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## The Ohio Retirement Study Council

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## **OHIO RETIREMENT STUDY COUNCIL**

Comparative Performance Study

Period ending 6/30/2005

### **Introduction**

Evaluation Associates is pleased to present to the Council the most recent results of our ongoing, semi-annual comparative study of the performance of the five Ohio Statewide pension funds pursuant to Section 171.04 of the Revised Code. This is the thirteenth report we have prepared pursuant to this authority. The purpose of this comparative report is to provide the framework for dialogue with the retirement systems and to assist the Council in meeting its oversight responsibilities. This report reflects investment performance for all five retirement systems over the ten year period beginning July 1, 1995 and ending June 30, 2005. For this report and on a going-forward basis, we will be preparing our analysis using the previous ten years of investment results.

An important value of this type of report is its ability to provide an “apples to apples” comparison of the systems’ investment results. Such a comparison is possible, since all of the systems are subject to the same investment standards and restrictions and have been so from their inception. In light of the fact that rate of return calculations are extremely sensitive to time period differences, it is critical that any comparative study be done with a consistent time frame, as was done in this report.

As is common practice when examining pension fund results we make reference, throughout the report, to such things as quartile rankings and universe comparisons. The universes used for comparative purposes in the body of the report are those of the Russell Mellon Trust Universe Service. The comparisons are formulated by pooling data from a wide range of investment consulting firms and they provide a statistically valid measure of results relative to a large sample.

While the entire measurement period for this report, as mentioned above, is ten years, certain exhibits contained within the report reference shorter periods. When a shorter period is used for comparison purposes it is because that particular exhibit refers to a standard comparative reference period such as the past three or five years.

In order to put performance in the proper context, it is important to understand the historical evolution of the investment restrictions imposed on the funds by statute. Prior to 1993 and the passage of S.B. 43, the investment authority of the funds was severely limited. Only 35% of each fund’s assets could be invested in common stock and individual stock purchases were limited to domestic securities specified by a legal list. S.B. 43 expanded the legal list to include American Depository Receipts (ADRs), commingled

stock investment funds, derivative instruments and real estate investment trusts (REITs). More importantly, the act permitted the funds to invest up to 50% of their total assets in U.S. stock and 10% in foreign stocks, bonds, and other obligations.

In March 1997, S.B. 82 abolished the legal list and adopted the “prudent person rule.” The funds’ investment authority under this act is expanded to allow any individual investment, so long as the overall portfolio is diversified. This allows for responses to changes in the economy and investment markets and reliance on professional investment managers and economic advisors to guide the decision making process. Along with this expansion of investment authority, however, comes the requirement of prudence and diligence in the development of guidelines, benchmarks, and objectives, and importantly, mandates ongoing monitoring by those with fiduciary responsibility.

The majority of pension assets, in both the public and private sector, are managed with “prudent person” guidelines, which is to say largely without minimums or maximums placed on individual asset classes or securities. This approach, currently in place in the Ohio systems, is the optimal way to manage fund assets. It gives each fund the ability to develop an asset allocation strategy that is likely to maximize expected return while minimizing risk, all relative to the need to fund future obligations. Such an approach is fully consistent with the primary mandate of any pension fund – management that is in the best interest of plan participants.

Our findings may be summarized as follows:

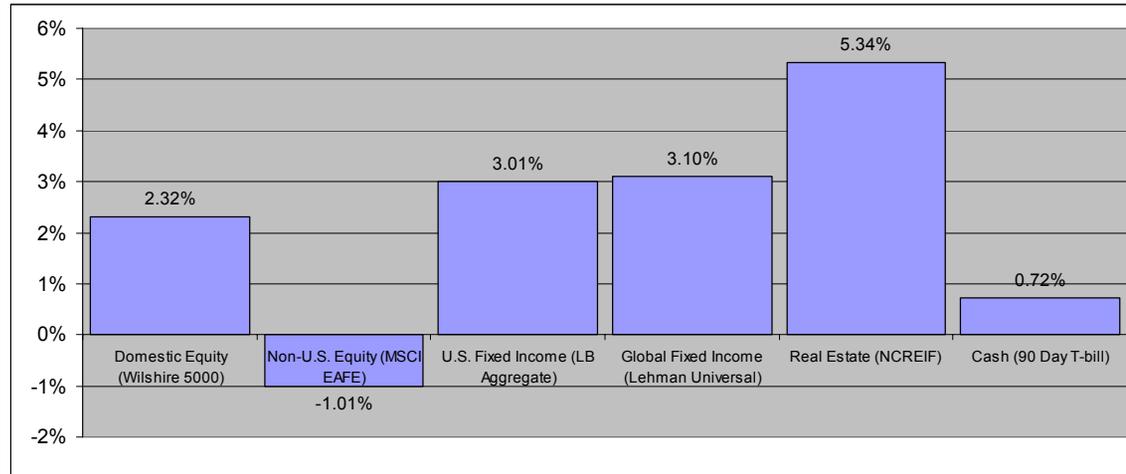
- In the six months ending 6/30/2005, the period since our last report, the systems experienced modest, but generally positive results. All experienced positive returns, ranging from 0.76% (HPRS) to 2.79% (STRS). STRS and OP&F outperformed their respective policies for the six-month period, while HPRS, PERS and SERS lagged their policies. STRS, SERS and OP&F also ranked above the median public retirement system in a broad universe of such funds. The top-performing fund for the six months was STRS (12<sup>th</sup> percentile). The other funds ranged from the 25<sup>th</sup> percentile (SERS) to the 87<sup>th</sup> percentile (HPRS).
- Over the trailing three-year period, STRS, PERS and SERS have outperformed their respective policy benchmarks. For the trailing five-year period, all systems have now outpaced their respective policy benchmarks.
- Long-term, ten-year results have slightly weakened as a result of minimal gains during the first two quarters of 2005. STRS, SERS and OP&F have ten-year returns that are above their current actuarial interest rate assumptions, while results of HPRS and PERS did not exceed their respective interest rate assumptions.
- During the six and one-half years that we have been reviewing the results of the systems on behalf of the Council the asset allocation targets have tended to converge. As the table on page e shows, current targets are very close to each other. This similarity in policy makes comparing one system’s results to the other a more meaningful exercise.

- We have added an additional appendix at the end of this report which compares the current and target asset allocation of each of the systems to two public fund universes, the total universe of public funds (page 62) and the universe of public funds in excess of \$1 billion (page 63). The following observations grow out of our review of the systems' asset allocation:
  1. In general, the systems' asset allocation targets are above the median with respect to their allocation to equity and below the median with respect to their allocation to fixed income.
  2. During the first half of 2005, HPRS reduced its exposure to domestic equity, fixed income and real estate to establish a 10% target allocation to alternatives (5% in private equity and 5% in hedge funds). At present the fund is overweight in domestic equity by 6.80% with a corresponding underweight in real estate (5.3% vs. 12.0%). This report does not reflect changes to target allocation and policy index as alternative investments were not funded as of June 30, 2005.

Our last report (for the period ending December 31, 2004) included analysis of investment operating costs. This analysis is not included this time, but will be prepared with calendar year 2005 information and included in our next semi-annual report.

## Market Environment

The second quarter produced positive investment results for the six major asset classes with the exception of international equity which fell 1.01%. The best return was achieved by real estate (+5.34%) followed by global fixed income (+3.10%) and U.S. fixed income (+3.01%) and then domestic equity (+2.32%). Cash returned 0.72% during the second quarter.



## Median Fund Returns

The median fund in the Russell Mellon public fund database returned 2.44% in the second quarter and 1.49% for year-to-date 2005. A hypothetical fund with a 60% allocation to the Wilshire 5000 and a 40% allocation to the Lehman Brothers Aggregate Bond Index would have returned 2.04% for the quarter and 0.55% year-to-date, falling shy of the median fund return in the Russell Mellon public fund database.

### Universe Medians Performance Summary Periods ending June 30, 2005

	<u>One Quarter</u>	<u>Two Quarters</u>	<u>One Year</u>	<u>Three Years</u>	<u>Five Years</u>	<u>Ten Years</u>
<b>Fund Sponsor</b>						
Public Fund Universe	2.44%	1.49%	10.08%	10.25%	4.03%	9.17%
Corporate DB Universe	2.20%	1.26%	9.55%	9.47%	3.39%	9.41%
Education Eleemosynary Universe	2.24%	1.51%	10.10%	10.08%	3.72%	10.21%
Taft-Hartley Universe	2.50%	1.74%	9.69%	9.31%	3.79%	9.00%
All Fund Universe	2.24%	1.29%	9.57%	9.68%	3.65%	9.46%
<b>60% Wilshire 5000 / 40% LB Aggregate</b>	<b>2.04%</b>	<b>0.55%</b>	<b>7.22%</b>	<b>8.37%</b>	<b>2.41%</b>	<b>9.02%</b>

## Asset Allocation

- **Comparison of Policy Asset Allocation:**  
A well diversified asset allocation is the key investment decision that retirement fund Boards make based on risk tolerance, the pension liability structure and the funding costs of each fund. Asset allocation policy varies across funds for this reason.
- **Total Fund Return vs. Policy Benchmark:**  
Investment returns and the variation or volatility of returns are primarily determined by the policy asset allocation.
- **Long Term Return:**  
The primary objective of investment performance for each fund is to meet or exceed the respective policy benchmarks over a reasonable time period. Funds also seek to exceed the actuarial interest rate over a longer time horizon.
- **Peer Rankings:**  
In comparing rankings of fund performance in peer universes, asset allocation differences need to be considered.

**Comparison of Policy Asset Allocation**

	<b>US Equity</b>	<b>Intl Equity</b>	<b>Fixed Income</b>	<b>Real Estate</b>	<b>Alternative Investment</b>	<b>Cash</b>
<b>PERS</b>	46.0%	20.0%	23.0%	9.0%	1.0%	1.0%
<b>STRS</b>	45.0%	20.0%	23.0%	9.0%	2.0%	1.0%
<b>OP&amp;F</b>	46.0%	20.0%	23.0%	8.0%	3.0%	0.0%
<b>SERS</b>	46.0%	16.0%	23.0%	10.0%	3.0%	2.0%
<b>HPRS</b>	48.0%	15.0%	25.0%	12.0%	0.0%	0.0%

- As seen in the table above, the asset allocation targets for the various systems are remarkably similar. All are equity-oriented, with exposure to this asset class ranging from 62% (SERS) to 66% (OP&F and PERS).

