

Evaluating Minnesota's Performance in Managing Public Pension Liabilities

Section 2: Evaluating Minnesota's Performance in Managing Public Pension Liabilities

The State of Minnesota, primarily through the Legislature and Governor, determines the cost of public retirement programs by:

- 1) making decisions that determine how these future pension costs will be paid for; and
- 2) establishing benefit levels for both current and future retirees

As the text box on page 6 explains, legislative oversight of public pensions resides primarily in the Legislative Commission on Pensions and Retirement. No changes to Minnesota's public pension plans can be made without a bill making its way through the legislative process, beginning with that commission and ultimately with passage by both the House and Senate. In order for the bill to become law, the Governor must then sign it.

Because of this required process for changes to be made, we believe the Legislature is primarily responsible for overseeing public pensions in our state. The Governor, State Auditor, legislators, and others may propose changes to pensions, but without legislative action on those proposals, no changes will be made. The Governor may veto changes, but the Legislature has the ability to override that veto and enact any bill into law.

This section reviews and critically examines past legislative decision-making on both of these important issues.

The Legislature and Paying for Future Pension Costs

“Legislative decisions... can have profound implications for fund health as reflected in the funded ratios of pension plans.”

Legislative decisions affect actuarial funding—the method used to pay for future pension liabilities. These decisions can have profound implications for fund health as reflected in the funded ratios of pension plans.

Actuarial valuations of public pension funds are conducted every year to monitor and report on fund health. As described in Section 1, embedded in the actuarial valuations are assumptions that affect the size of future pension liabilities. These include such things as expected salary increases of public employees, life expectancy, disability, and at what age and with how many years of service employees will retire.

Pension plans lose or gain unfunded liabilities based on how reality compares with these actuarial assumptions. For example, if retirees live on average one year longer than expected, unexpected unfunded liabilities are accrued to the fund, because the fund makes additional payments to retirees that were not forecast.

Every year actuaries examine how real life experience has differed from the fund's set of assumptions and quantify the impact on pension health. Five variables affect actuarial gains and losses:

- *Contribution Adequacy*: the amount that contributions exceed or fall short of the amount needed to fund the normal cost, administrative expenses and amortization costs;

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- *Investment Performance*: variance from the anticipated rate of return on investments, as smoothed over a five-year period;
- *Benefit Changes*: the impact of changes made during the past year to pension benefits;
- *Changes in Actuarial Assumptions*: changes in assumed rates of return, assumed salary increases, assumed mortality rates, etc; and
- *Other Variations*: from assumed increases in salaries and other demographic assumptions (mortality, turnover, etc.).

Table 2 and Table 3 below provide plan-by-plan details on the impact of each actuarial variable since July 1, 2001. Positive numbers represent additional unfunded liabilities, while negative numbers represent decreases in unfunded liability. These tables indicate that the effects on unfunded liabilities have been predominantly negative. Over this four-year period, these six funds have increased their overall unfunded liabilities by just over \$5.5 billion, increasing the unfunded liabilities of each fund, from nearly \$62 million for DTRFA to \$2.47 billion for PERA.

It is also clear from these tables that both actuarial gains and actuarial losses occur in any given year. For example, the \$2 billion in unfunded liabilities added to TRA during this four-year period was somewhat mitigated by almost \$300 million because member and employer contributions greater than necessary to pay for the fund's normal and administrative costs (TRA had no amortization costs during this period); and by another \$431 million due to lower than expected salary increases.

Table 2: Changes in Unfunded Liability by Actuarial Variable, Selected Statewide Pension Plans, 2001-2005

Actuarial Variable	MSRS Changes		PERA Changes		TRA Changes	
	Amount	% of Total	Amount	% of Total	Amount	% of Total
Contributions	\$32,084,000	2.8%	\$526,654,000	21.3%	(\$287,858,000)	-24.0%
Investments	1,097,682,000	94.1%	1,345,552,000	54.5%	2,002,803,000	167.1%
Other Variations	(291,874,000)	-25.0%	278,984,000	11.3%	(431,320,000)	-36.0%
Benefit Changes	0	0.0%	0	0.0%	0	0.0%
Assumption Changes	329,187,000	28.2%	319,362,000	12.9%	(85,092,000)	-7.1%
Total	\$1,167,080,000	100.0%	\$2,470,552,000	100.0%	\$1,198,533,000	100.0%

Source: Actuarial Reports by Fund, 2002-2005, Legislative Commission on Pensions and Retirement.

Note: Dollar figures rounded to the nearest thousand.

Table 3: Changes in Unfunded Liability by Actuarial Variable, Local Teacher Pension Plans, 2001-2005

Actuarial Variable	DRTFA Changes		MTRFA Changes		SPTRFA Changes	
	Amount	% of Total	Amount	% of Total	Amount	% of Total
Contributions	(\$1,728,000)	-2.8%	\$115,236,000	27.2%	\$27,480,000	13.56%
Investments	51,392,000	83.2%	359,681,000	84.8%	145,503,000	71.80%
Other Variations	(4,932,000)	-8.0%	(61,360,000)	-14.5%	(8,527,000)	-4.21%
Benefit Changes	(414,000)	-0.7%	(319,000)	-0.1%	(2,045,000)	-1.01%
Assumption Changes	17,488,000	28.3%	10,940,000	2.6%	40,242,000	19.86%
Total	\$61,806,000	100.0%	\$424,178,000	100.0%	\$202,653,000	100.00%

Source: Actuarial Reports by Fund, 2002-2005, Legislative Commission on Pensions and Retirement.

Note: Dollar figures rounded to the nearest thousand.

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“...declines in the funded ratios of these pension plans can be explained mainly by the failure to meet the expected rate of return on invested cash over this period.”

In summary, declines in the funded ratios of these pension plans can be explained mainly by the failure to meet the expected rate of return on invested cash over this period. Contributing factors also include:

- failure of members and employees to make sufficient contributions to pay for promised benefits;
- changes to actuarial assumptions, generally to assume greater retiree life spans (which adds additional liabilities); and
- other variations from actuarial assumptions in place (PERA only).

Introduction to the Actuarial Assumed Rate of Return and its Influence on Reported Pension Health

As Tables 2 and 3 show, one particular actuarial variable had more influence on reported pension health than any other—assumed investment income. To determine whether or not a fund will have enough assets to meet the liabilities owed to current and future retirees, pension funds make assumptions about what annual rate of return its investments will earn. This assumption is called the **actuarial assumed rate of return**. For Minnesota public pension plans, the assumed rate of return is 8.5%. The reported health of the public pensions is based on the assumption that pension fund investments will average 8.5% per year in perpetuity.

How is this relevant to pension fund management and health? A simple example helps illustrate why the assumed rate of return is so important. Suppose you have \$10,000; and want to have \$20,000 by the end of five years through a combination of investing and saving. Like pension funds, you may wish to assume you will get a certain rate of return on your investment, so that you can budget the amount of money you need to save each year to reach your goal. As Table 4 shows, if you expect to earn 8.0% annually you would need to add \$838 at the beginning of every year. However, if you think you can earn 8.5% each year, then you only have to add \$772 each year.

Table 4: Annual Contributions Needed to Increase \$10,000 to \$20,000 Over a Five-Year Period, Assuming 8.0% and 8.5% Investment Return

Year	Amount at Start of Year	Contribution Added	Expected Return	Amount at End of Year	Assumed Rate of Return
Under 8.5% assumed return					
1	\$10,000	\$772	\$916	\$11,688	8.5%
2	11,688	772	1,059	13,519	8.5%
3	13,519	772	1,215	15,506	8.5%
4	15,506	772	1,384	17,661	8.5%
5	17,661	772	1,567	20,000	8.5%
Totals		\$3,860	\$6,141		
Under 8.0% assumed return					
1	\$10,000	\$838	\$ 867	\$11,705	8.0%
2	11,705	838	1,003	13,545	8.0%
3	13,545	838	1,151	15,534	8.0%
4	15,534	838	1,310	17,681	8.0%
5	17,681	838	1,481	20,000	8.0%
Totals		\$4,190	\$5,812		

Source: MTA staff calculations. Assumes contribution is added on January 1 annually.

Assuming that the actual rate of return does not deviate from your assumed rate of return, this example illustrates three basic points:

- You can generate the same amount of assets over the same period of time with fewer contributions if higher rates of return are assumed and realized.
- Even small changes in the assumed rate of return can have major implications on the size of contributions needed. In this simple example, raising the rate from 8.0% to 8.5% allowed a reduction of annual contributions by \$66, or 7.8%.
- Simply raising the expected rate of return while holding contributions steady results in larger projected asset totals. As Table 4 shows, by raising the expected rate of return from 8.0% to 8.5% during year 2, while keeping contributions at the 8.0% level, \$346 in extra income is projected by the end of the five-year period.

The lessons are the same for public pension funds:

- Higher assumed rates of return reduce the level of contributions thought to be needed to support a pension plan. However, if the assumed return rate turns out to be too high, then contributions will have to be increased at a future date in order to make up the difference. Table 5 below provides such an example: the hypothetical person overestimated the rate of return his investment could provide in the first two years, therefore in year 3, he decreased the assumed rate of return to 8.0% and increased contributions by \$119 (15.4%) to make up the difference.

Table 5: Effect of Raising Investment Return Assumption without Change in Contribution Rates

Year	Amount at Start of Year	Contribution Added	Expected Return	Actual Return	Expected at End of Year	Actual at End of Year	Assumed Rate of Return	Actual Rate of Return
1	\$10,000	\$772	\$916	\$862	\$11,688	\$11,634	8.5%	8.0%
2	11,634	772	1,059	\$992	13,519	13,398	8.5%	8.0%
3	13,398	891	1,143		15,432		8.0%	
4	15,674	891	1,306		17,629		8.0%	
5	17,915	891	1,482		20,002		8.0%	

- Higher assumed rates of return can provide the money needed to increase pension benefits without increasing contribution rates for employees and taxpayers. Again, this can only occur if the fund actually meets or exceeds the higher assumed rate of return over the long-term.
- Higher assumed rates of return can have a dramatic influence on unfunded liabilities and a fund’s reported health. Simply by assuming a higher rate of return, unfunded liabilities can be reduced or eliminated—at zero cost. The converse, however, is also true—lowering the assumed rate of return would immediately increase unfunded liabilities.

