

Comparing Recent Historical Rates of Return on the Invested Assets of Montana's Public Employee Retirement Plans to the Rates of Return Experienced in Other States, in the Standard and Poor 500 Index, and in the Wilshire 5000 Index¹

Dave Bohyer, Montana Legislative Services Division
February 2008

* * * * *

Introduction

The assets of a retirement system or plan are typically invested for the sole benefit of the system's members under the "prudent expert" concept or rule. Article VIII., Section 13, Montana Constitution, captures the concept in about 50 words:

(3) Investment of public retirement system assets shall be managed in a fiduciary capacity in the same manner that a prudent expert acting in a fiduciary capacity and familiar with the circumstances would use in the conduct of an enterprise of a similar character with similar aims. Public retirement system assets may be invested in private corporate capital stock.

The principles outlined in Art. VIII, Section 13, Const., are further delineated in Montana statute, specifically in section 17-6-201, MCA, and are also reflected in the Uniform Management of Public Employee Retirement Systems Act.²

While the Board of Investments (BOI) is both compelled and restricted by the prudent expert rule, it must also balance the application of the rule with the demands, nee expectations, established separately and independently by the Public Employees' Retirement Board (PERB) and the Teachers' Retirement Board (TRB) under Title 19, MCA. For the latter part of the 20th Century and into the early years of this decade, both Boards established the expectation that retirement fund assets would maintain a long-term average return of at least 8% annually (presumably net of expenses). In 2006, the TRB reduced the actuarial assumption for the long-term average return on investments to at least 7.75% annually.

When measured against the actuarially-assumed long-term rate of return, the invested assets of Montana's public employee retirement systems have generally performed as assumed by the respective Boards, or better.

¹ The data and information listed in this brief are taken, often literally "cut and pasted", from various sources, including data from the Montana Board of Investments and from R.V. Kuhns and Associates (a consultant to the Board of Investments), and from numerous public employee retirement plans or entities responsible for investing public employee pension assets in states throughout the United States. The calculations are the author's.

² The *Uniform Management of Public Employee Retirement Systems Act* is model legislation proposed by the National Conference of Commissioners on Uniform State Laws. A number of states have adopted the uniform Act, although Montana is not among them--perhaps because Montana law already encompasses the Act's tenets.

TABLE 1: Performance of PERS Invested Assets: FY1995 - FY2007

Fiscal Year	Actual Return	Actuarial Assumption	Difference	Actual Change in Value of \$100	Assumed Change in Value of \$100	Actual \$ Difference From Assumed	Actual % Difference From Assumed	10-year Average Return
2007	17.96%	8.00%	9.96%	\$ 281.93	\$ 251.82	\$ 30.12	11.96%	7.97%
2006	9.07%	8.00%	1.07%	\$ 239.01	\$ 233.16	5.84	2.51%	8.14%
2005	8.13%	8.00%	0.13%	\$ 219.13	\$ 215.89	3.24	1.50%	8.49%
2004	13.43%	8.00%	5.43%	\$ 202.66	\$ 199.90	2.76	1.38%	9.31%
2003	6.61%	8.00%	-1.39%	\$ 178.66	\$ 185.09	(6.43)	-3.47%	NA
2002	-7.23%	8.00%	-15.23%	\$ 167.58	\$ 171.38	(3.80)	-2.22%	NA
2001	-5.04%	8.00%	-13.04%	\$ 180.64	\$ 158.69	21.96	13.84%	NA
2000	7.97%	8.00%	-0.03%	\$ 190.23	\$ 146.93	43.30	29.47%	NA
1999	12.11%	8.00%	4.11%	\$ 176.19	\$ 136.05	40.14	29.51%	NA
1998	16.67%	8.00%	8.67%	\$ 157.16	\$ 125.97	31.19	24.76%	NA
1997	19.63%	8.00%	11.63%	\$ 134.70	\$ 116.64	18.06	15.49%	NA
1996	12.60%	8.00%	4.60%	\$ 112.60	\$ 108.00	4.60	4.26%	NA
1995	16.33%	8.00%	8.33%	\$ 100.00	\$ 100.00	\$ -	0.00%	NA

