

# *Public Funds and Private Capital Markets: The Investment Practices and Performance of State and Local Pension Funds*

**Abstract** - *This paper addresses the question of whether a government entity can invest money on behalf of employees or constituents in a manner comparable to the private sector. We focus on the experience of pension funds operated by state and local governments on behalf of their employees. Using data from a sample of public plans, we find some evidence that after controlling for differences in asset allocation certain types of political interference lead to a sacrifice of returns on plan assets. Combining data from public and private plans, it appears that public plans earned a significantly lower rate of return than private plans in 1998, the year for which data was available for both types of plans.*

## INTRODUCTION

This paper addresses the question of whether a government entity can invest money on behalf of employees or constituents in a manner comparable to the private sector. That is, we ask whether the conflicts of interest inherent to such arrangements lead public funds to operate inside the risk/return frontier. We focus on the experience of pension funds operated by state and local governments on behalf of their employees, which are still largely defined benefit plans, and thus the employing government is responsible for developing the parameters that govern the investment of fund assets. Many of these funds are quite sizable; in a recent survey of all pension funds in the United States, five of the ten largest pension funds were operated by states.<sup>1</sup> Moreover, the value of assets held by public funds often exceeds the annual budget of the sponsoring government. Thus, the magnitude of the funds provides a nontrivial incentive for policymakers to affect the investment choices made by the plans in order to maximize their relatively short-term political interests.

Determining whether state and local government employee pension funds earn subpar returns on their portfolios due to political influence will shed light on broader policy issues. When President Clinton proposed investing a portion of the Social Security Trust Fund in private financial markets, a number of observers noted that such a practice would not

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**Julia L. Coronado**  
*Federal Reserve Board*

**Eric M. Engen**  
*American Enterprise  
Institute*

**Brian Knight**  
*Brown University*

**National Tax Journal**  
Vol. LVI, No. 3  
September 2003

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<sup>1</sup> Pensions and Investments.

increase the resources available to fund future pension obligations as it would only reallocate assets and rates of return among public and private investors and not increase national saving. In addition, however, there was the concern that the investment choices made by the fund would be influenced by political considerations leading to inefficiencies in capital allocation. Critics of the President's proposal cited state and local employee pension funds as an example of politically influenced investing.

Although constructing relevant comparisons to private funds is not always straightforward, evidence from most prior research supports the notion that public pension funds have earned lower returns than their private sector counterparts. This result is partly attributable to differences in portfolio allocation and therefore does not necessarily imply that public funds are operating inefficiently, just that they choose a different mix of risk and return. However, a number of papers, described in more detail below, have examined returns among public funds and shown that, the greater the level of political intervention among public funds, the lower the return on assets. One exception to these findings is Munnell and Sunden (2001), who investigated the investment returns of a sample of state and local pension funds; they conclude that recent examples of political influence are isolated, most public plans have learned from past experiences, and have adopted mechanisms designed to shield decision-makers from political influences. International evidence on countries whose governments have invested in private markets suggests that the level of political intervention is greater the larger is the trust fund relative to the budget, and suggests that government involvement in trust fund investment leads to unambiguously lower returns (Iglesias and Palacios, 2000).

We begin by outlining the issues involved in pension fund governance in the public sector and summarizing the existing econometric evidence that attempts to establish

a statistical link between plan returns and investment practices. We then document several high profile and commonly cited examples of politically motivated investment practices. While anecdotes of political meddling in public pension funds are not hard to find, the policy-relevant question is whether such intervention has led to systematically lower returns. Thus, we go on to perform an econometric analysis, first using data on a sample of public pension funds from the 2000 Survey of State and Local Government Employee Retirement Systems—the same data set used in many previous studies. We find evidence that, after controlling for differences in asset allocation, certain types of political interference appear to lead to a sacrifice of returns on plan assets, although the evidence is not overly compelling. However, the most important innovation of this study is that we match plan-level data on state and local pension plans to similar micro-data on private plans and econometrically examine the difference in returns. We find some evidence that, after controlling for plan size and asset allocation, public plans in general earned a significantly lower rate of return in 1998, the year for which data was available for both types of plans.

## THE ECONOMICS OF PUBLIC PENSION FUNDS

The portfolio allocation of pension funds, public or private, is generally determined by an investment policy set by a board of trustees or an investment committee. Members of the board or committee have a fiduciary responsibility to represent the interests of plan participants. For private plans this responsibility is a matter of federal law under the Employee Retirement Income Security Act of 1974 (ERISA). For plans operated on behalf of state and local government employees, this responsibility is usually a matter of local law that varies across jurisdictions.

