, which is low compared with mutual fund turnover (Carhart, 1997; Chen, Jegadeesh, and Wermers, 2000).

Insert Table 1 near here

Following Seasholes and Zhu (2010) and Sinclair (2011), we construct *Local Bias* as the ratio of the weight of local firms in the fund divided by the weight of local firms in the market portfolio minus one. We use a similar approach to construct measures of local political bias. These measures are biases in favor of local firms making PAC contributions to home state politicians (*Local Contribution Bias*) or engaged in lobbying (*Local Lobbying Bias*). *Local Contribution Bias* is the ratio of the weight of local firms that make contributions in the fund divided by the weight of local firms that

[11] See Appendix B for detailed information on how we construct all the variables used in this study.

make contributions in the market portfolio minus one. *Local Lobbying Bias* is the ratio of the weight of local firms that lobby in the fund divided by the weight of local firms that lobby in the market portfolio minus one.

Panel B presents summary statistics of these different local bias measures. We define a local firm as a firm headquartered in the same state as the fund state. Our results show that on average 6.2% of state pension funds are invested in local firms and that the weight of local firms in the market portfolio is 5.5%. The mean local bias is 26%. State pension funds tend to overweight local firms that make PAC contributions by 23% and local firms that lobby by 17% relative to the market portfolio. The local bias measure and local political bias measures are positive and highly correlated.[12]

3. Impact of local and political bias on pension fund equity performance

This section provides empirical results on pension fund equity performance. Section 3.1 examines the pre- and post-buy performance of local and nonlocal stocks held by pensions. Section 3.2 considers multivariate performance models. Section 3.3 examines pension fund holding durations of their stock positions. Section 3.4 focuses on the disposition behavior of pensions.

3.1. Pre-buy and post-buy performance of local firms and nonlocal firms

State pension funds can just chase momentum when they make investment decisions, regardless if firms are local or nonlocal. However, if a local information advantage exists, we expect that local investments will outperform nonlocal investments. Furthermore, if political considerations

[12] The correlations are 0.56 between *Local Bias* and *Local Contribution Bias*, 0.65 between *Local Bias* and *Local Lobbying Bias*, and 0.87 between *Local Contribution Bias* and *Local Lobbying Bias*.

mask the local information advantage, non–politically connected local investments are likely to outperform politically connected local investments.

To begin our analysis, we compare firm equity performance of (1) local firms held by state pension funds, (2) local firms not held by state pension funds, and (3) nonlocal firms held by state pension funds over the time period spanning one-year pre- and one-year post-inclusion in the fund. We compare the following four subgroups within the above three categories: (1) not politically connected, (2) PAC contributing, (3) lobbying, and (4) PAC contributing or lobbying, or both. We include local firms not held by funds and nonlocal firms held by funds that belong to the same five-by-five size– and book-to-market–sorted portfolios of local firms held by state pension funds.

We run monthly time series regressions applying a calendar time portfolio approach with quarterly rebalancing. This approach avoids the cross-sectional correlation problem of abnormal returns [Fama (1998)]. We use the Fama and French (1993) three-factor model plus the Carhart (1997) momentum factor to estimate alpha. The dependent variable is the monthly value-weighted portfolio return in which the weight is based on the dollar value of the firm's holding in the fund. For local firms not held by state pension funds, we assign the same weight as their matched local benchmarks in the pension fund holdings.

Panel A of Table 2 presents the pre-buy performance of each group. All state pension fund holdings' groups, including both local and nonlocal holdings, display positive pre-buy performance (positive alphas). For nonlocal pension holdings, pre-buy alphas are positive and statistically significant across all political categories (alphas range from 1.12% to 1.54% with *t*-statistics all above 4). However, for local firms (both in the fund and not held by the fund), only non–politically active firms display positive and significant alphas (1.74% and 1.05%, respectively). Thus, at least for nonlocal firms, it appears that fund managers are chasing momentum, which is consistent with evidence regarding other institutional investors (Bennett, Sias, and Starks, 2003; Alti, Kaniel, and

Yoeli, 2012). For local firms, the pattern in Panel A implies that state pension fund managers' investment choices can also be based on political considerations. If this is the case, then portfolio performance will suffer.

Insert Table 2 near here

Panel B reports one-year post-purchase performance. The only local group that displays positive significant alphas is the non–politically connected local firms group held by the fund. We find that local firms (non–politically connected) held by state pension funds outperform local firms (non–politically connected) not held by state pension funds (alpha difference 0.0146, *t*-statistic of 2.51), which provides some evidence in support of the information advantage hypothesis, consistent with Brown, Pollet, and Weisbenner (2012). The group of local, non–politically connected firms exhibit significantly higher alphas than local PAC contribution firms and local firms lobbying in the post-buy period (alpha differences between 0.0140 and 0.0176, *t*-statistics between 2.43 and 2.96). This finding is most consistent with the political bias hypothesis. However, when we compare local investments with nonlocal investments, we do not find that local investments perform significantly better than nonlocal investments. This result casts some doubt about the existence of a local information advantage.

3.2. Multivariate tests of pension fund equity performance

Our univariate tests in Table 2 do not consider fund and state-level characteristics. To more adequately control for factors that could influence fund performance, we estimate fund performance in a multivariate setting. Because our state funds' sample size is relatively small and the states in our sample display large variation in terms of size and the number of local firms, we run weighted least squares (WLS) regressions using the market value of all public firms within a state as the weight to correct for heteroskedasticity caused by the size differences and the uneven distribution of the

market percentage across states.[13] We include quarter fixed effects to exploit variation across funds and cluster standard errors at the fund level to correct for serial correlations in residuals.[14] In an alternative specification, we also include state fixed effects to absorb time invariant characteristics within a state. If our results with state fixed effects are consistent with results without state fixed effects, this would suggest that variation in our key explanatory variables within states over time is an important driver of the results. That is, the contribution results are driven by changes in political investments across different pension plans. State and time fixed effects can also address some potential problems caused by omitted variable bias. Our model takes the following form:

$$\text{Portfolio Return}_{it} = f(\text{Local Bias}_{it-1} \text{ (or Local Contribution Bias}_{it-1} \text{ or Local Lobbying Bias}_{it-1}), \text{ Portfolio Return}_{it-1}, \text{ LN(Total Assets)}_{it-1}, \text{ Trading Return}_{it-1}, \text{ Portfolio Turnover}_{it-1}, \text{ State GDP Growth Rate}_{iy-1}, \text{ Corporate Net Income Taxes}_{it-1}, \text{ Conviction Rate}_{iy-1}, \text{ State Dependence on Government Spending}_{iy-1}, \text{ Union}_{iy-1}, \text{ time (and state) fixed effects} \quad (1)$$

where *Portfolio Return*, local bias measures, *LN(Total Assets)*, *Trading Return*, and *Portfolio Turnover*, as defined earlier, are lagged quarterly observations. *LN(Total Assets)* is the natural logarithm of *Total Assets*. We include these fund characteristics as controls. *State GDP Growth Rate* is a proxy for local economic growth computed as the percentage change in state real gross domestic product obtained from the Bureau of Economic Analysis (BEA). *Corporate Net Income Taxes* is quarterly corporate net income taxes collected by a state divided by the total state tax revenues in the previous quarter. *Conviction Rate* is a proxy for the level of corruption in a state, defined as the number of convictions of state politicians divided by the total population (in millions) in a state in the previous year.[15] *State Dependence on Government Spending* is calculated as the total sales of firms in industries that depend on

[13] Our results are consistent if we use ordinary least squares except that *Local Bias* is positive and significant, which is consistent with Brown, Pollet and Weisbenner (2012). However, because of the reasons noted, weighted least squares is a more consistent and efficient estimation method and follows Khorana, Servaes, and Tufano (2009) and Cremers, Ferreira, Matos, and Starks (2015), who use WLS in their mutual fund studies.

[14] In Subsection 5.3, we present additional robustness checks using the bootstrapping approach to address concerns about the existence of few clusters. We also estimate the results without fund clustering and exclude California or New York funds. These are robust and available upon request.

[15] The number of convictions is collected from the US Department of Justice Public Integrity Section. State population information is gathered from the US Bureau of the Census.

government spending divided by the total sales of all industries in a state. *Union*, as constructed by Hirsch, Macpherson, and Vroman (2001), is the percentage of nonagricultural employees who are union members in each state.[16]

The variables of interest are the measures of local bias, local contribution bias, and local lobbying bias. The effect of each measure on fund performance is estimated separately. We use one quarter lagged bias measures to avoid a simultaneity issue. Brown, Pollet, and Weisbenner (2012) find that local firms outperform nonlocal firms, implying that state pension funds could have an information advantage about local stocks. If political connections play an important role in influencing state pension funds' stock selection decisions, we expect that these politically connected stocks could have a negative impact on fund performance if conflicts of interest outweigh trustees' fiduciary responsibilities. But if trustees of state pension funds can gather superior information about these politically connected firms possibly through their social connections or other local information channels, we would expect the opposite impact.

Table 3 provides evidence that *Local Bias* has a positive, albeit insignificant, effect on pension fund performance after controlling for other fund and state characteristics. More important for our study, the results indicate that the politically connected equity portion of pension fund investments has a significant and negative impact on pension fund performance. The coefficient on *Local Contribution Bias* is -0.0054 (or -0.0061), implying that if *Local Contribution Bias* increases by one standard deviation, quarterly fund performance decreases by 0.28% (or 0.32%). Likewise, if *Local Lobbying Bias* increases by one standard deviation, quarterly fund performance declines by 0.25% (or 0.27%). Given that the average state pension fund's equity portfolio is about $21 billion, this translates to lower performance of between $210 (or $227) million and $235 (or $269) million per

[16] Union membership includes private sector employees. As suggested by the 2012 data published by the Bureau of Labor Statistics, private sector union members account for only 6.6% of all union members in a state. Thus, it is still a good proxy to estimate the impact of public sector union membership.

year (for lobbying and PAC contributions, respectively). Most of the control variables are insignificant. Our findings are consistent for specifications without state fixed effects and with state fixed effects.

Insert Table 3 near here

In Models 7 to 10, we run a horse race between local and political bias measures. In this test, we jointly include both measures to see if political bias simply counteracts the positive information advantage of local bias or more than offsets it. In Model 4, *Local Bias* is positive and significant, and the coefficient of *Local Contribution Bias* is negative and highly significant. An F-test (unreported) suggests that the sum of these two variables' coefficients is not significantly different from zero. Similar results for lobbying are reported in Model 5. The results of this horse race test seem to suggest that when political bias is present, there are no net benefits to performance from a local information channel.

3.3. Survival analysis on holding duration

We have demonstrated thus far that fund performance is negatively impacted by political influence. In this subsection, we examine holding durations of equity positions to determine if systematic differences exist between politically active and non–politically active local firms in terms of how long they are held in the portfolio. We model the impact of political connections on the length of time state pension funds hold positions in firms before completely liquidating them. We apply the Cox proportional hazard model with a Weibull distribution to estimate the hazard of a complete liquidation of a firm by a state pension fund conditional on the holding duration of the firm by the fund. The Cox proportional hazard model (Cox, 1972; Allison, 2010) takes the following form (see Appendix C for details):

$$h(t,X) = \alpha t^{\alpha-1} e^{\beta' X} = h_0(t)\, e^{\beta' X} = \alpha t^{\alpha-1}\lambda, \qquad (2)$$

where $\beta'X \equiv \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_k x_k$ with k variables observed for a firm and X is a vector of covariates used to estimate the probability of a full liquidation. A positive β indicates a higher probability of a complete liquidation and lower expected holding duration by the fund.