## Evaluating Funds

- The most appropriate benchmark for evaluating the performance of each of the Ohio funds is the blended index contained in their respective investment policy statements. The investment policy statement contains information about the investment objectives and investment constraints that are specific to each fund based upon such factors as the funds' liquidity needs and the age of the workforce they employ.
- There are two investment objectives: (1) a return that matches the cash flows of pension assets and liabilities and (2) the amount of risk the fund is willing and able to tolerate. These objectives are constrained by time horizon, liquidity needs, and government regulations.
- The investment policy statement guides the funds' asset allocation decisions. Asset allocation is very important because some studies show that 95% of the variance in returns is explained by this decision alone. Therefore, Ohio fund returns should be compared against returns from organizations with similar asset allocations.
- Performance of each of the Ohio funds should first be measured against each fund's own policy benchmark return (the return of the specified target policy mix), and secondarily, against the peer group.
- A comparison of the returns of the Ohio funds against one another is a valid exercise. It must be done, however, while keeping in mind any differences in the individual funds' policy allocations and the level of risk tolerance implied by those allocations.

# **Executive Summary**

## Total Fund Returns

The table below displays total fund results for all of the systems, comparing each fund's return to its own benchmark return. The tables that follow repeat the same comparison on an individual asset class basis.

<b>Total Fund Return vs. Policy Benchmark</b>						
<b>Fund</b>		<b><u>One Quarter</u></b>	<b><u>Two Quarters</u></b>	<b><u>One Year</u></b>	<b><u>Three Years</u></b>	<b><u>Five Years</u></b>
<b>PERS</b>						
	Actual	2.19%	1.20%	10.47%	10.29%	3.58%
	Policy	2.14%	1.21%	10.31%	9.95%	3.51%
	Difference	0.05%	-0.01%	0.16%	0.34%	0.07%
<b>STRS</b>						
	Actual	2.89%	2.79%	12.25%	10.57%	3.07%
	Policy	2.99%	2.65%	11.43%	9.79%	2.81%
	Difference	-0.10%	0.14%	0.82%	0.78%	0.26%
<b>OP&amp;F</b>						
	Actual	2.07%	1.77%	10.85%	10.60%	4.02%
	Policy	2.05%	1.53%	10.71%	10.79%	2.36%
	Difference	0.02%	0.24%	0.14%	-0.19%	1.66%
<b>SERS</b>						
	Actual	2.63%	2.29%	10.49%	9.45%	2.42%
	Policy	2.62%	2.33%	10.27%	9.22%	2.40%
	Difference	0.01%	-0.04%	0.22%	0.23%	0.02%
<b>HPRS</b>						
	Actual	1.58%	0.76%	8.84%	10.03%	4.10%
	Policy	2.40%	1.47%	9.98%	10.06%	3.45%
	Difference	-0.82%	-0.71%	-1.14%	-0.03%	0.65%

All returns are for periods ending 6/30/2005. Returns for periods longer than one year are annualized.

- PERS: The second quarter return for the total fund outperformed its policy index by 0.05% but lagged year-to-date by one basis point. Over the trailing one and three-year periods, the total fund outperformed its policy index by 16 basis points and 34 basis points, respectively.
- STRS: The second quarter return for the total fund underperformed its policy index by 10 basis points; however, STRS has outperformed its policy index year-to-date by 14 basis points. Over the trailing one and three-year periods, the total fund is outperforming its policy index by 82 basis points and 78 basis points, respectively.
- OP&F: OP&F outperformed its policy index by 0.02% during the second quarter and outpaced the policy by 0.24% year-to-date. The total fund has also outperformed its policy index over the trailing one and five-year periods by 0.14% and 1.66%, respectively.
- SERS: The total fund outperformed its policy index by 0.01% in the second quarter and lagged its policy index by 0.04% year-to-date. Over the longer term, the fund has outperformed its policy index. For the one-year period, it leads the policy by 0.22% annually, and for the three-year period the fund is outperforming its policy by 0.23% annually.
- HPRS: HPRS underperformed its policy index during the second quarter (+1.58% vs. +2.40%) and year-to-date (+0.76% vs. +1.47%). Over the trailing one-year period, the total fund underperformed its policy index by 114 basis points, and over the trailing three-year period, the total fund slightly lagged by 3 basis points.

## Domestic Equity Returns

Domestic Equity Return vs. Policy Benchmark						
<u>Fund</u>		<u>One Quarter</u>	<u>Two Quarters</u>	<u>One Year</u>	<u>Three Years</u>	<u>Five Years</u>
<b>PERS</b>						
	Actual	2.37%	0.17%	8.18%	9.65%	-0.68%
	Policy	2.25%	0.00%	8.06%	9.46%	-0.96%
	Difference	0.12%	0.17%	0.12%	0.19%	0.28%
<b>STRS</b>						
	Actual	2.06%	-0.11%	8.01%	9.11%	-1.32%
	Policy	2.24%	-0.01%	8.06%	9.22%	-1.04%
	Difference	-0.18%	-0.10%	-0.05%	-0.11%	-0.28%
<b>OP&amp;F</b>						
	Actual	2.71%	1.01%	9.06%	9.25%	1.33%
	Policy	2.32%	0.05%	8.23%	9.94%	-1.27%
	Difference	0.39%	0.96%	0.83%	-0.69%	2.60%
<b>SERS</b>						
	Actual	1.86%	-0.19%	7.25%	9.25%	-1.66%
	Policy	2.24%	-0.01%	8.05%	9.46%	-1.35%
	Difference	-0.38%	-0.18%	-0.80%	-0.21%	-0.31%
<b>HPRS</b>						
	Actual	1.87%	0.23%	9.07%	12.02%	1.61%
	Policy	2.32%	0.05%	8.21%	9.94%	-1.25%
	Difference	-0.45%	0.18%	0.86%	2.08%	2.86%

All returns are for periods ending 6/30/2005. Returns for periods longer than one year are annualized.

The domestic equity market experienced modest gains in the second quarter. On an absolute basis, OP&F outpaced other plans by gaining 2.71% during the quarter. On an absolute and relative basis for year-to-date, OP&F had the best result with a 1.01% return, which exceeded its equity benchmark by 96 basis points. Over the longer time periods, HPRS significantly outpaced other plans followed by OP&F.

## Fixed Income Returns

Fixed Income Return vs. Policy Benchmark						
<u>Fund</u>		<u>One Quarter</u>	<u>Two Quarters</u>	<u>One Year</u>	<u>Three Years</u>	<u>Five Years</u>
<b>PERS</b>						
	Actual	3.23%	2.92%	8.11%	7.05%	7.94%
	Policy	3.10%	2.52%	7.43%	6.56%	7.86%
	Difference	0.13%	0.40%	0.68%	0.49%	0.08%
<b>STRS</b>						
	Actual	2.94%	2.53%	7.49%	7.22%	8.24%
	Policy	3.10%	2.51%	7.42%	6.56%	7.63%
	Difference	-0.16%	0.02%	0.07%	0.66%	0.61%
<b>OP&amp;F</b>						
	Actual	2.66%	2.00%	7.96%	7.94%	8.80%
	Policy	3.01%	2.53%	6.81%	5.76%	7.41%
	Difference	-0.35%	-0.53%	1.15%	2.18%	1.39%
<b>SERS</b>						
	Actual	2.72%	2.38%	6.97%	6.39%	8.12%
	Policy	3.01%	2.52%	6.80%	5.76%	7.40%
	Difference	-0.29%	-0.14%	0.17%	0.63%	0.72%
<b>HPRS</b>						
	Actual	2.82%	2.87%	8.44%	7.06%	8.35%
	Policy	3.01%	2.52%	6.80%	5.76%	7.40%
	Difference	-0.19%	0.35%	1.64%	1.30%	0.95%

All returns are for periods ending 6/30/2005. Returns for periods longer than one year are annualized.

Fixed income returns were positive for all of the funds for the second quarter. PERS had the best second quarter return (+3.23%) followed by STRS (+2.94%), HPRS (+2.82%), SERS (+2.72%) and OP&F (+2.66%). For year-to-date, PERS posted the strongest result (+2.92%) on an absolute and relative basis, followed by HPRS (+2.87%) and STRS (+2.53%). Over the trailing three and five-year periods, OP&F led all plans on an absolute and relative basis.

## International Equity Returns

International Equity Return vs. Policy Benchmark						
<b>Fund</b>		<b><u>One Quarter</u></b>	<b><u>Two Quarters</u></b>	<b><u>One Year</u></b>	<b><u>Three Years</u></b>	<b><u>Five Years</u></b>
<b>PERS</b>						
	Actual	0.07%	0.24%	16.59%	13.86%	0.43%
	Policy	-0.24%	0.01%	16.48%	13.63%	0.42%
	Difference	0.31%	0.23%	0.11%	0.23%	0.01%
<b>STRS</b>						
	Actual	3.14%	4.92%	22.07%	14.55%	2.48%
	Policy	2.42%	4.35%	19.45%	12.63%	0.40%
	Difference	0.72%	0.57%	2.62%	1.92%	2.08%
<b>OP&amp;F</b>						
	Actual	-0.08%	-0.54%	15.57%	13.16%	-1.03%
	Policy	-0.01%	0.32%	16.83%	13.75%	0.49%
	Difference	-0.07%	-0.86%	-1.26%	-0.59%	-1.52%
<b>SERS</b>						
	Actual	2.72%	4.99%	19.33%	11.85%	0.37%
	Policy	2.31%	4.22%	16.92%	10.90%	-0.69%
	Difference	0.41%	0.77%	2.41%	0.95%	1.06%
<b>HPRS</b>						
	Actual	-0.01%	-0.83%	12.97%	9.24%	0.06%
	Policy	-1.01%	-1.18%	13.64%	12.06%	-0.54%
	Difference	1.00%	0.35%	-0.67%	-2.82%	0.60%

All returns are for periods ending 6/30/2005. Returns for periods longer than one year are annualized.

STRS (+3.14%) had the best absolute result, followed by SERS (+2.72%) and PERS (+0.07%) for the second quarter. Although HPRS fell 0.01% for the same period, HPRS experienced the best relative performance compared to their benchmark. For year-to-date, SERS, STRS and PERS posted positive results, returning 4.99%, 4.92% and 0.24%, respectively. For the trailing one, three and five-year periods, STRS had the best absolute and relative results.

