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Munnell, Alicia H. and Sunden, Annika, "Investment Practices of State and Local Pension Funds: Implications for Social Security Reform" (1999). *Wharton Pension Research Council Working Papers*. 509. https://repository.upenn.edu/prc_papers/509

The published version of this Working Paper may be found in the 2001 publication: *Pensions in the Public Sector*.

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Disciplines

Economics

Comments

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Pensions in the Public Sector

Edited by
Olivia S. Mitchell and Edwin C. Husted

Pension Research Council
The Wharton School of the University of Pennsylvania

PENN

University of Pennsylvania Press
Philadelphia

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Printed in the United States of America on acid-free paper

10 9 8 7 6 5 4 3 2 1

Published by
University of Pennsylvania Press
Philadelphia, Pennsylvania 19104-4011

Library of Congress Cataloging-in-Publication Data

Pensions in the public sector / edited by Olivia S. Mitchell and
Edwin C. Hustead

p. cm. "Pension Research Council Publications"

Includes bibliographical records and index

ISBN 0-8122-3578-9 (alk. paper)

1. State governments—Officials and employees—Pensions—
United States. 2. Local officials and employees—Pensions—
United States. 3. United States—Officials and employees—
Pensions. I. Mitchell, Olivia S. II. Hustead, Edwin C., 1942–.
III. Wharton School. Pension Research Council.

JK791 .P45 2000

331.24/29135173.—dc21

00-059384

Chapter 8

Investment Practices of State and Local Pension Funds

Implications for Social Security Reform

Alicia H. Munnell and Annika Sundén

with the assistance of Cynthia Perry and Ryan Kling

The investment practices of public pension funds have become a topic of major interest in the wake of President Clinton's 1999 proposal to invest a portion of the Social Security Trust Funds in equities. Both supporters and opponents of the proposal point to the performance of public plans to argue their case. Supporters cite the success of federal plans, particularly the Federal Thrift Savings Plan (TSP), which has avoided picking individual stocks by investing in a stock index and has steered clear of projects with less than market returns. Divestiture of stocks for social or political reasons has also not been a problem, and TSP has avoided government intervention in the private sector since individual portfolio managers vote the proxies. Opponents of Social Security Trust Fund investment in equities point to state and local pension funds. They contend that state and local pensions often undertake investments that sacrifice return to achieve political or social goals, divest stocks to demonstrate that they do not support some perceived immoral or unethical behavior, and intervene in corporate activity. Opponents claim that if social security's investment options were broadened, Congress would use the trust fund money for similar unproductive activities. An important question is the extent to which allegations about state and local plans are true.

This study explores four possible avenues through which social or political considerations could enter the investment decisions of state and local pension funds. The first section focuses on economically targeted investments (ETIs), those investments that are designed to meet some special need within the state. The second section looks at instances of pension fund

activism, whereby the fund managers attempt to influence corporate behavior to improve profitability or other aspects of corporate performance. The third section investigates the extent to which state and local pension plans have avoided or divested certain holdings in order to make a political or ethical statement. The fourth section investigates the extent to which states and localities have used pension funds as an escape valve for general budget pressures.

This comprehensive review yields the following conclusions. First, economically targeted investments account for no more than 2.5 percent of total state and local holdings. Although early studies showed plans sacrificing considerable return for targeting their investments to in-state activities, recent survey data reveal no adverse impact on returns as a result of the current small amount of ETI activity. Second, public plans in only three states have seriously engaged in shareholder activism, and this activism appears to have been motivated by a desire to improve the bottom line not to make a political statement. The literature suggests that this activity has had a negligible to positive impact on returns. Third, the only significant divestiture that has occurred was related to companies doing business in South Africa before 1994. This was a unique situation where worldwide consensus among industrial nations led to a global ban on investment in that country. With respect to tobacco, public plans have generally resisted divestiture, and only a few have actually sold their stock. Finally, state and local governments have borrowed occasionally from their pension funds or reduced their contributions in the wake of budget pressures, but this activity has been restrained by the courts and frequently reversed. In short, the story that emerges at the state and local level is that while in the early 1980s some public plans sacrificed returns for social considerations, plan managers have become much more sophisticated. Today, public plans appear to be performing as well as private plans.

Economically Targeted Investments

State and local pension assets grew dramatically during the 1970s, and some observers began to see these funds as a mechanism for achieving socially and politically desirable objectives. Early debate focused on efforts to exclude from pension portfolios companies with "undesirable" characteristics, such as those facing labor problems or holding investments in South Africa. The focus shifted in the 1980s, however, with the publication of two books favoring investments that would foster social goals, such as economic development and home ownership (Rifkin and Barber 1978, Litvak 1981).

At that time, advocates contended that these social goals could be achieved without any loss of return. Early studies, however, suggested that targeting did involve some financial sacrifice. For example, a survey of

state-administered pension funds showed that ten states either inadvertently or deliberately sacrificed return in an attempt to foster homeownership (Munnell 1983). Analysis of the risk/return characteristics of the publicly or privately insured mortgage-backed pass-through securities in those states revealed that the sacrificed return sometimes exceeded 200 basis points. Although mortgages accounted for only 5 percent of total state and local assets, it seemed as if state and local pension funds were on a naïve and dangerous path.

During this period, it appeared that public pension managers did not recognize the "Catch-22" nature of the exercise in which they were engaged. The problem is that increasing in-state housing investment is inconsistent with maximizing returns in the United States's highly developed capital markets. This is because any housing investment that offers a competitive return at an appropriate level of risk does not need special consideration by public pension plans. Conversely, pension investments that would increase the supply of housing funds must, by definition, either produce lower returns or involve greater risk. Some sophisticated advocates of ETIs recognized the efficiency of the market for housing finance and argued that pension funds could make a contribution through innovative forms of housing finance (Litvak 1981). But that was not what was going on in 1983; rather the in-state mortgages purchased by public pension funds tended to be conventional fixed-rate thirty-year mortgages. The losses experienced in the early 1980s served as a sharp wake-up call to many public pension fund managers who appeared to believe that they could accomplish social goals without sacrificing returns.

In the last fifteen years, the rhetoric associated with targeted investments has changed markedly. Public pension fund managers now acknowledge the potential for losses and go out of their way to make clear that they are no longer willing to sacrifice returns for social considerations. As discussed below, almost every definition of ETIs includes a requirement that the investment produce a "market rate of return."

Current ETI Activity

Interviews with public pension plan officials in 1993 provide a state-by-state description of past and current experiences with ETI programs and offer a window on current thinking about economically targeted investing (Ferlauto and Claybourn 1993).¹ The study's editors defined successful ETIs as investments that produce risk-adjusted market rates and "provide exceptional corollary or external benefits by meeting specific capital gaps" (p. 4). Since most investments yield some benefit to society, ETIs are expected to produce exceptionally large benefits. The editors recognized that public pensions can do little if markets are perfect, but contended that pension

funds can improve the allocation of capital if gaps exist due to redlining, discrimination, or the absence of a secondary market (as was the case for mortgage loans before the advent of Fannie Mae and Freddie Mac in the 1960s).²

The Ferlauto and Claybourn study also points out that a successful ETI program requires sensible investment selection procedures as well as a commitment to market returns. They identify three practices as necessary for success. First, state legislatures can authorize ETI activity, but they should not be involved in picking specific investments; the latter decision must rest with the retirement system. Second, ETIs cannot be considered in isolation; they must be incorporated into an overall fund strategy of geographic and asset diversification. Third, the retirement system must institute regular evaluations of ETI investments. They further suggest that those pension funds that have followed these "best practices"—New York City Retirement Systems, Massachusetts MASTERS, the Pennsylvania State System, and California CalPERS—enjoyed solid subsequent performance.

Ferlauto and Claybourn report that some state and local plans that simply targeted investments geographically or violated other guidelines ran into serious trouble. For example, during the 1980s, the Alaska Retirement Systems invested \$263 million in nonguaranteed home mortgages, 35 percent of which were located in Alaska. When oil prices dropped dramatically in 1985, the Alaska real estate market crashed and more than one third of the system's in-state loans became nonperforming. Similarly, the Kansas Public Employees Retirement invested in a Kansas Savings & Loan that became insolvent and in an endangered steel mill that closed; the fund also lost tens of millions on its nontargeted direct real estate investments. Kansas failed to diversify its exposure by selecting a number of managers for private placement lending and real estate investment; it also failed to limit its exposure by coinvesting with banks, insurance companies, or other pension funds. Instead, Kansas loaned one-fifth of its private placement portfolio to a single borrower, and it failed to provide oversight of its risky investments.

Although some plans suffered losses during the 1980s, state and local governments learned from their mistakes. Alaska dropped its ETI program, while Kansas expanded and diversified the fund's Board of Trustees, required investments through limited partnerships rather than direct lending, and removed its mandate for in-state investments. Concurrently, other funds designed new programs and improved old programs. Some states created financial intermediaries to identify, underwrite, package, and/or credit-enhance targeted investments. Funds also started to package investments with guarantees and other risk sharing mechanisms in order to meet risk/return benchmarks. They are also now using Fannie Mae and Freddie Mac to securitize affordable home mortgage pools and state or federal government guarantees to back small business loans.

TABLE 1. State and Local Pension Plans' Economically Targeted Investments, 1993

<i>ETI activity</i>	<i>Percent of total</i>
Fixed Income	21.6
Loans to small businesses	4.5
Private placements	17.0
Real estate	69.3
Construction loans	4.5
Residential mortgages	50.6
Commercial mortgages	12.5
Equity	1.7
Venture capital	9.1
Total	100.0

Source: Boice Dunham Group (1993).

Such innovations reduce the risk associated with ETIs, but the necessity to earn market returns and provide large collateral benefits must surely limit the number of possible targeted investment opportunities. How much ETI investing is going on? Three sources of information are available, each with its own purpose and perspective on whether targeted investing is a good or bad idea.