In Table 4, we present results from the Cox proportional hazard model with industry fixed effects to estimate whether local and nonlocal firms' political connections can impact state pension fund holding duration (in quarters) and the probability of a complete liquidation by the fund while considering many other firm characteristics. This model is robust to any time specific common factors, and thus there is no need to control for time fixed effects (Dinc and Gupta, 2011). The key variables of interest in the X vector are two proxies for firms' political connections: *CONTRIBUTION* and *LOBBYING,* with *CONTRIBUTION* set to one if a local (or nonlocal) firm makes contributions to local politicians in the pension fund's state in year *t* and zero otherwise, and *LOBBYING* set to one if a local (or nonlocal) firm lobbies in year *t* and zero otherwise. We also control for firm characteristics: firm size, firm age, distance to the state capital, past performance, turnover, growth opportunities, debt ratio, and delisted status.

Insert Table 4 near here

In Models 1 and 2, we present the analysis of local firms. The coefficients for *CONTRIBUTION* and *LOBBYING* are both negative, suggesting that, conditional on the holding duration, local firms with political connections are held for a longer time and they are less likely to be dropped by state pension funds. The hazard ratio for *CONTRIBUTION* is 0.759, implying that the hazard of a complete liquidation by state pension funds of local politically connected firms is 0.759 times the hazard of a complete liquidation for local firms that do not make political contributions. The hazard ratio for *LOBBYING* is 0.607, which can be interpreted similarly. In

Models 3 and 4, we analyze the impact of political activity of nonlocal firms on holding duration.[17] The advantage of this analysis is that state pension funds should have less information advantage with nonlocal firms. The results are similar as for the local firms.

The hazard model is unlikely to suffer from selection bias, but as a further robustness check we conduct tests using discrete time hazard models with the inverse Mills ratio included as controls for selection bias. For the sake of brevity, we do not report these results, but they are qualitatively similar to those in Table 4.

The plots in Fig. 1 present the survival probability of firms' holding duration in quarters for Model 1 and Model 2 in Table 4. A clear difference exists in the survival probabilities for local politically connected (contribution or lobbying) versus local non–politically connected firms. There are much higher survival probabilities for the politically-active local firms.

Insert Figure 1 near here

3.4. The disposition effect

The evidence suggests that pensions are holding politically connected stocks, on average, longer than non–politically connected stocks, but it is unclear if this trading strategy is suboptimal. Funds could be trading excessively in non–politically connected stocks, but optimally holding politically connected stocks longer. However, the performance evidence coupled with systematic longer holding period durations for politically connected stocks does not seem to support this view.

To shed more light on whether the aforementioned trading strategy is suboptimal, we follow the method used by Odean (1998), Huddart and Narayanan (2002), and Frazzini (2006), who find that investors (both retail and institutional) often exhibit behavior consistent with the disposition

[17] We find similar results if we redefine politically active as firms that make consecutive contributions or engage in lobbying in the past two years. We also conduct alternative tests by constructing four dummy variables for politically active local firms, non–politically active local firms, politically active nonlocal firms, and non–politically active nonlocal firms and obtain similar results.

effect, i.e., they tend to realize gains too soon but ride losses too long. If this behavior permeates state pension funds as well and, in particular, if it is asymmetric whereby the disposition effect is more pronounced for political investments, then this would suggest that longer holding periods for politically connected investments are suboptimal and could ultimately become costly for taxpayers and pension beneficiaries.

We construct the disposition effect measure (*DISP*) following the existing literature. First, we compute a stock's reference price or cost basis based on the stock's historical purchase prices when a sale is initiated for the stock using a first-in, first-out accounting method following Frazzini (2006). Second, we compute the dollar amount of realized gains or losses using the differences between the sell price and the reference price of the stock multiplied by the number of shares sold. We compute the dollar amount of the unrealized gains or losses using the differences between the sell price and the reference price of the stock multiplied by the number of unsold shares still in inventory. Third, we calculate the aggregate amount of realized or unrealized gains and losses for each fund at each quarter end based on different categories of investments: local political firms and local nonpolitical firms. The proportion of gains realized (*PGR*) is the aggregate realized gains divided by the sum of aggregate realized gains and aggregate unrealized gains. The proportion of losses realized (*PLR*) is the aggregate realized losses divided by the sum of aggregate realized losses and aggregate unrealized losses. The disposition spread is *PGR* minus *PLR*.

We present the magnitude of the disposition effect for investments in local contribution firms and local lobbying firms in Columns 1 and 2 of Table 5. In Columns 3 and 4, we present the disposition effect for local nonpolitical firms matched with contribution firms or lobbying firms based on size, book-to-market ratio, and industry. We include all local nonpolitical benchmarks in the same five-by-five size– and book-to-market–sorted portfolios of local political firms held by local funds. In Column 5, we present all local nonpolitical firms matched with both local

contribution firms and lobbying firms. In Column 6, we report local contribution firms held by nonlocal funds when these firms do not make contributions to politicians in these nonlocal fund states.

Insert Table 5 near here

State pension funds exhibit a strong and significant disposition effect in their local political investments. For instance, Columns 1 and 2 both indicate that state pension funds exhibit disposition in their investments in local contribution and local lobbying firms. However, they do not exhibit disposition in other nonpolitical investments.[18] It is worth noting that, comparing Column 1 and Column 6, the funds exhibit strong and significant disposition in their investments in local contribution firms but not in nonlocal contribution firms that make no contributions to politicians in these fund states. Longer holding durations of local politically connected stocks combined with evidence of disposition behavior suggest that state pension funds tend to hold local politically connected losers for a longer time, thus likely making their inclusion in state funds costly for taxpayers and retirees.

4. Pension fund governance

Given our findings that political bias negatively impacts fund performance, we turn to the factors that influence such bias. Policy and governance profiles of state pension funds vary considerably across the United States. Several studies show that some of these characteristics are related to local bias. For instance, Brown, Pollet, and Weisbenner (2012) and Hochberg and Rauh (2013) show that the magnitude of corruption in a state is positively related to local bias. In addition to state-level governance attributes, we exploit the unique board characteristics of state public pension funds and the networks of local politicians.

[18] As argued in Odean (1998), *PGR* and *PLR* vary based on portfolio size and trading frequency. Therefore, one should focus on the relative values of *PGR* to *PLR*, i.e., on *DISP*, instead of on the individual values of *PGR* and *PLR*.

4.1. Fund governance and local and political bias

Our focus in this subsection is on the main decision makers of the fund: trustees. Pension fund trustees have a fiduciary duty to act in the interests of plan stakeholders. These trustees are active or former state legislators, members of Congress, ex officio members, appointed directly by the governor, or elected by state representatives. We explore this variation in governance characteristics and examine if it is related to local and political bias. We conjecture that funds with more politically affiliated trustees are more likely to invest in politically connected stocks and that elected officials who serve the interests of state employees or retirees are less likely to do so.[19]

We hand-collect background information of board trustees from the annual financial reports published by the retirement system of each state and construct several key governance-related variables: *Politically Affiliated Trustees* and *Fin_Expertise Trustees*. *Politically Affiliated Trustees* is the percentage of trustees on the board who are politically affiliated, and *Fin_Expertise Trustees* is the percentage of trustees who have significant experience in the financial services industry.[20] We estimate the impact of board composition characteristics on local bias with the model including time (and state) fixed effects with fund clusters:

$$\text{Local Bias Measures}_{it} = f(\text{Politically Affiliated Trustees}_{iy-1}, \text{Fin\_Expertise Trustees}_{iy-1}, \text{Investment Return}_{it-1}, \text{Ln (Total Assets)}_{it-1}, \text{State GDP Growth Rate}_{iy-1}, \text{Corporate Net}$$

[19] As the PAC contribution data and lobbying data provided by CRP are at the federal level, our political bias measures proxy for firms' political connections at the federal level. Political networks are not disjointed at the federal and state level (Bednar, 2009), but are rather complex, intertwined links between politicians at both federal and state levels and politically active firms. Federal and state politicians as well as lobbyists typically keep offices in the state capital building (Hill, Kelly, Lockhart, and Van Ness, 2013). Many members of Congress previously held state-level political positions. For instance, an examination of the makeup of the 113th Congress (2013–2015) shows that ten are former state governors (all ten are in the Senate), eight are former lieutenant governors (four in the Senate, four in the House, and 262 were state or territorial legislators (219 in the House and 43 in the Senate). Thus, there are strong ties between state and federal politicians, which could jointly influence investment decisions of politically affiliated trustees. See http://www.senate.gov/CRSReports/crs-publish.cfm?pid=%260BL%2BR\C%3F%0A.

[20] Ex officio members for a few states are the superintendent of public schools, which are nonpartisan positions. Though the Center for Retirement Research at Boston College provides the number of trustees who are also plan participants, we find that the information related to the number of trustees in its survey is less accurate than the board information from the annual financial report published by each retirement system on its own website. Therefore, we use our hand-collected information about board composition instead, although these reports do not provide the number of trustees who are also plan participants. Our sample size is reduced because not all plans provide financial reports for our sample period or report detailed information about trustees' backgrounds.

Income Taxes$_{it-1}$, Conviction Rate$_{iy-1}$, State Dependence on Government Spending$_{iy-1}$, Retirees$_{iy-1}$, Union$_{iy-1}$, Time (and State) Fixed Effects). (3)

If political bias plays a significant role in the equity holdings of state plans, the coefficient of *Politically Affiliated Trustees* is expected to be positive and that of *Fin_Expertise Trustees* to be negative. Trustees with financial expertise are more likely to make investment decisions that benefit fund performance, but the majority of politically affiliated trustees could be state politicians or work for the governor and, therefore, are more likely to be influenced by local politics and home-state politicians in Congress.[21]

Several papers show that the magnitude of corruption in a state is positively related to local bias. We also expect *Conviction Rate* to be positively related to political bias if it proxies for corruption. However, we expect *Conviction Rate* to be negatively related to political bias if it primarily reflects the effectiveness of state law enforcement. We have no clear expectations on the sign of *State GDP Growth Rate*. On one hand, a better local economy can provide politicians with a reason to push for including more local stocks in state pensions, particularly if they chase momentum. On the other hand, some pension funds could invest in local firms with poor performance to help support the local economy. States that collect more tax revenues from local firms are more likely to invest more in local firms. We expect the coefficient of *State Dependence on Government Spending* to be positive if local firms' political activities can win more government contracts or gain more government support. Local labor unions, which represent state workers' rights, are more likely to protect local industries. Thus, we expect *Union* to be positively related to *Local Bias*. Union members are big

[21] In our unreported results, we also reconduct our tests using *Elected Trustees* to replace *Politically Affiliated Trustees*. *Elected Trustees* is the percentage of trustees elected by state employees from various organizations. The correlation between *Elected Trustees* and *Politically Affiliated Trustees* is close to -1 due to the nature of constructing these two variables. We find that *Elected Trustees* is positively related to local bias but negatively related to local political bias.

supporters of politicians, thus we also expect the coefficient of *Union* to be positive in predicting local political bias.