In the private sector, those with fiduciary responsibility are usually financial professionals or officers of the sponsoring corporation. In contrast, the boards of public plans are usually made up of a combination of members who are 1) elected by plan participants, 2) appointed by elected officials, and 3) elected officials themselves. The potential for conflict of interest for elected or appointed members of public pension boards is clear: the long-run interests of public sector employees may not be in synch with the short-run interests of the political constituents of the party appointing pension board members. For example, fostering employment among the electorate through investment in local firms, while politically popular, may lead to a lower return on pension plan assets.

Because most state and local pension plans are defined benefit plans, it is likely that plan participants have only limited incentives to monitor the investment policies of the governing board as they are not the residual claimants on any excess or shortfall of assets relative to the value of their promised benefits. Rather it is local taxpayers who would be ultimately liable for sub-par returns. Thus the mismatch in interests may come to the degree that the base of taxpayers differs from the constituents of a particular official or political party. In addition, there may be slip-

page between short and long run interests; increased employment that results from local investment preferences has immediate benefits and may lead to positive political outcomes, while the higher taxes necessitated by sub par returns on local investments will be paid over a much longer horizon.

While there is clearly the possibility for conflicts of interest in public pension fund investment decisions, it has long been thought that these funds do not face some of the conflicts of interest that private sector investment managers face in practicing corporate governance; that is, private sector pension funds or mutual funds do not actively vote the shares of the companies in their portfolio for fear of damaging potentially lucrative business relationships. Public funds, by contrast, are generally more active in sponsoring and voting on shareholder resolutions. Thus, it is possible that the absence of this conflict of interest faced by private entities may lead to *higher* returns for public funds. Thus, empirically comparing public and private fund returns promises to be an illuminating exercise.

An aggregate comparison of the annual returns of state and local pension funds, private pension funds, mutual funds, as well as a measure of total stock market returns between 1968 and 1996 is presented in Table 1. Public plans tend to hold

**TABLE 1**  
INVESTMENT RETURNS TO PENSION PLANS  
(Average Annual Returns, Percent, 1968–1996)

Time Period	State & Loc. Govt. Pensions <sup>1</sup>	Private Pensions <sup>2</sup>	Hybrid Mutual Funds <sup>3</sup>	Equity Mutual Funds <sup>3</sup>	Stock Market Returns
1968–83	6.9	7.6	n.a.	n.a.	9.3
1977–83	9.1	11.3, 10.4	n.a.	n.a.	12.8
1986–90	11.9	8.7 (DB) 11.1 (DC)	n.a.	n.a.	11.6
1990–94	8.8	8.4 (DB) 8.4 (DC)	8.5	9.1	9.7
1992–96	11.2	11.1 (DB) 8.9 (DC)	11.1	13.8	15.6

<sup>1</sup>Data for 1968–83 are from Mitchell and Hsin (1997). Data from 1986–96 are from Zorn (1994, 1996, 1997).

<sup>2</sup>Data from 1968–83 are from Mitchell and Hsin (1997), and are for large private pension plans. For the time period 1977–83, returns are calculated from two data sources (SEI Financial Services and 5500 Reports, respectively). Data from 1986–96 are unpublished Flow of Funds data for all defined benefit (DB) and defined contribution (DC) plans, which uses Form 5500 reports.

<sup>3</sup>Data are from Morningstar. Hybrid funds, on average, hold about 60 percent of their assets in equities and the remainder in bonds and cash.

an aggregate mix of debt and equity that is comparable to DB pension plans and hybrid mutual funds. While returns of public plans did not compare favorably to private pensions in earlier years, they have done better more recently.

The first row shows that state and local plans averaged about 1 percentage point below the returns on large private pension plans over the period 1968–1983, and 1 to 2 percentage points lower than large private plans between 1986–1990 (Mitchell and Hsin, 1997). This comparison between public and private pension returns is extended over the period 1986–1996 and includes mutual fund returns. It should be noted that the pension plan data is from different sources than the data shown for 1968–1983, and that the private pension plan data for this more recent period are for *all* private pension plans, not just for the *large* plans used in the earlier period. This highlights one of the difficulties in comparing the investment results of public and private pension plans: There may be economies of scale in investing and state and local plans are relatively large, so the most appropriate comparison is probably with large private pension plans. In addition, these aggregate returns are not adjusted for the composition and risk of the underlying portfolios, making meaningful comparisons difficult. In any case, these aggregate data suggest that state and local plan returns tend to be comparable to those of private pension plans and hybrid mutual funds over the 1986–1996 period.

Two recent studies compared the returns of public and private pension plans (both were commissioned by The California Public Employees Retirement System (CalPERS)). Wilshire Associates use a data set with approximately 50 large corporate pension funds and 50 large state and local pension funds, with combined assets of \$870 billion (about 15 percent of total pension assets). Over the five-year period ending in September 1998, the median

annual return to corporate pension funds in their sample was 12.3 percent while the median annual return to public pension funds was 11.4 percent—almost 1 percentage point lower. The study attributed the difference to the fact that private pension funds had larger fund allocations in stocks. Cost Effectiveness Measurement (CEM) used a database with pension returns over the period 1994 through 1997 for about 50 private and 35 public pension funds. In this sample, corporate funds earned an average of 14.6 percent annually while public pension funds earned 13.4 percent—more than 1 percentage point lower. The average asset mix was 70 percent equity in the corporate funds, and 60 percent equity in the public pension funds. CEM also attributes the difference in returns to be a consequence of these different portfolio allocations. Neither of these studies performed an econometric analysis that controlled for both the size of the plan and the portfolio allocation.