Perhaps the most comprehensive listing of ETI activity is a 1993 Boice Dunham Group study, which was commissioned by Goldman Sachs. This analysis defined an ETI as "an investment by a public pension fund which, in addition to offering financial returns in proportion to financial risk, also offers collateral local economic benefit (e.g., job creation, home ownership)" (p. 1). Using this definition, Boice Dunham concluded that ETIs accounted for \$17.5 billion or only 2 percent of the \$887.3 billion of public plan assets covered in their survey.³ ETI activity fell into three categories: fixed income, real estate, and venture capital, with the majority going to residential mortgages (see Table 1).

The second source of information on ETI activity is the General Accounting Office (1995), which reviewed a survey of 139 of the largest public pension plans. Fifty of the 119 respondents indicated that they had invested a total of \$19.8 billion in ETIs to promote housing, real estate, or small business development, which amounted to 2.4 percent of total respondents' assets. Since the respondents accounted for 85 percent of the assets of state and local plans, these results are broadly representative.

Another source on ETIs is the set of files known as PENDAT, which were created from the Surveys of State and Local Employee Retirement Systems for Members of the Public Pension Coordinating Council (Zorn 1991, 1993, 1995, 1997). (These data are also the basis for our empirical analysis presented below). The question included in these surveys has varied slightly over time, but generally asks "What percentage of the portfolio is directed

in-state for developmental purposes?"⁴ The emphasis on "developmental purposes" could easily lead respondents to omit residential mortgages made at market rates and private placements—the two largest categories in the Boice Dunham study. As a result, the percentage of total assets designated for in-state investment averaged between 0.1 percent and 0.3 percent over the four surveys.

Two conclusions emerge from this review of the extent and nature of ETI activity in the 1990s. First, ETIs account for only a small portion of the assets of state and local pension funds.⁵ Second, in the wake of early failures pension fund managers have set up procedures to ensure market returns for given levels of risk and to protect themselves from major losses. The question remains, however, whether the new procedures have prevented ETIs from adversely affecting returns. This issue can only be resolved empirically.

The Impact of ETIs on Pension Fund Returns

The most comprehensive data available on state and local plans come from the PENDAT files described above. This periodic survey includes information on system administration, investment behavior, reporting practices, benefits, and actuarial methods and assumptions. Reports regarding public plan attributes in the previous year were published in 1991, 1992, 1993, 1995, and 1997. Sample sizes and response rates vary somewhat by year, but generally include most plan participants and public plan assets. For example, in 1997, 261 retirement systems covering a total of 379 plans responded to the survey, representing about 80 percent of state and local plan active participants and assets (Zorn 1997).

Here we use the PENDAT data to explore whether ETI activity has a significant effect on the economic performance of public pension plans. We measure performance two ways: as the annual rate of return over the preceding year and as the average rate of return over the last five years. The explanatory variables we use fall into four groups. The first concerns investment strategies. This includes whether the fund engages in ETI activity, whether the state constitution imposes investment restrictions, and whether the fund prohibits investments in certain companies (such as tobacco firms). The expected coefficients for these variables are negative, since including criteria other than risk and return diminishes the possibility of an efficient portfolio.

The second group of variables we examine reflects public plan portfolio composition and size. These would be expected to have a positive effect on performance; stocks have higher returns, and large funds tend to be more efficient. The third group of factors concerns management practices, and are expected to have mixed effects: outside evaluation would be expected to increase returns by improving the quality of investment decisions; admin-

istrative expenses paid by the fund would be expected to reduce returns; and corporate governance activity (asked only in 1997), generally directed toward underperforming firms, would be expected to enhance the performance of the fund. Finally, we look at the impact of the percentage of the board elected by pension plan membership, and anticipate that the effect could go either way.⁶ A summary of the dependent and explanatory variables appears in Table 2.

The results of the multivariate analysis of state and local pension plan performance for the individual years and for the pooled data are presented in Table 3. The ETI variable (INSTATE), which reflects the share of the portfolio directed in-state for developmental purposes, does not have a statistically significant effect on fund performance either in the pooled data or in any of the individual years.⁷ Separate estimates using an indicator variable for ETIs also suggest that this activity does not have a significant effect on overall performance (Appendix Table 1). Finally, estimates using the more comprehensive Goldman Sachs information on ETIs yield the same results (Appendix Table 2).

With regard to the other variables in the equation, the only ones that consistently have a statistically significant effect on returns are portfolio composition and size. The share of assets invested in equities has a significant positive effect on fund performance both in the short run and the long run. Large systems are likely to be more efficient in the management and administration of the plan and appear to earn higher returns. Neither the management and reporting practices nor board composition variables have a systematic effect on investment return.

The fact that we fail to find a negative effect of ETIs on returns appears to contradict some prior studies showing a strong and large negative relationship between ETI activity and pension fund earnings.⁸ Yet on closer examination, we believe the story is consistent: ETIs are a small part of pension portfolios, managers aim for market returns, and therefore ETI activity does not have a noticeable impact on public plan investment outcomes.

One often-cited study is by Romano (1993), who provides an extensive description of the political pressures on public pension funds' investment practices and an empirical analysis of the relationship between political influence and public pension performance. To explain performance, Romano included the following variables: the proportion of the board elected by fund members, three measures of social investing (preference for in-state investment, active in corporate governance, and restrictions on investments of companies doing business in South Africa), and the proportion of assets in nongovernment securities. Her data were for 50 state pension funds over the five-year period 1985–89. She found that the two variables with statistically significant coefficients are the proportion of assets in nongovernment securities and the South Africa variable.⁹ The two other social in-

TABLE 2. Variable Definitions and Means of Characteristics of State and Local Pension Plans

Variable	Definition	Mean			
		1991	1993	1995	1997
<i>Investment strategies</i>					
INSTATE	Percent of pension fund assets invested in state	0.35	0.30	0.37	0.10
RESTRICT	Investment restriction specified in constitution	0.25	0.26	0.24	0.16
SOUTH AFRICA	Prohibitions against investments of specific types	0.45	0.48	0.19	0.13
<i>Portfolio composition</i>					
EQUITY%	Percent of assets invested in equities	35.80	43.26	49.24	53.11
SIZE	Mean assets in the pension fund (\$billion)	2.98	3.16	4.88	6.07
<i>Management practices</i>					
OUTEVAL	System obtains independent investment performance evaluation	0.78	0.81	0.87	0.92
ADINVST	Administrative expenses offset by investment income	0.54	0.55	0.60	0.63
PROXY	System has actively participated in corporate governance	—	—	—	0.22
<i>Board composition</i>					
ELCTMEMB	Percentage of board elected by pension membership	34.73	31.60	35.43	32.84
<i>Rate of return</i>					
ROR90	Rate of return on the pension fund received on assets in 1990	7.89	—	—	—
ROR92	Rate of return on the pension fund received on assets in 1992	—	9.33	—	—
ROR94	Rate of return on the pension fund received on assets in 1994	—	—	1.55	—
ROR96	Rate of return on the pension fund received on assets in 1996	—	—	—	13.72
RORAVG	Average rate of return on assets for previous five years	11.53	10.99	8.80	11.29

Source: Authors' calculations using PENDAT (see Zorn 1991, 1993, 1995, 1997).

vesting variables—preference for in-state investments and corporate governance—never had a statistically significant effect on returns at conventional significance levels. Board composition, the variable of greatest interest to the author, was only marginally significant.

Even these modest results should be interpreted cautiously, because the author provided no indication about the extent to which her sample of pension funds represented the broader universe of state and local plans. Also, her dependent variable—earnings on investments “including realized capital gains,” divided by book value of total assets—is, in our view, an inadequate measure of performance. The numerator does not include unrealized gains, which were probably important given the increased holdings of equities and the strong stock market performance in the late 1980s, and the denominator can be manipulated—that is, it can be increased or reduced through the purchase or sale of assets.

Mitchell and Hsin (1997) explored the impact of ETIs on investment returns using the 1991 PENDAT data. They related the rate of return on pension assets to the pension board composition, board management practices, reporting requirements, and investment practices—including a variable for the percent of plan assets devoted to in-state investments. The coefficient of the “in-state” variable was not statistically significant when the plan returns were averaged over the previous five years, but it was significant (at the 10 percent level) when the dependent variable was the return for 1991 only. The results suggest that in 1991 every percentage point of plan assets targeted to in-state investments cost public pension funds eight basis points.¹⁰

Even though we use the same data as Mitchell-Hsin, we do not duplicate their findings. Our 1991 equation shows a statistically significant *positive* coefficient on ETIs when returns were averaged over five years and an insignificant coefficient for the annual return. Because our results are anomalous on theoretical grounds and not consistent with the pattern in later years, we argue that they should be dismissed. The difference in the two studies arises because Mitchell-Hsin imputed missing values and we did not.¹¹

The ETI controversy was recently joined by Nofsinger (1998), who claims that ETI activity reduces public pension fund returns by 200 basis points. This claim comes from an empirical model that relates abnormal returns (the dependent variable) to four variables reflecting ETI activity, asset-allocation limitations, social restrictions, and the prudent-person rule. The author estimates this model separately for each of the three years using 1991, 1992, and 1993 PENDAT data, and also a model that pools the three years' data and adds three additional variables: the percentage of board members elected by plan participants, the natural log of assets, and percentage of the portfolio in equities. The results for the ETI variable are mixed. In the year-specific regressions, the ETI variable is negative but not statistically significant from zero. In the pooled data, the ETI variable is negative (at about -200 basis points) and statistically significant at the 1 percent level.