## Real Estate Returns

Real Estate Return vs. Policy Benchmark						
<u>Fund</u>		<u>One Quarter</u>	<u>Two Quarters</u>	<u>One Year</u>	<u>Three Years</u>	<u>Five Years</u>
<b>PERS</b>						
	Actual	4.60%	4.53%	14.02%	10.61%	10.92%
	Policy	4.07%	6.45%	16.58%	11.53%	11.37%
	Difference	0.53%	-1.92%	-2.56%	-0.92%	-0.45%
<b>STRS</b>						
	Actual	5.36%	9.56%	21.72%	15.01%	12.21%
	Policy	6.15%	8.56%	19.32%	12.71%	11.01%
	Difference	-0.79%	1.00%	2.40%	2.30%	1.20%
<b>OP&amp;F</b>						
	Actual	3.23%	17.43%	23.68%	16.48%	13.41%
	Policy	5.34%	9.04%	18.02%	12.08%	8.61%
	Difference	-2.11%	8.39%	5.66%	4.40%	4.80%
<b>SERS</b>						
	Actual	6.16%	9.29%	22.34%	13.51%	10.17%
	Policy	5.70%	8.15%	19.15%	12.91%	11.44%
	Difference	0.46%	1.14%	3.19%	0.60%	-1.27%
<b>HPRS</b>						
	Actual	-0.77%	1.60%	6.26%	5.80%	8.28%
	Policy	5.34%	9.04%	18.02%	12.08%	10.63%
	Difference	-6.11%	-7.44%	-11.76%	-6.28%	-2.35%

All returns are for periods ending 6/30/2005. Returns for periods longer than one year are annualized.

Real estate results for the five funds were all positive with the exception of HPRS, which fell 77 basis points for the second quarter. SERS had the highest real estate return (+6.16%) followed by STRS (+5.36%), PERS (+4.60%) and OP&F (+3.23%). For year-to-date, OP&F had the strongest absolute and relative results with a 17.43% gain. Over the trailing three and five-year periods, OP&F again led all plans with the highest return by posting 16.48% and 13.41%, respectively. The policy returns for each of the funds varies greatly from quarter to quarter. This is due to the index selected and the method of reporting.

## Alternative Asset Returns

Alternative Asset Return vs. Policy Benchmark						
<u>Fund</u>		<u>One Quarter</u>	<u>Two Quarters</u>	<u>One Year</u>	<u>Three Years</u>	<u>Five Years</u>
<b>PERS</b>						
	Actual	0.80%	15.22%	21.83%	15.93%	3.35%
	Policy	-1.45%	9.35%	10.34%	6.98%	-1.63%
	Difference	2.25%	5.87%	11.49%	8.95%	4.98%
<b>STRS</b>						
	Actual	9.94%	20.63%	21.31%	8.28%	0.48%
	Policy	9.94%	20.63%	21.31%	8.28%	N/A
	Difference	0.00%	0.00%	0.00%	0.00%	N/A
<b>OP&amp;F</b>						
	Actual	2.50%	12.81%	13.60%	-2.83%	-11.18%
	Policy	-0.97%	10.36%	12.56%	9.58%	1.99%
	Difference	3.47%	2.45%	1.04%	-12.41%	-13.17%
<b>SERS</b>						
	Actual	2.55%	6.60%	7.72%	-1.39%	-13.79%
	Policy	-2.56%	6.86%	9.67%	5.83%	0.25%
	Difference	5.11%	-0.26%	-1.95%	-7.22%	-14.04%
<b>HPRS</b>						
	Actual	N/A	N/A	N/A	N/A	N/A
	Policy	N/A	N/A	N/A	N/A	N/A
	Difference	N/A	N/A	N/A	N/A	N/A

All returns are for periods ending 6/30/2005. Returns for periods longer than one year are annualized.

For the second quarter, STRS had the best absolute return (+9.94%). For year-to-date, STRS had the highest return (+20.63%), followed by PERS (+15.22%), OP&F (+12.81%) and SERS (+6.60%). For the five-year period, PERS had the best absolute and relative results, returning a positive 3.35% and beating the policy return by 4.98% annually. There is also a large amount of variation in the policies for alternative investments. STRS uses their actual alternative investment return as their policy return. OP&F, on the other hand, adds 5% annually to the Wilshire 5000 index to benchmark its alternative investment returns.

## Long-Term Results vs. Targets

### Long Term Return - 10 Years

	Actual Return	Benchmark Actual Return	Actuarial Interest Rate	Valuation Date
<b>PERS</b>	7.36%	8.46%	8.00%	1/1/2004
<b>STRS</b>	8.18%	8.58%	8.00%	7/1/2004
<b>OP&amp;F</b>	8.82%	8.05%	8.25%	1/1/2004
<b>SERS</b>	8.90%	8.92%	8.25%	7/1/2004
<b>HPRS</b>	7.10%	9.54%	8.00%	1/1/2004

The table above provides a long-term look at how the systems are performing compared to their policy returns and also compared to their actuarial interest rate. On a relative basis, only OP&F has exceeded its policy index over the ten-year period. HPRS, PERS, STRS and SERS are underperforming their policy indices by 244, 110, 40 and 2 basis points respectively on an annualized basis. On a positive note, SERS, OP&F and STRS are exceeding their actuarial interest rate.

## Universe Comparisons

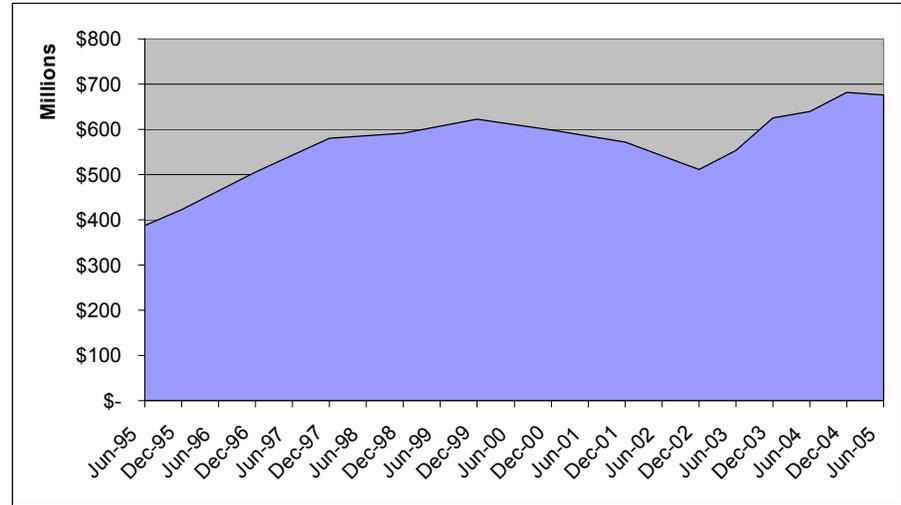
Public Fund Universe Peer Rankings

	One Quarter	Two Quarters	One Year	Three Years	Five Years
PERS	69	64	49	49	61
STRS	23	12	20	36	85
OP&F	81	37	39	35	51
SERS	37	25	49	75	92
HPRS	98	87	83	59	49

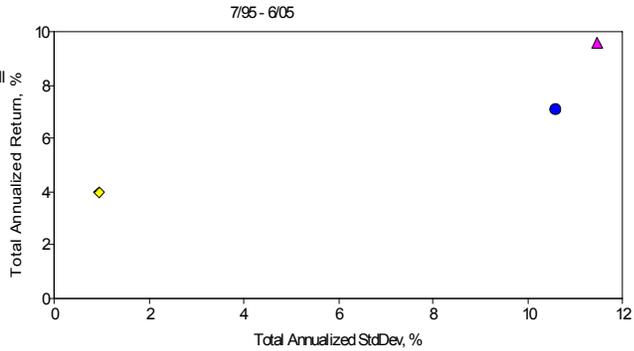
During the second quarter, STRS and SERS ranked ahead of the median public plan in the Russell Mellon All Public Plan Universe. For year-to-date, STRS, SERS and OP&F placed ahead of the median public plan. For the one-year period, all plans placed ahead of the median public plan with the exception of HPRS, which ranked in the 83<sup>rd</sup> percentile. Over the trailing three-year period, OP&F, STRS and PERS ranked above the median public plan, and over the trailing five-year period, all plans with the exception of HPRS fell short of the median public plan in the Russell Mellon All Public Plan Universe.

# Highway Patrol Retirement System

HPRS Returns					
Portfolio	One Quarter	Two Quarters	One Year	Three Years	Five Years
<b>US Equity</b>					
Actual	1.87%	0.23%	9.07%	12.02%	1.61%
Benchmark	2.32%	0.05%	8.21%	9.94%	-1.25%
Difference	-0.45%	0.18%	0.86%	2.08%	2.86%
<b>Fixed Income</b>					
Actual	2.82%	2.87%	8.44%	7.06%	8.35%
Benchmark	3.01%	2.52%	6.80%	5.76%	7.40%
Difference	-0.19%	0.35%	1.64%	1.30%	0.95%
<b>Intl. Equity</b>					
Actual	-0.01%	-0.83%	12.97%	9.24%	0.06%
Benchmark	-1.01%	-1.18%	13.64%	12.06%	-0.54%
Difference	1.00%	0.35%	-0.67%	-2.82%	0.60%
<b>Real Estate</b>					
Actual	-0.77%	1.60%	6.26%	5.80%	8.28%
Benchmark	5.34%	9.04%	18.02%	12.08%	10.63%
Difference	-6.11%	-7.44%	-11.76%	-6.28%	-2.35%



## Performance vs. Risk



Created with MPI Stylus™

	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
			Alpha, %	Sharpe Ratio
	Total	Total		
HPRS	7.10	10.59	3.56	0.33
HPRS Policy Index	9.54	11.46	5.94	0.51
91-Day Treasury Bill	3.96	0.94	0.00	NA

## Asset Mix

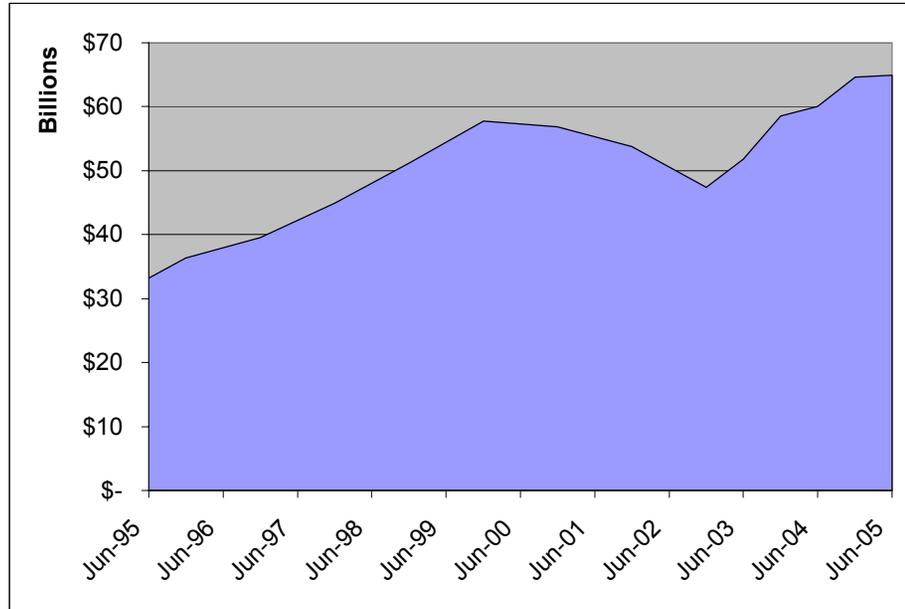
	Actual June 30, 2005	Target	Difference
US Equity	54.8%	48.0%	6.8%
Intl. Equity	14.9%	15.0%	-0.2%
Alternative Assets	0.0%	0.0%	0.0%
<b>Total Equity</b>	<b>69.7%</b>	<b>63.0%</b>	<b>6.7%</b>
Fixed Income	22.4%	25.0%	-2.6%
Real Estate	5.3%	12.0%	-6.8%
Short Term Investments	2.7%	0.0%	2.7%
<b>Total Debt</b>	<b>30.3%</b>	<b>37.0%</b>	<b>-6.7%</b>
	100.0%	100.0%	0.0%