The first two models in Table 6 show that retirement systems with a larger percentage of trustees with financial expertise (*Fin_Expertise Trustees*) display a higher propensity to invest in home state firms, perhaps to take advantage of the local information channel. However, the percentage of politically affiliated trustees (*Politically Affiliated Trustees*) is negatively related to *Local Bias*, which casts doubt on whether these trustees have conditional preferences of local firms.

Insert Table 6 near here

Next, as expected, in the *Local Contribution Bias* and *Local Lobbying Bias* regressions, the coefficient of *Politically Affiliated Trustees* is positive and significant, implying that politically connected trustees, perhaps under political pressure stemming from local and federal politicians, are more likely to favor investments in local firms that support home-state politicians. Such behavior is not in line with their fiduciary duty to represent the interests of state employees or plan beneficiaries who are more concerned about the performance of the fund.

In addition, we find some evidence that political bias is higher when *State GDP Growth Rate* is lower, suggesting that state pension funds are more willing to support politically connected local firms when the local economy is poor. *Corporation Net Income Taxes* is not significantly related to political bias but positively related to local bias. *Union* is positively related to all bias measures after we control for state fixed effects, consistent with the view that unions' influence favors local business.

4.2. Political atmosphere and networks

Our previous results suggest that governance characteristics are related to measures of local and political bias. In this subsection, we consider the political atmosphere and networks of local politicians so as to explain the factors that influence political bias from both a political and a

governance perspective. Hochberg and Rauh (2013) suggest that political pressure is likely to be the explanation for local bias in the private equity holdings of state pension funds, but they do not provide direct evidence. We attempt to shed some light on this important issue. Our model is

$$\text{Local Bias Measures}_{it} = f(\text{Congressional Connection}_{iy-1}, \text{Politically Affiliated Trustees}_{iy-1}, \text{New Public Integrity Index}_{it-1}, \text{Politician Turnover Rate}_{iy-1}, \text{Political Homophily}_{it-1}, \text{Democratic Vote}_{iy-1}, \text{Fin\_Expertise Trustees}_{iy-1}, \text{Portfolio Return}_{it-1}, \text{LN(Total Assets)}_{it-1}, \text{State GDP Growth Rate}_{iy-1}, \text{Corporate Net Income Taxes}_{it-1}, \text{Conviction Rate}_{iy-1}, \text{State Dependence on Government Spending}_{iy-1}, \text{Union}_{iy-1}, \text{election cycle (and state) fixed effects}) \quad (4)$$

The key variable of interest in this model is *Congressional Connection*, which is an indicator variable that takes the value of one if the state-level average of the Fowler (2006) politicians' connectedness measure is above the sample mean and zero if below the sample mean. Whereas *Politically Affiliated Trustees* measures more the direct influence of state politicians on state pension investments, this measure can be viewed as a proxy for local politicians' power and influence in Congress. We use *Congressional Connection* to examine the impact of congressional cosponsorship networks on local bias. Our sample period for this group of tests is from 2000 to 2005 due to data limitations. We include election cycle fixed effects because *Congressional Connection* varies every two years. We posit that if home-state politicians are more influential in Congress and thus can pass legislation that is more likely to benefit the local economy and local businesses, the magnitude of local bias in state pension funds will increase. Alternatively, home-state politicians with more power could pressure pension fund trustees to invest in their connected firms who have supported them.

The State Integrity Investigation Project (SIIP) provides an aggregate and sub-measures of state-level public integrity based on evaluations on the effectiveness of policies or regulations or both, pertaining to many areas such as political finance, pension fund management, and ethics enforcement.[22] We refer to the aggregate measure of this index as the *Public Integrity Index*. To

[22] The SIIP states: "The project's final indicators assess the existence, effectiveness, and citizen access to key governance and anti-corruption mechanisms in the fifty states. They seek to diagnose the strengths and weaknesses of the medicine

compute this index, we take the inverse of the public integrity ranks of the 50 states in the US, so a higher index score indicates higher integrity. The original rank is one for states with the highest integrity scores, and it takes the value of 50 for the lowest ranked state. SIIP started in 2011 and ended in 2012, so the use of the raw *Public Integrity Index* in our analysis could suffer from look-ahead bias. To address this problem, we create the *New Public Integrity Index*, which is the *Public Integrity Index* multiplied by the number of bills that were introduced and became law in a quarter and were sponsored by politicians from a given state. The rationale behind this new measure relies on the argument that any change in legislative effectiveness of politicians from a particular state should be reflected in the number of bills that become law over time.[23] We expect a negative relation between the *New Public Integrity Index* and local political bias.

Politician Turnover Rate is computed as the percentage of newly elected senators, representatives, and governors in a state. *Political Homophily* is the inverse of the ideology distance between state governments and their citizens. The higher the homophily measure is, the stronger the social ties between state politicians and citizens in that state. *Democratic Vote*, a proxy for a state's political orientation, is the number of votes for Democratic Party candidates scaled by the number of votes for Republican Party candidates during the general election. We do not have clear predictions for the signs of the coefficients for any of these variables.

Table 7 presents our findings from WLS regressions on different measures of local bias. Models 1, 4, and 7 report primary estimations for local and political bias measures. We suppress some of the control variables to conserve space. Consistent with our prediction, *Congressional Connection* has a strong and positive impact on local and political bias. This finding has two plausible

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applied against corruption in each state–openness, transparency, and accountability–rather than the disease of corruption itself." Details on how the scores of public integrity are constructed can be found at http://www.stateintegrity.org/methodology.

[23] We collect the bills information from the website of the Congressional Bills Project, http://www.congressionalbills.org/.

implications. The first is that influential politicians in the congressional network could be able to help pass more bills that would benefit firms in their home states and, consequently, state public pension funds could invest in these firms for their future growth opportunities. Alternatively, influential politicians could be able to use their power to impose pressure on pension trustees to return favors to politically connected local firms because these firms have provided financial support to them or their colleagues during their electoral campaigns.

Insert Table 7 near here

New Public Integrity Index is positively related to *Local Bias* but negatively related to *Local Contribution Bias* and *Local Lobbying Bias*. However, it is insignificant. When state governance and regulatory mechanisms are more effective, there is less overweighting of politically connected local firms. *Democratic Vote* is positively related to political bias measures implying higher political bias in blue (Democratic) states. We find that local bias and political bias are lower in states with a higher *Conviction Rate* and thus more effective law enforcement.

In Table 7, we also conduct a difference-in-differences analysis on the relation between congressional connections and local bias using the Bipartisan Campaign Reform Act (BCRA) as an exogenous shock to firms' political activities landscapes. The 2002 act banned unregulated soft money contributions to political parties. If our proposition on political bias holds, we expect lower political bias after the act, in particular for states with stronger ties in Congress. We also expect to see a decrease in our general local bias after the act if our two political bias measures do not capture biases toward political connections established through channels other than PAC contributions and lobbying only. In these models, *BAN* equals one for years after 2002 and zero otherwise. Also included are two interaction terms, *Congressional Connection*BAN* and *Politically Affiliated Trustees*BAN*. Our treatment group includes states with stronger congressional connections, and the control group includes states with lower congressional connections.

Our main variable of interest is the interaction term, *Congressional Connection*BAN,* which captures the DID effect. The coefficient of this interaction term is negative and significant for all three models estimating local and political bias, suggesting significantly lower levels of local political bias after the 2002 act for states closely connected to Congress. The interaction term of *Politically Affiliated Trustees*BAN* is negative and only significantly related to *Local Contribution Bias* after controlling for state fixed effects.

4.3. Trustee characteristics and risky asset allocation

Rauh (2009) examines the riskiness of private pension investments and proposes two hypotheses. The risk-shifting hypothesis suggests that pension plans with higher underfunded ratios invest more in risky assets. The risk management hypothesis suggests that better funded plans have heavier allocations toward risky assets. We apply these hypotheses to our setting with a focus on characteristics of pension fund trustees.

In Table 8, we model risk shifting in state pension funds' investments, in which *Risk Shift* is measured using the annual time series change in risky asset allocations by state pension funds provided by the Center for Retirement Research at Boston College. The components of risky assets are equities, real estate, private equities, hedge funds, and other alternative investment vehicles. Independent variables are governance and state-level characteristics defined in previous tables.

Insert Table 8 near here

The results show that *Politically Affiliated Trustees* is positively related to *Risk Shift*, suggesting public pension funds engage more in risky investments when there are more ex officio or appointed trustees on the board. *Fin_Expertise Trustees* is also negative, suggesting that funds whose boards include more trustees with a finance background invest less in risky securities. *New Public Integrity Index* is negative and significant in all models, indicating that states with higher integrity measures invest in less risky assets.

The lagged funding ratio (*Funded Ratio*) is negative and significantly related to *Risk Shift*, with *Funded Ratio* computed as the ratio of a retirement plan's total actuarial assets divided by total actuarial liabilities in a given year.[24] This implies that when the underfunded ratio is higher, the weight in risky assets is also higher. This finding supports the risk-shifting hypothesis, which contrasts the Rauh (2009) findings in private pension funds. Our results are more consistent with Andonov, Bauer, and Cremers (2015), who find that state pension funds try to hide their underfunding status by increasing the weight of risky assets. Finally, states with higher conviction rates and union membership have less risky asset allocations, and states with more reliance on government spending and more corporate tax revenues invest in riskier assets.

5. Identification and robustness

Our baseline performance results suggest that political bias negatively impacts pension fund performance. However, our estimation on the impact of political bias on fund performance could suffer from endogeneity problems. First, some unobserved factors or omitted variables such as governance quality in state pension funds could be correlated with our political bias measures, which also affect fund performance. Second, reverse causality problems could exist in our analysis as fund performance can affect the tendency of state pension funds to invest in politically connected local firms. We thus apply a two-stage instrumental variable approach to alleviate these concerns. To further bolster our claims regarding causality, we exploit a natural experiment in which a change occurs in fund board governance.

[24] The information on the pension plans' total actuarial assets and total actuarial liabilities is collected from Public Plans Database at the Center for Retirement Research at Boston College.

5.1. Instrumental variable approach

In Table 9, we present 2SLS instrumental variable estimations, with our instrument for political bias being *Politically Affiliated Trustees*. The first stage of this estimation is similar to Models 4 and 6 of Table 6 (for local contribution and lobbying bias, respectively) with the exception that the dependent variable is lagged and measured at time *t*-1. In the second stage, we estimate fund performance using the predicted political bias measures from the first stage.

Insert Table 9 near here

Models 1 and 3 present the first stage results along with some diagnostic tests. The endogeneity test on *Local Contribution Bias* and *Local Lobbying Bias* rejects the null hypothesis that these two variables are exogenous. We also conduct the weak IV test and underidentification test on the IV (*Politically Affiliated Trustees*). The weak IV test rejects the null hypothesis that *Politically Affiliated Trustees* is a weak instrument as the F-statistics for both tests are greater than 10 [see Stock, Wright, and Yogo (2002)]. Further, the underidentification test on the IV implies that our model is not underidentified with *Politically Affiliated Trustees* as the only instrument.

In Models 2 and 4, the second stage of the 2SLS estimation on fund performance is reported. The dependent variable is the quarterly value-weighted equity portfolio return for the fund as in Table 3. The coefficients of the predicted political bias variables [*Local Contribution Bias (predicted)* and *Local Lobbying Bias (predicted)*] are negative and highly significant, confirming the baseline performance results in Table 3.