TABLE 3. Multivariate Analysis of Rate of Return of State and Local Pension Plans

	1991		1993		1995		1997		Pooled	
	ROR90	RORAVG	ROR92	RORAVG	ROR94	RORAVG	ROR96	RORAVG	RORCUR	RORAVG
<i>Management strategies</i>										
INSTATE	-0.31 (0.26)	0.34** (0.13)	-0.07 (0.15)	0.39 (0.61)	-0.05 (0.21)	0.01 (0.07)	0.35 (0.31)	0.06 (0.17)	-0.12 (0.10)	0.182 (0.12)
RESTRICT	1.25 (1.00)	1.13** (0.52)	0.67 (0.50)	0.86** (0.40)	0.09 (0.79)	0.49 (0.27)	-0.64 (0.62)	-0.19 (0.35)	0.56 (0.37)	0.63** (0.23)
SOUTH AFRICA	-0.60 (0.82)	0.07 (0.42)	-0.92 (0.43)	0.16 (0.36)	-0.54 (0.82)	-0.45 (0.29)	1.14 (0.67)	0.35 (0.38)	-0.45 (0.35)	-0.01 (0.20)
<i>Portfolio composition and size</i>										
EQUITY%	0.02 (0.03)	0.00 (0.01)	-0.01 (0.01)	0.03** (0.01)	-0.05** (0.02)	0.01 (0.01)	0.16* (0.02)	0.07** (0.01)	0.03** (0.11)	0.03** (0.01)
SIZE	-0.05 (0.18)	0.07 (0.09)	-0.10 (0.09)	-0.04 (0.07)	0.04 (0.13)	0.08 (0.05)	0.21** (0.10)	0.12** (0.05)	0.01 (0.06)	0.07** (0.03)
<i>Management and reporting practices</i>										
OUTEVAL	-2.35** (1.03)	-0.11 (0.56)	1.31** (0.60)	-0.16 (0.56)	-1.23 (1.02)	0.12 (0.34)	-2.75** (0.82)	-0.94 (0.51)	-0.92 (0.49)	-0.10 (0.26)
ADINVST	-0.71 (0.81)	-0.85** (0.43)	0.25 (0.43)	0.23 (0.35)	-0.92 (0.65)	-0.14 (0.22)	-0.01 (0.45)	-0.09 (0.25)	-0.21 (0.29)	-0.19 (0.16)
PROXY	—	—	—	—	—	—	-0.29 (0.58)	-0.25 (0.32)		

<i>Board composition</i>										
ELCTMEMB	-0.03*	-0.02**	-0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00
	(0.01)	(0.00)	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)	(0.00)	(0.01)	(0.00)
<i>Year</i>										
YEAR91									-5.32**	0.54**
									(0.57)	(0.23)
YEAR93									-4.10**	-0.19
									(0.42)	(0.24)
YEAR95									-12.11**	-2.54**
									(0.43)	(0.18)
CONSTANT	11.48**	10.77**	10.87**	10.17**	4.75	6.91**	3.06	5.87**	12.89**	8.68**
	(3.62)	(1.89)	(1.84)	(2.02)	(2.97)	(1.12)	(2.03)	(1.13)	(1.42)	(0.81)
<i>R</i> ²	0.08	0.16	0.07	0.08	0.07	0.08	0.50	0.41	0.55	0.41
Number of Observations	155	132	220	123	144	120	166	156	697	390

Source: Authors' calculations using PENDAT (see Zorn 1991, 1993, 1995, 1997).

"Size" variable is measured as the natural log of assets. Standard errors in parentheses.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

The question is how to interpret these results. One conclusion is that the pooled estimate is implausibly large, given that the average return for funds in the sample is 10 percent and that those plans that do engage in ETI activity hold only 5 percent of their portfolio in such investments. For plans with ETIs to suffer a reduction of 200 basis points in their overall returns, they would have to average a 300 percent loss on their ETI investments. The author acknowledges that the effect is too large to attribute to ETIs and must be picking up the effect of some other unobserved variable that negatively affects returns. A second empirical concern is that the ETI effect is not consistent in the annual versus the pooled data. Our third concern is that the author limits his sample to pension funds that have the necessary data in all three years, which reduces the number of plans in his sample to fifty-six (the original sample of defined benefit plans was 173 in 1991, 280 in 1992, and 260 in 1993). This is troubling because the reduced sample may not be representative, and the results are sensitive to outliers.¹² To test the robustness of Nofsinger's results, we reestimated his model using the entire PENDAT sample for individual years (1991, 1992, and 1993), then with pooled data for those three years, then for 1995 and 1997 individually, and finally with pooled data for all five years available. Our results show that the coefficient of ETI activity does not have a statistically significant coefficient in any of the models.¹³

Our conclusion from this review of ETI activity is that the world has changed since the late 1970s and early 1980s when activists first turned their attention to state and local pension funds. At that time, targeted investing—particularly in the form of in-state mortgages—was associated with lower returns for a given level of risk. Moreover, during the 1980s, a few public plans, such as Kansas, Alaska, and others, suffered large losses, that subjected public plan investments to increased scrutiny. As a consequence, public plan investment practices became more sophisticated; ETIs were redefined as investments that pay market returns and provide opportunities for collateral benefits. The extent to which such opportunities exist today is open to question, but this survey shows that very few state and local pension assets are invested in ETIs—not more than 2.5 percent. Also, the empirical evidence indicates that ETIs do not have a significant impact on pension fund returns.

This conclusion is reinforced by the results of two new studies recently commissioned by CalPERS (California Public Employees Retirement System 1999). Although it is unclear how representative the samples are, both studies suggest that public pension plans are performing about as well as private plans. Wilshire Associates, a California-based pension investment consultant, found no systematic difference in the investment performance of 50 large corporate and 50 large public plans (with total assets of \$870 billion combined) (Wilshire Associates 1999). Annualized returns ending September 1998, net of fees and expenses, are shown in Table 4. Private

TABLE 4. Annualized Returns on Public and Private Pension Assets (%)

	<i>Five years</i>	<i>Ten years</i>
1. Median total fund returns		
Corporate pension funds	12.3	12.4
Public pension funds	11.4	11.6
2. Median U.S. equity returns		
Corporate pension funds	16.6	15.4
Public pension funds	16.5	15.6

pension funds had a 1-percentage point higher return over both reporting periods, but this was attributable entirely to their relatively greater holdings of (riskier) stocks. When stock investments were examined separately, the results showed that corporate pension equity portfolios returned 0.1 percentage point per year more than public pension equity portfolios over five years, but 0.2 percentage points less over ten years. Further, using a regression-based methodology to control for risk, Wilshire found that the median public pension plan actually exhibited a higher risk-adjusted return than did the median private pension plan.

The second study by Cost Effectiveness Management Inc. (CEM) (Ambachtsheer, Halim, and Scheibelhut 1999) reported similar results. The firm analyzed four years of data (1994–97) for 51 corporate (\$325 billion) and thirty-four public (\$632 billion) pension plans. Again, the finding was that corporate plans have a slightly higher average gross return than public funds over the period (14.6 percent versus 13.4 percent), but this reflected greater equity holdings by corporate plans as compared to public plans (63 percent versus 52 percent). A separate analysis of the performance in large-cap U.S. stocks showed nearly identical performance (21.35 percent for corporate plans versus 21.10 percent for public plans). CEM concluded that the type of sponsorship of the fund is not what drove fund performance. The factors that mattered were the size of the plan (economies of scale and a full-time manager), the proportion of plan assets passively managed, and good governance structures with a clear mission. These characteristics appeared to be equally prevalent in the public and private sectors—at least in those plans included in the Wilshire and Cost Effectiveness Management samples.

Shareholder Activism

The most recent avenue through which politics might enter public pension fund investing is shareholder activities—that is, public plans using the ownership rights associated with their equity holdings to influence the behavior of individual firms. Two comments are relevant before describing activity in this area. First, all proposals to invest the Social Security Trust Funds

in equities require that voting rights be given to the asset managers, not voted at all, or voted in the same fashion as the other shareholders, which is equivalent to not voting at all. Thus, the voting issue would not arise at the federal level. Second, assuming that improving profitability—not politics—is the motivation for pension fund intervention in corporate activity, the expected effect on returns is positive, not negative.

The Nature of Shareholder Activism

Shareholder proposals are most frequently directed at companies that under-perform their peers (Nesbitt 1994; Karpoff, Malatesta and Walkling 1996).¹⁴ They typically focus on three types of issues: altering the structure of Board governance (eliminating staggered board terms, separating the positions of CEO and chairman of the board, or creating a compensation committee entirely composed of independent Board members); removing takeover defenses provisions (eliminating or weakening a company's poison pill); or changing voting procedures (making shareholder votes confidential or adopting cumulative voting procedures for directors). With one exception, shareholder proposals are only advisory under state law.¹⁵ This means that even if a proposal passes with a majority of votes, management is not required to take the requested action.

In terms of the mechanics, most shareholder activism involves submitting proposals under the Securities and Exchange Commission (SEC) Rule 14 a-8. This rule permits shareholders to include a proposal and a 500-word supporting statement in the proxy distributed by the company for its annual shareholder meeting (Black 1998). This SEC rule allows shareholders to avoid the expense of preparing their own proxy statements and soliciting their own proxies. Keeping costs down is important because even the most activist institutions spend less than half a basis point of assets under management on governance efforts (Del Guercio and Hawkins 1999).¹⁶ While Rule 14 a-8 minimizes costs, it can be used to address only limited subjects. Most importantly, it cannot be used to nominate candidates for the board of directors.

Of the 437 shareholder proposals submitted to companies in 1998, institutional investors accounted for 42 percent; individuals accounted for the rest (IRRC 1998f). Of the institutional investors, labor unions were the biggest players (15 percent of the total), followed by money managers (12 percent), the Interfaith Center on Corporate Responsibility (8 percent), and public pension plans (6 percent). In the case of public plans, three states—California, New York, and Wisconsin—were responsible for most of the activity. The only other participant was the College Retirement Equities Fund (CREF), which is a retirement system used by university and research employees in both the public and the private sector (see Table 5).