More importantly, and unlike the personal investment example above, pension beneficiaries are guaranteed their benefits regardless of the deviation from assumed rates of return. If fund investments consistently fall short of this target, the taxpayers will have

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to pick up the shortfall either directly (through employer contributions) or indirectly (through employee contributions).

Minnesota's Experience with Assumed Rates of Return, Real Investment Performance, and Effects on Unfunded Liabilities

Table 6 presents the recent statutory history of actuarial assumed rates of return for the funds in this report¹⁹.

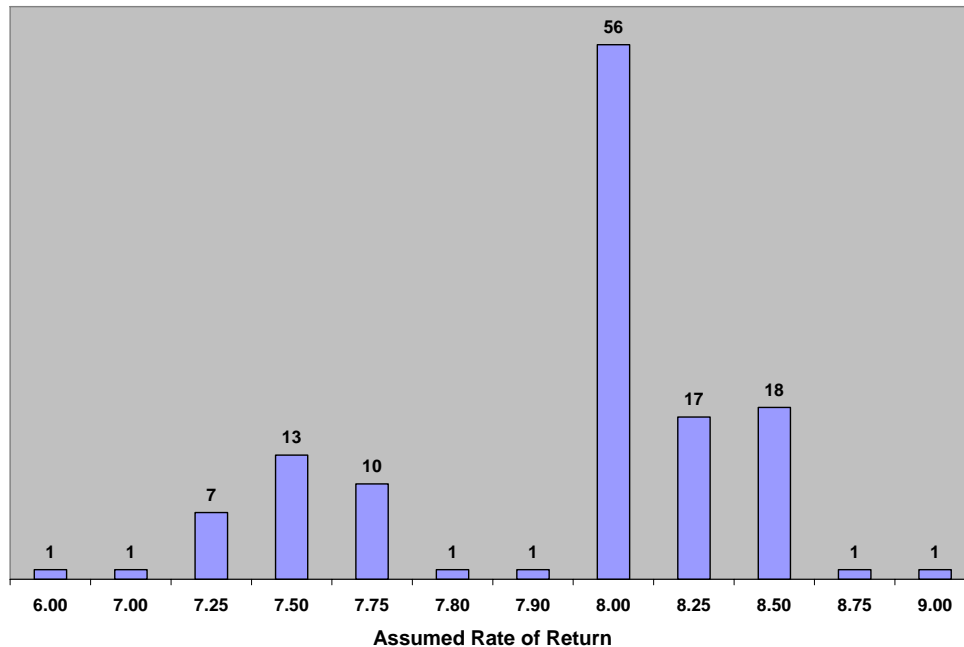
Table 6: Statutory History of Actuarial Assumed Rates of Return

Years	Actuarial Assumed Rate of Return
1965-1969	3.0%
1969-1973	3.5%
1973-1984	5.0%
1984-1989	8.0%
1989 - Present	8.5%

“Minnesota is in the top 20% in terms of assumed rates of return and only two public pension funds employ higher rate of return assumptions.”

To put this in some national perspective, Figure 6 presents the distribution of assumed rates of return among state administered public pension funds. Minnesota is in the top 20% in terms of assumed rates of return and only two public pension funds employ higher rate of return assumptions.

Figure 6: Distribution of Assumed Rates of Return among State Public Pension Funds



Source: Public Fund Survey for 2004, National Association of State Retirement Administrators

Note: Total exceeds 50 (n = 127) because many individual states have multiple pension funds.

To illustrate the sensitivity of reported fund health to changes in the assumed rate of return, we requested that the current actuaries, The Segal Company, prepare an actuarial

¹⁹ Pension Commission staff communication of April 20, 2006.

study of the PERA General fund²⁰. The following results were produced by reducing the assumed investment return rate from 8.5% to 8.0%. No changes were made to any other actuarial assumptions.²¹

Table 7: Effect of Investment Rate Return Change from 8.5% to 8.0% for PERA, as of July 1, 2005

Effect of Assumed Rate of Return on:	July 1, 2005, Actuarial Valuation		Results if 8.0% Return is Assumed		Effect of Changes	
	Amount	% of payroll	Amount	% of payroll	Amount	% of payroll
Statutory Contributions	\$501,893,998	11.07	\$501,893,998	11.07	--	--
Normal Cost	\$352,964,350	7.79	\$402,619,758	8.89	\$49,655,408	1.10
Amortization Cost	\$214,310,748	4.73	\$255,541,780	5.64	\$41,231,032	0.91
Required Contributions	\$577,243,040	12.74	\$668,129,480	14.75	\$90,886,440	2.01
Contribution Sufficiency (Deficiency)	(\$75,349,042)	(1.67)	(\$166,235,482)	(3.68)	(\$90,886,440)	(2.01)
Actuarial Accrued Liability	\$15,892,554,615		\$16,911,988,217		\$1,019,433,602	
Unfunded Liabilities	\$4,048,618,923		\$5,068,052,525		\$1,019,433,602	
Funded Ratio	74.53%		70.03%		(4.50%)	

Source: The Segal Company and MCPFR/MTA staff calculations (unfunded liabilities and funded ratio only).

As Table 7 above indicates, assuming a reduction in the expected rate of return on investments from 8.5% to 8.0% increases the normal cost by nearly \$50 million, the amortization costs by \$41 million and the unfunded liabilities by over \$1 billion. Normal and amortization costs increase because the plan’s investment portfolio is expected to generate lower returns which in turn pay for fewer of those costs, shifting more of them onto employer and employee contributions. Since expected future normal and amortization costs are expected to rise because of lower investment returns, total accrued liabilities also rise, by about \$1 billion. This, in turn, drives the funded ratio down 4.5%, from 74.53% to 70.03%.

If Minnesota’s public pension funds used an 8% assumed rate of return—the norm for most state managed plans—the five funds with current unfunded liabilities would likely all be reporting larger unfunded liabilities, and TRA would perhaps move from surplus to deficit because less investment income would be forecasted, reducing the assets available to meet future liabilities.

Tables 8 and 9 provide additional perspective on the effects of failing to achieve assumed rates of return. From 1985 through 2001, the state’s pension funds performed very well compared to their actuarially assumed rates of return, exceeding the 8.5% mark for at least 13 of the 16 years. These gains reduced unfunded liabilities considerably over this

“If Minnesota’s public pension funds used an 8% assumed rate of return...the five funds with current unfunded liabilities would likely all be reporting larger unfunded liabilities.”

²⁰ The request was made through PERA executive director Mary Most Vanek, who manages the contract between the different funds and The Segal Company.

²¹ The purpose of our analysis was to demonstrate the magnitude of leverage provided by this particular assumption. PERA also asked The Segal Company to prepare an analysis that changed not only the rate of investment return from 8.5% to 8.0%, but also changed assumed payroll growth and salary increase rates downward. PERA staff informed MCPFR that if such a change were actually made to the investment return assumptions, proper actuarial analysis would dictate necessary changes to salary assumptions as well. This would mitigate the effects of lowering the assumed rate of return. Although an analysis which includes changes to other economic assumptions as well as the rate of return is more robust, the 1989 statutory change from 8.0% to 8.5% (Laws 1989, Chapter 319, Article 13, Section 90) was made without corresponding changes to salary assumptions. It appears as though the interest and salary variables can and have been adjusted independently of each other in the past.

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period, ranging from \$82.8 million in offset liabilities for DTRFA to \$3.6 billion for TRA.

Table 8: Annual Increases (Decreases) in Unfunded Liabilities Due to Difference Between Actual and Assumed Rates of Return: 1985-2001

Year	MSRS	PERA	TRA	DTRFA	MTRFA	SPTRFA	Assumed Rate of Return
1985	(\$48,222,000)	(\$74,470,000)	(\$101,870,000)	(\$2,213,000)	(\$8,819,000)	(\$8,665,000)	8.00%
1986	(77,044,000)	(100,539,000)	(163,488,000)	(6,970,000)	(27,108,000)	(17,913,000)	"
1987	(56,976,000)	(85,600,000)	(119,702,000)	(5,818,000)	(23,539,000)	(17,660,000)	"
1988	31,460,000	35,626,000	61,473,000	3,621,000	(6,216,000)	8,830,008	"
1989	(62,984,000)	(82,424,000)	(156,138,000)	(4,317,000)	(7,919,000)	(5,816,000)	"
1990	(49,372,000)	(64,680,000)	(108,501,000)	(4,805,000)	(13,280,000)	(15,872,000)	8.50%
1991	12,045,000	37,842,000	11,305,000	(1,012,000)	(6,248,000)	(9,289,000)	"
1992	(95,187,000)	(116,412,000)	(213,709,000)	(4,130,000)	(17,542,000)	(9,202,000)	"
1993	(58,680,000)	(70,650,000)	(182,849,000)	(6,693,000)	(26,507,000)	(12,097,000)	"
1994	17,620,000	4,688,000	50,479,000	4,474,000	6,143,000	13,219,000	"
1995	(44,337,000)	(50,279,000)	(113,139,000)	(1,355,000)	(19,833,000)	(9,417,000)	"
1996	(202,100,000)	(212,339,000)	(437,398,000)	(3,113,000)	(9,411,000)	(17,657,000)	"
1997	(329,149,000)	(343,935,000)	(660,151,000)	64,000	(3,227,000)	(7,848,000)	"
1998	(290,683,000)	(305,238,000)	(638,249,000)	(2,956,000)	(53,220,000)	(6,626,000)	"
1999	(81,935,000)	(90,800,000)	(232,479,000)	(12,986,000)	(22,485,000)	4,194,000	"
2000	(267,091,000)	(278,205,000)	(554,336,000)	(29,156,000)	37,030,000	30,406,000	"
2001	(29,406,000)	(24,896,000)	(63,301,000)	(5,482,000)	13,655,000	(8,279,000)	"
Total	(\$1,632,041,000)	(\$1,822,311,000)	(\$3,622,053,000)	(\$82,847,000)	(\$188,526,000)	(\$89,684,000)	

Source: 1985-2001 Actuarial Reports by Fund, Legislative Commission on Pensions and Retirement

Note: May include overfunding of liabilities (i.e.: addition of assets against liabilities that do not exist).