## Characteristic Data

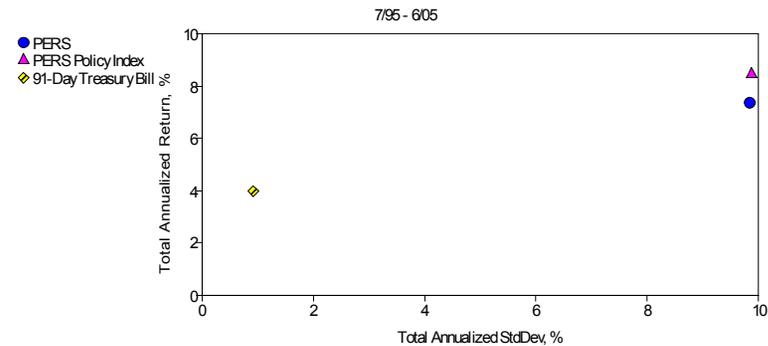
Assets @ 6-30-2005:	\$	676,554,118
Actuarial Interest Rate:		8.00%
Investment Staff Size:		1

# Public Employees Retirement System

PERS Returns					
Portfolio	One Quarter	Two Quarters	One Year	Three Years	Five Years
<b>US Equity</b>					
Actual	2.37%	0.17%	8.18%	9.65%	-0.68%
Benchmark	2.25%	0.00%	8.06%	9.46%	-0.96%
Difference	0.12%	0.17%	0.12%	0.19%	0.28%
<b>Fixed Income</b>					
Actual	3.23%	2.92%	8.11%	7.05%	7.94%
Benchmark	3.10%	2.52%	7.43%	6.56%	7.86%
Difference	0.13%	0.40%	0.68%	0.49%	0.08%
<b>Intl. Equity</b>					
Actual	0.07%	0.24%	16.59%	13.86%	0.43%
Benchmark	-0.24%	0.01%	16.48%	13.63%	0.42%
Difference	0.31%	0.23%	0.11%	0.23%	0.00%
<b>Real Estate</b>					
Actual	4.60%	4.53%	14.02%	10.61%	10.92%
Benchmark	4.07%	6.45%	16.58%	11.53%	11.37%
Difference	0.53%	-1.92%	-2.56%	-0.92%	-0.45%
<b>Private Equity</b>					
Actual	0.80%	15.22%	21.83%	15.93%	3.35%
Benchmark	-1.45%	9.35%	10.34%	6.98%	-1.63%
Difference	2.25%	5.87%	11.49%	8.95%	4.98%



## Performance vs. Risk



Created with MPI Stylus™

	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
			Alpha, %	Sharpe Ratio
	Total	Total		
PERS	7.36	9.85	3.72	0.37
PERS Policy Index	8.46	9.86	4.76	0.48
91-Day Treasury Bill	3.96	0.94	0.00	NA

## Asset Mix

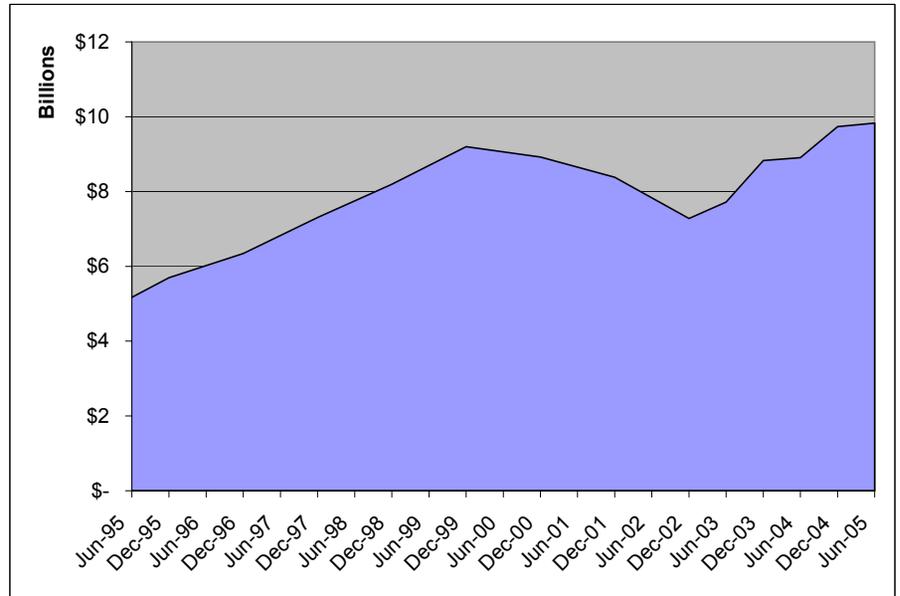
	Actual June 30, 2005	Target	Difference
US Equity	46.2%	46.0%	0.2%
Intl. Equity	20.0%	20.0%	0.0%
Alternative Assets	0.8%	1.0%	-0.2%
Total Equity	67.0%	67.0%	0.0%
Fixed Income	25.1%	23.0%	2.1%
Real Estate	5.9%	9.0%	-3.2%
Short Term Investments	2.0%	1.0%	1.0%
Total Debt	33.0%	33.0%	0.0%
	100.0%	100.0%	0.0%

## Characteristic Data

Assets @ 6-30-2005:	\$	64,966,875,026
Actuarial Interest Rate:		8.00%
Investment Staff Size:		56

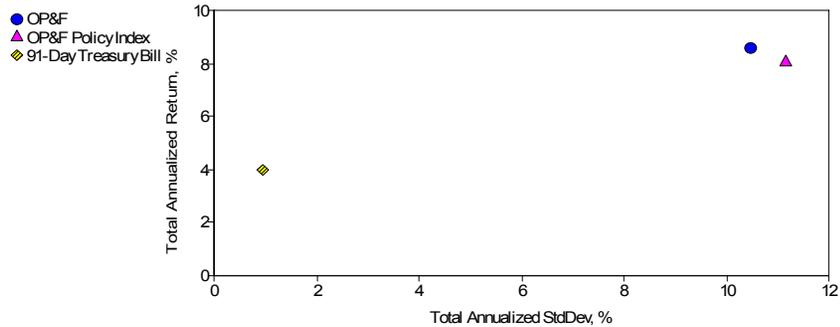
# Police & Fire Pension Fund

OP&F Returns					
Portfolio	One Quarter	Two Quarters	One Year	Three Years	Five Years
<b>US Equity</b>					
Actual	2.71%	1.01%	9.06%	9.25%	1.33%
Benchmark	2.32%	0.05%	8.23%	9.94%	-1.27%
Difference	0.39%	0.96%	0.83%	-0.69%	2.60%
<b>Fixed Income</b>					
Actual	2.66%	2.00%	7.96%	7.94%	8.80%
Benchmark	3.01%	2.53%	6.81%	5.76%	7.41%
Difference	-0.35%	-0.53%	1.15%	2.18%	1.39%
<b>Intl. Equity</b>					
Actual	-0.08%	-0.54%	15.57%	13.16%	-1.03%
Benchmark	-0.01%	0.32%	16.83%	13.75%	0.49%
Difference	-0.07%	-0.86%	-1.26%	-0.59%	-1.52%
<b>Real Estate</b>					
Actual	3.23%	17.43%	23.68%	16.48%	13.41%
Benchmark	5.34%	9.04%	18.02%	12.08%	8.61%
Difference	-2.11%	8.39%	5.66%	4.40%	4.80%
<b>Private Equity</b>					
Actual	2.50%	12.81%	13.60%	-2.83%	-11.18%
Benchmark	-0.97%	10.36%	12.56%	9.58%	1.99%
Difference	3.47%	2.45%	1.04%	-12.41%	-13.17%



## Performance vs. Risk

7/95 - 6/05



Created with MPI Stylus™

	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
OP&F	8.82	10.52	5.15	0.49
OP&F Policy Index	8.05	11.18	4.51	0.40
91-Day Treasury Bill	3.96	0.94	0.00	NA

## Asset Mix

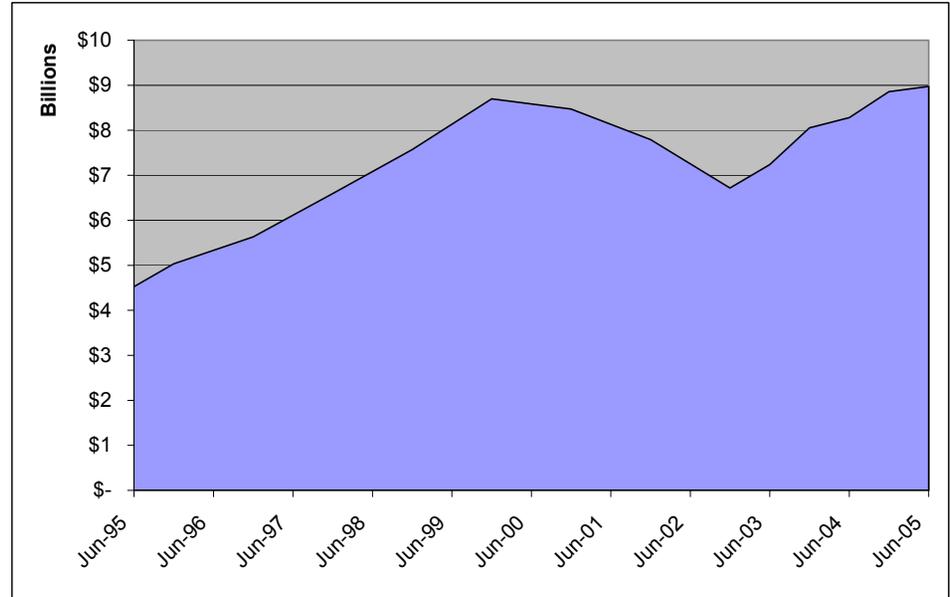
	Actual	Target	Difference
	June 30, 2005		
US Equity	49.4%	46.0%	3.4%
Intl. Equity	21.0%	20.0%	1.0%
Alternative Assets	2.1%	3.0%	-0.9%
Total Equity	72.5%	69.0%	3.5%
Fixed Income	21.9%	23.0%	-1.1%
Real Estate	4.5%	8.0%	-3.5%
Short Term Investments	1.1%	0.0%	1.1%
Total Debt	27.5%	31.0%	-3.5%
	100.0%	100.0%	0.0%