5.2. A natural experiment

To reinforce our claims regarding causality and to address concerns regarding the validity of our instrument in the 2SLS model, we use a natural experiment in which a plausibly exogenous change in fund board governance occurs. Politically affiliated trustees are expected to serve state politicians' interests. If not, they are very likely to be removed from the board by the governor. If

our proposition about the influence of political connections on local bias holds, we expect to see higher political bias when more politically affiliated trustees are added to the board or when trustees who hold opposite views from the governor are removed or retire from the board. Thus, we search each pension fund's historical records through various media sources and identify funds with significant transitions in their board composition comprising a shift toward more politically affiliated trustee dominated boards. We then compare the magnitude of local bias, local political bias, and fund performance for two years before versus two years after the transition.[25] We examine four years surrounding the transition to reduce confounding effects from other events.

To isolate variations during the transitions that could affect our findings, we conduct a generalized DID analysis with a matched control group based on fund size and performance before the transition. We use a one-to-one match and require the matched control fund (*Control*) to appear in the same period as its matched treated fund (*Treatment*). After the match, we have five funds in the treatment group and five funds in the control group.

Panel A of Table 10 presents univariate results. The results show significant increases in *Local Contribution Bias* and *Local Lobbying Bias* for the treatment group after the transition. Likewise, there is a significant decline in performance. The control group also sees a negative, albeit insignificant, decline in political bias and a negative decline in performance. The DID estimator for political bias measures are positive and highly significant, suggesting that, compared with the control group, the treatment group of funds that become more politically aligned significantly increase their exposure to politically connected firms. The DID estimator for performance is also negative but insignificant possibly due to low statistical power in these small sample tests.

Insert Table 10 near here

[25] We include only funds with clear transitions in our tests in the treatment sample and exclude those with multiple transitions over our sample period to avoid contamination of confounding events. Our final treatment sample contains five funds and, therefore, we interpret these results cautiously.

In Panel B, we provide multivariate regressions to control for other factors that could impact political bias after the transition. Because we have different transition periods for each matched group, we also control for state and time fixed effects. The interaction term *Treatment*Post Transition* captures the difference-in-differences effect. Consistent with the univariate results in Panel A, the interaction term is positive and significant for both political bias measures. In addition, we find that the interaction term is negative and significant in predicting fund performance, which implies that when more political trustees are appointed after the transition, fund performance deteriorates. Overall, these results from the natural experiment support our main findings that political factors play a role in local bias and fund performance.

5.3. Additional robustness tests

In this subsection, we provide two additional robustness checks. First, we cluster standard errors at the pension fund level to address concerns of serial correlation in the error terms within pension funds. However, as noted by Petersen (2009) and Cameron and Miller (2015), standard errors are biased when there are few clusters. To address such concerns, we run regressions using the bootstrapping approach with one thousand replications.[26] Second, we adopt weighted least squares models throughout our paper due to heteroskedasticity caused by the uneven distribution of the market across states [see Cremers, Ferreira, Matos, and Starks (2015)]. We also present results estimated using unweighted ordinary least squares (OLS) models with the bootstrapping approach.

While we perform these analyses for all fund-level tests in this study, for the sake of brevity we report only these additional estimations for our main model (Table 3) in Table 11. Columns 1–6

[26] For bootstrapped regressions, we perform simulations using the residual resampling bootstrapping approach. The approach takes the following steps. First, we run regressions and obtain the fitted values and the residuals. Second, for each case, we add a randomly resampled residual (without replacement) to the fitted response variable to create a synthetic response variable. Third, we repeat the second step one thousand times to create one thousand replicates. Finally, we run regressions for each replicate and compute the median bootstrapped estimates. We report median estimates so that our results are not driven by outliers although means are also robust. We also compute bias corrected confidence intervals, and our conclusions remain the same.

report bootstrapped results from WLS regressions, and Columns 7–12 report bootstrapped results from unweighted OLS regressions. The results are consistent with the estimations presented in Table 3. Our unreported results from replications of Table 6, Table 7, and Table 8 are also robust to these various specifications.

Insert Table 11 near here

6. Conclusions

Local bias in state pension fund investments has been observed in several studies, but evidence on its impact on performance is mixed. In this study, we focus on an important aspect of local bias: bias stemming from local firms' political activities. Many firms engage in political contributions to local politicians or engage in lobbying. We find that state pension funds overweight these politically active firms and doing so is detrimental to fund equity performance. We show that holding durations are longer and disposition behavior is present for pension holdings of these politically connected local firms.

Our evidence suggests that the extent of political bias in state pension funds is related to fund governance characteristics. We find that local political connection bias is stronger (weaker) for state pension funds with a higher percent of politically affiliated trustees (elected trustees). We also find that states with more influential politicians in Congress tend to invest more heavily in politically connected local firms. Overall, our results suggest that political interference in state pension funds' affairs does not produce desirable results.

Appendix A. Description of state retirement funds

Table A1 State Retirement Funds

State	Fund	Full name	Sample period	Separate investment counsel
CA	CALPERS	California Public Employees Retirement System	3/31/1999–12/31/2009	Yes
CA	CALTRS	California State Teachers Retirement System	3/31/1999–12/31/2009	No
CO	COPER	Public Employees Retirement Association of Colorado	3/31/1999–12/31/2009	No
FL	FLRS	State Board of Administration of Florida Retirement System	3/31/1999–12/31/2009	No
KY	KYTRS	Teachers Retirement System of the State of Kentucky	3/31/1999–12/31/2009	No
MI	MIST	State Treasurer State of Michigan	3/31/1999–12/31/2009	Yes
MO	MOERS	Missouri State Employees Retirement System	3/31/1999–03/31/2007	No
NY	NYCRF	New York State Common Retirement Fund	3/31/1999–12/31/2009	No
NY	NYTRS	New York State Teachers Retirement System	3/31/1999–12/31/2009	No
OH	OHPERS	Public Employees Retirement System of Ohio	6/30/1999–12/31/2009	No
OH	OHSTRS	State Teachers Retirement System of Ohio	3/31/1999–12/31/2009	No
PA	PAPSERS	Pennsylvania Public School Employees Retirement System	12/31/2000–12/31/2009	No
TX	TXERS	Employees Retirement System of Texas	3/31/1999–12/31/2009	No
TX	TXTRS	Teacher Retirement System of Texas	3/31/1999–12/31/2009	No
VA	VARS	Virginia Retirement Systems	6/30/1999–12/31/2009	No
WI	WIIB	State of Wisconsin Investment Board	3/31/1999–12/31/2009	No

Appendix B. Variable definitions

Table B1 Variable definitions

Variable name	Description
Panel A Fund characteristics	
Local Bias	Ratio of the weight of local firms in the fund over the weight of all local firms in the market minus one
Local Contribution Bias	Ratio of the weight of local contribution firms in the fund over the weight of all local contribution firms in the market minus one
Local Lobbying Bias	Ratio of the weight of local lobbying firms in the fund over the weight of all local lobbying firms in the market minus one
Holding Value Per Firm	Holding value of a firm in the fund
Total Assets	Total market value of domestic equities invested by the fund
LN(Total Assets)	Natural logarithm of total assets in the previous quarter
Portfolio Return	Quarterly value-weighted portfolio return for the fund
Trading Return	Returns on buys minus forgone returns on sells assuming that trades are executed at each quarter end
Portfolio Turnover	Sum of total buys and total sells minus net flows and then scaled by *Total Assets*
Investment Return	Investment returns provided by fund plans
Politically Affiliated Trustees	Percentage of members on the fund board who are active or former state legislators, members of Congress, ex officio members, appointed directly by the governor, or elected by state representatives
Fin_Expertise Trustees	Percentage of trustees who have experience in the finance industry or have worked in the finance sector in the state
Retirees	Percentage of retired members in the plan
Risk Shift	Annual time series change in risky asset allocations
Funded Ratio	Total actuarial assets divided by the total actuarial liabilities of the plan
Panel B State Characteristics	
State GDP Growth Rate	Annual percentage change in the seasonal adjusted consumer price index
Corporation Net Income Taxes	Ratio of corporate net income taxes over total tax revenues in a state
Conviction Rate	Number of convictions of politicians divided by the state population in millions
State Dependence on Government Spending	Total sales of firms in industries that depend on government spending divided by total sales of all industries in a state
Union	Percentage of nonagriculture employees who are union members in each state
Democratic Vote	Percentage of votes cast for Democratic Party candidates during general elections
Congressional Connection	Dummy variable that is one if the connectedness measure created by Fowler (2006) is above the mean and zero if below the mean
BAN	Dummy variable that is one for the time period after the Bipartisan Campaign Reform Act became law in 2002 and zero otherwise
New Public Integrity Index	Public integrity index multiplied by the percentage of bills passed in a state for a given quarter
Politician Turnover Rate	Turnover rate of state politicians including senators, representatives, and governors
Political Homophily	Inverse of the distance of political ideology between government officials and state citizens
Panel C Firm Characteristics	
CONTRIBUTION	Dummy variable that is one if a firm makes contributions to local politicians in the pension fund's state in year t and zero otherwise
LOBBYING	Dummy variable that is one if a firm lobbies in year *t* and zero otherwise
LNMKTCAP	Logarithm of market capitalization in the previous fiscal year-end
LNAGE	Natural logarithm of firm age
LNDIST	Distance from firm's location to the state capital city where pension funds are located
BHAR	Annual market-adjusted return in year *t*-1
VOLATILITY	Volatility of daily stock returns in year *t*-1
TURNOVER	Average monthly share turnover in year *t*-1 calculated as trading volume over shares outstanding
LNMB	Natural logarithm of market-to-book equity ratio in the previous fiscal year-end
ROA	Net income over total current assets in the previous fiscal year-end
DEBT RATIO	Sum of long-term debt and current debt over total assets in the previous fiscal year-end
DELIST	Dummy variable that is one if a firm is delisted in year *t* and zero otherwise

Appendix C Cox proportional hazard model

This Appendix provides detailed description of the Cox proportional hazard model used in our study. The holding duration of individual firms by state pension funds mimics the failure time process. First, state pension funds make investments in firms. Second, they hold these firms for some period of time. Last, they liquidate the shares they hold in these firms. These firms fail at the end or are censored due to some other reason such as being delisted from the stock exchange. The model takes the following form:

$$h(t,X) = \alpha t^{\alpha-1} e^{\beta' X} = h_0(t)\, e^{\beta' X} = \alpha t^{\alpha-1}\lambda, \quad (4)$$

where $\beta' X \equiv \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_k x_k$ with k variables observed for a firm and X is a vector of covariates (explanatory variables) used to estimate the probability of a full liquidation. A positive β indicates a higher probability of a complete liquidation and lower expected holding duration by the fund. $h_0(t) = \alpha t^{\alpha-1}$ is the baseline hazard function of t when $X = 0$. With the Weibull distribution, the hazard rate can increase monotonically with time if $\alpha > 1$, decrease monotonically with time if $\alpha < 1$, or is constant if $\alpha = 1$. For a given value of α, a large value of λ implies a larger hazard rate at each survival time. $h(t,X)$ is the product of $h_0(t)$ and the exponential of the sum of β_i and x_i. The ratio of the hazard function for two different values of X, $\widehat{HR}$, is given by

$$\widehat{HR} = \frac{h(t,X_1)}{h(t,X_2)} = \frac{\alpha t^{\alpha-1} e^{\beta_1' X_1}}{\alpha t^{\alpha-1} e^{\beta_2' X_2}} = e^{(\beta_1' X_1 - \beta_2' X_2)} \quad (5)$$

The baseline hazard function $h_0(t)$ is not needed to estimate the hazard ratio. The hazard ratio $\widehat{HR}$ indicates the change in the hazard ratio of a complete liquidation from a one unit change in x.