TABLE 2: Performance of TRS Invested Assets: FY1995 - FY2007

Fiscal Year	Actual Return	Actuarial Assumption	Difference	Actual Change in Value of \$100	Assumed Change in Value of \$100	\$ Difference	% Difference	10-year Average Return
2007	17.94%	7.75%	10.19%	\$ 282.48	\$ 250.65	\$ 31.83	12.70%	7.99%
2006	9.05%	7.75%	1.30%	\$ 239.51	\$ 232.62	\$ 6.89	2.96%	8.16%
2005	8.19%	8.00%	0.19%	\$ 219.63	\$ 215.89	\$ 3.74	1.73%	8.51%
2004	13.51%	8.00%	5.51%	\$ 203.01	\$ 199.90	\$ 3.11	1.55%	9.34%
2003	6.46%	8.00%	-1.54%	\$ 178.84	\$ 185.09	\$ (6.25)	-3.38%	NA
2002	-7.20%	8.00%	-15.20%	\$ 167.99	\$ 171.38	\$ (3.39)	-1.98%	NA
2001	-5.05%	8.00%	-13.05%	\$ 181.03	\$ 158.69	\$ 22.34	14.08%	NA
2000	8.01%	8.00%	0.01%	\$ 190.65	\$ 146.93	\$ 43.72	29.76%	NA
1999	12.22%	8.00%	4.22%	\$ 176.52	\$ 136.05	\$ 40.47	29.74%	NA
1998	16.73%	8.00%	8.73%	\$ 157.29	\$ 125.97	\$ 31.32	24.87%	NA
1997	19.64%	8.00%	11.64%	\$ 134.75	\$ 116.64	\$ 18.11	15.53%	NA
1996	12.63%	8.00%	4.63%	\$ 112.63	\$ 108.00	\$ 4.63	4.29%	NA
1995	16.46%	8.00%	8.46%	\$ 100.00	\$ 100.00	\$ -	0.00%	NA

Note: "Actual Return" data from BOI staff; "Actuarial Assumptions" from PERS and TRS Annual Reports. All other figures calculated by author. The BOI did not track or report annual returns on pension assets until 1995.

Critical Note About Rates of Return

When considering the rates of return on invested assets for Montana provided in the several tables contained in this brief, it is important to be aware and keep in mind that Montana's rates of return are "net" of fees and costs, whereas some, perhaps most of the other states' rates of return are "gross" of fees and costs. According to Montana BOI staff, Montana's rates of return would increase by 0.27% (27 basis points) if the rates were reported gross of fees and costs.

Montana versus the Mob

The fact that actual, annual rates of return from Montana's invested pension assets have typically met or exceeded the annual actuarially-assumed rates of return may provide some comfort to the retirement Boards, asset managers, policymakers, plan members, and taxpayers. However, that fact does not directly address your basic question of how Montana's rates of return compare to other states' rates of return.

At first blush, one might think that such comparative data would be readily available, but that does not appear to be the case. For example, the research director for the National Association of State Retirement Administrators (NASRA) compiles some investment-return information but cautions that the information generally is not for public distribution.³ Pursuit of other sources resulted in some minimal successes, however, and the data information provided in the tables that follow was gleaned from various reports.

For FY 2007, the total return on Montana's PERS assets was 17.96% and on Montana's TRS assets was 17.94%. Returns on the invested assets of Montana's other defined benefit plans were essentially the same as for PERS and TRS. For FY 2007, the median return was 17.7% for 83 public retirement funds tracked.⁴ The information in Table 3 provides similar comparisons to the PERS's invested assets for various investment cycles, e.g. 3-year, 5-year, and 10-year returns.

³ Conversations with Keith Brainard, Research Director, National Association of State Retirement Administrators, Jan-Feb 2008. I interpret NASRA's caveat to mean that the data haven't been verified by NASRA or, perhaps, that data was provided to NASRA on the condition of confidentiality.