## Characteristic Data

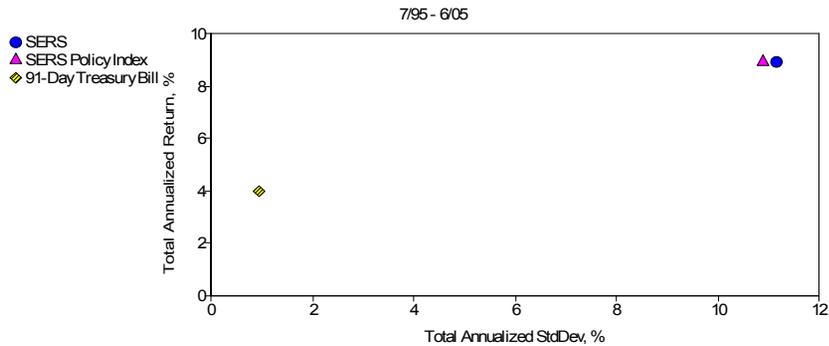
Assets @ 6-30-2005:	\$	9,829,031,560
Actuarial Interest Rate:		8.25%
Investment Staff Size:		15

# School Employees Retirement System

SERS Returns					
Portfolio	One Quarter	Two Quarters	One Year	Three Years	Five Years
<b>US Equity</b>					
Actual	1.86%	-0.19%	7.25%	9.25%	-1.66%
Benchmark	2.24%	-0.01%	8.05%	9.46%	-1.35%
Difference	-0.38%	-0.18%	-0.80%	-0.21%	-0.31%
<b>Fixed Income</b>					
Actual	2.72%	2.38%	6.97%	6.39%	8.12%
Benchmark	3.01%	2.52%	6.80%	5.76%	7.40%
Difference	-0.29%	-0.14%	0.17%	0.63%	0.72%
<b>Intl. Equity</b>					
Actual	2.72%	4.99%	19.33%	11.85%	0.37%
Benchmark	2.31%	4.22%	16.92%	10.90%	-0.69%
Difference	0.41%	0.77%	2.41%	0.95%	1.06%
<b>Real Estate</b>					
Actual	6.16%	9.29%	22.34%	13.51%	10.17%
Benchmark	5.70%	8.15%	19.15%	12.91%	11.44%
Difference	0.46%	1.14%	3.19%	0.60%	-1.27%
<b>Private Equity</b>					
Actual	2.55%	6.60%	7.72%	-1.39%	-13.79%
Benchmark	-2.56%	6.86%	9.67%	5.83%	0.25%
Difference	5.11%	-0.26%	-1.95%	-7.22%	-14.04%



## Performance vs. Risk



Created with MPI Stylus™

	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
			Alpha, %	Sharpe Ratio
	Total	Total		
SERS	8.90	11.15	5.31	0.47
SERS Policy Index	8.92	10.89	5.30	0.48
91-Day Treasury Bill	3.96	0.94	0.00	NA

## Asset Mix

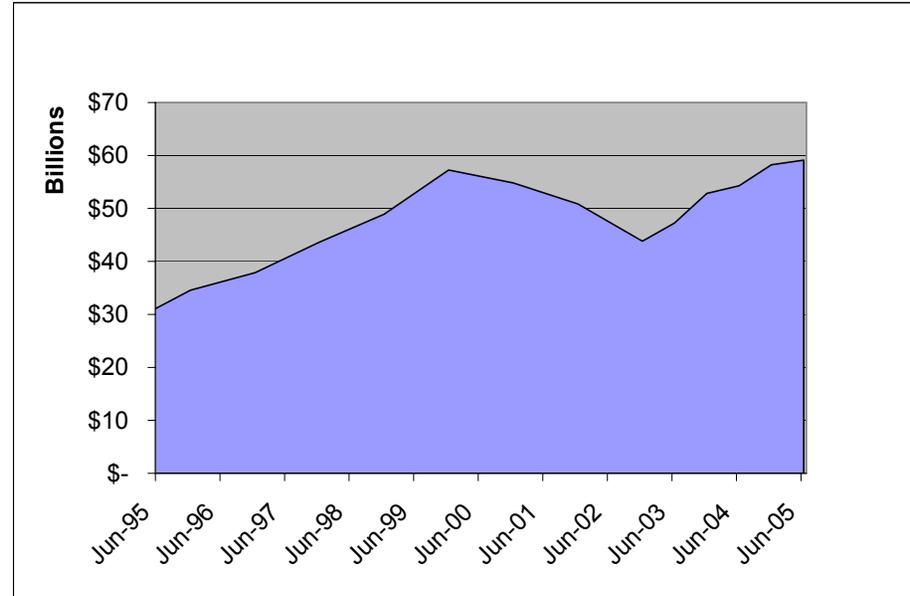
	Actual June 30, 2005	Target	Difference
US Equity	46.0%	46.0%	0.0%
Intl. Equity	18.3%	16.0%	2.3%
Alternative Assets	1.9%	3.0%	-1.1%
Total Equity	66.2%	65.0%	1.2%
Fixed Income	22.4%	23.0%	-0.6%
Real Estate	10.2%	10.0%	0.2%
Short Term Investments	1.2%	2.0%	-0.8%
Total Debt	33.8%	35.0%	-1.2%
	100.0%	100.0%	0.0%

## Characteristic Data

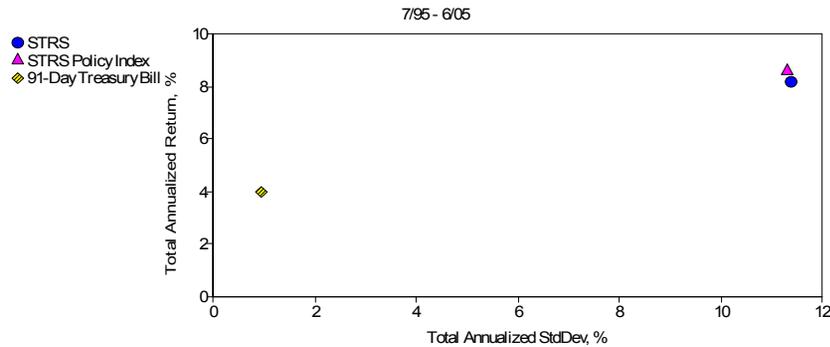
Assets @ 6-30-2005:	\$	8,975,131,699
Actuarial Interest Rate:		8.25%
Investment Staff Size:		12

# State Teachers Retirement System

STRS Returns					
Portfolio	One Quarter	Two Quarters	One Year	Three Years	Five Years
<b>US Equity</b>					
Actual	2.06%	-0.11%	8.01%	9.11%	-1.32%
Benchmark	2.24%	-0.01%	8.06%	9.22%	-1.04%
Difference	-0.18%	-0.10%	-0.05%	-0.11%	-0.28%
<b>Fixed Income</b>					
Actual	2.94%	2.53%	7.49%	7.22%	8.24%
Benchmark	3.10%	2.51%	7.42%	6.56%	7.63%
Difference	-0.16%	0.02%	0.07%	0.66%	0.61%
<b>Intl. Equity</b>					
Actual	3.14%	4.92%	22.07%	14.55%	2.48%
Benchmark	2.42%	4.35%	19.45%	12.63%	0.40%
Difference	0.72%	0.57%	2.62%	1.92%	2.08%
<b>Real Estate</b>					
Actual	5.36%	9.56%	21.72%	15.01%	12.21%
Benchmark	6.15%	8.56%	19.32%	12.71%	11.01%
Difference	-0.79%	1.00%	2.40%	2.30%	1.20%
<b>Private Equity</b>					
Actual	9.94%	20.63%	21.31%	8.28%	0.48%
Benchmark	9.94%	20.63%	21.31%	8.28%	N/A
Difference	0.00%	0.00%	0.00%	0.00%	N/A



## Performance vs. Risk



Created with MPI Stylus™

	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
			Alpha, %	Sharpe Ratio
	Total	Total		
STRS	8.18	11.43	4.66	0.40
STRS Policy Index	8.58	11.31	5.02	0.44
91-Day Treasury Bill	3.96	0.94	0.00	NA

## Asset Mix

	Actual		
	June 30, 2005	Target	Difference
US Equity	45.4%	45.0%	0.4%
Intl. Equity	22.1%	20.0%	2.1%
Alternative Assets	2.6%	2.0%	0.6%
<i>Total Equity</i>	<i>70.1%</i>	<i>67.0%</i>	<i>3.1%</i>
Fixed Income	19.0%	23.0%	-4.0%
Real Estate	7.9%	9.0%	-1.1%
Short Term Investments	2.9%	1.0%	1.9%
<i>Total Debt</i>	<i>29.9%</i>	<i>33.0%</i>	<i>-3.1%</i>
	100.0%	100.0%	0.0%

## Characteristic Data

Assets @ 6-30-2005:	\$	59,105,933,580
Actuarial Interest Rate:		8.00%
Investment Staff Size:		112