The Cox model is a semi-parametric model, which applies a partial likelihood estimation method. Suppose that there are N observed liquidations $t_1 < \cdots < t_N$, and δ_i is an indicator for a

complete liquidation or censoring time at each time t_i. If $\delta_i = 1$, a complete liquidation occurred, and if $\delta_i = 0$, the holding duration is a censoring time due to events other than liquidation by state pension funds. Let R_i denote the risk set for firms that are held by state pension funds but not liquidated yet at time t_i. Some firms can be liquidated by state pension funds during the same report period. These events are called "ties" in the survival analysis. We use an Efron approximation to deal with tied event data. Suppose that $D_i$is the set of all firms that are liquidated at time t_i. The Efron partial likelihood function for tied events is defined by

$$PL = \prod_{i=1}^{N} \frac{\prod_{l \in D_i} \lambda_l}{\prod_{j=1}^{\delta_i} \left(\sum_{j \in R_i} \lambda_j - \frac{j-1}{\delta_i} \sum_{j \in R_i} \lambda_j \right)}, \tag{6}$$

and the log partial likelihood for Efron function is:

$$L(\beta) = \sum_{i=1}^{N} \left[\sum_{l \in D_i} \beta' X_l - \sum_{j=1}^{\delta_i} \log \left(\sum_{j \in R_i} \lambda_j - \frac{j-1}{\delta_i} \sum_{j \in R_i} \lambda_j \right) \right], \tag{7}$$

where $\lambda_j \equiv e^{\beta' X_j}$. We include δ_i explicitly in our model to take care of data censoring due to other factors such as the end of sample period.

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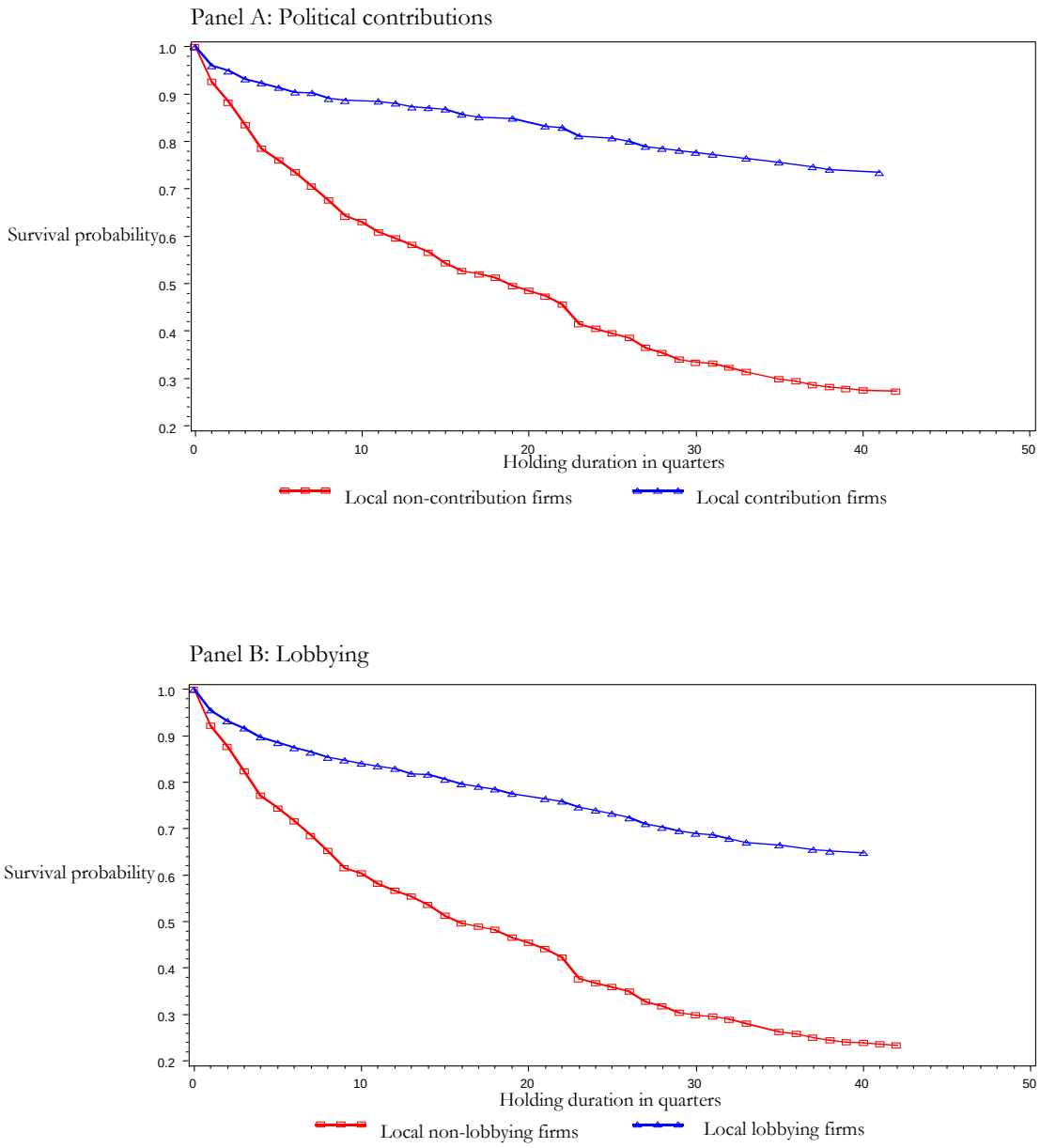

Fig. 1. Survival probability plots. This figure plots local firms' survival probabilities in state pension funds and expected holding durations in quarters estimated using the Cox proportional hazard model in Table 4. Panel A compares survival probabilities for local contribution firms and local non-contribution firms. Panel B compares survival probabilities for local lobbying firms and local non-lobbying firms.

Table 1 Summary statistics of state public pension funds

This table presents quarterly summary statistics of state public pension retirement systems and local bias measures. Panel A presents summary statistics of fund characteristics for all funds listed in Appendix A. Panel B presents summary statistics of local bias measures. Local firms are defined as firms headquartered in the same state as the fund. Local contribution firms are local firms that make contributions to local politicians. Local firms lobbying are local firms that lobby. All the variables are defined in Appendix B.

Panel A: Summary statistics of fund characteristics

			Number of firms		*Holding value per firm* (millions of dollars)		*Total Assets (billions of dollars)*		*Portfolio Return*		*Trading Return*		*Portfolio Turnover*	
State	Fund	*N*	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
CA	CALPERS	44	2,882	3,405	7.09	0.65	20.37	6.91	1.66%	1.96%	-1.54%	-0.36%	0.16	0.13
CA	CALTRS	44	1,815	2,203	16.04	2.96	29.11	30.93	0.82%	2.04%	0.05%	-0.55%	0.06	0.05
CO	COPER	44	2,067	2,317	6.00	1.09	12.39	12.36	1.00%	2.27%	-1.12%	-1.17%	0.15	0.10
FL	FLRS	44	2,338	2,422	13.06	1.58	30.53	30.95	0.69%	1.89%	-0.81%	-0.42%	0.06	0.04
KY	KYTRS	44	1,109	1,123	1.97	0.78	2.18	2.15	1.30%	2.79%	-0.46%	-0.53%	0.18	0.17
MI	MIST	44	900	901	22.05	2.80	19.85	20.09	0.67%	1.58%	-0.43%	-0.27%	0.12	0.09
MO	MOERS	33	354	474	1.86	0.64	0.66	0.49	1.98%	2.60%	-2.07%	-1.99%	0.06	0.03
NY	NYCRF	44	1,620	1,749	29.13	7.25	47.17	47.01	0.87%	1.90%	-1.24%	-0.71%	0.10	0.09
NY	NYTRS	31	1,472	1,495	28.04	6.83	41.26	41.65	2.37%	2.40%	-1.59%	-1.00%	0.05	0.05
OH	OHPERS	42	2,567	2,750	9.86	1.33	25.32	25.90	0.43%	1.47%	-0.13%	-0.80%	0.10	0.10
OH	OHSTRS	43	2,112	2,085	10.83	1.52	22.87	22.92	0.78%	1.23%	-0.88%	-0.51%	0.17	0.14
PA	PAPSERS	37	1,988	2,153	6.73	2.45	13.37	15.18	1.22%	2.88%	0.16%	-0.77%	0.15	0.13
TX	TXERS	44	830	863	8.93	2.06	7.41	7.45	0.44%	1.71%	-0.74%	-0.49%	0.12	0.10
TX	TXTRS	44	1,377	1,477	33.87	8.94	46.64	43.95	1.04%	2.09%	-0.53%	-0.56%	0.13	0.11
VA	VARS	43	1,175	1,156	4.34	1.29	5.10	4.11	0.63%	1.80%	0.17%	0.30%	0.14	0.13
WI	WIIB	43	905	872	12.77	3.30	11.55	11.33	1.93%	1.80%	-0.91%	-0.35%	0.19	0.16
All funds		668	1,611	1,491	13.06	1.99	21.03	17.81	1.08%	1.99%	-0.73%	-0.63%	0.12	0.10

Panel B: Summary statistics of local bias measures

	Local firms		Local contribution firm		Local firms lobbying				
	Percent of fund	Percent of market	Percent of fund	Percent of market	Percent of fund	Percent of market	Local bias	Local contribution bias	Local lobbying bias
Year	(1)	(2)	(3)	(4)	(5)	(6)	$\frac{(1)}{(2)}$ -1	$\frac{(3)}{(4)}$ -1	$\frac{(5)}{(6)}$ -1
12/31/1999	6.07	5.52	2.56	2.64	3.07	3.35	0.57	0.34	0.15
12/31/2000	5.55	5.19	2.61	2.71	2.82	3.24	0.39	0.34	0.31
12/31/2001	5.65	4.87	2.56	2.60	2.79	3.07	0.33	0.20	0.16
12/31/2002	5.19	4.64	2.78	2.72	2.98	3.01	0.17	0.14	0.12
12/31/2003	6.60	5.60	3.41	3.15	3.87	3.64	0.21	0.18	0.18
12/31/2004	6.47	5.40	3.43	3.13	3.84	3.54	0.20	0.13	0.10
12/31/2005	6.52	5.52	3.44	3.07	4.13	3.69	0.09	0.12	0.04
12/31/2006	6.30	5.57	3.57	3.15	4.15	3.78	0.12	0.10	0.06
12/31/2007	6.91	5.82	4.50	3.40	5.11	4.10	0.36	0.38	0.31
12/31/2008	6.56	6.04	4.35	3.60	4.97	4.09	0.22	0.34	0.29
12/31/2009	6.64	6.01	4.24	3.34	4.89	4.05	0.21	0.31	0.22
1999–2009	6.23	5.47	3.41	3.05	3.88	3.60	0.26	0.23	0.17

Table 2 Pre-buy and post-buy risk-adjusted performance for local and nonlocal firms