⁴ Data are from *Montana Public Employees' Retirement System: Public Fund Universe Analysis Report*, RV Kuhns & Assoc., Inc., Period Ending June 30, 2007 and Carroll South, Executive Director, Montana Board of Investments. Mr. South notes that the rates of return for Montana's systems "is 'net' of management fees, while the universe is 'gross' of management fees. All fees are taken out at the pool level before income is distributed to the pensions funds. Last year the management fee for the pension funds, which includes BOI, the custodial bank, and all external managers, was 27 basis points." For an apples-to-apples comparison, Montana's PERS and TRS rates of return for FY 2007 would be, respectively, 18.23% and 18.21%.

TABLE 3: Comparison of Returns on Montana's Invested Pension Assets vs. the Median Return on Other States' Invested Funds'

Annualized Total Returns ⁵	Montana ⁶	Other Funds -- Median	Montana is Better/ (Worse) by
1 Year	17.96%	17.7%	0.26%
2 Years	13.4%	14.3%	(0.90%)
3 Years	11.6%	13.1%	(1.50%)
4 Years	12.1%	13.8%	(1.70%)
5 Years	11.0%	11.7%	(0.70%)
10 years	7.97%	8.6%	(0.63%)

The information provided in Table 4, below, is included in an effort to illustrate some finer distinctions about the performance of Montana's invested pension assets *vis a vis* the performance of other states' invested pension assets. With the exception of Montana, the investment returns for "All Funds" are for all retirement fund pools in excess of \$1 billion (which is a somewhat different pool of funds than were used for comparison in Table 3.).

TABLE 4: Comparison of Montana to High- and Low Performing Public Funds

Annualized Investment Returns	Montana PERS ⁷	Top 10% of All Funds	Top 25% of All Funds	Median of All Funds	Bottom 25% of All Funds	Bottom 10% of All Funds
FY 2007	17.96%	19.21%	18.48%	17.57%	16.65%	15.31%
3 Years	11.6%	15.24%	13.92%	13.27%	12.56%	11.82%
5 Years	11.0%	13.76%	12.71%	12.12%	11.24%	10.67%
10 years	7.97%	9.76%	9.12%	8.61%	8.15%	7.87%

NOTE: "All Funds" means public (but not private) employee retirement systems' funds' assets of defined

⁵ Ibid.

⁶ Ibid., except for the 10-year average for Montana, which was calculated from Montana Board of Investments data (FY1998-2007).

⁷ The 10-year average for Montana is calculated from Montana Board of Investments data (FY1998-2007).

benefit plans.

The information in Table 4 suggests that Montana achieved relatively poor returns when measured over 3-, 5-, and 10-year periods, but performed much better in FY 2007.

Notably, the BOI undertook an "asset-liability" study in calendar year 2006 and fairly aggressively pursued rebalancing its asset allocations. The BOI also hired a new chief investment officer in 2006. BOI staff are best suited to shed light on whether the improved investment performance of Montana's pension assets is attributable to the revised asset allocation, new staff, etc.

The data in Table 5, below, are provided in an effort to allow comparisons of Montana to other states "in the region".

There seems to be no filter through which the performance of Montana's invested assets looks very favorable as Montana's funds' performance is uniformly among the lowest in the region over the 1-year, 3-year, and 5-year periods.

TABLE 5: Comparison of Montana Funds to Public Retirement Funds in Region			
Annualized Investment Returns for	1 Year % (FY 2006)	3-Year Average % (FY 2004-06)	5-Year Average % (FY 2002-06)
Montana PERS	9.1	10.2	5.8
Montana TRS	9.1	10.2	5.8
Colorado PERA	15.7	13.2	9.6
Idaho PERS	12.2	13.7	7.2
Nevada PERS	8.8	10.1	6.4
New Mexico ERS	12.3	12.5	5.9
New Mexico PERS	11.7	12.4	7.6
North Dakota PERS	12.0	14.2	7.9
North Dakota TFR	14.8	15.8	7.7
Oregon ERS	14.3	15.3	8.1
South Dakota RS	13.1	14.3	8.3
Utah RS	14.8	12.7	10.7
Washington DRS	16.7	15.5	8.5
Wyoming RS	12.6	10.8	8.3

Public Funds Median	11.0	12.5	6.8
----------------------------	-------------	-------------	------------

The news is only marginally better for Montana's funds' performance when compared to other states whose public pension funds' assets performed relatively poorly. Table 6 shows that Montana's 5-year average return of 5.8% was better than the return reported by at least seven other public retirement plans, all but one of which were more than 1% (100 basis points) lower than the public funds' median of 6.8%.