A number of econometric studies have looked at the relationship between political intervention and investment returns among public plans using variation in rates of return and investment practices. In particular, these studies have investigated three potential channels of political influence in state and local public pension plans: 1) requirements for investing a certain portion of assets within the state, 2) restrictions on investing in certain countries or industries, and 3) the methods through which trustees are chosen to serve on the Board. In addition, some studies have examined the extent to which “prudent man” requirements have shielded plans from such political influences and the effect of active corporate governance on plan returns. The results of these papers are summarized in Table 2.

Regarding the first channel, many state and local pension plans have been encouraged to actively seek investment opportunities within the state under the guise

**TABLE 2**  
SUMMARY OF PREVIOUS STUDIES ON POLITICAL INFLUENCE AND PUBLIC PENSION PLAN RETURNS

	Munnell (1983)	Romano (1993)	Mitchell and Hsin (1997)	Noisinger (1998)	Munnell and Sunden (2001)
Data source	Various	Census	PENDAT	PENDAT	PENDAT
Sample period	1980–1982	1985–1989	1990	1990, 1991, 1992	1990, 1992, 1994, 1996
Measure of investment performance	Yields on mortgage-backed securities relative to alternatives	Investment earnings divided by book value of holdings	1) Total rate of return (prior year) 2) Average return over last five years	Abnormal return (plan return relative to benchmark return)	1) Total rate of return (prior year) 2) Average return over last five years
<b>Measure of Political Influence</b>			<b>Effect on investment performance</b>		
Percent invested in state or ETI program indicator	Investing in some in-state mortgages sacrifices returns		negative, significant	negative, significant	insignificant
Country and /or industry prohibitions		negative, significant		positive, significant	insignificant
Proportion of Board elected by membership		positive, significant			insignificant
Prudent person requirement			insignificant	insignificant	
Practice corporate governance		insignificant			negative, insignificant

of local economic development policies. These within-state investment programs are commonly referred to as ETIs, or Economically Targeted Investments. As shown in Table 2, Munnell's (1983) case study focuses on pension investments designed to increase the supply of housing within the state. Comparing returns on these in-state mortgage-backed securities with returns on alternative investments, she concludes that these types of in-state investments sacrifice plan investment returns. The econometric evidence on this point is mixed. While Mitchell and Hsin (1997) and Nofsinger (1998) both find that in-state investment programs are associated with lower plan returns, Munnell and Sunden (2001) do not find a statistically significant relationship.

A second channel of political influence that has been investigated involves prohibitions on investments in certain countries or industries. During the 1980s, many public pension plans restricted investments in South Africa in protest of the government's apartheid policy. While these restrictions no longer exist today, many states currently require investment managers to invest only in companies following the MacBride Principles, which restrict religious discrimination in employment in Northern Ireland. Regarding industry restrictions, some plans currently have restrictions on investing in tobacco companies. Again, the econometric evidence attempting to link these restrictions with plan returns is mixed, with Romano (1993) finding the expected negative relationship between country and/or industry prohibitions and plan returns, while Nofsinger finds a counterintuitive positive, statistically significant relationship.

The third channel of political influence involves the method through which investment boards are chosen. Relative to Boards appointed by the governor or legislature, those elected by the plan's membership may be more responsive to the

preferences of plan participants and hence less subject to political influence. Romano (1993) finds the expected positive relationship: Plans with a higher proportion of elected board members tend to experience higher rates of return. Munnell and Sunden (2001) do not find a statistically significant relationship.

In order to mitigate political influences, many jurisdictions hold their pension funds to a prudent man requirement similar to the standard that private funds face under ERISA. Plans are permitted to invest only in securities that "a prudent man of discretion and intelligence would buy." While this policy should limit political influences, at least in principle, none of the studies in Table 1 have found a statistically significant link between these prudent man requirements and investment returns. It is perhaps not surprising that no statistical link has been found as nearly all public plans have some form of prudent man standard. Further, it may be difficult for participants to argue that plan investments violated the prudent man standard given that investment board investment choices are often constrained by law. Finally, studies that have included indicators for whether the pension plan engages in active corporate governance have found no statistical evidence that such activity significantly increases or decreases the plan's investment results.

#### EXAMPLES OF POTENTIAL POLITICAL INFLUENCES

There are numerous examples of politically influenced investment decisions in the history of state and local pension plans. Listed below are some high profile and often-cited recent examples.