However, a very different story emerges after 2001. Since 2002, each fund has failed to meet its five-year 8.5% return target. The three statewide funds gave back a substantial share (55% to 73%) of the reductions in unfunded liabilities realized over the previous 16 years from investment returns above the 8.5% target. The investment shortfall in the Minneapolis and Saint Paul Teachers' funds has been particularly severe because they erased all of the reductions made in unfunded liabilities between 1985 and 2001 from investment gains, and more. Eliminating the smoothing mechanism would force most, if not all, of these losses into Fiscal Years 2002 and 2003. Even though a market downturn may be short-lived, it shows how one or two years of terrible investment returns can offset a decade's worth of gains.

Table 9: Annual Increases (Decreases) in Unfunded Liabilities Due to Difference Between Actual and Assumed Rates of Return: 2002-2005

Year	MSRS	PERA	TRA	DTRFA	MTRFA	SPTRFA	Assumed Rate of Return
2002	\$211,865,000	\$235,075,000	\$351,134,000	\$6,139,000	\$71,199,000	\$21,216,000	8.50%
2003	345,598,000	380,033,000	580,484,000	14,193,000	99,686,000	48,877,000	8.50%
2004	274,168,000	449,749,000	594,197,000	12,640,000	94,369,000	43,647,000	8.50%
2005	266,052,000	280,695,000	477,027,000	18,420,000	94,427,000	31,763,000	8.50%
Total	\$1,097,682,000	\$1,345,552,000	\$2,002,842,000	\$51,392,000	\$359,681,000	\$145,503,000	

Source: 2002-2005 Actuarial Reports by Fund, Legislative Commission on Pensions and Retirement

Note: May include overfunding of liabilities (i.e.: addition of assets against liabilities that do not exist).

Actuarial assumed rates of return may appear to be an innocuous feature of defined benefit programs—especially compared to “real” investment returns—but their importance cannot be overstated. The reported health of pension funds is directly influenced by assumed rates of return. The true cost of public pension plans can be hidden by overly optimistic return assumptions. Optimistic return assumptions also “enable” potentially unsustainable benefit increases by masking the true financial risk to

“The true cost of public pension plans can be hidden by overly optimistic return assumptions. Optimistic return assumptions also ‘enable’ potentially unsustainable benefit increases by masking the true financial risk to taxpayers.”

taxpayers. Although there is no necessarily “right” rate of return, prudent state management of public pension liabilities should always err on the side of conservatism on this important assumption.

The fundamental question is whether the state’s 8.5% assumed rate of return qualifies as being appropriately prudent and conservative. Despite its comparatively high level of aggressiveness with respect to other state managed funds across the nation, fund performance suggests this assumed rate of return was not overly optimistic, especially with respect to the three state managed funds.

According to the Legislative Commission on Pensions and Retirement, through June, 2005, the 20-year annualized return of the funds managed by the State Board of Investment was 10.5%. The comparable number for SBI for the most recent 10-year period was 9.1% annualized return²² Even with the inclusion of the post 9/11 period, the SBI has consistently earned more than the assumed investment return of 8.5%.

There is a difference between investment returns offered by the market through passively managed index funds, and those actually captured through active investment management. The State Board of Investment has done an excellent job in its combination of both active and passive management of funds, and is clearly the “gold standard” for pension fund asset management in the state. If all pension funds in the state had the professional management to manage portfolios as efficiently as the SBI (along with its size and economic clout), the 8.5% actuarial assumed rate of return would be less risky.

However two notes of caution deserve comment:

- If post 9/11 conditions, which significantly harmed the health of funds, can be considered a temporary anomaly from which recovery is imminent, so too can the unprecedented investment environment of the late 80’s and 90s which fueled the recovery of the pension funds. Even though the long term performance of the U.S. Stock market averaged 11% from 1926-1999, it has been punctuated by extended periods of stagnancy. The 20-year average real total return (assuming all dividends are reinvested in the stock market) fell to nearly zero during three 20-year periods in the past century—from 1901 to 1921, from 1928 to 1948, and from 1962 to 1982.²³
- More importantly, the theoretical and empirical foundation which supports the use of assumed higher rates of return is being viewed with increasing skepticism by some. Modern pension management, marked by favoring equities over bonds, can be traced to the work of economist Roger Ibbotson, whom Fortune Magazine says “transformed the pension fund business in the late 1970s and early 1980’s.” Ibbotson’s seminal—and accurate—forecasts of stock market returns, and his forecasts of average returns exceeding 9% over the next quarter century, have provided both the theoretical and empirical basis for justifying the use of more aggressive assumed rates of return. However, an increasing number of economists are questioning the legitimacy of his assumptions and theories

“The State Board of Investment has done an excellent job...and is clearly the ‘gold standard’ for pension fund asset management in the state.”

²² Pension Commission staff communication of April 20, 2006.

²³ “If Economic Growth Falls to 1.4%, What Happens to the Stock Market?” Presentation by John Mueller to the National Press Club, October 14, 1997.

“One critic projects that the investment returns are much more likely to average between 5%-6%. If these forecasts materialize, it will be a devastating blow to public pension funds in Minnesota...”

going forward. According to Fortune, “the theories upon which (his) forecasts are based began to crumble in the face of contrary evidence”. One critic projects that the investment returns are much more likely to average between 5%-6%.²⁴ If these forecasts materialize, it will be a devastating blow to public pension funds in Minnesota and around the country.

Employee and Employer Contribution Rates

Additional Contribution Problems for Local Teacher Funds

Before 1967, first-class cities paid the employer's share of their teachers' pension funds. In 1967, the state assumed responsibility for part of the funding, and in 1975 it assumed full responsibility. The 1975 law¹ prohibited these cities from levying property taxes to provide supplementary contributions.

In particular, this law hurt the Minneapolis Teachers' Retirement Fund Association. Limited actuarial data is available for the pre-1975 period for all three first-class city teacher funds.² If one compares the pre-1975 period to the period from 1975 to the time that the local teacher funds began receiving additional state aids (1992 for Saint Paul, 1993 for Minneapolis and 1997 for Duluth), it appears that each fund fared much differently from the state financing takeover.

DTRFA received more employer-share money annually (when measured as a percent of payroll) during the post-1975 period, SPTRFA received slightly less money, and MTRFA received significantly less employer-share money. Until 1975, MTRFA received 15.11% of payroll in pension funding from the city. Between 1976 and 1993, the state provided 11.27% of payroll in pension funding, or some \$64 million less than if the city had been allowed to continue to contribute after 1975 at the same rate. Assuming that the \$64 million would have been added to the fund's assets in equal proportions between 1976 and 1993 and obtained the same rate of return as the rest of MTRFA's portfolio; then the fund would have had some \$443.5 million more in assets by the end of fiscal year 2005. With these excess assets, MTRFA's funded ratio for June 30, 2005 would rise 25 points, from the actual 44.61% to a potential 69.87%.

Although some portion of these assets would certainly have been paid out through post-retirement benefit increases, it is clear that, assuming that the city of Minneapolis had continued to provide funding to the MTRFA at the same rate as it did prior to 1975, the state takeover of pension funding left MTRFA significantly worse off.

¹ Laws 1975, Chapter 306, Section 30.

² Available pre-1975 data is as follows: 1957, 1964, 1969-1974 for MTRFA; 1958, 1969-1974 for SPTRFA; 1969, 1971-1974 for DTRFA.

The state of Minnesota, through the Legislature and Governor, also approves the contribution rates for employees and employers in the various pension plans. Actuaries determine the amount of money that employees and taxpayers (through units of government) will need to contribute to pay for benefits and amortize any unfunded liabilities that may exist. Whether or not employees and government employers make the necessary levels of contributions to these pension funds also drives changes in the funded ratios. Failing to meet the required contribution will add unfunded liabilities (lowering the funded ratio), while contributing more than required eliminates unfunded liabilities (raising the funded ratio).

In this sense, it can be useful to think of contributions like

mortgage payments on a home. The portion of the contribution needed to pay for benefits corresponds to the payment one makes on the principal of the mortgage, while the portion of the contribution needed to pay for amortization of unfunded liabilities corresponds to the payment one makes on the interest generated on that principal. All of the funds in this report have a date by which they are to be fully funded, which corresponds to the date of one's last house payment. Of course, this analogy breaks down because, unlike a home mortgage, employees and taxpayers will continue to make contributions for benefits long after unfunded liabilities have been eliminated.

²⁴ 9% Forever? [Fortune](#), December 26, 2005.

Table 10 presents the contribution rates for coordinated²⁵ members in the six funds in this study, as of 2005²⁶. While the contributions to the statewide funds are split equally or near equally between employees and employers, Minneapolis and St. Paul taxpayers shoulder a much larger contribution burden than their teachers do through the higher employer contributions. The higher rates are reflective of the poorer financial health of these funds. Poor investment performance has created a stronger “current” (returning to the canoeing analogy) forcing these funds to paddle harder.

Table 10: Current Contribution Rates for Selected Pension Plans

Pension plan	Employee/Employer Contribution (% salary)
MSRS	4.00% / 4.00%
PERA – Coordinated	4.75% / 5.18%
TRA – Coordinated	5.00% / 5.00%
MTRFA – Coordinated	5.50% / 8.14%
DTRFA – New Law Coordinated	5.50% / 5.79%
SPTRFA – Coordinated	5.50% / 8.34%

Source: 2005 Actuarial Reports by Fund, Legislative Commission on Pensions and Retirement

When contributions are not set high enough to pay the expected costs of providing benefits and amortize unfunded liabilities, unfunded liabilities will increase (unless there are favorable variations in other actuarial assumptions). As Table 11 indicates, four plans have done just this, accounting for over 20% of the increase in unfunded liabilities since July 1, 2001, for PERA and MTRFA. On the other hand, contributions to TRA have been well over what has been required, but any decrease in unfunded liabilities has been completely offset by the poor investment returns detailed in Table 9.