For the 3-year average, Montana beats only four other plans (and trails the median by 2.3% or 230 basis points), and for FY 2006 only, Montana again reported a rate of return that was better than four other states (and 1.9% or 190 basis points below the median).

TABLE 6: Comparison of Montana Funds to Public Funds with Lower Returns

Annualized Investment Returns for	1 Year % (FY 2006)	3-Year Average % (FY 2004-06)	5-Year Average % (FY 2002-06)
Montana PERS	9.1	10.2	5.8
Montana TRS	9.1	10.2	5.8
Alabama RS	11.1	12.8	4.2
Arizona PSPRS	8.3	10.7	4.2
Arizona SRS	9.8	11.8	5.6
Georgia TRS	NA	7.9	4.8
Kentucky TRS	5.4	7.5	4.6
New Hampshire RS	9.8	10.9	5.1
South Carolina RS	5.1	7.0	6.1
Tennessee CRS	6.9	7.9	5.2
Public Funds Median	11.0	12.5	6.8

Table 7 compares Montana's investment returns to some of the top-performing states nationally and Montana's performance clearly lags theirs. Even if each of the top performing states reports its rate of return gross of fees and costs (while Montana does not), Montana doesn't stack up very well. Once again, the underlying reasons for Montana's relatively poor performance can better be explained by BOI staff.

TABLE 7: Comparison of Montana Funds to Public Funds with Higher Returns

Annualized Investment Returns for	1 Year % (FY 2006)	3-Year Average % (FY 2004-06)	5-Year Average % (FY 2002-06)
Montana PERS	9.1	10.2	5.8
Montana TRS	9.1	10.2	5.8
California PERS	11.8	13.8	7.5
California STRS	13.2	13.9	7.5
Colorado PERA	15.7	13.2	9.6
Idaho PERS	12.2	13.7	7.2
Illinois MRF	13.9	11.6	9.3
Kansas PERS	12.3	13.7	7.2
Louisiana TRS	14.3	14.5	7.4
Michigan MERS	13.6	11.7	9.8
Missouri SERS	11.5	13.7	8.1
Missouri DOTPERS	15.0	13.6	7.2
North Dakota PERS	12.0	14.2	7.9
North Dakota TFR	14.8	15.8	7.7
Ohio PERS	14.7	12.1	10.2
Ohio SERS	13.2	13.4	6.5
Ohio STRS	13.7	14.5	7.2
Oregon ERS	14.3	15.3	8.1
Pennsylvania PSERS	15.3	15.9	8.7
Pennsylvania SERS	16.4	15.3	11.2
South Dakota RS	13.1	14.3	8.3
Virginia RS	12.4	14.0	7.1
Washington DRS	16.7	15.5	8.5
Public Funds Median	11.0	12.5	6.8

The data in Table 8 redirect the focus. Rather than comparing Montana's rates of return to other states' rates of return, Table 8 shows Montana's returns to the returns experienced by the S&P 500 Index -- arguably the grand daddy of benchmarks. Here, Montana's performance looks much better in comparison.

TABLE 8: Comparison of PERS Invested Assets to Standard and Poor 500: 1995 - 2007