TABLE 5. Prevalence of Corporate Governance Shareholder Proposals for Public Pension Plans in 1998

<i>Proposal sponsor</i>	<i>Number of proposals</i>
Individuals	257
Unions	67
Other institutional investors	52
Interfaith Center on Corporate Responsibility	33
Public plans	28
College Retirement Equities Fund	2
California Public Employees Retirement System	5
New York City Employees' Retirement System	7
New York City Fire	3
New York City Police	4
New York City Teachers	4
State of Wisconsin Investment Board	3
Total	437

Source: IRRRC Corporate Governance Bulletin (1998f).

Note: Two proposals sponsored by churches are included in the 257 proposals sponsored by "individuals."

In the United States, shareholder activism by institutional investors began in the late 1980s.¹⁷ A key feature of large U.S. corporations is the separation of ownership from control—that is, the shareholders own the firm, but the managers run it. This separation creates an agency problem in that managers may run the firm in their own interests, rather than in the interests of shareholders. In the early 1980s, corporate takeovers provided a measure of discipline by threatening to replace the management of poorly performing firms. With the reemergence of state antitakeover laws and poison pills over the late 1980s, institutional investors concerned about corporate performance turned to alternative means to discipline firms. Shareholder proposals then became a way to address the shareholder-manager agency conflict and to pressure managers to adopt value-enhancing changes (Pozen 1994).

Some critics charge that public pension plans cannot effectively carry out this disciplining task, contending that such plans confront pressure to take politically popular positions that actually hurt firm performance (Romano 1993). Others suggest that public pension plan managers do not face the right incentives to maximize shareholder value. As a result, such managers may use the proposals to generate publicity or enhance their reputations for future employment, rather than to enhance the value of the firm (Murphy and Van Nuys 1994). Thus, the empirical question is whether activism has produced any demonstrable results, and whether these results have been positive or negative.

*Impact of Shareholder Activism on Company Performance*¹⁸

Answering this question turns out to be quite difficult. One reason is that the effect of activism may be buried in the noise associated with other factors affecting firm profitability. Our results using the PENDAT data showed that shareholder activism had no significant effect on returns in 1997.¹⁹ Most of the other studies also reveal no correlation, although there are a few exceptions.²⁰ Nesbitt (1994) documented a rebound in the performance of firms targeted by CalPERS, but it is not clear whether this rebound was a result of the activism or merely a reversion to the mean in stock price returns. Opler and Sokobin (1997) examined the "focus list" of the Council of Institutional Investors and found a significant above-average return in the year after targeting and no mean reversion in their control sample, although other studies did find mean reversion among poorly performing firms.

A different strategy seeks to document abnormal returns around the date when a formal shareholder proposal is announced. Here no obvious pattern emerges, perhaps for several reasons.²¹ One is that it is not clear what an "event" means. For example, a formal shareholder proposal could be the result of management's inflexibility, whereas successful informal negotiations could indicate that management responded to shareholder interests. Also, considerable uncertainty surrounds the "event" date, because shareholder proposals are often discussed informally prior to formal announcement (Black 1998).

Yet another strand in the research literature explores the relationship between activism and discrete corporate events, such as CEO turnover, asset sales, or spin-offs. Earlier studies produced mixed results, but Del Guercio and Hawkins (1999) criticized these efforts for failing to account for the heterogeneity in investment strategies among different funds and the impact of these strategies on efforts to affect corporate governance.²² For example, since the CalPERS, California State Teachers Retirement System (CalSTERS), and the New York City Funds (NYC) rely on indexing and outside managers, they cannot walk away if they do not like the performance of a particular stock. Therefore, these plans are interested in improving the overall performance of the market; as a result they pursue more generic topics, such as confidential voting, and are happy to make their moves very public, since they want spillover effects. In contrast, CREF is 80 percent indexed but actively manages the remainder of the assets, and the State of Wisconsin Investment Board (SWIB) is internally managed and actively engaged in stock picking. These latter plans tend to have narrow firm-specific goals, such as eliminating poison pills, and they generally try to avoid publicity, since they can make money by buying a stock before they target a company and earn a gain from the effort. Taking account of the heteroge-

neity in strategies, Del Guercio and Hawkins find that targeted companies experience more asset sales, restructuring, spin-offs, and employee layoffs during the next three years than a control sample.

One problem in this type of analysis, however, is that targeted firms are generally poor performers, and poor performers are more likely to experience turnover in top management or a takeover than strong performers. Hence, it is necessary to use a control group of equally poor performers in the same industry. If the researchers use a less sophisticated measure to select the control group than institutions use to target firms, the study could produce a spurious correlation between activism and the governance event (Black 1998).

The conclusion that emerges from the review of the empirical literature is that some studies have found a positive relationship between shareholder activism and firm performance, but the results are still far from robust. Perhaps this should be expected given that funds do not spend very much on this activity, do not act jointly, do not conduct proxy fights, and do not try to elect their own candidates to the board of directors.²³ Alternatively, individual firm data may not be the place to look for success; the impact of shareholder activism may emerge in the form of changing corporate culture. For example, shareholders rarely persuade companies with staggered boards to repeal their provisions, but few companies are making new staggered board proposals because their chances of success are low (Del Guercio and Hawkins 1999).

It is important to reiterate two points before turning to the topic of divestiture. First, the debate with regard to shareholder activism is generally about the magnitude of the positive response from this form of activity, not concern about fund losses. Second, with regard to the social security debate, the issue would not arise at all; all proposals to invest the trust fund in equities require that the proxy voting be undertaken by the individual portfolio managers or not used at all.

Divestiture

It is sometimes argued that public pension plans face pressure to sell assets for political reasons, an issue known as "divestiture." In practice, divestiture has been a one-issue phenomenon, focused on South Africa investments during the apartheid period. Beyond South Africa, politics has not led to divestiture; issues raised in some states by Northern Ireland generally have been resolved by companies promising to adhere to human rights principles not by funds selling stock. Public plans have generally resisted divestiture of tobacco stocks, and to the extent that divestiture has occurred, it has responded to concern about risk-adjusted returns rather than social considerations.

The Issues

Divestiture issues have arisen in three cases: South Africa, Northern Ireland, and tobacco.

South Africa. As opposition against the South African government apartheid policy increased during the 1970s, social activists charged that companies investing in South Africa indirectly supported the government and its discrimination policies. In an initial effort to resolve the conflict, the Reverend Leon Sullivan in 1977 introduced a set of guidelines for companies doing business in South Africa, the so-called "Sullivan principles," that called for nonsegregation of races and equal pay for equal work. However, many felt that the Sullivan principles did not go far enough, and in the wake of the continued controversy, Reverend Sullivan called in 1987 for companies to withdraw completely from South Africa.

During this period, the majority of public pension plans put restrictions on or divested their South Africa holdings (Romano 1993). For example, California banned investment in South Africa in 1986, giving the pension plans four years to unload their investments. By the end of 1990, the plans had sold \$11 billion in stocks and bonds, representing about 10 percent of the portfolio (Schnitt 1994). New Jersey banned investments in 1985 and sold \$4 billion or 15 percent of its total holdings (Price and Schramm 1991).

In 1993, as the apartheid government started unraveling, African National Congress President Nelson Mandela urged international investors to lift their sanctions. State and local governments and public pension plans quickly responded. New York City's retirement system, one of the country's largest plans managing \$48 billion in assets, dropped restrictive legislation the following month (Fortune 1993). California lifted its ban in early 1994, and CalPERS immediately bought \$1 billion worth of stock previously barred (Schnitt 1994). Within a few months, a majority of funds had eliminated their policies against investment in South Africa and started to invest in companies previously not available.

Northern Ireland. All references to South Africa have been eliminated from state law; the only country currently cited with any frequency is Northern Ireland.²⁴ Thirteen states and the District of Columbia have expressed concerns about the discrimination against Catholics in Northern Ireland in their state laws. The state laws and pension board policies regarding Northern Ireland generally do not prohibit investment or call for divestiture. Instead, states have required companies doing business in Northern Ireland to sign onto the "MacBride principles," a set of policies aimed at eliminating religious discrimination (Appendix Table 3).

Tobacco. In the 1990s, attention turned to tobacco companies. In view of pending lawsuits against tobacco companies, investigation of tobacco advertising, and antismoking campaigns, pension funds have faced increased pressure from lawmakers and regulators to sell their tobacco stocks. Some

proponents of divestiture base their case on social philosophy; but most argue that pending litigation against tobacco companies and possible legislation have made investing in tobacco stock much riskier.

Among institutional investors, interest in divestiture of tobacco stocks was originally based on health and moral issues. The first wave of divestitures occurred in the mid-1980s when several public health associations, foundations, and religious organizations sold their tobacco holdings citing ethical conflicts. The second wave of tobacco divestitures, which involved university endowments, occurred in the early 1990s. Among private pension plans, CREF created a tobacco-free account in 1990 but has not divested any tobacco stock so far (Investor Responsibility Research Center 1997a).

It was only when the financial risk associated with tobacco holdings was perceived to have increased markedly that states began to advocate divestiture.²⁵ So far, although several states have proposed banning investments in tobacco stocks, only one state—Massachusetts—has done so.²⁶ In other states, when state lawmakers have proposed divestiture bills, they have generally been met with strong opposition from the pension plans. For example, in California, CalPERS forcefully opposed divestiture, arguing that any form of divestiture contradicts a passively managed long-term index strategy (*Los Angeles Times* 1998).²⁷

Table 6 summarizes the current policy on tobacco investments by public plans. In addition to the Massachusetts state legislation, public plans in eight other states have introduced their own restrictions on tobacco holdings. In some cases, these restrictions have required plans to divest; in other cases, pension funds have kept their current tobacco stock but put restrictions on future investments. Overall public pension plans have sold only between 5 percent and 10 percent of their tobacco holdings (Narayan 1997; Investor Responsibility Research Center 1997a, b, c, d, e, f, 1998). The biggest divestiture occurred in Florida, where the pension system in 1997 sold all its tobacco holdings valued at \$835 million, this sale alone accounts for more than two-thirds of public pension plans' total divestiture of tobacco stocks (Investor Responsibility Research Center 1997f).