# Ohio Retirement Study Council

## Performance Summary Table

Periods Ending 6/30/05

	1 Qtr	2 Qtrs	1 Yr	3 Yrs	5 Yrs	10 Yrs	Incept Date
<b>HPRS</b>							
Total Return	1.58	0.76	8.84	10.03	4.10	7.10	12/31/93
Domestic Equity	1.87	0.23	9.07	12.02	1.61	6.72	12/31/93
Fixed Income	2.82	2.87	8.44	7.06	8.35	7.28	12/31/93
Cash & Equiv	0.91	1.95	3.07	1.92	2.96	4.11	3/31/94
Real Estate	-0.77	1.60	6.26	5.80	8.28	8.02	12/31/93
International Equity	-0.01	-0.83	12.97	9.24	0.06	6.12	3/31/95
<b>PERS</b>							
Total Return	2.19	1.2	10.47	10.29	3.58	7.36	12/31/93
Domestic Equity	2.37	0.17	8.18	9.65	-0.68	8.69	12/31/93
Fixed Income	3.23	2.92	8.11	7.05	7.94	7.09	12/31/93
Cash & Equiv	0.76	1.41	2.42	1.65	2.63	4.13	12/31/93
Real Estate	4.60	4.53	14.02	10.61	10.92	10.56	12/31/93
International Equity	0.07	0.24	16.59	13.86	0.43	NA	12/31/95
Other	0.80	15.22	21.83	15.93	3.35	NA	12/31/95
<b>OP&amp;F</b>							
Total Return	2.07	1.77	10.85	10.60	4.02	8.82	12/31/93
Domestic Equity	2.71	1.01	9.06	9.25	1.33	10.10	12/31/93
Fixed Income	2.66	2.00	7.96	7.94	8.80	7.61	12/31/93
Cash & Equiv	0.72	1.29	2.16	1.55	2.63	4.30	9/30/96
Real Estate	3.23	17.43	23.68	16.48	13.41	13.56	12/31/93
International Equity	-0.08	-0.54	15.57	13.16	-1.03	6.66	9/30/94
Other	2.50	12.81	13.60	-2.83	-11.18	10.86	3/31/94
<b>SERS</b>							
Total Return	2.63	2.29	10.49	9.45	2.42	8.90	12/31/93
Domestic Equity	1.86	-0.19	7.25	9.25	-1.66	9.82	12/31/93
Fixed Income	2.72	2.38	6.97	6.39	8.12	7.24	12/31/93
Cash & Equiv	0.76	1.45	2.36	1.53	3.23	4.35	12/31/93
Real Estate	6.16	9.29	22.34	13.51	10.17	10.87	12/31/93
International Equity	2.72	4.99	19.33	11.85	0.37	7.52	12/31/94
Other	2.55	6.60	7.72	-1.39	-13.79	10.11	12/31/93

	1 Qtr	2 Qtrs	1 Yr	3 Yrs	5 Yrs	10 Yrs	Incept Date
<b>STRS</b>							
Total Return	2.89	2.79	12.25	10.57	3.07	8.18	12/31/93
Domestic Equity	2.06	-0.11	8.01	9.11	-1.32	8.56	12/31/93
Fixed Income	2.94	2.53	7.49	7.22	8.24	7.68	12/31/93
Cash & Equiv	0.75	1.37	2.24	1.59	2.63	4.14	12/31/93
Real Estate	5.36	9.56	21.72	15.01	12.21	12.11	12/31/93
International Equity	3.14	4.92	22.07	14.55	2.48	6.20	12/31/93
Other	9.94	20.63	21.31	8.28	0.48	4.79	12/31/93
<b>Indices</b>							
Russell 1000	2.05	0.11	7.92	9.19	-1.89	10.16	
Russell 2000	4.32	-1.25	9.45	12.81	5.70	9.90	
Russell 3000	2.25	0.00	8.06	9.46	-1.36	10.05	
Standard & Poors 500	1.37	-0.81	6.32	8.28	-2.37	9.94	
S&P 500 Equal Wtd	2.77	0.52	10.60	13.84	8.29	12.25	
S&P 600 Small Cap	3.94	1.79	13.45	13.95	10.51	12.93	
S&P 400 Mid Cap	4.26	3.85	14.03	13.16	8.49	14.66	
Wilshire 5000	2.32	0.05	8.22	9.95	-1.25	9.99	
LB Aggregate	3.01	2.51	6.80	5.76	7.40	6.83	
Citigroup Broad Inv Grade	3.13	2.61	7.00	5.88	7.46	6.85	
MSCI EAFE (Net)	-1.01	-1.17	13.65	12.06	-0.55	5.22	
MSCI Em Mkts Free (Gross)	4.24	6.26	34.89	24.42	7.68	4.28	
MSCI World ex-U.S. (Net)	-0.78	-0.71	14.55	12.59	-0.31	5.56	
LB Mortgage	2.27	2.15	6.14	4.67	6.82	6.69	
NCREIF Property	5.34	9.04	18.02	12.08	10.63	11.36	

The Summary Tables display each of the System's total fund and individual asset class returns as well as the returns for selected broad market indices over the measurement period.

# Ohio Retirement Study Council

## INDEX DEFINITIONS

**Russell 1000** – Made up of the 1000 largest companies within the Russell 3000 index. It is also known as the Market-Oriented Index because it represents the group of stocks from which most active money managers choose.

**Russell 2000** – A small-cap index consisting of the smallest 2000 companies in the Russell 3000 index, representing approximately 7% of the Russell 3000 total market capitalization.

**Russell 3000** – An index composed of 3000 large U.S. companies, as determined by market capitalization. This portfolio of securities represents approximately 98% of the investable U.S. equity market.

**Standard & Poor's 500** – An index that is a readily available, carefully constructed, market-value-weighted benchmark of common stock performance. Market-value-weighted means that the weight of each stock in the index, for a given month, is proportionate to its market capitalization (price times the number of shares outstanding) at the beginning of that month. Currently, the S&P Composite includes 500 of the largest stocks (in terms of stock market value) in the United States; prior to March 1957 it consisted of 90 of the largest stocks.

**S&P 500 Equal Weighted** – An index of the same stocks as those in the S&P 500, but with equal dollar investments in each issue.

**S&P 600 Small Cap** – An index designed to measure the performance of the small capitalization sector of the U.S. equities market. This index consists of 600 domestic stocks chosen for market size, liquidity, (bid-asked spread, ownership, share turnover and number of no trade days) and industry group representation.

**S&P MidCap 400** – An index designed to measure the performance of the middle capitalization sector of the U.S. equities market. This market capitalization weighted index was created in June of 1991 and consists of 400 domestic stocks from the NYSE, NASDAQ and AMEX chosen for market size, liquidity and industry group representation. Each stock added to the index must represent a viable enterprise and must be representative of the industry group to which it is assigned. The market price of each security in the index must be responsive to changes in industry affairs. Aggregate market value of the stock and its trading activity are important considerations in the selection process.

**Wilshire 5000** – Measures the performance of all U.S. common equity securities, and so serves as an index of all stock trades in the United States.

# Ohio Retirement Study Council

**LB Aggregate** – An index that includes fixed rate debt issues rated investment grade or higher by Moody’s Investor’s Service, Standard and Poor’s Corporation, or Fitch Investor’s Service, in that order. (It also includes Commercial Mortgage Backed Securities.) Bonds or securities included must be fixed rate, although it can carry a coupon that steps up or changes according to a predetermined schedule; must be dollar-denominated and nonconvertible; and must be publicly issued. All issues have at least one year to maturity with intermediate indices including bonds

**SB Broad Investment Grade** – An index that spans the “available” market for U.S. Treasury/agency securities, investment grade corporate bonds (BBB or better) and mortgage pass-through securities.

**MSCI EAFE** – The index is listed for foreign stock funds (EAFE refers to Europe, Australasia, and Far East). Widely accepted as a benchmark for international stock performance, the EAFE index is an aggregate of 21 individual country indexes that collectively represent many of the major markets of the world.

**MSCI Emerging Markets Free** – A capitalization-weighted index of stocks from 26 emerging markets that only includes issues that may be traded by foreign investors. Consists of equities from emerging markets in Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Israel, Jordan, Korea, Malaysia, Mexico, Morocco, Pakistan, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Turkey, Thailand, and Venezuela.

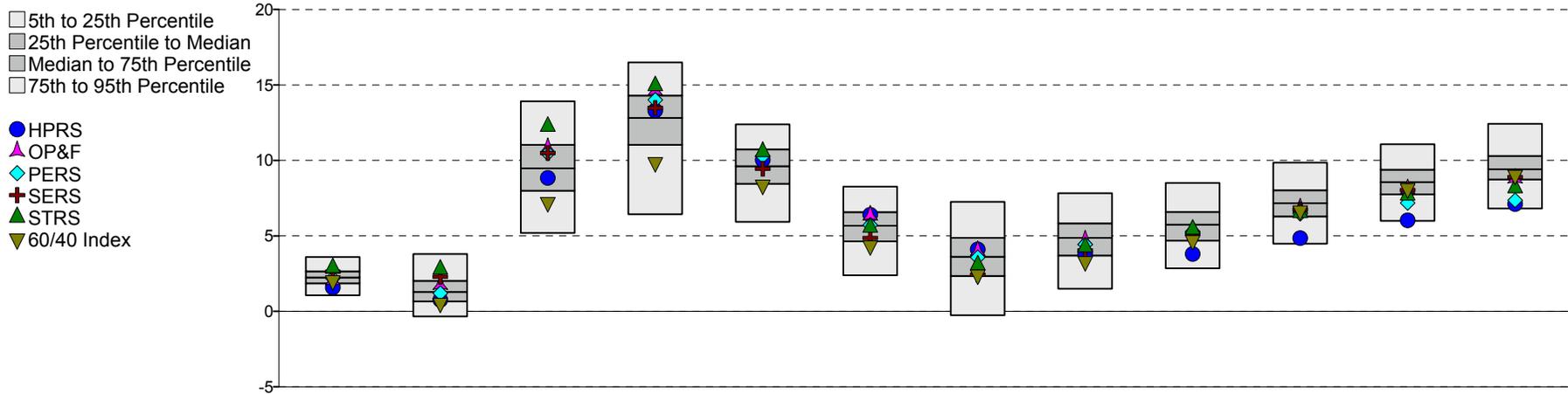
**MSCI World Ex-US** – An index that measures the performance of the developed stock markets of the following developed countries: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland and the United Kingdom.

**LB Mortgage-Backed** – An index that includes 15 and 30 year fixed rate securities backed by mortgage pools of the Government National Mortgage Association (GNMA), Federal Home Loan Mortgage Corporation (FHLMC), and Federal National Mortgage Association (FNMA)

**NCREIF Property** – An index that is also known as the NPI or Combined Index. It consists of both equity and leveraged properties, but the leveraged properties are reported on an unleveraged basis. So, the index is completely unleveraged. The universe of properties includes: Existing properties only – no development projects; only investment-grade, non-agricultural, income-producing properties: apartment, industrial, office and retail; the database increases quarterly as participants execute transactions and as new members join NCREIF and submit data; sold properties are removed from the index in the quarter the sale takes place but the historical information remains in the database; each property’s market value is determined by real estate appraisal methodology, consistently applied.