- The California Public Employees Retirement System (CalPERS), which is the single largest state and local pension plan with over \$150 billion in

assets, has a vigorous program for investing in California. Near the end of 2002, more than 17 percent of CalPERS's total assets were invested in California, making it one of the biggest investors in the state. This asset allocation raises questions about risk and diversity, but CalPERS has a stated policy of undertaking these investments for "... providing jobs, services, and a financial boost to the State's economy." For example, in 1999 CalPERS announced that it was investing about \$340 million in shopping centers in California. Pressure to invest locally may increase during a recession, and in 1992 CalPERS announced that it would invest \$375 million in local single family home construction shortly after the governor pressured it to undertake investments to stimulate California's economy. Investments may not always be influenced politically solely for economic reasons. Earlier in the 1980s, the California state legislature passed a measure that forced CalPERS to sell its shares of companies that did business in South Africa. CalPERS estimates that the divestment plan cost the fund about \$500 million.

- Two large Texas state public pension plans, the Texas Retirement System (TRS) and the Employees Retirement System (ERS), were heavily invested in equities and bonds of Enron Corporation, which was headquartered in Houston, and the plans continued to purchase shares even after news of the Enron's financial and accounting problems began to surface. Taken together, the loss to the two plans associated with their investments in Enron is estimated at \$60 million.<sup>2</sup>

- US Airways accepted an offer from the Retirement System of Alabama to invest \$240 million of state pension money in the airline, in exchange for a 37.5 percent stake, after its expected emergence from bankruptcy protection. David Bronner, the fund's CEO, made clear his desire for the fund's investment in US Airways to result in both increased flights to and additional job opportunities for residents of the state, noting "The investment provides me with an opportunity to say 'If you are going to expand in x, y, or z, there's no reason why it can't be in Alabama'."<sup>3</sup>
- In 1998, Texas' public teachers pension plan liquidated 1.2 million shares of Disney in protest of the "anti-family content" of some of the company's films.
- Connecticut's state employee pension plan invested \$25 million in 1990 in the state's financially troubled Colt Firearms in order to keep local jobs from being lost. The political pressures to undertake this investment were cited in many reports. Colt filed for bankruptcy in 1992 and the pension plan lost its investment.

Were the Social Security trust fund to invest in the stock market, it is likely that similar types of political pressure would be brought to bear on the investment decisions of the fund. Indeed, soon after the Administration made its trust fund investment proposal, Jesse Jackson testified before the House Ways and Means Committee on the proposal: "I think we should not invest in gun manufacturers, and shouldn't invest in liquor companies, and shouldn't invest in tobacco companies."<sup>4</sup> Other commentators have questioned, for

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<sup>2</sup> Associated Press, January 17, 2002.

<sup>3</sup> Washington Post, October 5, 2002.

<sup>4</sup> Wall Street Journal, February 1, 1999.

example, whether the Clinton Administration would have initiated its antitrust case against Microsoft were the government also a significant shareholder in the company.

## ECONOMETRIC ANALYSIS

### *Updating PENDAT*

This section updates the econometric evidence on political intervention and return on investments in public funds by incorporating the most recently available data, the 2000 Survey of State and Local Government Employee Retirement Systems (commonly referred to as PENDAT), which is sponsored by the Government Finance Officers Association. This annual survey queries retirement systems on a wide variety of administration and financial topics, including investment practices and rates-of-return, the two key measures in this literature. In the 2000 data, 246 retirement systems responded to the survey and most of these included information

on their annual rates of return between 1994 and 1998 along with their investment practices as of 1998.

Table 3 provides summary statistics on the variables of interest, including the prevalence in 1998 of the investment practices that have been identified as possible channels of potential political influence in the existing econometric literature. As shown, only 5 percent of plans report a formal ETI program, while 12 percent report having limitations on investments in certain countries or industries. While these estimates suggest that these potential channels of political influence are not widespread, the fact that only 35 percent of Board members are elected by plan membership suggests that plans are potentially subject to political influence. Finally, a substantial number of plans, 85 percent in this case, report having adopted a "Prudent man" rule, while 20 percent of plans actively participate in corporate governance.