The Impact of Divestiture on Pension Fund Returns

Investment policies that include selecting assets based on criteria other than risk and return have a negative effect on expected risk-adjusted returns, since restricting the selection of stocks makes it more difficult to eliminate systematic risk through diversification.

South Africa. The experience with divestiture of companies doing business in South Africa turned out to be different in practice than in theory because of some unique circumstances. During the early 1980s, South Africa-free portfolios actually performed better than nondivested portfolios (Grossman and Sharpe 1986; Angelis 1998). Because companies with South Africa

TABLE 6. Investment Policies in Tobacco Stock of State and Local Pension Plans

<i>State</i>	<i>Law</i>	<i>Year</i>
<i>Investment policy by state law</i>		
Massachusetts	Must divest tobacco holdings within three years; local pension boards exempt from divestment requirements but cannot buy additional tobacco stock	1997
<i>Pension plan</i>		
<i>Investment policy by pension board</i>		
Denver Employee Retirement Program	Divest holdings of tobacco	1996
Florida State Retirement Trust Fund	Divest all holdings of tobacco	1997
Maryland State Retirement and Pension Systems	Sold all tobacco stock but retains right to purchase tobacco stock at future date	1996
Minnesota State Board of Investments	Froze tobacco holdings in actively managed accounts; no restrictions on tobacco holdings in index funds	1998
New York State Teachers' Retirement System	Underweight tobacco in index fund by 25 percent	1996
New York State Common Retirement Fund	Froze future investments of tobacco stock in actively managed funds; no restriction on investments in tobacco stocks in the indexed portion of the portfolio	1996
New York City Employees' Retirement System	Froze tobacco investments in index funds; no restrictions on actively managed accounts but money managers have been advised to "use caution" when considering future tobacco investments	1998
Pennsylvania Public School Employees' Retirement System	Froze tobacco investments	1997
Philadelphia Municipal Pension Fund	Divested tobacco stock	1997
San Francisco City and County Employees' Retirement System	Voted to divest tobacco holdings; sold holdings in index fund.	1998
Vermont State Employees' Retirement System and Vermont State Teachers' Retirement System	Divested tobacco stock	1997

Source: Derived from Social Investment Forum (1998) and IRRIC Investor's Tobacco Reporter (1997a, b, c, 1998a, b, c, d, e).

Some smaller city plans have also divested their tobacco stock: Boston, Mass., 1997; Burlington, Vt., 1997; Cambridge, Mass., Retirement Systems, 1990, and Fulton County, Ga., 1994.

ties were large companies, the divestiture created a bias toward small capitalization stocks. During this period, small cap firms returned a premium over their risk-adjusted returns, resulting in overall better returns for the divested portfolios (Grossman and Sharpe 1986).

For the late 1980s, the story is more mixed. For the five-year period 1985–89, the S&P 500 including South Africa stocks performed slightly better than the South Africa-free version of the index (*Pensions and Investments Age* 1989). Using data on a subset of public pension plans, Romano (1993) found that restrictions on South Africa investments had a small but statistically significant negative effect on returns for the same time period. Another study by a consulting firm, the Brian Rom Corporation, shows that portfolios without South Africa stock ties performed somewhat better than those portfolios with South Africa stock over the same time period (*Pensions and Investments Age* October 1989). However, the authors attribute the success to the superior management skills of those in charge of the South Africa-free portfolios rather than to restricting investments in South Africa.

Using PENDAT data from the early 1990s, the analysis presented earlier in this paper shows no significant effect on returns of restrictions on investing in South Africa. Thus, taking the pre-1993 period as a whole, while theory would suggest that the South Africa divestiture would reduce returns, special circumstances produced neutral to positive results.

Tobacco. In contrast to the pervasiveness of businesses involved in South Africa, tobacco companies constituted less than 2 percent of the holdings of state and local plans even before any divestiture. Therefore, any financial effect of divestiture should be quite small. Indeed, over the ten-year period 1986–96, the S&P 500 including tobacco stocks showed a return only 16 basis points higher on an annual basis than the S&P 500 without tobacco stocks. The S&P 500 data also suggests that the risk-return trade-off has worsened in the 1990s. For the five-year period 1991–96, the S&P 500 portfolio including tobacco stock had 15 basis points lower return on an annual basis and a higher coefficient variation than the portfolio excluding tobacco stock (Hemmerick 1997). This trend has continued and recent data show that for the five-year period ending February 1999, every major tobacco stock underperformed the S&P 500 on a risk-adjusted basis (Social Investment Forum 1999). This decline in risk-adjusted return provides a justification for selling tobacco stock for financial rather than social considerations.²⁸

To conclude, divestiture policies do not seem to have affected public pension plans to any great extent.²⁹ The widespread divestiture of investments with South Africa ties during the 1980s was a unique event. Divestiture of South Africa assets was not limited to public pension plans but reflected a policy supported worldwide to impose economic sanctions against South Africa. Recent experience with tobacco indicate that most public pension plans continue to hold tobacco stocks and argue that investment policies

should be based on risk and return considerations, rather than on social arguments.

Pensions as a Safety Valve

The final way in which politics could enter into plan performance arises if states and localities turn to their pension funds in times of fiscal distress. Public pensions are regulated by states, with state law setting investment policies as well as rules for the composition of the pension board. Pension boards usually consist of a combination of members elected by the plans' participants, members appointed by the state, and members named *ex officio* (for example, the state treasurer or comptroller) (Romano 1993). The role of the state in the regulation of pension plans and the presence of political officials on pension boards can create a conflict of interest between states and plan participants. In particular, states may see pension plans as a source of revenue in times of fiscal stress and be tempted to use pension funds to cover shortfalls in their budgets (Hushbeck 1993).

It has been very uncommon for states directly to transfer money intended for pension contributions to the general budget, so that states would fail to make their legally required pension contributions (Hushbeck 1993). In the cases where states have turned to pension plans, it has been more common to change actuarial assumptions in order to reduce the states' required contributions to the plan. Changing assumptions can free up funds but still allow the state to make its required contribution to the pension fund. However, not every change in assumptions is an attempt to reduce contributions; in many cases, changes are justified by improved economic conditions, increased rate of return, or changes in the funds' asset mix.

Use of Pension Funds in State Budgets

The financial health of public pension plans improved dramatically during the 1980s. They adopted actuarially sound funding methods, benefited from increased contributions to their funds, and were subject to improved oversight. These changes and higher investment returns during the 1980s, helped improve funding. In 1993, the median plan's stock funding ratio had risen to 97 percent and the mean ratio was 95 percent (Mitchell and Carr 1996).³⁰

By contrast, many states faced severe budget deficits in the early 1990s. Given the improved financial status of pension funds, a few state governments did in fact turn to their public plans for assistance.³¹ One publicized case occurred in California, where the state faced a \$14.3 billion budget deficit in 1991. The legislature allowed the state to reduce its required pension contributions to CalPERS by \$1.6 billion to help reduce the budget shortfall, an amount representing 2.4 percent of total assets and equal to what the sys-

tem had earned in excess of projected earnings for the year (Durgin 1991).³² This was the first time any state government actually used money for general budgetary purposes from funds earmarked for the pension system. CalPERS lost its suit in state court and the money was transferred to the general budget. California again failed to make the full required pension contributions in 1992 and 1993 (Vrana 1997). Fund administrators again filed suit in 1994 to stop the practice, and eventually, in 1997, the California Supreme Court ruled that workers had a right to an actuarial sound pension system, and ordered the state to pay back the money to the pension system. The funds were paid back in full during the 1997–98 fiscal year (Hushbeck 1993; Romano 1993; Gunnison 1997; Walsh 1997; Walters 1997).³³

The direct use of pension funds, as occurred in California, proves to be a rare occurrence in the history of U.S. public pension plans. In times of fiscal stress, it has been more common for states to use indirect methods to free up funds. Instead of reducing already committed contributions to the pension system, states have sometimes changed actuarial methods or assumptions to reduce required contributions. For example, the real discount rate of pension obligations is determined by the difference (the spread) between the assumed rate of return and the rate of assumed wage growth. The higher the discount rate, the lower future pension obligations will be, reducing the state's required contributions to the pension fund.

Many pension systems have changed their interest rate assumptions over time, but the evidence suggests that most of these changes can be justified on economic grounds.³⁴ For example, Mitchell and Smith (1994) examined the spread for public pension plans over the 1980s, and found a mean spread of 2 percent, a number close to the historic real interest rate. Based on this, they concluded that state governments had not strategically altered the spread to lower required contributions. Dulebohn (1995) reached a similar conclusion in the early 1990s.

In practice, it can be difficult to distinguish between what is actuarially correct, and what is done to help state budgets.³⁵ Even though the survey evidence does not indicate widespread manipulation of actuarial assumptions, a few states have clearly changed actuarial assumptions or accounting methods to cover budget deficits.³⁶ As one example, Governor Cuomo of New York argued that public pension assets should be considered one tool among many to deal with the needs of the state. In 1990, the state switched accounting methods creating a surplus for the pension fund and reducing the state's required contribution to zero (Hemmerick and Schwimmer 1992). In response, the pension system filed suit. A state court ruled that the proposed change would divert pension funds to cover current budget deficits and ruled it illegal in 1993. At that point, the state was ordered to pay back \$403 million, an amount equal to what would have been contributed under the old accounting scheme (Sorenson 1995).