Table 11: Increases (Decreases) in Unfunded Liability from Adequacy of Pension Fund Contributions*, Selected Pension Plans, 2001-2005

Year	MSRS	PERA	TRA	DTRFA	MTRFA	SPTRFA	Total
2002	(\$46,349,000)	\$104,183,000	(\$93,515,000)	(\$3,191,000)	\$14,846,000	(\$2,412,000)	\$-26,438,000
2003	(3,546,000)	84,449,000	(103,090,000)	(1,087,000)	24,455,000	5,504,000	6,685,000
2004	48,253,000	154,776,000	(51,652,000)	717,000	32,467,000	9,516,000	194,077,000
2005	33,723,000	183,246,000	(39,601,000)	1,882,000	43,468,000	14,872,000	237,590,000
Total	\$32,081,000	\$526,654,000	(\$287,858,000)	(\$1,728,000)	\$115,236,000	\$27,480,000	\$411,865,000

Source: 2002-2005 Actuarial Reports by Fund, Legislative Commission on Pensions and Retirement

** Includes costs or gains related to interest payments.*

Since 1975, the state has modified employee coordinated contribution rates (counting the Duluth new law coordinated plan only) a total of 16 times²⁷ and employer coordinated contribution rates a total of 22 times²⁸. For each coordinated pension plan except MSRS (which is unchanged), employee contribution rates are higher than in 1975 or the first

²⁵ For four of these six plans, there are actually two types of plans: basic and coordinated. There are two separate coordinated plans for Duluth’s teachers. Basic pension plan members do not pay into Social Security, and are not eligible for retirement benefits under that program. Basic members make larger contributions and receive greater benefits from public pension plans than do coordinated members, who contribute less and receive smaller benefits but also receive Social Security payments. There are no new enrollees in basic plans, and there are only a very few active public employees who are members of basic plans.

²⁶ As noted earlier in Section 1, contribution rate increases for the PERA General Plan were adopted by the state in 2005, and similar increases for the MSRS General Plan are under consideration in 2006.

²⁷ MSRS, 7 times; PERA and TRA, 3 times; DTRFA, MTRFA and SPTRFA, 1 time. Additional documentation is available in the legislative history in Appendix F.

²⁸ MSRS, 7 times; TRA, 5 times; PERA and SPTRFA, 4 times; MTRFA, 2 times; DTRFA, never. Additional documentation is available in the legislative history in Appendix F.

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year of the plan, as appropriate,²⁹ although TRA and PERA are only slightly higher.³⁰ However, unlike changes in actuarial assumptions, higher contributions impact real cash flow in the present for both employees (lower take home pay) and government budgets (more spending on pension benefits). Lower take home pay from employee contribution increases can also create wage pressures that have long term implications for “high five” salaries and pension benefits in the future.

Pension Benefit Changes in Minnesota

Elected officials also determine the size of public pension benefits. Minnesota’s public pension history features two primary types of retirement plan benefit changes. The first is plan benefit increases, the second is post retirement benefit increases.

Plan Benefit Increases

The basic equation for calculating benefits is:

$$(\text{“High five” salary}) \times (\text{Multiplier}) \times (\text{Years of service}) = \text{Annual Pension Benefit}$$

The multiplier is the variable over which the Legislature has direct influence in determining retirement benefits. The Legislature has approved two sets of formula multiplier increases in the last two decades. The first in 1989 increased the multiplier by 12.5% for coordinated plan members retiring with full benefits after 30 years of service; the second set (occurring in 1994, 1995 and 1997) brought the multiplier up to 1.7%, 13.3% above the 1989 changes for this same group of people, where it stands today. These increases occurred even though the plans in this report had unfunded liabilities during that period. As the 1994, 1995, and 1997 increases help to illustrate, if one plan receives a benefit increase, there appears to be a pattern of pressure for the other plans to match these increases. Legislators have also sought greater uniformity across pension funds to provide greater portability between plans to provide comparable benefits among comparable plans (especially the various teacher plans)³¹.

Table 12: Multiplier Increases for Selected Coordinated Public Pension Retirement Plans, by Year, (multiplier is multiplied by total years of service except where noted)

Year	Pension Plan(s)	Old Multiplier	New Multiplier
1989	MSRS; PERA, TRA, MTRFA and SPTRFA, DTRFA	1% multiplied by first 10 years + 1.5% multiplied by subsequent years	1.5% ³²
1994	TRA	1.5%	1.63% ³³
1995	DTRFA	1.5%	1.63% ³⁴
1997	MSRS; PERA, MTRFA and SPTRFA	1.5%	1.7% ³⁵
1997	TRA, DTRFA	1.63%	1.7% ³⁶

²⁹ See Appendix F for details.

³⁰ See Appendix F for details.

³¹ Interview with Pension Commission staff.

³² Laws 1989, chapter 319, article XIII, sections 9-10, 33-34, 58, 75 and 77-78.

³³ Laws 1994, chapter 524.

³⁴ Laws 1995, chapter 262, article II, section 7.

³⁵ Laws 1997, chapter 233, article I, sections 19, 40, 51 and 55; article III, sections 8, 9 and 11

³⁶ Laws 1997, chapter 233, article I, sections 19, 40, 51 and 55; article III, sections 8, 9 and 11

The Cost of Plan Benefit Increases

Estimating the costs of these changes is difficult. Information on benefits found in actuarial valuation reports does not provide the needed detailed information for retirees regarding number of years of service, age at retirement, or high five salary. However, actuarial valuations do provide this information for active employees based on five-year cohorts grouped by age and years of service. We then determined the total benefits payable to employees eligible for retirement (reduced and full benefits) as of June 30th of each year under the pre-1989 laws and all applicable subsequent scenarios. By applying the percentage changes in benefits between the scenarios (net of wage increases), we generated estimated benefits increases paid annually for each plan beginning with the 1989 changes. For a detailed explanation of the methodology used to calculate the cost of these benefit changes, see Appendix D.

Table 13 estimates the total costs of these benefit increases since 1985. As the table indicates, these changes have resulted in an additional \$1.728 billion in benefits paid (7.64% above 1985 laws) over those 21 years.

Table 13: Estimated Cost of Benefit Changes Between 1985 and 2005, for Selected Major and Statewide Minnesota Public Pension Plans (Basic and Coordinated)

Fiscal Year Ending June 30	Pensions Paid – All Plans		Increase From Benefit Changes	% Increase over 1985 Laws
	1985 Laws	Current Law		
1985	\$252,413,586	\$252,413,586	\$0	0.0%
1986	301,032,000	301,032,000	0	0.0%
1987	348,898,000	348,898,000	0	0.0%
1988	407,619,000	407,619,000	0	0.0%
1989	442,617,000	442,617,000	0	0.0%
1990	494,268,825	497,053,000	2,784,175	0.6%
1991	539,768,953	546,816,000	7,047,047	1.3%
1992	596,833,396	608,054,000	11,220,604	1.8%
1993	649,427,937	668,292,000	18,864,063	2.8%
1994	742,992,495	770,321,000	27,328,505	3.6%
1995	806,007,543	840,911,000	34,903,457	4.2%
1996	876,230,085	920,228,000	43,997,915	4.8%
1997	959,762,825	1,014,830,000	55,067,175	5.4%
1998	1,161,149,812	1,243,536,000	82,386,188	6.6%
1999	1,309,678,570	1,424,966,000	115,287,430	8.1%
2000	1,513,975,249	1,665,948,000	151,972,751	9.1%
2001	1,704,329,794	1,891,124,000	186,794,206	9.9%
2002	1,852,798,269	2,068,603,000	215,804,731	10.4%
2003	1,913,323,963	2,148,172,000	234,848,037	10.9%
2004	1,975,119,033	2,234,037,673	258,918,640	11.6%
2005	2,044,242,056	2,325,203,620	280,961,564	12.1%
FY 1985 - 2005 Total	\$20,892,488,391	\$22,620,674,879	\$1,728,186,488	7.6%

Source: Data from 1985-2005 Actuarial Reports by Fund, Legislative Commission on Pensions and Retirement; calculations by MCPFR/MTA staff 4/2006.

Several points are worth noting:

- Because increases to the benefit formulas do not affect persons already retired, the costs of formula changes are not felt immediately. As a percentage increase over the previous benefit plan, the increased cost of benefits appears to form the

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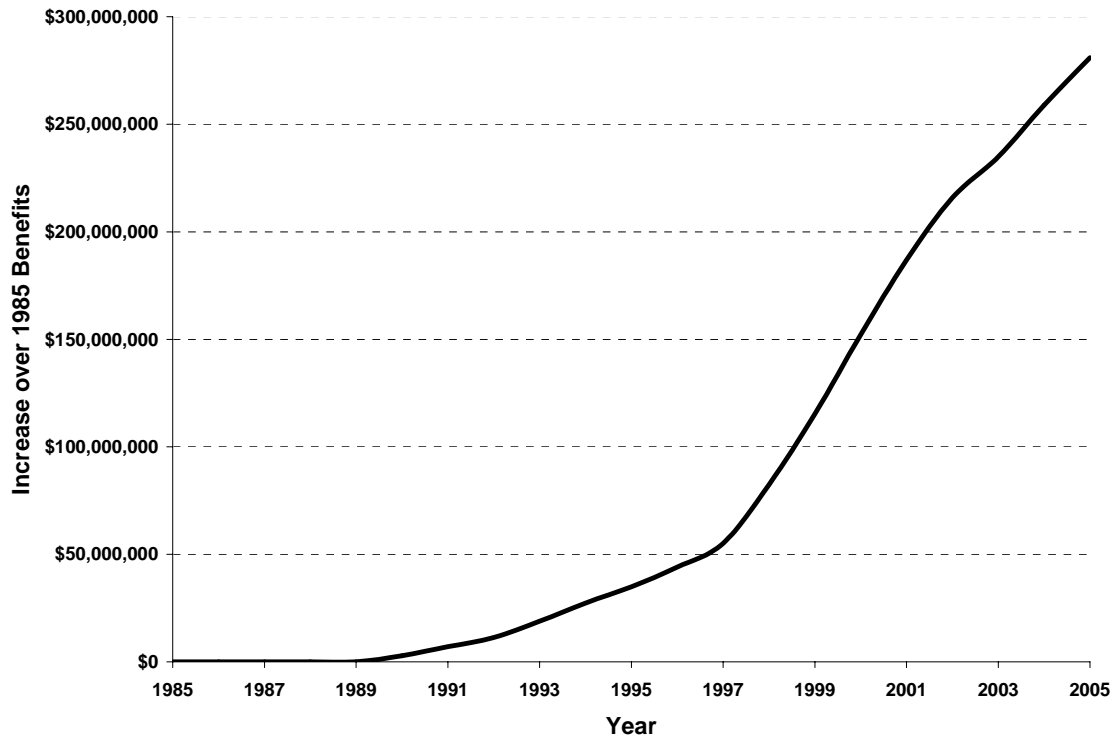
beginning and middle of an “S”-shaped curve³⁷: immediately after a formula increase (e.g. 1989), relatively few individuals are retired under the new formula, thus costs increase slowly at first. As larger and larger numbers of employees become eligible to retire with these higher levels of benefits, the percent increase becomes ever-greater. In later years, when the vast majority of employees have retired under this level of benefits, the cost curve flattens. Figure 7 provides a visual representation of this trend.