Despite the heterogeneity among public plans in terms of measures of political influence, there is relatively little disper-

TABLE 3  
SUMMARY STATISTICS FOR SAMPLE OF PUBLIC PENSION PLANS

Variable	Mean (standard error)
Plans reporting that a portion of their portfolio is directed instate for economic development purposes.	0.05 (0.014)
Plans with prohibitions against, or limitations on, direct or indirect investments in specific types of countries or industries, e.g., those doing business with Northern Ireland, manufacturing tobacco, etc.	0.12 (0.021)
Fraction of elected board members	0.35 (0.017)
Plans with a prudent person rule	0.85 (0.023)
Plans actively participating in corporate governance	0.20 (0.026)
Rate of return in 1998	14.4 (0.346)
Percent of portfolio in equity in 1998	53.2 (1.09)
Annual rate of return 1994-98	4.86 (0.130)

Source: 2000 Survey of State and Local Government Employee Retirement Systems (commonly referred to as PENDAT)

sion in their asset allocation and investment returns. Plans responding to the PENDAT survey held slightly more than half of their assets in corporate equity in 1998, with a 95 percent confidence interval ranging from roughly 51 to 55 percent. They earned an average of nearly 14-1/2 percent on their portfolios in 1998, with a 95 percent confidence interval ranging from approximately 13-3/4 to 15 percent. This is quite comparable to the aggregate return of just over 14-1/2 percent in the same year for those private defined benefit plans sponsored by a single employer and covering more than 100 participants (U.S. Department of Labor, 2000-2001).

The variation in political intervention among public plans begs the question of how these programs arise and why we observe them in some jurisdictions and not in others. Earlier we outlined the channels through which the interests of the politicians who are able to influence investment policy might conflict with the interests of plan participants. In particular, we noted that, the larger the pool of assets, the greater the incentive for political intervention. Table 4 shows correlations among the variables of interest. The size of the asset pool is indeed positively correlated with having an ETI program and having country or industry restrictions on investments; however it is also positively correlated with having a greater fraction of elected members on the board of trustees, having a prudent person rule, and practicing corporate governance.

In general the relationships reported in the table do not paint a compelling picture about the association between political intervention and returns: the existence of an ETI program is only weakly correlated with returns, while state and industry restrictions have a slight positive relationship. A greater representation of elected members on the board of trustees, having a prudent person rule, and actively practicing corporate governance all have the expected positive correlation with returns.

We sort out the various influences on returns in a multivariate regression framework, the results of which are presented in Table 5. The dependent variable for the results in the left column is the 1998 total rate of return gross of investment fees. In the right column the dependent variable is the average annual rate of return between 1994 and 1998. Recall that the sample means of these variables are roughly 14-1/2 percent and 5 percent, respectively. The estimated coefficients are presented in the table with robust standard errors below in parentheses. In addition to the measures of political influence, we control for the size of the plan by including the log of assets and for portfolio composition by including the fraction of the portfolio in equity.

As shown, all of the coefficients have the expected sign, although among the variables measuring political influence, only the dummy variable indicating

TABLE 4  
CORRELATIONS AMONG VARIABLES OF INTEREST

	Rate of return 1998	ETI	State/ industry restrictions	Elected Board (%)	Prudent person rule	Practice Governance	Equity allocation	Assets
Rate of return 1998	1.00							
ETI	-0.01	1.00						
State/industry restrictions	0.04	0.01	1.00					
Elected Board (%)	0.16	0.05	0.01	1.00				
Prudent person rule	0.10	-.09	0.03	-0.04	1.00			
Practice Governance	0.25	0.04	0.07	0.26	0.09	1.00		
Equity allocation	0.41	0.10	0.08	0.14	0.07	0.16	1.00	
Assets	0.20	0.18	0.09	0.12	0.14	0.37	0.09	1.00

Source: 2000 Survey of State and Local Government Employee Retirement Systems

**TABLE 5**  
 POLITICAL INFLUENCE AND PUBLIC PENSION PLAN RETURNS  
 Dependent variable: Total rate of return on investments in calendar year

Variable	1998	Average 94–98
ETI program	-1.28 (1.14)	-0.481 (0.412)
Country / industry restrictions	-0.154 (1.17)	-0.317 (0.332)
Percent of Board elected	1.10 (1.45)	0.247 (0.494)
Prudent person requirement	0.685 (1.01)	0.254 (0.371)
Corporate governance	1.40* (0.850)	0.529* (0.318)
Fraction of portfolio in equity	0.128** (0.020)	0.054** (0.007)
Log of total assets	0.251* (0.163)	0.138** (0.057)
constant	4.31** (1.64)	0.458 (0.586)
R-squared	0.22	0.30
Mean squared error	4.15	1.44
Number observations	166	158

Robust standard errors in parentheses, \* denotes 90 percent significance, \*\* denotes 95 percent significance

whether the plan actively participates in corporate governance is statistically significant. Although the estimated impact of political intervention on plan returns is not statistically significant, the point estimates are economically significant. Having an ETI program implied a sacrifice of roughly 1-1/4 percent out of an average return of 14-1/2 in 1998, and a sacrifice of 1/2 percent out of average annual returns of 5 percent between 1994 and 1998. The fraction of assets allocated to in-state investments are fairly small even among plans with ETI programs. Therefore it is unlikely that the performance of the assets within the ETI program could account for the entire sacrifice of returns. Rather, the presence of an ETI program may proxy for a general lack of sound investment policies, reflecting in part political pressures on the plan. The coefficient on the indicator for whether the plan has country or industry

prohibitions also imply reduced returns of 15 basis points in 1998 and 30 basis points on average returns between 1994 and 1998 from such policies.