Total Plans vs. Russell Mellon All Total Fund Universe  
Performance and Rank Data as of 06/30/05

Cumulative Performance Comparison



Return, %

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS	1.58	0.76	8.84	13.30	10.03	6.40	4.10	3.83	3.80	4.85	6.03	7.10
OP&F	2.07	1.77	10.85	14.64	10.60	6.37	4.02	4.73	5.42	6.85	8.12	8.82
PERS	2.19	1.20	10.47	14.01	10.29	5.72	3.58	4.43	5.29	6.47	7.18	7.36
SERS	2.63	2.29	10.49	13.48	9.45	4.86	2.42	4.04	5.16	6.75	8.04	8.90
STRS	2.89	2.79	12.25	14.94	10.57	5.56	3.07	4.26	5.43	6.53	7.69	8.18
60/40 Index	2.04	0.55	7.22	9.86	8.37	4.35	2.41	3.31	4.70	6.66	8.13	9.02
Universe(5%)	3.60	3.80	13.92	16.49	12.39	8.26	7.26	7.83	8.51	9.85	11.07	12.43
Universe(25%)	2.65	2.02	11.04	14.29	10.73	6.58	4.87	5.83	6.58	8.02	9.38	10.29
Universe(Median)	2.24	1.29	9.48	12.81	9.61	5.67	3.61	4.87	5.75	7.16	8.57	9.41
Universe(75%)	1.86	0.66	7.99	11.04	8.45	4.64	2.34	3.70	4.68	6.28	7.75	8.74
Universe(95%)	1.07	-0.34	5.19	6.44	5.93	2.39	-0.25	1.50	2.85	4.48	6.00	6.81

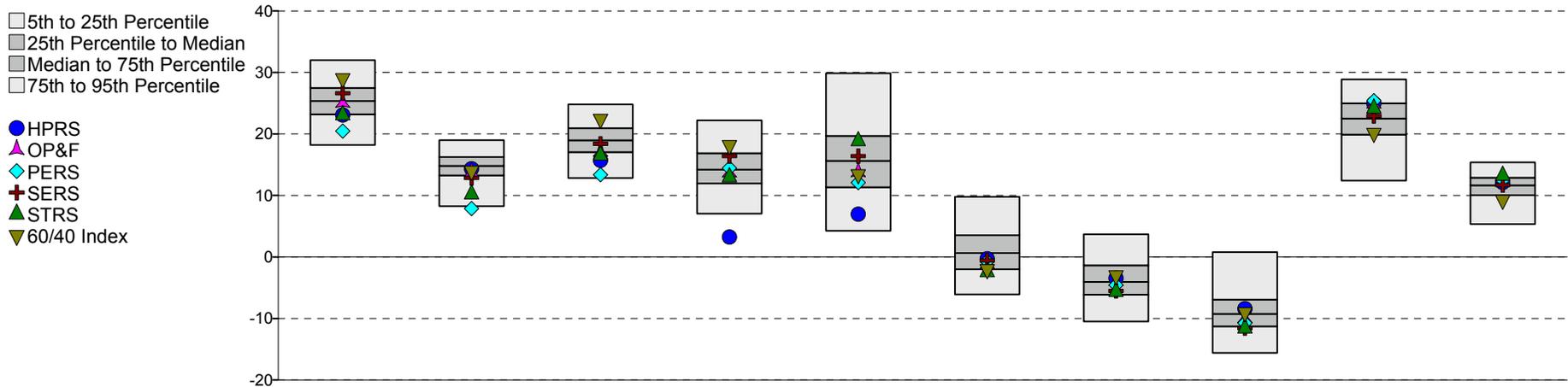
Percentile Rank

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS	86	72	62	43	40	30	41	72	87	94	95	94
OP&F	64	31	27	20	27	30	43	53	61	61	65	73
PERS	54	53	33	30	34	49	51	60	63	71	86	93
SERS	26	19	33	41	55	71	74	68	66	64	68	71
STRS	16	12	13	17	28	53	63	65	60	68	77	85
60/40 Index	66	79	82	85	76	80	74	80	75	66	65	65

This page compares the Total Fund results to a broad universe of total funds - 484 other funds, including those of public, corporate, and multi-employer pension plans and totaling \$1.5 Trillion in assets - over a ten-year measurement period. Here and elsewhere in the report, the "floating bars" define the universe against which the performance is being compared. The table just below the graph displays each fund's return for that period and the table below that defines each fund's relevant ranking in the universe. The numbers in the "rank" rows are percentile rankings. The 60/40 Index is the composition of a hypothetical portfolio of 60% stocks (Wilshire 5000 Index) and 40% bonds (Lehman Aggregate Bond Index). The graph above is a cumulative performance comparison with measurement periods that are annualized over the last ten years. The graph shows that SERS has demonstrated the highest return for the ten-year period with a 8.90% annualized return, which ranks the fund in the 71<sup>st</sup> percentile.

**Total Plans vs. Russell Mellon All Total Fund Universe  
Performance and Rank Data as of 06/30/05**

**Calendar Year Performance**



Return, %

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS	23.09	14.35	15.73	3.23	6.96	-0.29	-3.46	-8.42	24.96	12.11
OP&F	25.10	13.85	17.15	13.77	13.81	-1.12	-3.88	-9.89	24.97	13.13
PERS	20.47	7.86	13.37	14.45	12.10	-0.72	-4.57	-10.73	25.40	12.51
SERS	26.62	12.85	18.38	16.40	16.40	-0.59	-5.52	-11.57	22.93	11.69
STRS	23.07	10.21	16.51	13.01	18.87	-2.45	-5.66	-11.59	24.16	13.23
60/40 Index	29.03	13.99	22.43	18.14	13.43	-2.02	-3.03	-9.01	20.14	9.25
Universe(5%)	32.00	18.99	24.81	22.22	29.88	9.80	3.69	0.78	28.88	15.38
Universe(25%)	27.48	16.25	20.93	16.87	19.67	3.54	-1.36	-6.93	24.99	12.88
Universe(Median)	25.35	14.82	18.97	14.21	15.63	0.64	-4.04	-9.26	22.50	11.64
Universe(75%)	23.19	13.26	17.05	11.96	11.33	-2.00	-6.14	-11.29	19.89	10.06
Universe(95%)	18.22	8.27	12.83	7.05	4.26	-6.10	-10.50	-15.61	12.42	5.33

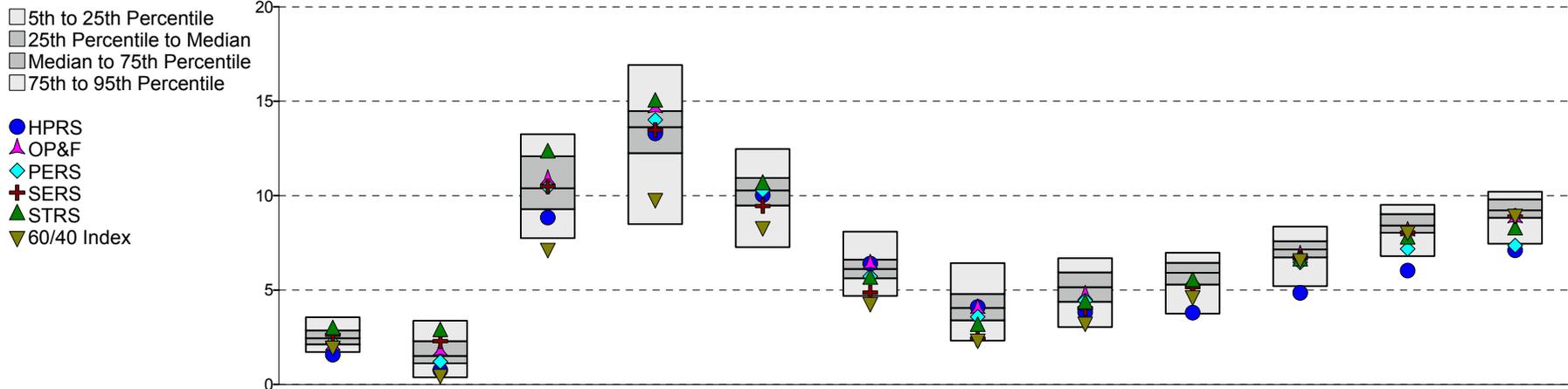
Percentile Rank

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS	76	59	86	99	89	59	44	41	25	40
OP&F	55	68	74	54	61	67	47	57	25	22
PERS	90	96	94	48	72	64	56	68	21	32
SERS	32	79	59	29	44	62	67	77	45	49
STRS	76	91	80	63	29	79	69	77	34	21
60/40 Index	14	66	15	18	62	75	41	47	73	84

The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2004. The graph shows that all plans exceeded the median during 2004.

**Total Plans vs. Russell Mellon All Public Total Fund Universe  
Performance and Rank Data as of 06/30/05**

**Cumulative Performance Comparison**



Return, %

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS	1.58	0.76	8.84	13.30	10.03	6.40	4.10	3.83	3.80	4.85	6.03	7.10
OP&F	2.07	1.77	10.85	14.64	10.60	6.37	4.02	4.73	5.42	6.85	8.12	8.82
PERS	2.19	1.20	10.47	14.01	10.29	5.72	3.58	4.43	5.29	6.47	7.18	7.36
SERS	2.63	2.29	10.49	13.48	9.45	4.86	2.42	4.04	5.16	6.75	8.04	8.90
STRS	2.89	2.79	12.25	14.94	10.57	5.56	3.07	4.26	5.43	6.53	7.69	8.18
60/40 Index	2.04	0.55	7.22	9.86	8.37	4.35	2.41	3.31	4.70	6.66	8.13	9.02
Universe(5%)	3.56	3.38	13.25	16.92	12.48	8.09	6.43	6.69	6.98	8.36	9.52	10.21
Universe(25%)	2.86	2.29	12.09	14.48	10.94	6.61	4.79	5.94	6.44	7.58	9.02	9.80
Universe(Median)	2.45	1.51	10.40	13.63	10.28	6.12	4.06	5.16	5.91	7.15	8.42	9.22
Universe(75%)	2.12	1.12	9.29	12.25	9.48	5.63	3.40	4.38	5.29	6.73	8.04	8.83
Universe(95%)	1.72	0.37	7.74	8.49	7.27	4.69	2.33	3.04	3.75	5.20	6.79	7.45