- Formula increases actually benefit the fund from a simple cash flow standpoint since any increase in employer and employee contributions to pay for the increases are immediately available to the fund while the major cash outflow impacts from these decisions are felt years later.
- Given that we are now 16 years removed from the 1989 changes, their effects on benefit payments are starting to be fully felt as an ever-greater share of the retiree pool can claim those benefits. Since the 1994, 1995 and 1997 changes are more recent, their effects on benefit payments are not yet being fully realized. Thus, the nearly \$281 million (12.08%) increase in estimated benefit payments between 2005 and the base year of 1985 will certainly increase over the coming years as employees continue to retire under the benefit changes described in Table 12.
- The current \$1.728 billion in added pension costs from formula changes are “paid for” in the actuarial sense through *expected* future investment returns and contributions. Therefore, these added benefit costs do not adversely affect funded ratios. But if the expected investment returns do not materialize, taxpayers will be responsible for greater liabilities than would otherwise have been the case, either directly through greater employer contributions or state aids, or indirectly through increased employee contributions (which are paid for with tax dollars), since pension benefits are guaranteed. This increases the risk to taxpayers.

“...if the expected investment returns do not materialize, taxpayers will be responsible for greater liabilities than would otherwise have been the case...”

³⁷ The term “S” curve is often used to refer to those curves that are fairly flat at the beginning, with steep growth in the middle, and flat growth again at the end. The pattern for the benefit increase percentages has not yet “flattened” on the end.

Figure 7: Estimated Increase in Benefits Paid over 1985 Laws, for Selected Major and Statewide Minnesota Public Pension Plans



Source: Data from 1985-2005 Actuarial Reports by Fund, Legislative Commission on Pensions and Retirement; calculations by MCPFR/MTA staff, 4/2006.

Appropriateness of Plan Benefit Increases

Though it is important and interesting to track benefit changes, a more fundamental question remains to be asked: what is the rationale for retirement benefit increases? One way to evaluate appropriateness or adequacy is to determine the amount of pre-retirement income that pension benefits replace. Financial planning experts consider pension benefits to be one leg of a three-legged retirement stool—savings and Social Security income providing the other two legs. According to the Research Director of the National Association of State Retirement Administrators, “as a rule of thumb, financial planners recommend replacing approximately 70 to 80 percent of one’s working income in retirement.”³⁸ Social Security is generally expected to provide around 30 percent of annual retirement income, which leaves 40 to 50 percent to be filled by pensions and other forms of retirement savings.

There is a critical difference between public- and private-sector defined benefit plans: private-sector plans generally require contributions by the employer only. Employees are encouraged to save for retirement through their own investment vehicles, and are often offered a partially employer-matched 401(k) plan, but the decision to save is, in the end, each individual employee’s. Minnesota’s public pension plans **require** employees to

³⁸ *Profitable Prudence: The Case for Public Employer Defined Benefit Plans*, Gary W. Anderson and Keith Brainard, published by the Pension Research Council of the Wharton School of the University of Pennsylvania, 2004, p 7.

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contribute to their respective plans – a sort of forced retirement savings. Thus, public pension plans serve as two legs of the three-legged stool, although many employees also supplement pension income with other retirement savings.

To evaluate the appropriateness of benefit increases documented in this report we generated estimates for each of the three legs for an “average” government employee. First, we calculated the amount of Social Security benefits earned by a member³⁹ of each pension plan aged 66 in 2005 who:

- 1) has worked for each of the last 30 years; and
- 2) has earned the average salary for an employee in his or her cohort (based on age and years worked), as detailed in the annual actuarial valuation reports for each pension plan.

For years prior to 1985, salaries were estimated based on salary increases between 1985 and 2005. These salaries were then entered into the estimated benefit calculator located on the Social Security website at: <http://www.ssa.gov/OACT/quickcalc/index.html>. It is important to note that, as the website states, the calculations are only an estimate, and may not match exactly one's actual Social Security payments.

Given that this average employee is 66 years of age with 30 years of qualified public employment, we have assumed a pension benefit of 51 percent of his or her high-five salary (30 years times 1.7% equals 51%).

Table 14 presents the results of our estimates under current pension law. Social Security and public pension benefits are expressed as both a percentage of the employee's estimated high-five salary at retirement and in terms of total dollars. Persons with average incomes over the last 20 years for each plan retiring in 2006 at age 66 with 30 years of service would receive Social Security and pension benefits ranging from 77.6% of high-five salary (MTRFA) to 89.9% of high-five salary (MSRS). Translated into actual dollars, annual pension payments range from a low of \$36,610 for PERA to \$67,117 for MTRFA.

Table 14: Estimated Retirement Income Available to Persons Aged 66 with 30 Years of Service*

Pension Plan	% of High-Five Salary Provided by:			For “high-five” average wage earners:
	Social Security (SS)	State Pension	Total SS and Pension	Total SS and Pension (dollars)
MSRS	38.9%	51%	89.9%	\$47,448
PERA - Coordinated	38.9%	51%	89.9%	\$36,610
TRA - Coordinated	31.1%	51%	82.1%	\$56,682
DTRFA – New Law Coordinated	35.4%	51%	86.4%	\$52,580
MTRFA – Coordinated	26.6%	51%	77.6%	\$67,117
SPTRFA - Coordinated	28.8%	51%	79.8%	\$63,990

*Assumes persons earned average wages for age and service cohorts for 1975-2005, and retired in 2006.
Source: MCPFR/MTA staff calculations 4/2006.

³⁹ Coordinated members only.

For the “average” participant in each of the six plans based on 30 years of service, pension and social security benefits meet and exceed recommended retirement income targets without the need for any supplemental retirement income. However, public employees have the option of utilizing retirement options outside of their defined benefit plan.

The only information available for supplemental options is for the Minnesota State Deferred Compensation (“deferred comp” or “457”) plan, which works much like the 401(k) plans available to private sector employees, and which is administered by MSRS. Public employees contribute a portion of their income (up to a limit) to the plan, and have a number of different investment options, usually mutual funds, to choose from⁴⁰. Earnings are accumulated tax-deferred; that is, income taxes are imposed only when funds are withdrawn from the account. According to MSRS staff, public employees aged 55 and older who have deferred compensation account balances have, on average, an account balance of \$60,000, giving these retirees supplemental retirement income.

The estimated calculations for this “average employee” are not necessarily indicative of the real experiences of actual employees in these plans. Total pension dollars will vary depending on salary. Actual years of service will also vary among employees and will affect the percentage of income provided by public pensions.

Replacement income is an imperfect mechanism to evaluate pension adequacy because the relationship between salary and retirement security is imperfect. For the lowest wage public sector employees, to maintain any standard of living, a higher percentage of replacement income may be necessary, while for the highest paid public employees, a smaller replacement rate could be sufficient.

Yet replacement income assessment should be included as a part of any effort to evaluate pension adequacy simply because it is the only quantifiable measure in a decision-making context that is otherwise highly subjective and prone to political pressure. The Principles of Pension Policy developed by the Legislative Commission on Pensions and Retirement says only that “the retirement benefit should be adequate at the time of retirement.”⁴¹ There are no recommendations on ways to evaluate “adequacy” based on any empirical or quantifiable method. Instead, the Principles define adequacy on a more functional basis: coordinate with Social Security, be based on a minimum of thirty years of service, and be based on “high five salary.”⁴² This mechanistic perspective can offer little guidance as to whether pension benefits are too little, too much, or just right.

Some would argue that the issue of pension adequacy also must be evaluated in the context of other pension-related objectives; namely, the recruitment of new qualified employees, the retention of existing public employees, and the systematic transitioning out of existing public employees. While these are all legitimate considerations in designing pension benefit levels, two points should be made:

“For the ‘average’ participant in each of the six plans based on 30 years of service, pension and social security benefits meet and exceed recommended retirement income targets without the need for any supplemental retirement income.”

⁴⁰ Only 80,000 of Minnesota’s state employees (roughly 30% of the total eligible) participate in the state deferred comp plan. However, many non-state employees covered by these six funds (county and city employees, etc.) have access to other private sector deferred compensation plans offered by local governments. No data is available on their use.

⁴¹ *Principles of Pension Policy*, Pension Commission, Section II, Part C, No. 7

<http://www.commissions.leg.state.mn.us/lcpr/documents/generalinfo/principles.pdf>

⁴² *Ibid*

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- These goals are also highly subjective in nature, and the need to consider these issues varies considerably across employee classes and types. For employees with highly specialized knowledge or technical skills, employees in key administrative positions, and for employees in high demand within the private sector, the recruitment and retention considerations may be crucial. Current benefit levels may actually be inadequate. For other employees, recruitment and retention considerations may not be an issue.
- Benefit increase decisions may be more a function of political necessity and expediency than adherence to stated principles. The proposed bailout of the Minneapolis Teachers Fund provides an excellent example of how politics, rather than pension principles, can drive pension decision making. Under the proposed bailout plan, TRA members would agree to assume the nearly \$1 billion in MTRFA pension liabilities and agree to a 0.5% increase in employee contribution rates. (Taxpayers via school district employers will see a 0.5% increase in contribution rates as well.) In return, TRA members would have their formula multiplier increased from 1.7% to 1.9% for all future years of service. The *quid pro quo* benefit increase to TRA members is completely understandable given the need to assume large unfunded pension liabilities. However, this benefit increase has nothing to do with teacher recruitment, retention, or some empirical determination that current retirement plan benefit design will fail to provide for a secure retirement.

Post-Retirement Benefit Increases

“These automatic increases [for inflation] are paid out whether or not the fund’s investments have generated the cash necessary to pay for them.”