New Jersey also changed accounting methods in 1992, to increase the

value of the public pension fund, which reduced that year's required contributions by \$773 million. Since required contributions based on the *old* accounting method had already been deposited into the pension system, and using the *new* accounting method the state had contributed \$773 million more than required, the state transferred the "excess" amount from the pension system to the state treasury. A similar bookkeeping change was made in 1994, reducing required contributions by \$180 million, with the total adjustment representing approximately 2 percent of assets. The Internal Revenue Service (IRS) launched an inquiry into these transfers arguing that once money was paid into the pension system any removal of money was prohibited. The state counterclaimed that it had the right to recover contributions made in excess of required contributions the same year they were made. Before the case went to court, an agreement was reached in which the state agreed to pay back the money in form of excess contributions over several years (Pulley 1996).

As a final example of politics influencing public pension finance, in a few instances plans have agreed to come to the assistance of a state or local government. When Philadelphia was on the verge of bankruptcy in 1991, the city obtained a short-term loan of \$140 million from the state's well-funded public school employees retirement system. The money was paid back quickly and with interest without threatening the financial status of the pension plan (Eithelberg 1991).

To conclude, states have occasionally tried to use pension funds as a source of revenue in times of fiscal pressure. However, in a few instances of obvious misuse of funds, that state courts have protected participants and ordered the payment reinstated. Although states sometimes have changed actuarial assumptions to free up funds, studies prove no evidence of systematic misuse of assumptions. Further, funding ratios have not been reduced; the PENDAT data from 1991–97 indicates that the mean funding ratio has consistently been around 95 percent.

Conclusions

Our exploration of public pension investment policy highlights—despite reports of widespread economic targeting and screening (Franco, Rappaport, and Storey 1999)—the limited extent to which social or political considerations affect the performance of state and local pension funds. Economically targeted investing, which caused such a stir in the 1980s, accounts for no more than 2.5 percent of total state and local portfolios, and does not appear to hurt investment performance. In terms of shareholder activism, very little activity is going on, and the little that is going on is more likely to help than hurt pension fund performance. In terms of divestiture, public plans generally resist selling stocks for political purposes and try to exhaust

all avenues of compromise before taking such an action. Finally, the evidence of states trying to use pensions as a safety valve indicates that affected parties will sue, and the courts will protect the rights of participants.

In our view, it is particularly remarkable that so little social investing has taken place at the state and local level given that many of these public plans lack the federal protections afforded corporate pension plans and those envisioned for possible social security equity investment (see Aaron and Reischauer 1998; Advisory Council on Social Security Reform 1996; Ball 1998; and Munnell and Balduzzi 1998). First, little attempt is made to keep politicians away from public plans; in fact, many plans have the state treasurer and other elected officials sitting on the pension board. In the case of Social Security Trust Fund investments, Congress would be expected to establish an expert investment board, similar to the Federal Reserve Board or the Federal Retirement Thrift Investment Board that administers the federal employee Thrift Savings Plan. To insulate such a board from political influence, members would be appointed for long and staggered terms. Second, many state and local plans are still managed in-house where state employees select individual stocks. In contrast, for social security investments, the board would be required to select a broad index fund, such as the Russell 3,000 or the Wilshire 5,000, and it would have to hire private sector money managers on a competitive basis. We believe that such safeguards would prevent even the modest amount of social investing that we found at the state and local level.

One final note, regarding a factor that was not investigated but rather taken for granted throughout this study—namely, the ability of a government entity to contribute to national saving. Some critics argue that it is not possible for the government to accumulate reserves; they claim that any buildup will be dissipated in the form of higher benefits or used to justify a tax cut. But state and local governments have really accumulated reserves to fund their pension obligations; they have not given the funds away in the form of higher benefits; their plans are now roughly 95 percent funded. Nor have they used the large surpluses in their pension accounts to justify deficits in their operating budgets. Their nonretirement budget balance has fluctuated around zero, while annual surpluses in their retirement funds have averaged roughly 1 percent of gross domestic product (GDP). Thus, states appear to be adding to national saving through the accumulation of pension reserves. If it can be done at the state level, it certainly should be possible at the federal level.

The authors would like to thank the editors of this volume, Henry J. Aaron, Pierluigi Balduzzi, Robert M. Ball, Francis Cavanaugh, Peter A. Diamond, James Duggan, Ian Lanoff, Richard Leone, John Nofsinger, and Peter Orszag for helpful comments.

APPENDIX TABLE 1. Multivariate Analysis of Rate of Return of State and Local Pension Plans ETI Activity Measured as an Indicator Variable

	1991		1993		1995		1997		Pooled	
	ROR90	RORAVG	ROR92	RORAVG	ROR94	RORAVG	ROR96	RORAVG	RORCUR	RORAVG
<i>Management strategies</i>										
HINSTATE	-1.94 (1.61)	1.29 (0.83)	-0.56 (0.82)	0.39 (0.61)	-0.59 (1.17)	0.20 (0.42)	0.90 (1.18)	0.02 (0.64)	-0.55 (0.56)	0.60 (0.46)
RESTRICT	1.21 (1.00)	1.16** (0.54)	0.68 (0.50)	0.89** (0.40)	0.10 (0.79)	0.48* (0.27)	-0.66 (0.62)	-0.19 (0.35)	0.53 (0.37)	0.59* (0.23)
SOUTH AFRICA	-0.69 (0.81)	0.21 (0.43)	-0.91** (0.43)	0.16 (0.36)	-0.53 (0.82)	-0.46 (0.29)	1.09 (0.67)	0.38 (0.38)	-0.45 (0.35)	0.00 (0.20)
<i>Portfolio composition and size</i>										
EQUITY%	0.02 (0.03)	0.00 (0.01)	-0.01 (0.01)	0.03** (0.01)	-0.05** (0.02)	0.01 (0.01)	0.16* (0.01)	0.07** (0.01)	0.03** (0.01)	0.03** (0.01)
SIZE	-0.05 (0.18)	0.07 (0.10)	-0.10 (0.09)	-0.04 (0.07)	0.05 (0.13)	0.08 (0.05)	0.22** (0.10)	0.12** (0.05)	0.01 (0.07)	0.06* (0.03)
<i>Management and reporting practices</i>										
OUTEVAL	-2.33** (1.03)	-0.10 (0.58)	1.34** (0.60)	-0.16 (0.56)	-1.20 (1.02)	0.11 (0.34)	-2.75** (0.83)	-0.94* (0.51)	-0.87* (0.48)	-0.04 (0.26)
ADINVST	-0.66 (0.81)	-0.95** (0.43)	0.28 (0.43)	0.23 (0.35)	-0.88 (0.66)	-0.15 (0.22)	0.02 (0.45)	-0.11 (0.25)	-0.16 (0.29)	-0.19 (0.16)
PROXY	-	-	-	-	-	-	-0.31 (0.58)	-0.32 (0.32)		

<i>Board composition</i>										
ELCTMEMB	-0.03*	-0.02**	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)	(0.00)	(0.01)	(0.00)
<i>Year</i>										
YEAR91									-5.35**	0.60**
									(0.57)	(0.27)
YEAR93									-4.11**	-0.14
									(0.42)	(0.23)
YEAR95									-12.13**	-2.48**
									(0.43)	(0.17)
CONSTANT	11.46**	10.84**	10.77**	10.17**	4.57	7.01**	2.95	5.83**	12.84**	8.74**
	(3.62)	(1.92)	(1.84)	(2.02)	(3.00)	(1.14)	(2.04)	(1.14)	(1.44)	(0.83)
<i>R</i> ²	0.08	0.13	0.07	0.08	0.07	0.09	0.50	0.40	0.55	0.30
Number of Observations	155	132	220	123	144	120	166	156	698	543

Source: Authors' calculations using PENDAT (see Zorn 1991, 1993, 1995, 1997).

"Size" variable is measured as the natural log of assets. Standard errors in parentheses. HINSTATE is an indicator variable for ETI activity.

**Significant at the 5 percent level. *Significant at the 10 percent level.

For variable definitions see Table 2.

APPENDIX TABLE 2. Multivariate Analysis of Rate of Return of State and Local Pension Plans ETI Activity Derived from Boice Dunham Group

	1993	
	ROR92	RORAVG
<i>Management strategies</i>		
GOLDMAN	-1.06 (0.83)	0.15 (0.59)
RESTRICT	0.71 (0.49)	0.89** (0.40)
SOUTH AFRICA	-0.91** (0.43)	0.15 (0.36)
<i>Portfolio composition and size</i>		
EQUITY%	-0.01 (0.01)	0.03** (0.01)
SIZE	-0.06 (0.10)	0.03 (0.08)
<i>Management and reporting practices</i>		
OUTEVAL	1.27** (0.59)	-0.02 (0.54)
ADINVST	0.36 (0.44)	0.27 (0.35)
<i>Board composition</i>		
ELCTMEMB	-0.01 (0.01)	0.00 (0.01)
CONSTANT	10.05** (1.88)	9.85** (1.61)
R ²	0.07	0.09
Number of Observations	223	126

Source: Authors' calculations using Boice Dunham Group (1993) and PENDAT (see Zorn 1993). GOLDMAN is an indicator variable for ETI activity derived from Boice Dunham Group (1993).

Note: Standard errors are in parentheses.

**Significant at the 5 percent level. *Significant at the 10 percent level.

For variable definitions see Table 2.