Arrangements designed to insulate investment decisions from political interference appear to improve returns. Having a higher fraction of the board elected and being held to a prudent person fiduciary standard both lead to a quarter-point improvement on average annual returns between 1994 and 1998. In addition, actively participating in corporate governance significantly enhances returns, leading to nearly 1-1/2 percent higher returns in 1998 and 1/2 percent higher average annual returns between 1994 and 1998. Larger plans earn higher returns, perhaps reflecting economies of scale in investing, and, not surprisingly over this period, higher equity holdings were associated with significantly higher returns.

*Alternative Measures of Political Intervention*

The question regarding ETIs in PENDAT is somewhat rigid. More specifically, the survey asks whether a portion of the portfolio is targeted or directed in-state for economic development purposes. This question would capture programs where a fraction of assets is explicitly allocated for local investing, but may not capture the numerous policies in which a preference is given to local investments but a specific allocation is not specified. In addition, there may simply be misreporting to this and other questions designed to capture political interventions as even those that engage in targeted local investing may understand that such practices are not consistent with sound investment principles, and therefore these plans may be reticent to disclose such information on a survey such as PENDAT. For example, CALPERS, whose in-state investing was detailed above, reports that it does not have an ETI program in PENDAT.

We examined the annual reports of 25 of the largest state pension plans to ascertain whether they had an ETI program that was more loosely defined as having any stated preferences for in-state investments. We also attempted to determine from the financial reports whether these plans had any restrictions on investments in particular countries or industries. Table 6 compares the responses to the questions on ETI programs and country/industry

**TABLE 6**  
ALTERNATIVE MEASURES OF POLITICAL INFLUENCE: SUMMARY STATISTICS

	PENDAT	Annual Reports
ETI Program	0.09 (0.048)	0.37 (0.082)
Country/Industry Restrictions	0.12 (0.056)	0.17 (0.065)
Number of Plans	24	

Source: 2000 Survey of State and Local Government Employee Retirement Systems and data collected from the comprehensive annual financial reports of select public pension plans

restrictions in PENDAT for these plans to the data we gathered from the financial reports. As shown, these investment practices, in particular the existence of an ETI program, appear to be under-reported in PENDAT.

We next re-estimate our regressions on this smaller sample of plans first using the PENDAT indicators for having an ETI program or country/industry prohibitions, and then using our alternative measures defined using the annual financial reports of these plans. The results are presented in Table 7. Simply re-estimating the regressions using PENDAT on this smaller sample results in a counter-intuitive and sizable, negative coefficient on the percent of the Board elected. It is still the case that all of the coefficients on the measures of investment practices are statistically insignificant; the one exception is the coefficient on the indicator for corporate governance, which now implies quite a sizable gain from such activities.

Using our alternative measure of the presence of an ETI program and country or industry restrictions actually implies *less* of a sacrifice from such interventions relative to specifications in which the PENDAT measure is used. This result is perhaps not so surprising when one considers that those plans that actually report having an ETI program are likely to be those plans with the largest such programs and therefore experience the greatest reduction in investment performance.

Taken together, the instability and imprecision of the estimated coefficients on the indicators of political influence that we have found thus far could be interpreted as an indication that political interference does not appear to significantly influence the returns earned by public pension funds. However, we have focused on only five forms of intervention. The channels for conflicts of interest we had outlined earlier are common to all public plans; likewise the lack of conflicts that private pension managers might face in practic-

**TABLE 7**  
ALTERNATIVE MEASURES OF POLITICAL INFLUENCE: REGRESSION ANALYSIS

Variable	Rate of Return 1998		Average Annual Return 1994–98	
	PENDAT	Alternative	PENDAT	Alternative
ETI program	-0.94 (1.40)	-0.85 (1.61)	-1.80 (2.24)	-1.48 (2.66)
Country industry restrictions	-2.81 (2.37)	-0.48 (1.83)	-5.19 (3.49)	0.21 (3.42)
Percent of Board elected	-5.64 (4.26)	-4.33 (4.40)	-10.75 (7.55)	-8.62 (7.89)
Prudent person requirement	1.44 (2.23)	1.25 (1.81)	3.30 (3.83)	3.26 (3.03)
Corporate governance	4.46** (1.68)	4.70** (1.56)	8.11** (2.93)	8.56** (2.76)
Fraction of portfolio in equity	0.27** (0.103)	0.23** (0.09)	0.55** (0.166)	0.48** (0.137)
Log of total assets	-5.04** (1.66)	-5.14** (1.75)	-9.79** (3.53)	-9.82** (3.66)
constant	51.32** (17.71)	54.26** (18.17)	93.88** (37.89)	97.12** (38.23)
R-squared	0.39	0.33	0.48	0.42
Mean squared error	3.49	3.66	6.07	6.42
Number observations				24

Robust standard errors in parentheses, \* denotes 90 percent significance, \*\* denotes 95 percent significance

ing corporate governance. Therefore in assessing the relative success of public pension plan investment, the relevant comparison may be to otherwise similar private pension plans.