This table compares risk-adjusted performance of local firms and nonlocal firms. In Column 1, we present performance of local firms held by state pension funds (Local holdings). In Column 2, we present performance of local firms not held by funds (Local non-pension fund holdings). In Column 3, we present performance for nonlocal firms held by state pension funds (Nonlocal holdings). We analyze subsamples based on the following categories: non-contributing and non-lobbying, contributing, lobbying, and contributing or lobbying. We include local non-pension fund holdings and nonlocal holdings in our analysis only if they belong to the same five-by-five size– and book-to-market–sorted portfolios of local holdings. We present results on one year pre-buy risk-adjusted performance in Panel A and one-year post-buy risk-adjusted performance in Panel B. We apply the monthly time series Fama and French (1993) three-factor model plus the Carhart (1997) momentum factor to estimate fund performance. The dependent variable is the value-weighted portfolio return in which the weight is the holding value of each firm in the portfolio. For non-pension fund holdings, the weight is the holding value of their matched local holdings. We report alphas (intercepts) and t-values from time series regressions after correcting for heteroskedasticity. *t*-statistics from tests on differences in alphas for subsamples are presented. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

			Local firms				Nonlocal firms					
			Local Holdings		Local Non-Pension Fund Holdings		Nonlocal Holdings					
			(1)		(2)		(3)		(1) - (2)		(1) - (3)	
Panel A: Pre-buy risk adjusted performance												
	Contributing	Lobbying	Alpha	*t*-value	Alpha	*t*-value	Alpha	*t*-value	Difference	*t*-value	Difference	*t*-value
(1)	No	No	0.0174	4.47	0.0105	1.77	0.0154	6.59	0.0068	1.03	0.0020	0.41
(2)	Yes	No	0.0041	0.79	0.0024	0.31	0.0112	4.25	0.0017	0.16	-0.0071	-1.10
(3)	No	Yes	0.0068	1.65	0.0067	0.79	0.0122	4.22	0.0002	0.02	-0.0054	-0.93
(4)	Yes	Yes	0.0053	1.29	0.0040	0.50	0.0116	4.68	0.0013	0.13	-0.0063	-1.15
(1) - (2)			0.0133*	1.89	0.0081	0.82	0.0042	1.04				
(1) - (3)			0.0105*	1.65	0.0039	0.36	0.0031	0.77				
(1) - (4)			0.0121*	1.91	0.0065	0.63	0.0037	1.00				
Panel B: Post-buy risk adjusted performance												
	Contributing	Lobbying	Alpha	*t*-value	Alpha	*t*-value	Alpha	*t*-value	Difference	*t*-value	Difference	*t*-value
(1)	No	No	0.0166	4.26	0.0020	0.42	0.0136	4.95	0.0146**	2.51	0.0031	0.67
(2)	Yes	No	-0.0010	-0.20	0.0017	0.12	0.0047	1.71	-0.0026	-0.21	-0.0056	-1.03
(3)	No	Yes	0.0023	0.52	0.0078	0.61	0.0064	2.17	-0.0055	-0.45	-0.0040	-0.73
(4)	Yes	Yes	0.0026	0.61	0.0033	0.26	0.0072	2.69	-0.0007	-0.06	-0.0046	-0.89
(1) - (2)			0.0176***	2.96	0.0003	0.03	0.0089**	2.26				
(1) - (3)			0.0143**	2.43	-0.0058	-0.48	0.0072*	1.75				
(1) - (4)			0.0140**	2.48	-0.0013	-0.11	0.0064	1.63				

Table 3 Local bias and state pension fund performance

This table reports state pension fund performance using weighted least squares regressions in which the weight is the total market capitalization of all public firms in a state in the previous quarter. The dependent variable is the quarterly value-weighted portfolio return for the fund at quarter *t*. The independent variables are defined in Appendix B. Quarter (and state) fixed effects are included but not reported. *p*-values based on heteroskedasticity-consistent standard errors clustered by fund are presented in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

	Dependent variable: *Portfolio Return*									
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Intercept	0.1696***	0.1648***	0.1656***	0.1530***	0.1668***	0.1572***	0.1583***	0.1307***	0.1589***	0.1360***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Local Bias	0.0019	0.0035					0.0082**	0.0119***	0.0090**	0.0120***
	(0.552)	(0.422)					(0.033)	(0.005)	(0.022)	(0.007)
Local Contribution Bias			-0.0054**	-0.0061*			-0.0096***	-0.0119***		
			(0.034)	(0.057)			(0.002)	(0.000)		
Local Lobbying Bias					-0.0048**	-0.0051*			-0.0101***	-0.0114***
					(0.037)	(0.063)			(0.000)	(0.000)
Lag (Portfolio Return)	-0.1174**	-0.1309**	-0.1311*	-0.1360*	-0.1258*	-0.1308*	-0.1659**	-0.1822***	-0.1626**	-0.1749***
	(0.045)	(0.033)	(0.062)	(0.062)	(0.059)	(0.056)	(0.021)	(0.008)	(0.017)	(0.006)
LN(Total Assets)	-0.0014	-0.0013	-0.0007	-0.0004	-0.0009	-0.0006	-0.0002	0.0008	-0.0002	0.0005
	(0.440)	(0.593)	(0.597)	(0.854)	(0.558)	(0.781)	(0.893)	(0.630)	(0.838)	(0.755)
Trading Return	0.0164	0.0155	0.0170	0.0148	0.0180	0.0161	0.0164	0.0137	0.0187	0.0164
	(0.487)	(0.548)	(0.441)	(0.538)	(0.429)	(0.515)	(0.443)	(0.551)	(0.409)	(0.494)
Portfolio Turnover	0.0196	0.0213	0.0151	0.0153	0.0158	0.0163	0.0106	0.0112	0.0105	0.0119
	(0.145)	(0.124)	(0.218)	(0.212)	(0.190)	(0.173)	(0.440)	(0.402)	(0.434)	(0.360)
State GDP Growth Rate	-0.0009	-0.0152	-0.0127	-0.0141	-0.0183	-0.0206	-0.0149	-0.0295	-0.0290	-0.0449
	(0.985)	(0.801)	(0.677)	(0.637)	(0.574)	(0.526)	(0.661)	(0.445)	(0.450)	(0.335)
Corporation Net Income Taxes	0.0089	0.0030	0.0160	0.0032	0.0166	0.0038	0.0076	0.0019	0.0089	0.0031
	(0.722)	(0.891)	(0.466)	(0.865)	(0.450)	(0.843)	(0.677)	(0.918)	(0.615)	(0.865)
Conviction Rate	-0.1489*	-0.2023	-0.1498	-0.2223	-0.1547	-0.2101	-0.1419	-0.2361	-0.1511	-0.2140
	(0.084)	(0.132)	(0.143)	(0.203)	(0.132)	(0.207)	(0.137)	(0.139)	(0.116)	(0.167)
State Dependence on Government Spending	0.0003	-0.0118	-0.0029	-0.0035	-0.0019	-0.0072	-0.0021	0.0019	-0.0006	-0.0041
	(0.943)	(0.655)	(0.223)	(0.873)	(0.434)	(0.751)	(0.426)	(0.941)	(0.826)	(0.872)
Union	0.0094	0.0325	0.0064	0.0875	0.0065	0.0853	0.0040	0.0636	0.0034	0.0685
	(0.568)	(0.597)	(0.628)	(0.305)	(0.632)	(0.302)	(0.719)	(0.422)	(0.762)	(0.385)
State fixed effects	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	650	650	650	650	650	650	650	650	650	650
R^2	0.9718	0.9720	0.9721	0.9723	0.9720	0.9722	0.9725	0.9729	0.9724	0.9727

Table 4 Holding duration of local firms and nonlocal firms

This table provides estimates of the Cox proportional hazard model of holding durations of local firms and nonlocal firms in state pension funds by maximizing the partial log-likelihood with a Weibulll distribution. The hazard ratio is the probability a local firm is dropped by a state pension fund at time *t*, conditional on the fund's holding duration in quarters of the firm up to time *t*. *CONTRIBUTION* is set to one if a firm makes contributions to local politicians in the pension fund's state in year *t* and zero otherwise. *LOBBYING* is set to one if a firm lobbies in year *t* and zero otherwise. All other variables are defined in Appendix B. Models 1 and 2 present estimation for local firms, and Models 3 and 4 present estimation for nonlocal firms. Standard errors are cluster-corrected at the firm level. *t*-values are reported in parentheses. Industry fixed effects are included but not reported. Generalized R^2 is computed as $R^2 = 1 - exp\left(\frac{-G^2}{N}\right)$, where G^2 is the likelihood ratio chi-square statistics that test the null hypothesis that all covariates are equal to zero. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

	Local firms				Nonlocal firms			
	(1)		(2)		(3)		(4)	
Variable	Estimate	Hazard ratio	Estimate	Hazard ratio	Estimate	Hazard ratio	Estimate	Hazard ratio
CONTRIBUTION	-0.276**	0.759			-0.237***	0.789		
	(-2.47)				(-3.98)			
LOBBYING			-0.500***	0.607			-0.386***	0.680
			(-5.87)				(-10.76)	
LNMKTCAP	0.932***	2.539	0.878***	2.406	0.721***	2.057	0.696***	2.006
	(7.99)		(7.63)		(15.13)		(14.92)	
LNMKTCAP²	-0.084***	0.919	-0.078***	0.925	-0.067***	0.935	-0.064***	0.938
	(-8.91)		(-8.33)		(-18.36)		(-17.69)	
LNAGE	-0.399***	0.671	-0.402***	0.669	-0.377***	0.686	-0.376***	0.687
	(-11.51)		(-11.72)		(-25.12)		(-25.05)	
LNDIST	-0.046**	0.955	-0.044*	0.957	-0.072***	0.930	-0.076***	0.927
	(-2.03)		(-1.86)		(-7.40)		(-7.81)	
BHAR	-0.266***	0.766	-0.272***	0.762	-0.064**	0.938	-0.067**	0.935
	(-3.15)		(-3.23)		(-2.41)		(-2.50)	
VOLATILITY	0.848***	2.334	0.860***	2.363	0.524***	1.689	0.535***	1.707
	(2.97)		(3.10)		(3.33)		(3.46)	
TURNOVER	-0.196***	0.822	-0.191***	0.826	-0.182***	0.834	-0.176***	0.839
	(-7.30)		(-7.22)		(-13.10)		(-12.91)	
LNMB	0.564***	1.758	0.579***	1.784	0.485***	1.624	0.482***	1.619
	(10.75)		(10.99)		(19.89)		(19.44)	
ROA	0.274***	1.315	0.298***	1.347	-0.001	0.999	-0.002	0.998
	(3.09)		(3.34)		(-0.06)		(-0.11)	
DEBT RATIO	0.135	1.144	0.155	1.168	-0.091	0.913	-0.067	0.935
	(0.95)		(1.11)		(-1.27)		(-0.99)	
DELIST	0.833***	2.299	0.786***	2.195	0.733***	2.080	0.699***	2.012
	(6.99)		(6.67)		(14.92)		(13.99)	
Industry fixed effects	Yes		Yes		Yes		Yes	
N	3464		3464		50242		50242	
Wald	31.08		33.47		144.85		153.27	
Likelihood Ratio	1075.15		1118.06		12839.11		13324.34	
Generalized R^2	0.2668		0.2759		0.2255		0.2329	