APPENDIX TABLE 3. State Investment Prohibition Laws

<i>State</i>	<i>Policy</i>	<i>Source</i>
Alabama	None	Code of Alabama
Alaska	None	Code of Alaska
Arizona	None	Code of Arizona
Arkansas	None	Code of Arkansas
California	General prohibition of investment in firms furthering or complying with <i>Arab League</i> boycott of Israel.	California Government Code §16649.81 (1999)
	On or after January 1, 1994, state trust moneys shall not be used to make additional or new investments in business firms that engage in discriminatory business practices in furtherance of or in compliance with the <i>Arab League's</i> economic boycott of Israel.	California Government Code § 16649.81 (1999)
Colorado	None	Code of Colorado
Connecticut	Urge companies to follow MacBride principles. Beginning in 1987, divest all holdings in <i>Northern Ireland</i> and invest no new funds unless such corporations have implemented the MacBride principles.	Connecticut General Statute §13-13h (1997)
	No investment in <i>Iran</i> .	Connecticut General Statute §3-13g (1997)
District of Columbia	Any assets of the funds invested after March 16, 1993, in stocks, securities, or other obligations of any institution or company doing business in or with <i>Northern Ireland</i> shall be invested to reflect advances to eliminate discrimination made by these institutions and companies, pursuant to the MacBride principles.	D.C. Code §1-721 (1998)
Delaware	None	Code of Delaware

APPENDIX TABLE 3. Continued

<i>State</i>	<i>Policy</i>	<i>Source</i>
Florida	Any moneys or assets of the System Trust Fund, which shall remain or be invested on and after October 1, 1988, in the stocks, securities, or other obligations of any institution or company doing business in or with <i>Northern Ireland</i> , or with agencies or instrumentalities thereof, shall be invested subject to the provisions of Mac Bride principles. The State Board of Administration shall divest any investment and is prohibited from investment in stocks, securities, or other obligations of any institution or company doing business in or with <i>Cuba</i> .	Florida Statute §121.153 (1998) Florida Statute §215.471 (1998)
Georgia	None	Code of Georgia
Hawaii	None	Code of Hawaii
Idaho	None	Code of Idaho
Illinois	None	Code of Illinois
Indiana	None	Code of Indiana
Iowa	None	Code of Iowa
Kansas	None	Code of Kansas
Kentucky	None	Code of Kentucky
Louisiana	None	Code of Louisiana
Maine	The treasurer of state and the Board of Trustees shall review the extent to which U.S. corporations or their subsidiaries doing business in <i>Northern Ireland</i> , in which the assets of any state pension or annuity fund are invested, adhere to the MacBride principles.	Maine Revised Statutes §1955 (1997)
Maryland	None	Code of Maryland

Massachusetts	<p>No funds shall be invested in any bank or financial institution which has outstanding loans to any individual or corporation engaged in the manufacture, distribution or sale of firearms, munitions, including rubber or plastic bullets, tear gas, armored vehicles or military aircraft for use or deployment in any activity in <i>Northern Ireland</i>, and no assets shall be invested in the stocks, securities or other obligations of any such company so engaged.</p> <p>No new investment of funds shall be made in stocks, securities or other obligations of any company that derives more than 15 percent of its revenues from the sale of tobacco products.</p>	<p>Massachusetts Annotated Laws Ch. 15A, §40 (1999)</p> <p>Massachusetts Annotated Laws Ch. 32, §23 (1999)</p>
Michigan	None	Code of Michigan
Minnesota	<p>Whenever feasible, the board shall sponsor, cosponsor, or support shareholder resolutions designed to encourage corporations in which the board has invested to pursue a policy of affirmative action in <i>Northern Ireland</i>.</p>	Minnesota Statutes §11A.241 (1998)
Mississippi	None	Code of Mississippi
Missouri	<p>Whenever feasible, the state treasurer shall sponsor, cosponsor or support shareholder resolutions designed to encourage the bank, financial institution or other corporation in which the state treasurer or other state agency has invested state funds to pursue a policy of affirmative action in <i>Northern Ireland</i>.</p> <p>Nothing in this section shall be construed to require the state treasurer or any other state agency to dispose of existing investments or to make future investments that violate sound investment policy.</p>	§30.720 Revised Statutes of Missouri (1997)
Montana	None	Code of Montana

APPENDIX TABLE 3. Continued

State	Policy	Source
Nebraska	With respect to corporations doing business in <i>Northern Ireland</i> , the state investment officer shall, consistent with the MacBride principles, invest in corporate stocks or obligations in a manner to encourage corporations that in the state investment officer's determination pursue a policy of affirmative action in <i>Northern Ireland</i> .	Revised Statutes of Nebraska §72-1246.07 (1998)
Nevada	None	Code of Nevada
New Hampshire	Whenever feasible, the treasurer shall sponsor, cosponsor or support shareholder resolutions designed to encourage corporations doing business in <i>Northern Ireland</i> in which the treasurer has invested to adopt and implement the MacBride principles.	Revised Statutes Annotated 6:33 (1999)
New Jersey	Consistent with sound investment policy and prudent fiduciary standards, the treasurer shall, with respect to state funds available for future investment in corporations doing business in <i>Northern Ireland</i> , invest such funds in corporations conducting their operations in <i>Northern Ireland</i> in accordance with the MacBride principles and fair employment practices.	Revised Statutes Annotated 6:34 (1999)
New Mexico	None	Code of New Mexico
New York	Consistent with sound investment policy, the comptroller shall invest the assets of the common retirement fund in such a manner that the investments in institutions doing business in or with <i>Northern Ireland</i> shall reflect the advances made by such institutions in eliminating discrimination as established pursuant to the MacBride principles.	New York Consolidated Law Services Retirement & Social Security S §423-a (1998)

North Carolina	None	Code of North Carolina
North Dakota	None	Code of North Dakota
Ohio	None	Code of Ohio
Oklahoma	None	Code of Oklahoma
Oregon	None	Code of Oregon
Pennsylvania	Consistent with sound investment policy, the board shall invest the assets of the fund in such a manner that the investments in institutions doing business in or with <i>Northern Ireland</i> shall reflect the advances made by the institutions in eliminating discrimination as established pursuant to the MacBride principles.	Title 24 Pennsylvania Consolidated Statutes § 8527 (1998)
Rhode Island	The general treasurer, in accordance with sound investment criteria, is encouraged to make future pension fund investments in U.S. firms which conduct business in <i>Northern Ireland</i> and which abide by the MacBride Principles of fair employment.	Rhode Island General Laws §35-10n-14 (1998)
South Carolina	None	Code of South Carolina
South Dakota	None	Code of South Dakota
Tennessee	None	Code of Tennessee
Texas	The comptroller may not use state funds to invest in or purchase obligations of a private corporation or other private business entity doing business in <i>Northern Ireland</i> unless the corporation or other entity (1) adheres to fair employment practices and (2) does not discriminate on the basis of race, color, religion, sex, national origin, or disability.	Texas Government Code §404.024 (1999)
Utah	None	Code of Utah
Vermont	None	Code of Vermont
Virginia	None	Code of Virginia
Washington	None	Code of Washington
West Virginia	None	Code of West Virginia

APPENDIX TABLE 3. Continued

<i>State</i>	<i>Policy</i>	<i>Source</i>
Wisconsin	None	Code of Wisconsin
Wyoming	None	Code of Wyoming

Source: Derived by authors from state laws.

The MacBride Principles are used to determine the existence of affirmative action taken by institutions or companies doing business in Northern Ireland to eliminate ethnic or religious discrimination based on actions taken for: (1) increasing the representation of individuals from underrepresented religious groups in the work force, including managerial, supervisory, administrative, clerical and technical jobs; (2) providing adequate security for the protection of minority employees, both at the workplace and while traveling to and from work; (3) the banning of provocative religious or political emblems from the workplace; (4) publicly advertising all job openings and making special recruitment efforts to attract applicants from underrepresented religious groups; (5) providing that layoff, recall and termination procedures should not in practice favor particular religious groupings; (6) the abolition of job reservations, apprenticeship restrictions and differential employment criteria which discriminate on the basis of religion or ethnic origin; (7) the development of training programs that will prepare substantial numbers of current minority employees for skilled jobs, including the expansion of existing programs and the creation of new programs to train, upgrade and improve the skills of minority employees; (8) the establishment of procedures to assess, identify and actively recruit minority employees with potential for further advancement; and (9) the appointment of senior management staff members to oversee affirmative action efforts and the setting up of timetables to carry out affirmative action principles.

Notes

1. The compendium, which supports targeted investing, was designed as "the first step in the creation and analysis of a detailed database that pension fund trustees, public officials, pension consultants, and others can use when considering ETI programs and evaluating their appropriateness for funds" (p. 1).

2. A similar view of ETIs is expressed by U.S. Department of Labor (1992) and Watson (1994). Freddie Mac and Fannie Mae were established originally by the federal government to ensure that affordable mortgages are available to low- and middle-income households. To increase the supply of mortgage funds, Freddie Mac and Fannie Mae buy mortgages in the secondary market and sell them as securities to investors thereby freeing up more funds for mortgage lending. Both entities are now owned by private investors.

3. Boice Dunham Group surveyed the 50 state public employee retirement funds (representing \$535.7 billion of assets) and the 54 largest other public employee retirement funds (representing \$318.9 billion of assets), 6 of which (representing \$30.3 billion of assets) refused to participate. The participating funds with \$887.3 billion of assets represented about 73 percent of estimated total state and local pension fund financial assets as of June 1993 (\$1167.6 billion as of end of 1992 and \$1255.9 billion as of end of 1993 suggests about \$1211.8 billion as of mid-year).

4. The survey asked in various years: "What percentage of the portfolio is directed in-state for developmental purposes? (1991 and 1993)" "What percent of the portfolio is targeted in-state? (1995)" "Is a portion of the portfolio targeted or directed in-state for economic development purposes? If yes, what percentage of your portfolio is targeted in-state? (1997)"

5. In addition to the comprehensive surveys reported above, partial surveys yield similar results. For example, a 1996 report on the twenty largest public plans showed that ETIs accounted for 2.9 percent of total holdings. Given that large plans are more likely than small ones to engage in ETI activities, this survey is fully consistent with those reported for the nation as a whole (*Spencer's Research Reports* 1997).