Formula changes to pension plans are not the only benefit increases being granted to public employees. Current retirees are also given permanent increases in their benefits annually, called “post-retirement benefit increases.” There are two components to these increases. One component is based on inflation. An annual increase is granted matching the inflation rate up to 2.5% for MSRS, PERA and TRA⁴³; The inflation benefit is a flat 2.0% for the first-class city teacher funds⁴⁴ regardless of inflation. These automatic increases are paid out whether or not the fund’s investments have generated the cash necessary to pay for them.

In addition, retirees also are given benefit increases based on superior investment performance. Retiree benefits are automatically increased when investment gains exceed an average annual rate of return above 8.5% over a five-year period. The mechanism used to provide the increase differs by fund. For SBI-managed funds, the permanent benefit increase is calculated by summing one-fifth of the assets gained and lost over the previous five-year period (a “smoothing” approach) versus the 8.5% actuarially assumed rate of return. Actuaries then determine what percentage benefit increase those assets can support over the lifetime of the retirees who will receive that increase. Those assets are then dedicated to support the liabilities created by increasing benefits.

⁴³ Minnesota Statutes 2004, section 11A.18, subdivision 9.

⁴⁴ Minnesota Statutes 2004, section 354A.27, subdivision 5; Minnesota Statutes 2004, section 354A.28, subdivision 8; Minnesota Statutes 2004, section 354A.29, subdivision 3.

For the first-class city teachers' funds, benefits are increased by the percent of return on investment above the 8.5% actuarial assumed rate⁴⁵. SBI-administered funds, on the other hand, pay performance based increases out of actual return dollars earned in excess of the 8.5% actuarial rate of return. The first-class city fund increase their benefits by the percentage by which their portfolios beat the 8.5% and assume that the portfolio has generated sufficient funds to pay for the increase. The five-year average return provision attempts to ensure that pension enhancements in years with spectacular returns are not overly generous by smoothing investment gains and losses over a rolling five-year period.

Minnesota's performance-based post-retirement benefit increases are unique. The Wisconsin Legislative Council's *2004 Comparative Study of Major Public Employee Retirement Systems* indicates that, of the 85 plans in their survey, only 4 provide investment surplus-based adjustments—three of which are in Minnesota (MSRS, PERA and TRA⁴⁶). The other plan that provides a similar increase is the Wisconsin Retirement System (WRS), which provides coverage for state and local employees and teachers. Unlike Minnesota's plans, however, WRS provides for benefit reductions when investment losses are severe.

With respect to inflation adjustments, Minnesota's pension system is typical of others around the nation. Of the remainder of the surveyed public pension plans, 38 provide adjustments indexed to CPI, which are sometimes capped or limited to a portion of CPI. 23 plans provide an automatic annual increase, usually 2% or 3%. These plans often provide "simple" adjustments, meaning that the increase is always based on the original benefit rather than being compounded each year. Finally, 20 plans have "ad hoc" cost of living adjustments which require approval by a legislature or other decision-making body, or require partial money purchases for such increases.

Two administrative issues provide additional important context for the discussion of post-retirement benefits and their costs. First, when employees retire from the three state plans (MSRS, PERA, and TRA), their assets are moved to the Minnesota Post Retirement Investment Fund ("Post Fund") It is a fund established specifically for retirees; no active employees are included. If the Post Fund's own funded ratio is less than 100%, investment-related benefit increases are prohibited. In contrast, the three major independent teachers' funds keep their retired and active employees in the same pool, and investment performance benefit increases still go to their retirees—even if the funded ratio is below 100%.

Second, when retirees are moved into the Post Fund, enough assets are moved to ensure the new retiree is funded at 100%—even if the fund for the active employees has a funded ratio of less than 100% and has significant unfunded liabilities. In essence, the Post Fund is guaranteed to start off "whole" with the addition of a new retiree at the potential expense of the fund investing the money of active employee (Basic Retirement Fund) from which the employee came.

⁴⁵ Minnesota Statutes 2004, section 354A.27, subdivision 6; Minnesota Statutes 2004, section 354A.28, subdivision 9; Minnesota Statutes 2004, section 354A.29, subdivision 4.

⁴⁶ The Wisconsin Legislative Council does not consider the independent city teacher funds as part of this survey.

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Cost of Post Retirement Benefit Increases

From 1994 to 2006, the total assets dedicated to the post-retirement benefit increases granted to retirees in all SBI-managed plans (including those beyond the scope of this report) equaled \$9.839 billion (Table 15). Of this \$9.839 billion, \$4.111 billion was dedicated as the inflation component, while \$5.728 billion in assets were dedicated as the investment gain portion. Table 15 also estimates the amounts of assets dedicated to the three individual statewide pension plans in this report. These estimates were determined by using each fund's annual share of the Post Fund as a proxy for its portion of the yearly assets dedicated to these benefit increases. No similar data is readily available for the post-retirement benefit increases awarded to teachers in the first-class cities. Given that their investment portfolios are much smaller, these plans likely have dedicated much smaller amounts of assets.

Table 15: Assets Dedicated to Post Retirement Benefit Increases Between 1994 and 2006, for Selected Statewide Minnesota Public Pension Plans

Pension plan	Total	Inflation Component	Investment Component*
MSRS**	\$1,225,379,568	\$547,990,116	\$677,389,453
PERA**	2,843,322,111	1,168,798,179	1,674,523,932
TRA**	4,329,627,940	1,806,796,425	2,522,831,516
<i>Three-Plan Total</i>	<i>8,398,329,619</i>	<i>3,523,584,720</i>	<i>4,874,744,901</i>
SBI Total	\$9,838,868,951	\$4,111,078,621	\$5,727,790,330

* Investment based increases were paid out from 1994 through 2002 only.

** Individual plan totals are estimates, as detailed above.

Source: actuarial reports from the Pension Commission.

Most of the non-inflationary post-retirement benefit increases have actually been paid due to market volatility rather than to long-term superior investment performance. From the beginning of FY 1990 (when the target rate of return was raised to 8.5%) to the end of FY 2004, the Post Fund has returned 9.34% on investments annually, exceeding the 8.5% target. For calendar years 1994 through 2006, the Post Fund allocated \$5.52 billion in assets to all retirees from statewide pension plans (not just those in the three statewide funds included in this report) for post-retirement benefit increases. If, however, the Post Fund had realized a consistent 9.34% each year over that same period (a straight-line increase), then only \$1.52 billion would have been paid out. In essence, market volatility between 1993 and 2005 resulted in \$4 billion in permanent post-retirement increases that would not have been paid had the market increased steadily.

“...market volatility between 1993 and 2005 resulted in \$4 billion in permanent post-retirement increases that would not have been paid had the market increased steadily.”

The impact on the health of the teachers funds is also notable. Between January 1, 1990 and December 31, 2004, DTRFA returned 9.95% annually, MTRFA returned 8.32% annually, and SPTRFA returned 10.01% annually.⁴⁷ However, the annual actuarial reports show that even though SPTRFA out-gained the 8.5% required rate of return over this period, the plan still added \$97,035,000 in unfunded liabilities because \$112.4 million in gains against unfunded liabilities were dedicated to post-retirement benefit increases between January 1, 1998, and January 1, 2002.⁴⁸

⁴⁷ See Appendix E for data.

⁴⁸ FY 1990-2005 actuarial valuation reports, Saint Paul Teachers Retirement Fund, provided by Legislative Commission on Pensions and Retirement.

Appropriateness of Post-Retirement Benefit Increases

As with formula based benefit increases, the rationale for providing post retirement benefit increases must be examined. Benefit adjustments in order to protect retirees from inflation may be a reasonable plan feature. However, the strategy of turning investment gains into permanent benefit increases has several major flaws:

- **It can have devastating and debilitating effects on pension fund health.** In 1999 the Post Fund had a \$4.3 billion surplus and a funded ratio of 129%. In 2005—only six years later—it had a \$4.1 billion deficit and a funded ratio of 82%. According to SBI, if Post Fund investments yield 9% per year, it will still take 27 years, until the year 2033, for the Post Fund to be fully funded.⁴⁹ An even worse situation exists for the first-class city teachers’ fund, which pay out these performance-based increases regardless of their funded ratios. For MTRFA, the problem is compounded by its low funded ratio. While the fund can afford to pay a one-time benefit increase based on superior investment performance, it has such few assets relative to its liabilities that it cannot “cover” these increases: each dollar in investment gains above the 8.5% threshold creates \$1.25 in new unfunded liabilities.⁵⁰ In effect, since increases are based on benefits already being paid out rather than the total dollar amount of the excess investment gain, MTRFA’s low funded ratio means that a 2% increase in current liabilities creates greater unfunded liabilities than the 2% excess increase in the fund’s portfolio can pay for. Thus, it actually harms the health of the fund to make more than 8.5%, and as the fund’s executive director has stated: “there is no way [we] can invest our way out of it”.⁵¹
- **It is fundamentally unfair to many public employee retirees.** Retirees in the 1990’s saw extraordinary investment-related benefit increases due to the stock market boom. Those who were fortunate to have benefited fully from the tech boom have retirement benefits today well in excess of their “high five” salary. The story is completely different for public employees retiring recently under drastically different market conditions. Those in the three state plans have little hope of seeing anything other than inflationary adjustments, especially since the Post Fund will have unfunded liabilities indefinitely. The “winners” under this system have been persons who retired between roughly 1981 and 2001, and the “losers” have been those retiring since 2001.
- **Market performance does not correlate with inflation.** As Figure 8 below demonstrates, there is little if any correlation between market returns and inflation. If the performance-based post-retirement benefit increases are designed to provide a hedge against inflation, policymakers need to rethink the justification for these increases.

“In 1999 the Post Fund had a \$4.3 billion surplus and a funded ratio of 129%...only six years later it had a \$4.1 billion deficit and a funded ratio of 82%...if Post Fund investments yield 9% per year, it will still take 27 years... to be fully funded.”

“For MTRFA... each dollar in investment gains above the 8.5% threshold creates \$1.25 in new unfunded liabilities.”