Table 5 Disposition effects

This table presents the disposition spread for local firms held by state pension funds. The proportion of gains realized (*PGR*) is the aggregate dollar value of realized gains divided by the sum of aggregate dollar value of realized and unrealized gains. The proportion of losses realized (*PLR*) is the aggregate dollar value of realized losses divided by the sum of aggregate dollar value of realized and unrealized losses. The disposition spread is *PGR* minus *PLR*. The mean disposition spread (*DISP*) across funds is presented below for different subgroups including local contribution firms and local lobbying firms. Local contribution firms are local firms that make political action committee contributions to local politicians in pension funds. Local lobbying firms are local firms that are engaged in lobbying activities in pension funds. Local non-contribution firms are non–politically connected local firms matched with local contribution firms. Local non-lobbying firms are non–politically connected local firms matched with local lobbying firms. Local nonpolitical firms are non–politically connected local firms matched with either local contribution firms or local lobbying firms. Local contribution firms in nonlocal funds are local contribution firms invested by funds in another state. We match firms based on size, book to market ratio, and industry (four-digit standard industrial classified code) and include only non–politically connected local firms within the same five by five size– and book-to-market–sorted portfolio. *t*-values that indicate whether the spread is significantly different from zero or not are presented. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

	Local contribution firms	Local lobbying firms	Local non-contribution firms	Local non-lobbying firms	Local nonpolitical firms	Local contribution firms in nonlocal funds
Variable	(1)	(2)	(3)	(4)	(5)	(6)
PGR	0.193	0.196	0.124	0.117	0.128	0.223
PLR	0.157	0.167	0.134	0.157	0.139	0.209
DISP	0.037***	0.028**	-0.010	-0.040	-0.011	0.015
t-value	2.95	2.73	-0.29	-0.99	-0.34	0.85

Table 6 Trustee characteristics and local bias

This table shows weighted least squares regressions of trustee characteristics that affect local bias of state public pension funds in which the weight is the total market capitalization of all public firms in a state in the previous quarter. The dependent variables are *Local Bias*, *Local Contribution Bias*, and *Local Lobbying Bias*. All variables are defined in Appendix B. Quarter (and state) fixed effects are included but not reported. *p*-values based on heteroskedasticity-consistent standard errors clustered by fund are presented in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

	Dependent variable					
	Local Bias		*Local Contribution Bias*		*Local Lobbying Bias*	
Variable	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	0.360**	0.934**	-0.909**	-1.838**	-0.709*	-1.437*
	(0.025)	(0.012)	(0.034)	(0.047)	(0.054)	(0.071)
Politically Affiliated Trustees	-0.393***	-0.254*	0.180**	0.534**	0.183**	0.505**
	(0.005)	(0.068)	(0.050)	(0.011)	(0.026)	(0.016)
Fin_Expertise Trustees	0.391***	0.238**	-0.055	-0.362**	-0.076	-0.358**
	(0.010)	(0.033)	(0.528)	(0.035)	(0.259)	(0.037)
Lag (Portfolio Return)	-0.487	-0.458	-3.770	-3.080*	-2.951	-1.943
	(0.573)	(0.350)	(0.135)	(0.091)	(0.179)	(0.162)
LN(Total Assets)	-0.012	-0.092**	0.093*	0.048	0.073	0.041
	(0.427)	(0.011)	(0.086)	(0.519)	(0.137)	(0.561)
State GDP Growth Rate	-4.263	-3.648	-5.454*	-6.408	-5.854*	-6.143
	(0.128)	(0.204)	(0.097)	(0.110)	(0.061)	(0.112)
Corporation Net Income Taxes	2.756***	0.911**	0.786	-0.055	1.389	0.342
	(0.000)	(0.037)	(0.425)	(0.937)	(0.144)	(0.569)
Conviction Rate	0.154	-0.623	0.660	-3.133	-0.128	-1.762
	(0.961)	(0.873)	(0.884)	(0.633)	(0.976)	(0.775)
State Dependence on Government Spending	-0.175	-0.477	-0.166	1.128	-0.073	0.924
	(0.049)	(0.297)	(0.447)	(0.123)	(0.721)	(0.100)
Union	-0.030	5.885*	0.507	8.297*	0.345	6.873
	(0.827)	(0.055)	(0.187)	(0.076)	(0.268)	(0.129)
State fixed effects	No	Yes	No	Yes	No	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
N	417	417	417	417	417	417
R^2	0.2669	0.5319	0.3636	0.4707	0.2997	0.4032

Table 7 Political networks and local bias

This table shows the relation between political networks, trustee characteristics and local bias of state public pension funds using weighted least squares regressions in which the weight is the total market capitalization of all public firms in a state in the previous quarter. The dependent variables are *Local Bias*, *Local Contribution Bias*, and *Local Lobbying Bias*. *BAN* is an indicator variable that is one for years after the Bipartisan Campaign Reform Act (BCRA), which became effective on November 6, 2002, and zero otherwise. All other variables are defined in Appendix B. Other control variables in Table 6 and election cycle (and state) fixed effects are included but not reported. *p*-values based on heteroskedasticity-consistent standard errors clustered by fund are presented in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

	Dependent variable								
	Local Bias			*Local Contribution Bias*			*Local Lobbying Bias*		
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Intercept	-0.601	-3.786	3.754**	-2.349	-5.996**	-6.326	-2.534	-5.636***	-5.373
	(0.770)	(0.157)	(0.033)	(0.102)	(0.012)	(0.223)	(0.178)	(0.007)	(0.214)
Congressional Connection	0.257*	0.588***	0.467***	0.261*	0.779***	0.679**	0.348*	0.939***	0.717**
	(0.059)	(0.002)	(0.006)	(0.064)	(0.006)	(0.023)	(0.053)	(0.004)	(0.016)
*Congressional Connection*BAN*		-0.463***	-0.375**		-0.710***	-0.638***		-0.797***	-0.633***
		(0.000)	(0.014)		(0.002)	(0.008)		(0.002)	(0.008)
Politically Affiliated Trustees	-0.576**	-0.393	-0.422	0.464***	0.400	1.794*	0.438***	0.069	1.280
	(0.012)	(0.108)	(0.162)	(0.006)	(0.229)	(0.051)	(0.003)	(0.732)	(0.118)
*Politically Affiliated Trustees*BAN*		-0.299*	0.313		-0.045	-0.520**		0.301	-0.088
		(0.078)	(0.144)		(0.848)	(0.030)		(0.126)	(0.348)
BAN		0.222**	-0.089		0.069	0.382**		-0.171	0.099
		(0.023)	(0.313)		(0.686)	(0.023)		(0.233)	(0.119)
New Public Integrity Index	0.229	0.990	-0.346	-11.051	-9.781	-5.173	-10.168	-8.594	-5.441
	(0.954)	(0.826)	(0.835)	(0.118)	(0.101)	(0.251)	(0.128)	(0.105)	(0.228)
Politician Turnover Rate	-0.106	-0.116	0.502**	0.025	0.183	0.400	-0.031	0.301**	0.545
	(0.481)	(0.366)	(0.011)	(0.925)	(0.104)	(0.229)	(0.906)	(0.027)	(0.133)
Political Homophily	0.101	0.696	-0.634*	0.083	0.780**	0.464	0.158	0.773**	0.401
	(0.800)	(0.175)	(0.071)	(0.712)	(0.022)	(0.632)	(0.634)	(0.018)	(0.628)
Democratic Vote	-0.079	-0.135*	0.570**	0.184	0.159	0.442	0.240**	0.263***	0.672*
	(0.345)	(0.076)	(0.027)	(0.159)	(0.130)	(0.242)	(0.040)	(0.007)	(0.093)
Fin_Expertise Trustees	0.650***	0.656***	0.069	-0.212**	-0.236**	-0.937	-0.119**	-0.172***	-0.901
	(0.006)	(0.003)	(0.513)	(0.019)	(0.019)	(0.115)	(0.048)	(0.010)	(0.110)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State fixed effects	No	No	Yes	No	No	Yes	No	No	Yes
Election cycle fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	215	215	215	215	215	215	215	215	215
R^2	0.3338	0.4027	0.7796	0.5276	0.6097	0.7366	0.4349	0.5438	0.6588

Table 8 Trustee characteristics and risky asset allocation

This table examines the relation between trustee characteristics and the riskiness of portfolio composition with plan-year observations using weighted least squares regressions in which the weight is the total market capitalization of all public firms in a state in the previous year. The dependent variable is the risk shift in state pension fund asset allocation in which *Risk Shift* is the annual time series change in risky asset allocations. All variables are defined in Appendix B. Year (and state) fixed effects are included but not reported. *p*-values based on heteroskedasticity-consistent standard errors clustered by fund are presented in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

	Dependent variable: *Risk Shift*			
Variable	(1)	(2)	(3)	(4)
Intercept	0.107**	0.413**	-0.414*	0.009
	(0.040)	(0.033)	(0.062)	(0.976)
Politically Affiliated Trustees	0.037**	0.059**	0.064***	0.066***
	(0.034)	(0.013)	(0.002)	(0.003)
Fin_Expertise Trustees	-0.033**	-0.049**	-0.059***	-0.057***
	(0.031)	(0.011)	(0.003)	(0.002)
Politician Turnover Rate			-0.011	-0.007
			(0.739)	(0.870)
Political Homophily			0.087**	0.078
			(0.037)	(0.171)
New Public Integrity Index			-5.341***	-5.460**
			(0.002)	(0.037)
Lag (Funded Ratio)	-0.020	-0.037**	-0.041*	-0.043**
	(0.167)	(0.024)	(0.062)	(0.022)
Investment Return	-0.043	0.016	-0.062	0.027
	(0.525)	(0.816)	(0.281)	(0.513)
LN(Total Assets)	-0.009**	-0.010	-0.001	-0.007
	(0.033)	(0.104)	(0.784)	(0.326)
State GDP Growth Rate	-0.088	-0.234	-0.1300	-0.026
	(0.733)	(0.422)	(0.614)	(0.935)
Corporation Net Income Taxes	-0.078	0.382*	0.340*	0.454**
	(0.405)	(0.051)	(0.070)	(0.049)
Conviction Rate	-0.017	-0.716**	-0.158	-0.739**
	(0.891)	(0.014)	(0.342)	(0.018)
State Dependence on Government Spending	0.036*	0.323***	0.100***	0.328***
	(0.092)	(0.000)	(0.002)	(0.005)
Union	0.043	-1.939**	-0.010	-2.049**
	(0.249)	(0.025)	(0.782)	(0.020)
State fixed effects	No	Yes	No	Yes
Time fixed effects	Yes	Yes	Yes	Yes
N	116	116	116	116
R^2	0.4333	0.5720	0.4984	0.6070

Table 9 Two-stage least squares

In this table, we estimate fund performance using two-stage least squares. In the first stage, we estimate *Local Contribution Bias* and *Local Lobbying Bias* separately with *Politically Affiliated Trustees* as the instrumental variable (IV). *Local Contribution Bias* and *Local Lobbying Bias* are measured at quarter *t*-1. In the second stage, we estimate fund performance using predicted political bias measures (at quarter *t*-1) from the first stage with controls. We apply analytical weights in the estimation for both stages in which the weights are the total market capitalization of all public firms in a state in the previous quarter. All variables are defined in Appendix B. State and quarter fixed effects are included for both stages but not reported. *t*-values in the first stages and corrected *t*-values based on asymptotic standard errors in the second stages are reported. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively. We conduct endogeneity tests on *Local Contribution Bias* and *Local Lobbying Bias* and also weak IV and underidentification test on the IV.