6. Nofsinger (1998) and Romano (1993) both included a variable for the percentage of the board elected by fund members, but they did so for opposite reasons and expected coefficients of opposite signs. Romano's hypothesis was that board members who are elected by fund members, as opposed to appointed or ex officio, are not political and therefore would not be pressured or lured into ETI activity. Romano expected and found a positive relationship between elected board members and rate of return. Nofsinger included the identical variable to represent agency costs resulting from organizational inefficiency, in that beneficiaries will not take account of the burden they are imposing on future tax payers if ETIs have a negative impact on returns. He anticipated and found a negative (but generally not statistically significant) coefficient.

7. In 1991, ETI activity appears to have a significant positive effect on rate of return, but this is not consistent with either theory or results for later years. It can only be regarded as an anomaly.

8. GAO (1995) conclusions are consistent with the findings reported in this paper, but they cannot be used as supporting evidence since the agency examined only seven plans that had a history of success in ETI investing and therefore were not representative. GAO found that the returns for the ETIs promoting business development were generally similar to the returns of benchmark investments. The only exception was that the performance of ETI venture capital (3.2 percent of total ETI activity) sometimes appeared to lag the comparison investments.

9. At first glance, Table 3 in the Romano article gives the reader a very different impression about the success of the empirical analysis because the author uses a one-tailed rather than a two-tailed test to evaluate statistical significance.

10. Even though this study provides little support for the contention that state and local pension plans sacrifice large returns for social objectives, critics of government investment have repeatedly mischaracterized the results. For example, the original text read "The results imply that 10% more in-state investments are associated with a 1% drop in return" (p. 109). Based on this statement a 1995 Joint Economic Committee *Economic Update* "The Economics of ETIs: Sacrificing Returns for Political Goals" claimed that "After controlling for differences in size and type of investment, she [Olivia Mitchell] concluded that ETIs were associated with an average 2 percentage point reduction in investment returns." In a September 18, 1995 letter to the Committee, Mitchell clarified that the JEC *Economic Update* had misinterpreted her results. She wrote, "The reported coefficient was quite small: -0.08 . To gauge the magnitude of this estimate, suppose we hypothesize that the fraction of in-state holding in state and local pension plans were to grow to 150 percent of their 1990 level, holding all else constant including risk. The predicted effect on returns would be a decline of 0.17 of 1 percentage point -17 basis points, and not the figure of 200 basis points your press release proposes." Similarly, Alan Greenspan (1999) appears to be referring to this article when he says "it has been shown that state pension plans that are required to direct a portion of their investments in-state and those that make 'economically targeted investments' experience lower returns as a result."

11. One problem with the PENDAT data is the large number of missing values on key variables, which means that without imputation many plans must be dropped from the analysis. Diligent researchers try to avoid eliminating a large number of observations by making educated guesses about what the missing information might be. If those are not well documented, however, it is difficult to duplicate the results.

12. Our analysis indicates that the author may have omitted the 7 largest systems, including California, New York, Texas, and Florida; and the reduced sample has a much higher percentage of systems with ETIs than in the original survey.

13. Results are available from the authors upon request.

14. For example, CalPERS and the Council of Institutional Investors, an umbrella organization for large institutional investors, regularly identify a handful of poorly performing firms.

15. The exception is a recent bylaw amendment calling for repealing a poison pill, which, if passed, is binding rather than advisory. The poison pill, created in the early 1980s, is a provision adopted by a number of companies to avoid hostile takeovers. Although the details of the provisions differ by company, one common technique is to issue large numbers of shares to existing shareholders. This tactic increases the price of the company by forcing the buyer to purchase the preferred stock as well as the common stock of the company. Critics have attacked the poison pill bylaw, saying that it improperly interferes with ability of the management and board of directors to run the company. Since the poison pill plays so prominently in the ability of companies to ward off hostile takeovers, the future of the poison pill bylaw is uncertain.

16. One reason why fund managers spend relatively little on shareholder activism may be that they generally do not want to hurt their returns relative to their peers nor allow their peers to free ride on their efforts.

17. The activity was a response to developments in the corporate control market (Pound 1992). In 1982, the U.S. Supreme Court dramatically changed the structure of takeover laws prevailing at the time, by effectively invalidating the restrictive take-

over laws in thirty-seven states. Without any statutory protection against hostile outside takeovers, many managers sought new anti-takeover defenses. In the year following the Court decision, 206 firms adopted antitakeover amendments compared to 22 in the previous year. The adoption of poison pills and state antitakeover legislation accelerated in 1985 after the Delaware Supreme Court and others upheld their use as an antitakeover device. By the late 1980s, poison pills and restrictive state laws posed a formidable obstacle to hostile takeover activity, and hostile takeover activity virtually ceased by 1990. Since the traditional mechanism for replacing management were not functioning effectively, many institutional investors sought to affect firm policies through the use of shareholder initiatives and proxy fights with incumbent managers.

18. Much of the following discussion reflects an excellent survey of the empirical literature by Black (1998).

19. 1997 was the first year that the corporate activism question was included in the survey. The question was framed as follows: "Has your system actively participated in corporate governance issues by voting against management on annual proxy statements or otherwise encouraging companies you hold stock in to change their management activities?"

20. For example, Daily, Johnson, Elstrand, and Dalton (1996) fail to find to find any relationship between shareholder activism and firm performance.

21. Del Guercio and Hawkins (1999) and Smith (1996) find significant negative response to proposals to eliminate a takeover defense. Strickland, Wiles, and Zenner (1996) and Wahal (1996) find significant positive returns to successful "jawboning." Smith finds significant positive returns (1.1 percent) to companies acceding to Calpers proposals, but significant negative returns (1.2 percent) to companies that resist.

22. For example, Karpoff, Malatesta, and Walkling (1996) find no correlation between activism and subsequent CEO turnover.

23. Pension funds do not coordinate their activism; in fact, they try not to target the same company in the same year. When asked why, they often cite a regulatory barrier—shareholders who act together on a voting issue and together own more than 5 percent of a company's shares must file with the SEC and risk a lawsuit by the company and other shareholders (Black 1998). But a SEC filing is not an insurmountable hurdle and companies rarely sue major institutional investors. It may be that most activist investors are trying to change the corporate culture as much as to improve the returns to any one firm, so spreading their interventions gives them maximum leverage.

24. The only other countries cited are the Arab League, Iran, and Cuba. California prohibits investment in firms furthering or complying with the Arab League boycott of Israel, Connecticut bars investment in Iran, and Florida prohibits investments in companies doing business with Cuba.

25. The City of Cambridge, Massachusetts, divested its tobacco stock in 1990, but no other divestment activity occurred until 1996 (Investor Responsibility Research Center 1997a).

26. The ban was signed into law in 1997 giving the public pension system three years to divest its tobacco holdings, which constituted about 1 percent of the overall portfolio. However, the public pension plans sold their tobacco holdings within 3 months (Investor Responsibility Research Center 1998a).

27. The divestment bill in California has not been approved by the legislature.

28. The perceived riskiness of tobacco investment was further evidenced by a recent move by RJR Nabisco, in which the company separated tobacco production from its food production.

29. Aside from tobacco, the only other divestiture activity in recent years occurred in Texas. Texas tried to ban investments in companies that produce music that glamorizes violence and denigrates women, but the ban was ruled unconstitutional. In addition, the Texas Permanent School Fund has decided to sell its holding of Disney stock, citing an ethical stand against Disney's depiction of sex, drugs, and violence in some movie productions (Guy 1998).

30. The funding ratio is measured by the ratio of accrued pension liabilities to the funds assets. However, plans use different actuarial assumptions to calculate their accrued liabilities. In order to compare funding ratios across plans, the Government Accounting Standards Board in 1987 required plans to report their liabilities using a standardized method, the stock funding method. This requirement was withdrawn in 1994, again making it difficult to compare funding ratios (Zorn 1997).

31. An early instance of misuse of pension funds took place in New York in the mid 1970s when the state pension plan bought bonds of four financially distressed agencies to avoid the state diverting contributions intended for the pension plan. The state and city pension plans also bought city bonds worth \$125 million when New York City was on the verge of insolvency. A state court originally ruled against the action, but the purchase was made possible through legislation passed by the New York State legislature and Congress (Romano 1993; Eaton and Nofsinger 1999). The city of Detroit also used pension funds to bail itself out in the early 1980s (Franco, Rappaport, and Storey 1999).

32. At the same time, the actuarial function for the pension system was transferred from CalPERS' board to an actuary appointed by the governor. The governor also tried to change the board composition so that political appointees would be in the majority rather than members elected by the plan participants; this move failed. However, in 1992 California approved a state constitutional amendment intended to protect public pension funds from similar incidents and the actuarial function was returned to the pension system (Romano 1993).

33. On a much smaller scale, but similar to California, Illinois transferred \$21 million (less than 1 percent of total funds) to the general budget in 1991. In response, the pension participants filed suit and the Illinois Supreme Court barred the transfer temporarily but lifted the block (Vosti 1991; Wheeler 1992).

34. Interest assumptions were raised in the early 1990s in Connecticut, New York, Louisiana, Minnesota, Missouri, Rhode Island, and Vermont (Eitelberg 1991).

35. Prudent pension fund management requires regular review of the validity of assumptions, and most plans follow this practice decreasing the risk that changes in actuarial methods are used to divert pension contributions (Hushbeck 1993).

36. Maine changed actuarial assumptions in 1993 but a federal court ruled the changes unconstitutional after participants filed suit (Naese 1996). In 1991, Texas reduced contribution from 7.6 percent of earnings to 6 percent of earnings, decreasing the state's required contribution by \$422 million over two years (Hushbeck 1993).

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