### *Comparing Public and Private Plans*

To the PENDAT data that covers investment returns in 1998, we added data from Form 5500 filings by private pension plans with the Department of Labor for the same year. We used only data on plans that covered more than 100 workers and eliminated observations with inscrutable data, leaving us with 1042 plans. For comparability with the PENDAT data, we defined rates of return as gross of investment fees. As shown in Table 8, the average returns earned by public and private pension plans in this sample were remarkably similar in 1998. However the public plans

were much larger on average, and had a bit more of their portfolio allocated to corporate equity. The two recent studies that compared the returns of public and private plans cited public plans as having *less* equity exposure than private plans; however, this could be explained by the fact that they were focusing on a small sample of very large private plans. In the aggregate, public funds did have more of their portfolio in equity in 1998 (Flow of Funds Accounts of the United States, 2003).

We also show the average fraction of the portfolio allocated to directly held mortgages (as opposed to securities backed by mortgage pools issued by Fannie Mae and Freddie Mac) and directly held real estate. These measures capture a finer degree of detail on the riskiness of the underlying portfolio. Public and private plans have a similar allocation to directly held mort-

**TABLE 8**  
COMPARISON OF PUBLIC AND PRIVATE  
PENSION PLANS: SUMMARY STATISTICS

	Public	Private
Rate of return 1998	14.5	14.5
Percent of portfolio in:	(4.62)	(11.38)
equity	53.2 (14.22)	48.9 (16.24)
direct mortgages	0.4 (1.60)	0.4 (1.53)
real estate	2.2 (3.27)	1.5 (1.94)
Plan assets (\$ millions)	7,667 (17,493)	760 (2,590)

Source: 2000 Survey of State and Local Government Employee Retirement Systems, and Data from Form 5500 filed by private plans with the Department of Labor.

gages, however public plans hold more real estate on average than private plans. Direct mortgage programs for low income households and in-state commercial development investments are common components of economically targeted investment programs.

We first estimated a rate of return regression for the pooled sample of public and private plans including just the equity allocation of the plans, the log of plan assets and a dummy for whether the plan is public. These results are presented in the first column of Table 9. The coefficient on equity allocation is quite similar to the results on just the public sample in Table 5. The effect of plan size on returns is somewhat larger and significant. The coefficient on the dummy for being a public plan is significant and indicates that, holding equity allocation and plan size constant, public plans earned returns 33 basis points lower than private plans. This result indicates that if the equity share adequately controls for differences in portfolio risk across plans, public plans are earning returns inside the risk/return frontier. To check the robustness of this result we add the share of directly held mortgages and real estate to the regression. The results are shown in the second

column, and indicate that real estate allocation leads to significantly lower returns while mortgage holdings do not have a significant effect. The coefficient on the public plan indicator is now quite a bit larger and still significant, although the overall fit of the regression is still fairly poor.

We next define values for the political influence variables for the private plans. No private plans have ETI programs or country/industry restrictions so the value for those indicators is zero for private plans. All private plans operate under a prudent person standard so that indicator is one for private plans. We do not know for sure whether the private plans in our sample are actively voting their shares of corporate equity, however we do know that the practice is quite rare among private plans and we therefore set the corporate governance indicator to zero for private plans. As to the percent of the Board that is elected, this is not relevant for most private plans, as they do not have a board of trustees. Thus, we can either set this indicator to zero or one, although its coefficient will not be very meaningful. We set it to one, although the results are not sensitive to this choice.

The results including the indicators for political influence are shown in the third column. The coefficients on the fraction of equity in the plan portfolio and the log of plan assets are significant at a 95 percent level of confidence, again reflecting the strong equity returns in 1998 and the returns to scale in investing. The coefficients on the political indicator variables are all insignificant, although they still have the right sign with the exception of the coefficient on having country or industry prohibitions. The dummy variable for public plans continues to be statistically and economically significant, suggesting that the manifestations of the conflicts of interest faced by public plan administrators may not be adequately captured by the measures included in PENDAT.