Fiscal Year	PERS	S&P	Difference	PERS	S&P	Actual \$	Actual %	10-year PERS Average	10-year S&P Average
	Actual FY Return	S&P 500 CY Return		Change in Value of \$100	Change in Value of \$100	Difference From S&P	Difference From S&P		
2007	17.96%	3.81%	14.15%	\$ 281.93	\$ 237.37	\$ 44.56	18.77%	7.97%	5.46%
2006	9.07%	12.80%	-3.73%	\$ 239.01	\$ 228.66	10.35	4.53%	8.14%	8.19%
2005	8.13%	3.01%	5.12%	\$ 219.13	\$ 202.71	16.42	8.10%	8.49%	8.93%
2004	13.43%	9.00%	4.43%	\$ 202.66	\$ 196.79	5.87	2.98%	9.31%	12.04%
2003	6.61%	26.39%	-19.78%	\$ 178.66	\$ 180.54	-1.88	-1.04%	NA	NA
2002	-7.23%	-23.37%	16.14%	\$ 167.58	\$ 142.84	24.74	17.32%	NA	NA
2001	-5.04%	-13.04%	8.00%	\$ 180.64	\$ 186.41	-5.76	-3.09%	NA	NA
2000	7.97%	-10.14%	18.11%	\$ 190.23	\$ 214.36	-24.13	-11.25%	NA	NA
1999	12.11%	19.51%	-7.40%	\$ 176.19	\$ 238.55	-62.36	-26.14%	NA	NA
1998	16.67%	26.67%	-10.00%	\$ 157.16	\$ 199.60	-42.45	-21.26%	NA	NA
1997	19.63%	31.02%	-11.39%	\$ 134.70	\$ 157.58	-22.87	-14.52%	NA	NA
1996	12.60%	20.27%	-7.67%	\$ 112.60	\$ 120.27	-7.67	-6.38%	NA	NA
1995	16.33%	34.11%	-17.78%	\$ 100.00	\$ 100.00	0.00	0.00%	NA	NA

The story is much the same in Table 9, where Montana's funds' performance is compared to one of the broadest of all equity benchmarks, the Wilshire 5000. While Montana's investment performance is not quite as dramatic when compared to the Wilshire 5000 as it is compared to the S&P 500, the Treasure State looks respectable.

TABLE 9: Comparison of PERS Invested Assets to Wilshire 5000: 1997 - 2007

Fiscal Year	PERS	Wilshire	Difference	PERS	Wilshire	Actual \$	Actual %	10-year PERS Average	10-year Wilshire Average
	Actual Return	5000 CY Return		Change in Value of \$100	Change in Value of \$100	Difference From Wilshire	Difference From Wilshire		
2007	17.96%	5.73%	12.23%	\$ 209.30	\$ 184.92	\$ 24.38	13.18%	7.97%	7.65%
2006	9.07%	15.88%	-6.81%	\$ 177.43	\$ 174.90	2.53	1.45%	8.14%	10.20%
2005	8.13%	6.32%	1.81%	\$ 162.68	\$ 150.93	11.75	7.78%	NA	NA
2004	13.43%	12.62%	0.81%	\$ 150.45	\$ 141.96	8.49	5.98%	NA	NA
2003	6.61%	31.64%	-25.03%	\$ 132.63	\$ 126.05	6.58	5.22%	NA	NA
2002	-7.23%	-20.86%	13.63%	\$ 124.41	\$ 95.75	28.66	29.93%	NA	NA
2001	-5.04%	-10.97%	5.93%	\$ 134.11	\$ 120.99	13.11	10.84%	NA	NA
2000	7.97%	-10.89%	18.86%	\$ 141.22	\$ 135.90	5.32	3.92%	NA	NA
1999	12.11%	23.56%	-11.45%	\$ 130.80	\$ 152.51	(21.71)	-14.24%	NA	NA
1998	16.67%	23.43%	-6.76%	\$ 116.67	\$ 123.43	(6.76)	-5.48%	NA	NA
1997	19.63%	31.29%	-11.66%	\$ 100.00	\$ 100.00	0.00	0.00%	NA	NA

There are undoubtedly various explanations for why the rates of return on public pension assets in Montana lag the rates of return reported in other states and some of those explanations may allay concerns that we have not "kept up with the Joneses". There are also likely to be credible explanations for why Montana makes a distinctively better showing against industry benchmarks. Some of the differences may accrue to asset allocations, some to passive versus active management, some to in-house management versus external management of funds. For good, ill, or naught, however, explaining the differences is beyond the scope of this brief. Regardless, the long-term rates of return on Montana's public employee retirement systems' assets continue to attain the expectations of Montana's retirement boards which are the entities statutorily tasked with establishing those expectations.

SAVA\02118b.wpd
CI0425 8043dbqa.