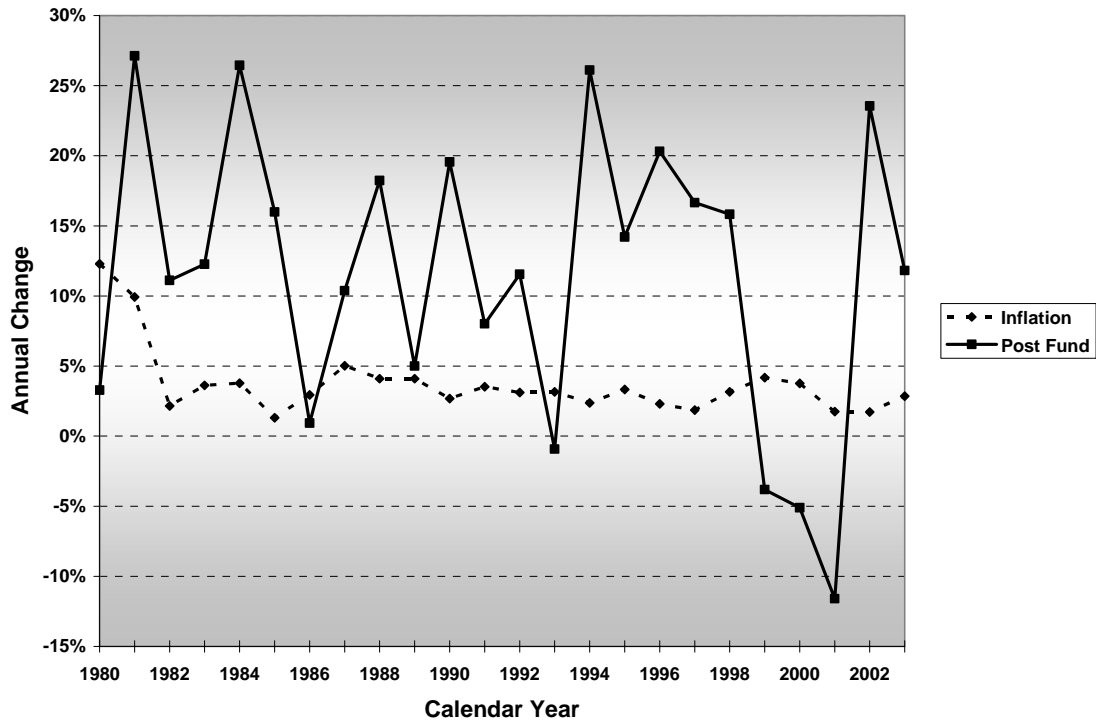
“The ‘winners’ under this system have been persons who retired between roughly 1981 and 2001, and the ‘losers’ have been those retiring since 2001.”

⁴⁹ Materials provided by MSRS, PERA and TRA fund administrators before the Pension Commission, January 19, 2006.

⁵⁰ Discussion with Pension Commission staff.

⁵¹ *State weighs a costly pension fix*, Pat Doyle, Minneapolis Star Tribune, October 10, 2005.

Figure 8: Inflation Increases and Post Fund Annual Investment Gains, 1981-2004



Source: State Board of Investment and Bureau of Labor Statistics. Calculations by MCPFR/MTA staff, 4/2006.

“As a result, legislators designed an arrangement in which full inflationary adjustments (creating budget pain and political pressure in the present) would be sacrificed by retirees in return for the promise of sharing in future investment gains (creating budget pain and political pressure in the future).”

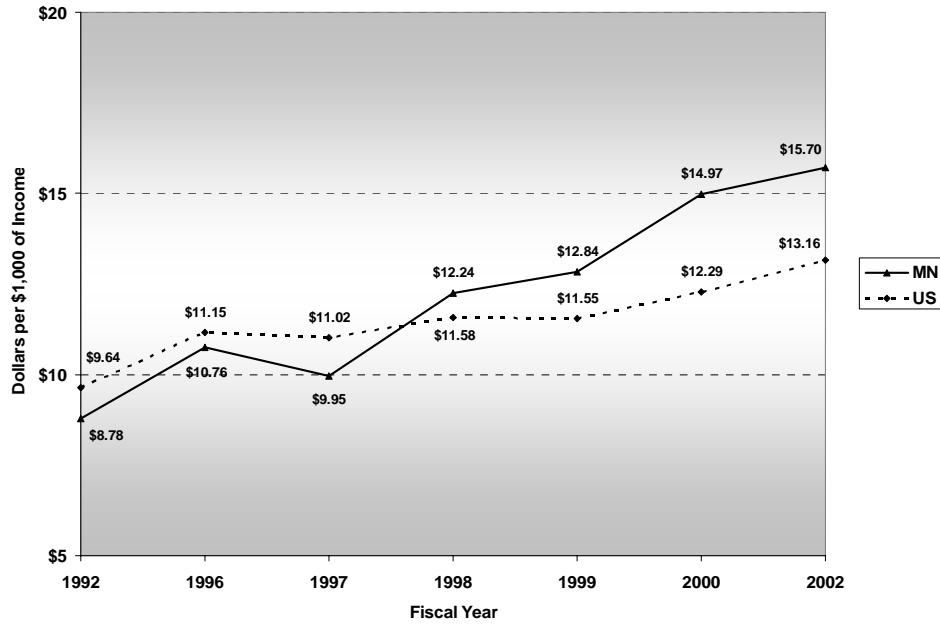
If the strategy of using investment gains to provide permanent benefit increases is so fundamentally flawed, how did it come to exist in the first place? It is difficult to discern the thought processes and motivations of legislators many years after the fact, but one possible explanation that has been provided to us makes particular sense. In previous decades, when inflation rates were much higher, the cost of a pension inflation adjustment would have placed extraordinary pressure on government budgets and contribution rates. As a result, legislators designed an arrangement in which full inflationary adjustments (creating budget pain and political pressure in the present) would be sacrificed by retirees in return for the promise of sharing in future investment gains (creating budget pain and political pressure in the future). A legislative response like this illustrates one of the fundamental problems of all defined benefit plans—the ability and ease of postponing the costs of pension decisions well into the future.

Growth in State and Local Employee Retirement Payments

Figures 8-10 put the effect of Minnesota's pension benefit decisions in a national perspective. As Figure 9 indicates, per \$1,000 of income state and local employee retirement payments (as reported to the Census Bureau) increased 78.8% between 1992 and 2002 (latest data available that include local governments by state), while the U.S. average increased only 36.5% over the same period. Figure 10 shows a similar trend when the same retirement payments are reported on a per-capita basis. Per-capita payments by Minnesota's public pension plans to its retirees grew 309.8% between 1992 and 2002, while the U.S. average grew at a relatively smaller 223.0% during the same period. While some of the absolute increase can be attributed to an ever-growing pool of

retirees, Minnesota’s generous post-retirement benefit increases fueled the large departure from national averages beginning around 1998.

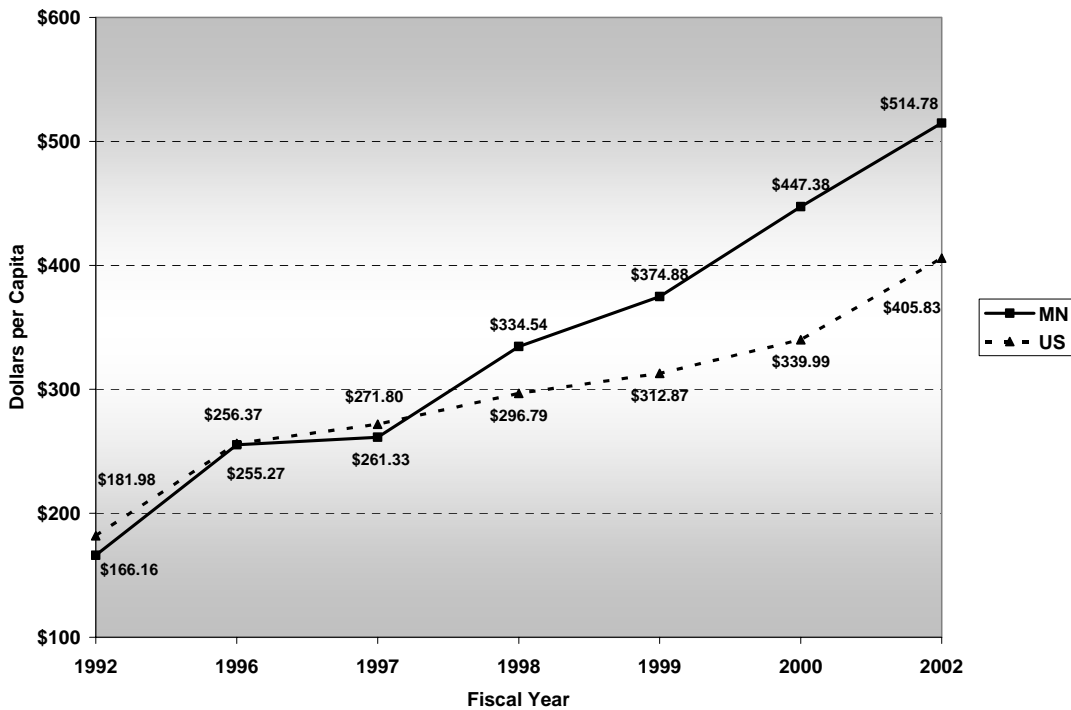
Figure 9: Total State and Local Employee Retirement Payments* per \$1,000 of Income, 1992-2002



*Includes cash out payments to employees leaving the system before retirement.

Source: Census of State and Local Governments, respective years. Calculations by MCPFR/MTA, 4/2006.

Figure 10: Total State and Local Employee Retirement Payments* per Capita, 1992-2002



*Includes cash out payments to employees leaving the system before retirement.

Source: Census of State and Local Governments, respective years. Calculations by MCPFR/MTA, 4/2006.