**TABLE 9**  
COMPARISON OF PUBLIC AND PRIVATE PLAN RETURNS: REGRESSION ANALYSIS  
Dependent variable: Total rate of return on investments in 1998

Variable	OLS with robust standard errors			Median regression	Robust regression
Log of total assets	0.47** (0.187)	0.69** (0.201)	0.61** (0.216)	0.54** (0.173)	0.42** (0.135)
Equity	0.11** (0.022)	0.11** (0.022)	0.11** (0.022)	0.08** (0.013)	0.05** (0.010)
Direct mortgages		-0.21 (0.167)	-0.22 (0.172)	-0.11 (0.131)	-0.14 (0.106)
Real estate		-0.45** (0.119)	-0.46** (0.121)	-0.22** (0.098)	-0.17** (0.078)
Public Plan	-.33** (0.579)	-1.24** (0.571)	-1.62** (0.723)	-0.351 (1.04)	1.07 (0.810)
ETI program			-0.59 (1.03)	0.01 (2.26)	-0.701 (1.84)
Country/industry restrictions			0.36 (1.07)	-0.954 (1.89)	-0.05 (1.51)
Prudent person requirement			1.22 (0.981)	1.46 (1.91)	1.19 (1.52)
Percent of Board elected			0.77 (1.41)	2.64 (2.28)	1.29 (1.79)
Corporate governance			1.37 (0.841)	0.737 (1.37)	1.47 (1.08)
constant	6.44** (1.34)	5.67** (1.41)	4.89** (1.68)	4.84** (2.15)	6.50 (1.72)
Adjusted R-squared	0.03	0.04	0.03	0.03	0.05
Root mean squared error	10.54	10.51	10.55	—	5.53
Number observations					1213

Standard errors in parentheses, \* denotes 90 percent significance, \*\* denotes 95 percent significance

Overall, it must be acknowledged that the fit of these regressions is quite poor, perhaps reflecting the higher dispersion in the distribution of returns in the sample of private plans. In the fourth column of Table 9 we estimate the rate of return relationship using median regression to control for the influence of outliers. The fit does not improve dramatically as measured by the adjusted R-squared. The results now suggest that public pension plans earn about 35 basis points less than otherwise similar private plans, although the coefficient is not statistically significant. If we were to

interpret the economic significance of the political influence measures despite their lack of statistical significance, we could conclude that having relatively good investment practices in terms of governance and limited political intervention can offset the lower returns associated with public management. The last column shows the results of estimating the rate of return relationship using robust regression, which again controls for outliers. Here the fit improves somewhat while the coefficient on the still insignificant public plan dummy actually changes sign.

These results, together with the fact that the aggregate returns of public and private returns were comparable in 1998, provide some evidence that the extra returns public plans earned from their larger size and their greater equity exposure were offset by generally poorer overall investment choices and practices. We have attributed the importance of plan size on returns to economies of scale in investing. It is worth expanding on this point given the importance of scale effects. The most basic scale effect reflects economies of scale in fixed front office expenditures. However, there are a number of other potential advantages of size that could result in higher returns. It is accepted among financial market participants that larger institutional investors gain information advantages with brokers and preferred access to certain investments. In addition, very large plans such as CalPERS are generally considered to have market mover status, so that when they choose an investment strategy others follow, thereby driving up the return to the early investor. Thus there is some evidence that public plans "spend" the advantages they gain from size on political capital.

## CONCLUSION

The results presented here, while not definitive, suggest there may be costs associated with public investment in private capital markets owing to politically influenced investment decisions. The experiences of state and local pension funds suggest that investing the Social Security trust funds in private securities could arguably put the efficiency of capital markets at greater risk, especially considering the size of such an investment.

However, these costs could be worth bearing if they are outweighed by the benefits of equity investment by the trust fund. We are skeptical that this is likely to

be the case. The proposed benefit of investing the trust fund in equities is largely illusory. Equity investment by the trust does not increase the capital stock. Thus, if the trust fund does receive a higher rate of return on its holdings then the private sector must receive a lower rate of return. Equity investment may make Social Security's financial accounting look better but it does not increase the capital stock, productivity, or national income. Moreover, a significant proportion of the higher return to equities compared to bonds represents compensation for greater risk. Money's worth calculations by the Social Security Administration do not adjust for risk, and thus greatly overstate the financial benefits of equity investment for the Social Security trust fund (Geanakoplos, Mitchell, and Zeldes, 1998). The Social Security Administration estimates—not adjusting for risk—that \$1 dollar shifted from bonds to equity results in a \$2.85 net present value gain to the trust fund. Geanakoplos, Mitchell, and Zeldes estimate—after adjusting for risk—that \$1 dollar shifted from bonds to equity in the trust fund results in a net present value gain of between zero to \$0.59, depending upon their assumptions. Our results suggest that even this estimate is likely to be overly optimistic, as it does not account for the sacrifice in returns from the political intervention and poor investment choices common to public sector investing.

## Acknowledgments

This paper was prepared for the National Tax Association 2003 Spring Symposium in Washington DC, May 29 and 30. The authors wish to thank Henry Aaron and Paul Smith for valuable comments and Carlos Manzanares for excellent research assistance. The views expressed are those of the authors and not necessarily those of the Federal Reserve Board of Governors.

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