	First stage	Second stage	First stage	Second stage
	Local Contribution Bias	*Portfolio Return*	*Local Lobbying Bias*	*Portfolio Return*
Variable	(1)	(2)	(3)	(4)
Intercept	-2.152***	0.045	-1.782***	0.053*
	(-4.61)	(1.57)	(-3.68)	(1.80)
Politically Affiliated Trustees	0.560***		0.512***	
	(4.23)		(3.73)	
Local Contribution Bias (predicted)		-0.036***		
		(-3.12)		
Local Lobbying Bias (predicted)				-0.039***
				(-2.93)
Fin_Expertise Trustees	-0.403***	0.000	-0.371***	0.000
	(-3.75)	(-0.07)	(-3.34)	(-0.12)
Lag (Portfolio Return)	-2.909**	-0.394***	-1.554	-0.351***
	(-2.35)	(-5.24)	(-1.21)	(-4.89)
LN(Total Assets)	0.120***	0.001	0.100***	0.001
	(4.72)	(0.68)	(3.78)	(0.46)
State GDP Growth Rate	-5.532***	-0.142*	-5.543***	-0.161*
	(-5.03)	(-1.78)	(-4.86)	(-1.80)
Corporation Net Income Taxes	0.333	0.021	0.581	0.032
	(0.45)	(0.56)	(0.75)	(0.79)
Conviction Rate	-2.927*	-0.343***	-1.362	-0.292***
	(-1.71)	(-3.77)	(-0.77)	(-3.20)
State Dependence on Government Spending	1.157**	0.049*	1.057**	0.049*
	(2.25)	(1.85)	(1.98)	(1.74)
Union	8.289***	0.260*	6.662***	0.224
	(3.45)	(1.81)	(2.68)	(1.53)
State fixed effects	Yes	Yes	Yes	Yes
time fixed effects	Yes	Yes	Yes	Yes
N	434	434	434	434
R^2	0.6634	0.9800	0.5724	0.9774
Endogeneity test (Ho: political bias variables are exogenous)				
Durbin-Wu-Hausman $\chi 2$ test	9.14		9.95	
p-value	0.003		0.002	
Weak IV test				
Angrist-Pischke multivariate F-test of excluded instruments	17.87		13.88	
p-value	0.000		0.002	
Underidentification test				
Anderson-Canon LM statistic	19.89		15.61	
p-value	0.000		0.000	

Table 10 Local bias and a natural experiment

This table presents results from a difference-in-differences test using a natural experiment. We search through each pension fund's historical records and identify funds with significant transitions pertaining to board governance (treatment group). We find a matched control group of pension funds based on fund size and performance before the transition (control group). We utilize a one-to-one match and require the matched control fund to appear in the same period as its matched treated fund. We then compare local bias, local political bias, and fund performance for two years before versus two years after the transition (pre-transition versus post-transition) for the treatment group and the control group. In Panel A, we present a univariate analysis of the difference-in-differences effects. *t*-values that indicate whether the difference is significantly different from zero are presented. In Panel B, we present the analysis in a multivariate setting. The interaction term of *Treatment*Post-Transition* captures the difference-in-differences effect. All variables are defined in Appendix B. State and election cycle fixed effects are included but not reported. *t*-values based on heteroskedasticity-consistent standard errors are presented below coefficients. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

	Local Bias	*Local Contribution Bias*	*Local Lobbying Bias*	*Portfolio Return*
Panel A: Univariate analysis				
Treatment group				
Pre-transition	0.26	-0.06	-0.11	5.43%
Post-transition	0.34	0.24	0.24	2.82%
Difference	0.08	0.30**	0.35**	-2.61%**
(*t*-value)	(1.02)	(2.81)	(2.67)	(-2.81)
Control group				
Pre-transition	0.15	0.33	0.17	4.30%
Post-transition	0.13	0.25	0.14	2.59%
Difference	-0.02	-0.08	-0.03	-1.71%**
(*t*-value)	(-0.21)	(-0.58)	(-0.28)	(-3.08)
Treatment - Control				
Difference-in-differences	0.10	0.38*	0.38**	-0.90%
(*t*-value)	(0.68)	(2.45)	(3.17)	(-1.46)
Panel B: Multivariate analysis				
Variable	(1)	(2)	(3)	(4)
Intercept	-0.712	-3.073	-1.257	0.032
	(-0.63)	(-1.49)	(-0.77)	(0.47)
Treatment	-0.103*	-0.285***	-0.239***	0.004
	(-1.92)	(-3.02)	(-3.26)	(1.32)
Post-Transition	-0.207**	-0.596***	-0.522***	0.019***
	(-2.36)	(-3.60)	(-3.75)	(3.32)
*Treatment*Post-Transition*	0.274***	0.526***	0.457***	-0.008**
	(3.72)	(5.07)	(5.16)	(-2.12)
Lag (Portfolio Return)	1.629	-6.783***	-3.490**	-0.137
	(1.16)	(-2.88)	(-2.09)	(-0.86)
LN(Total Assets)	-0.047	0.184*	0.209**	-0.004
	(-1.33)	(1.83)	(2.49)	(-1.53)
State GDP Growth Rate	2.593	2.974	0.951	-0.367***
	(1.26)	(1.20)	(0.46)	(-3.39)
Corporation Net Income Taxes	1.562	0.780	1.622	0.009
	(1.48)	(0.55)	(1.35)	(0.19)
Conviction Rate	6.376**	8.045*	3.096	-0.375**
	(2.27)	(1.96)	(0.94)	(-2.42)
State Dependence on Government Spending	-4.056***	-1.339	-1.983	-0.065
	(-3.60)	(-1.05)	(-1.55)	(-1.31)
Union	6.982*	7.038	-1.470	0.407**

	(1.82)	(1.15)	(-0.35)	(2.00)
Trading Return				0.035
				(1.22)
Portfolio Turnover				0.001
				(0.22)
State fixed effects	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes
N	154	154	154	159
R^2	0.8111	0.6635	0.6665	0.9913

Table 11 Bootstrapping approach

This table reports estimations on state pension fund performance with different model specifications using the bootstrapping approach. The dependent variable is the quarterly portfolio return for the fund at quarter *t*. The independent variables are defined in Appendix B. In Columns 1 to 6, we present weighted least squares regressions with quarter (and state) fixed effects clustered at the fund-level. The weight for all WLS models is the total market capitalization of all public firms in a state in the previous quarter. In Columns 7 to 12, we present ordinary least squares regressions with quarter (and state) fixed effects. Median estimates of key variables of interests are presented. *p*-values based on heteroskedasticity-consistent standard errors clustered by fund are presented in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% level, respectively.

	Dependent variable: *Portfolio Return*											
	WLS						OLS					
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Intercept	0.0797***	0.0790***	0.0791***	0.0753***	0.0652***	0.0677***	0.0812***	0.0806***	0.0798***	0.0803***	0.0548***	0.0607***
	(0.000)	(0.001)	(0.000)	(0.002)	(0.007)	(0.005)	(0.000)	(0.000)	(0.000)	(0.000)	(0.007)	(0.003)
Local Bias	0.0020			0.0035			0.0035***			0.0054**		
	(0.300)			(0.131)			(0.003)			(0.035)		
Local Contribution Bias		-0.0053**			-0.0060**			-0.0035**			-0.0057***	
		(0.012)			(0.011)			(0.012)			(0.004)	
Local Lobbying Bias			-0.0048**			-0.0052**			-0.0023**			-0.0036**
			(0.022)			(0.023)			(0.049)			(0.017)
Lag (Portfolio Return)	-0.1186***	-0.1292***	-0.1238***	-0.1315***	-0.1351***	-0.1283***	-0.0758***	-0.0742***	-0.0613***	-0.1111***	-0.1045***	-0.0867***
	(0.001)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.008)	(0.008)	(0.022)	(0.028)	(0.001)	(0.003)
LN(Total Assets)	-0.0014*	-0.0008	-0.0009	-0.0014	-0.0004	-0.0006	-0.0020***	-0.0018***	-0.0018***	-0.0023	-0.0008	-0.0012
	(0.054)	(0.229)	(0.184)	(0.090)	(0.252)	(0.203)	(0.000)	(0.001)	(0.002)	(0.118)	(0.269)	(0.174)
Trading Return	0.0168	0.0183	0.0196	0.0171	0.0167	0.0172	0.0190	0.0259*	0.0269*	0.0184	0.0228	0.0256
	(0.231)	(0.235)	(0.206)	(0.243)	(0.254)	(0.224)	(0.217)	(0.099)	(0.094)	(0.320)	(0.143)	(0.115)
Portfolio Turnover	0.0199**	0.0155*	0.0150*	0.0217***	0.0156*	0.0154*	0.0075	0.0086*	0.0084*	0.0108	0.0063	0.0067
	(0.013)	(0.055)	(0.052)	(0.009)	(0.066)	(0.055)	(0.147)	(0.091)	(0.087)	(0.166)	(0.230)	(0.188)
State GDP Growth Rate	-0.0014	-0.0112	-0.0162	-0.0136	-0.0138	-0.0202	0.0109	0.0064	0.0080	-0.0132	0.0130	0.0131
	(0.430)	(0.411)	(0.393)	(0.397)	(0.403)	(0.352)	(0.469)	(0.484)	(0.466)	(0.480)	(0.473)	(0.454)
Corporation Net Income Taxes	0.0099	0.0159	0.0152	0.0026	0.0029	0.0000	0.0031	0.0213	0.0153	-0.0194	-0.0054	-0.0079
	(0.336)	(0.315)	(0.348)	(0.427)	(0.435)	(0.435)	(0.453)	(0.318)	(0.362)	(0.442)	(0.484)	(0.480)
Conviction Rate	-0.1410**	-0.1403**	-0.1533**	-0.1974**	-0.2137**	-0.2045**	-0.0552	-0.0428	-0.0606	-0.0705	-0.0762	-0.0674
	(0.037)	(0.035)	(0.026)	(0.034)	(0.022)	(0.023)	(0.139)	(0.246)	(0.117)	(0.285)	(0.145)	(0.182)
State Dependence on Government Spending	0.0007	-0.0022	-0.0021	-0.0106	-0.0023	-0.0075	0.0033	-0.0013	-0.0008	-0.0419	-0.0400**	-0.0412**
	(0.412)	(0.394)	(0.401)	(0.348)	(0.383)	(0.362)	(0.288)	(0.419)	(0.423)	(0.122)	(0.037)	(0.033)
Union	0.0097	0.0075	0.0069	0.0329	0.0919	0.0894	0.0148	0.0157	0.0166	0.0919	0.2226**	0.2013*
	(0.285)	(0.316)	(0.356)	(0.372)	(0.306)	(0.334)	(0.233)	(0.209)	(0.202)	(0.374)	(0.034)	(0.055)
State fixed effects	No	No	No	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	650	650	650	650	650	650	650	650	650	650	650	650
R^2	0.9667	0.9677	0.9675	0.9691	0.9691	0.9688	0.9685	0.9684	0.9683	0.9698	0.9698	0.9697