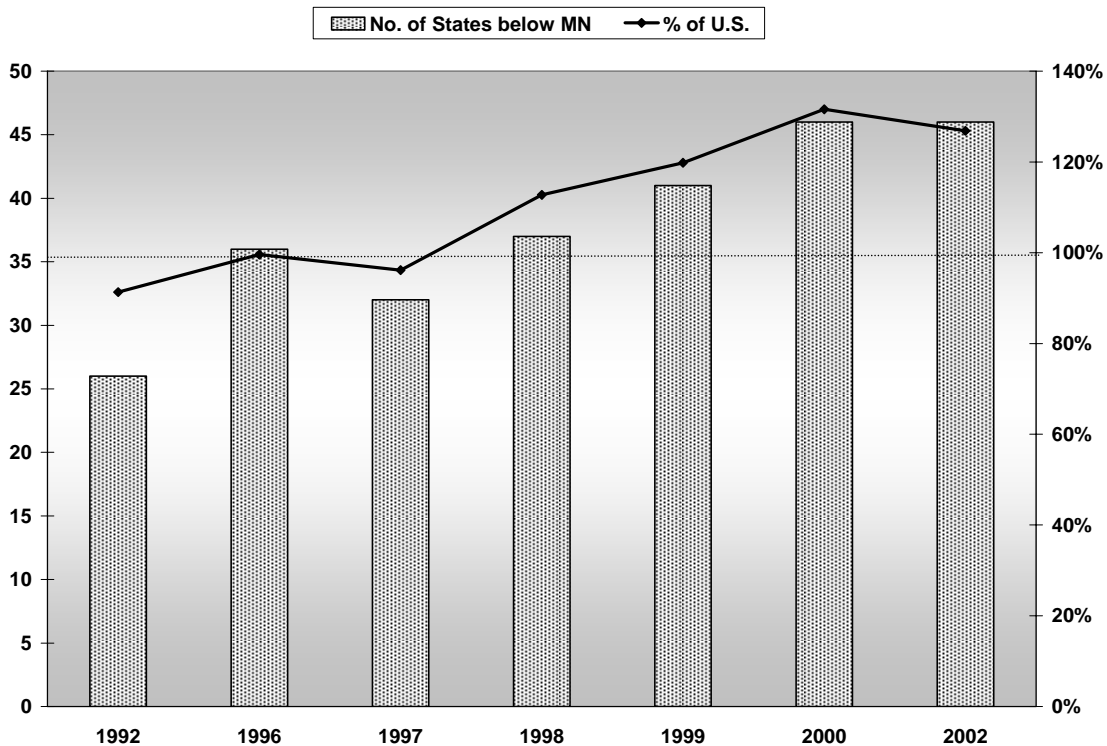
Evaluating Minnesota's Performance in Managing Public Pension Liabilities

“Per capita [state and local] payments [from all retirement funds in Minnesota] have increased in each year, and Minnesota’s overall rank has moved from 25th highest in 1992 to 5th highest in both 2000 and 2002.”

Figure 11 provides a slightly different perspective on the same data. The line graph represents Minnesota’s per-capita pension payments to state and local employees relative to the national average for 1992 through 2002. The bars represent the number of states with per capita payments below Minnesota, effectively showing Minnesota’s rank compared to other states. Per capita payments have increased in each year, and Minnesota’s overall rank has moved from 25th highest in 1992 to 5th highest in both 2000 and 2002.

It is likely Minnesota will revert closer to the national average over the next few decades for two reasons. First, retirees from the statewide plans will not receive any more investment-based post-retirement increase until the Post Fund is fully funded, which would be 13 years if 10% is earned annually and 27 years if 9% is earned annually⁵². Second, states that provide larger inflation-based post-retirement benefit increases will gain on Minnesota during this period when the Post Fund has unfunded liabilities, since retirees in those states will be awarded proportionately larger benefit increases than their Minnesota counterparts.

Figure 11: Minnesota’s State and Local Employee Retirement Payments* per Capita Relative to the U.S. Average, and Number of States with Lower per Capita Payments, 1992-2002



*Includes cash out payments to employees leaving the system before retirement.
Source: Census of State and Local Governments, respective years. Calculations by MCPFR/MTA, 4/2006.

⁵² Materials provided by MSRS, PERA and TRA fund administrators before the Pension Commission, January 19, 2006.

Minnesota's Basic and Post Fund System: Special Concerns Regarding Transparency and Taxpayer Risk

One final issue merits attention: the influence of the state's pension fund structure on reported and actual pension fund health and the degree of taxpayer exposure.

As described earlier, an important feature of the state managed pension funds is its two-part structure. "Basic" funds contain the assets and liabilities of active employees in each pension plan, and one Post Retirement Investment Fund or "Post Fund" contains the assets and liabilities of already retired employees. The creation of a separate Post Fund was to provide retirees with a sense of security with respect to their pension payments by essentially giving them first claim on available pension assets. Basic Funds and the Post Fund are, for legal purposes, separate amounts of assets and liabilities. However, their relationships are intertwined, which raises several important issues.

The first issue concerns the reported health of the pension funds. With this two-part structure, actuarial reports understate the amount of liabilities these plans have.⁵³

Table 1 in Section 1 presented the unfunded liabilities and funded ratios of the three largest statewide pension plans—PERA, MSRS, and TRA—as determined by the 2005 actuarial report. When the actuary performs these valuations, they combine the Basic and Post Funds into one reported funded ratio. For example, PERA's 2005 reported funded ratio of 74.53% applies to *both* the PERA Basic Fund and its share of the Post Fund, even though they are treated as separate funds.

In addition, in calculating funded ratio the actuaries assume that the Post Fund's assets are exactly equal to its liabilities, regardless of the actual amount of assets in the Post Fund.⁵⁴ However, as discussed earlier, this assumption does not reflect current reality. As of June, 2005 the Post Fund had unfunded liabilities totaling \$4.1 billion for the entire fund (MSRS, PERA, and TRA shares of these Post Fund unfunded liabilities totaled \$3.7 billion) and a funded ratio of only 82%. Though the Basic and Post funds are legally separated, the practical implication of this methodology is that the actuarial funded ratios for PERA, MSRS, and TRA assume \$3.7 billion of assets that do not really exist, because for reporting a fund's ratio, the Post Fund is assumed to be 100% funded.

A more accurate presentation of real fund health is conveyed by developing separate funded ratios for both the Basic and Post Funds. Table 16 presents the results and illustrates two advantages of separate fund reporting. First, it alerts taxpayers that these three statewide funds' shares of the Post Fund have approximately \$3.7 billion in unfunded liabilities. Second it presents a more accurate understanding of the funding status of the Basic Funds. While the MSRS and TRA Basic Funds' funded ratios drop only slightly, the removal of PERA's assumed (non-existent) assets has a dramatic impact on PERA's funded ratio; dropping it from 74.53% when the funds are combined (and the Post Fund is assumed fully funded) to 56.84% when the PERA Basic Fund is considered separately.

⁵³ In times of surplus, the opposite is true: actuarial reports overstate unfunded liabilities.

⁵⁴ This assumption is an actuarially appropriate and correct thing to do. The assumption is based on the fact that no contributions are statutorily permitted to pay off any unfunded Post Fund obligations. It is expected that the fund will be made whole solely through investment returns above 8.5%.

Evaluating Minnesota's Performance in Managing Public Pension Liabilities

Table 16: 2005 Unfunded Liability and Funded Ratio for Selected Statewide Minnesota Public Pension Plans, as of June 30, 2005

As Presented in Actuarial Reports: Basic and Post Funds				
Pension plan	Assets	Liabilities	Unfunded Liabilities	Funded Ratio
MSRS	\$8,081,736,374	\$8,455,335,998	\$373,599,624	95.58%
PERA	11,843,935,692	15,892,554,615	4,048,618,923	74.53%
TRA	17,752,917,313	18,021,410,061	268,492,748	98.51%
Basic Funds, Reported Separately				
Pension plan	Assets	Liabilities	Unfunded Liabilities	Funded Ratio
MSRS	\$4,593,806,066	\$4,967,405,690	\$373,599,624	92.48%
PERA	5,330,878,891	9,379,497,814	4,048,618,923	56.84%
TRA	7,314,865,955	7,583,358,703	268,492,748	96.46%
Post Fund, Reported Separately				
Pension plan	Assets*	Liabilities	Unfunded Liabilities*	Funded Ratio**
MSRS	2,860,000,000	3,487,930,308	628,000,000	82.00%
PERA	5,341,000,000	6,513,056,801	1,172,000,000	82.00%
TRA	8,559,000,000	10,438,051,358	1,879,000,000	82.00%

* Estimated using the 82% funded ratio figure provided by MSRS, PERA and TRA.

Rounded to the nearest million.

** Figure provided by MSRS, PERA and TRA.

Segregating active employees from current retirees in pension fund structure also introduces equity problems and elevated levels of taxpayer exposure. This is caused by the requirement that any individual be “fully funded” when their assets are moved from the Basic Fund to the Post Fund when they retire. For example, assume that John Smith, an active PERA employee, plans to retire at the end of 2006. John has accumulated \$100,000 in pension benefits (liabilities) in the Basic Fund. Upon retirement, PERA transfers this liability, along with the amount of assets needed to offset that liability (\$100,000 discounted by a prorated 6%⁵⁵) to the Post Fund. The amount of assets required to be transferred is approximately \$97,000. However, since the Basic Fund is only funded at 56.84%, then John Smith has only \$56,840 of assets assigned to him in that fund. Where will the additional \$40,160 come from? As it stands now, it will come from other active employees in the Basic Fund, backed by the ability to extract more from taxpayers if needed.

“When unfunded liabilities exist in the Basic Funds, the ‘robbing Peter to pay Paul’ nature of Basic to Post fund transfers places stress on Basic Fund health.”

When unfunded liabilities exist in the Basic Funds, the “robbing Peter to pay Paul” nature of Basic to Post fund transfers places stress on Basic Fund health. Accommodating this stress to ensure payments can be made to current retirees is one thing. Sacrificing fund health at the same time large post retirement benefit increases are being handed out of the Post Fund is a completely different matter. Such was the situation for several years when the PERA Basic fund was working to achieve fully funded status at the same time it was transferring assets it couldn't afford to give up to a Post Fund with surpluses. Retirees benefited while active PERA members and taxpayers have already begun a scheduled string of contribution increases to pay for this generosity. The preservation of any post-retirement benefit increase based on investment returns introduces the possibility of this happening again.

“Repaying” Basic Funds is not allowed under the statutory language governing the Post Fund (MS 11A.18). Transferring only the fractional reserves necessary to keep the Post

⁵⁵ The other 2.5% is the inflationary component, and is “fronted” by the Post Fund.

Fund “whole” upon an employee’s retirement, however, would accomplish the same purpose of protecting the health of the Basic Funds when the Post Fund is in a surplus situation. Since the Post Fund is not whole at this time and likely won’t be in the immediate future, full reserve transfers will probably be necessary to help ensure that obligations to current retirees can be met. Nevertheless, the fact remains that in the 1990’s excess transfers helped fuel post retirement benefit increases beyond inflation at the direct expense of enabling the PERA basic fund to return to fully funded status.