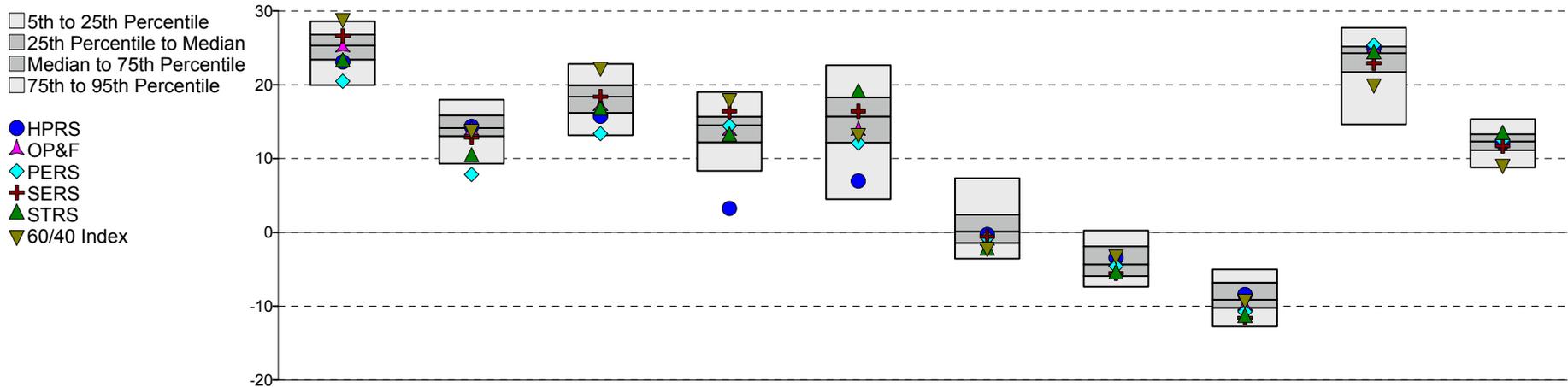
Percentile Rank

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS	98	87	83	58	59	34	49	86	95	98	98	97
OP&F	81	37	39	21	35	39	51	66	72	69	66	75
PERS	69	64	49	40	49	71	61	72	75	85	94	96
SERS	37	25	49	56	75	90	92	84	81	75	73	71
STRS	23	12	20	18	36	79	85	81	72	79	87	92
60/40 Index	82	88	98	93	92	97	92	95	89	77	65	60

The graph above is a cumulative performance comparison with measurement periods that are annualized over the last ten years. The graph above compares the Total Fund results to a universe of all Public Retirement Systems in the Russell Mellon All Public Total Fund Universe. There were no Ohio funds that outperformed the median return in the universe for the ten-year period. For year-to-date, all of the funds except HPRS and PERS ranked above the median public fund.

**Total Plans vs. Russell Mellon All Public Total Fund Universe  
Performance and Rank Data as of 06/30/05**

**Calendar Year Performance**



Return, %

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS	23.09	14.35	15.73	3.23	6.96	-0.29	-3.46	-8.42	24.96	12.11
OP&F	25.10	13.85	17.15	13.77	13.81	-1.12	-3.88	-9.89	24.97	13.13
PERS	20.47	7.86	13.37	14.45	12.10	-0.72	-4.57	-10.73	25.40	12.51
SERS	26.62	12.85	18.38	16.40	16.40	-0.59	-5.52	-11.57	22.93	11.69
STRS	23.07	10.21	16.51	13.01	18.87	-2.45	-5.66	-11.59	24.16	13.23
60/40 Index	29.03	13.99	22.43	18.14	13.43	-2.02	-3.03	-9.01	20.14	9.25
Universe(5%)	28.60	17.98	22.84	19.02	22.65	7.35	0.25	-5.01	27.71	15.34
Universe(25%)	26.78	15.85	19.93	15.68	18.30	2.40	-1.91	-6.80	25.17	13.31
Universe(Median)	25.32	14.13	18.38	14.53	15.70	0.12	-4.33	-9.12	24.28	12.32
Universe(75%)	23.41	13.04	16.20	12.22	12.18	-1.45	-5.91	-10.21	21.73	11.14
Universe(95%)	19.96	9.32	13.16	8.33	4.49	-3.56	-7.38	-12.76	14.64	8.79

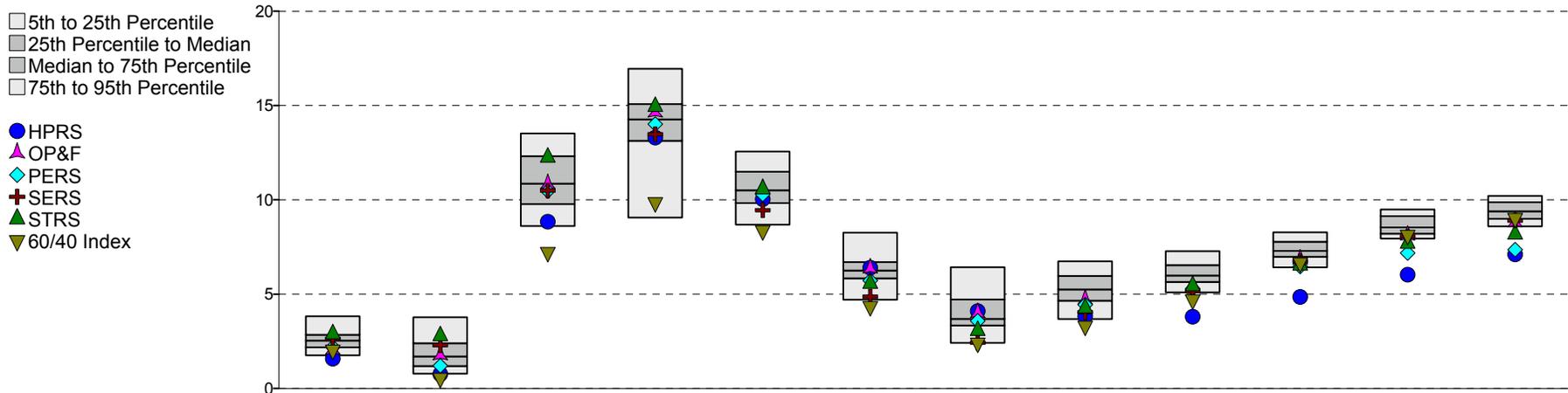
Percentile Rank

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS	79	44	81	100	94	52	39	40	29	54
OP&F	54	55	65	57	65	67	42	70	29	28
PERS	93	98	94	52	76	63	53	77	21	44
SERS	27	79	49	19	42	60	67	86	65	68
STRS	79	93	73	64	16	88	69	87	51	26
60/40 Index	3	53	7	6	66	85	38	48	87	94

The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2004. STRS, OP&F and PERS ranked above the median return for this universe in 2004. STRS ranked in the 26<sup>th</sup> percentile, OP&F ranked in the 28<sup>th</sup> percentile, PERS placed in the 44<sup>th</sup> percentile, HPRS placed in the 54<sup>th</sup> percentile and SERS ranked in the 68<sup>th</sup> percentile.

**Total Plans vs. Russell Mellon Large Public Total Fund Universe  
Performance and Rank Data as of 06/30/05**

**Cumulative Performance Comparison**



Return, %

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS	1.58	0.76	8.84	13.30	10.03	6.40	4.10	3.83	3.80	4.85	6.03	7.10
OP&F	2.07	1.77	10.85	14.64	10.60	6.37	4.02	4.73	5.42	6.85	8.12	8.82
PERS	2.19	1.20	10.47	14.01	10.29	5.72	3.58	4.43	5.29	6.47	7.18	7.36
SERS	2.63	2.29	10.49	13.48	9.45	4.86	2.42	4.04	5.16	6.75	8.04	8.90
STRS	2.89	2.79	12.25	14.94	10.57	5.56	3.07	4.26	5.43	6.53	7.69	8.18
60/40 Index	2.04	0.55	7.22	9.86	8.37	4.35	2.41	3.31	4.70	6.66	8.13	9.02
Universe(5%)	3.83	3.77	13.52	16.95	12.57	8.26	6.43	6.74	7.28	8.28	9.49	10.21
Universe(25%)	2.84	2.39	12.31	15.08	11.49	6.70	4.72	5.96	6.54	7.78	9.13	9.87
Universe(Median)	2.54	1.70	10.86	14.26	10.51	6.25	3.69	5.25	5.99	7.29	8.54	9.39
Universe(75%)	2.18	1.19	9.78	13.13	9.82	5.84	3.34	4.65	5.65	6.98	8.20	9.00
Universe(95%)	1.75	0.78	8.61	9.06	8.68	4.70	2.42	3.68	5.10	6.42	7.95	8.60

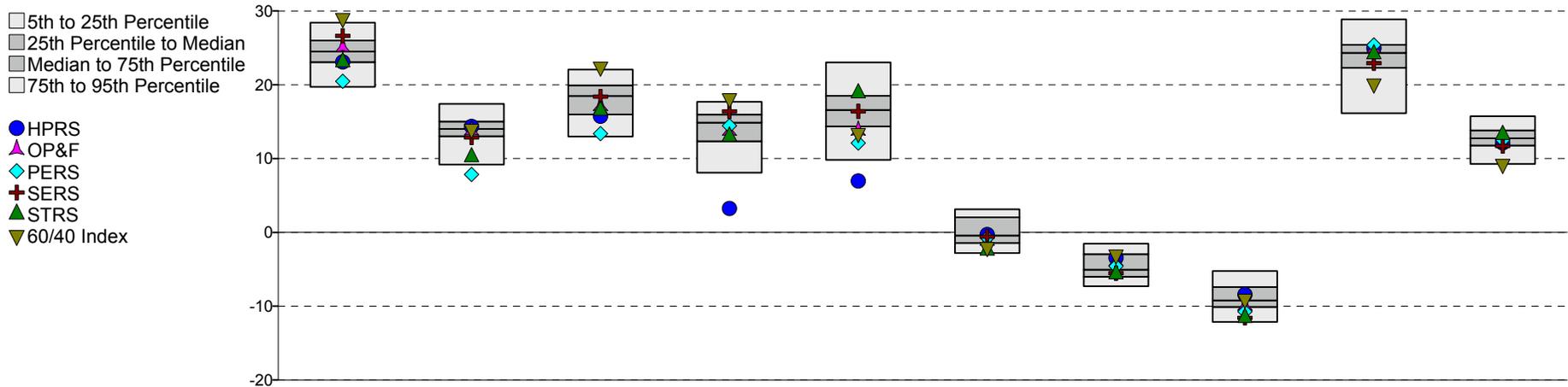
Percentile Rank

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS	99	95	90	71	70	36	42	93	100	100	100	99
OP&F	85	45	51	32	49	44	44	72	85	80	81	89
PERS	75	74	65	58	59	80	54	81	88	94	98	99
SERS	38	31	65	70	83	93	95	92	94	88	88	85
STRS	21	15	28	28	49	85	85	90	84	90	97	98
60/40 Index	85	97	100	94	96	100	95	100	98	89	80	72

The graph above is a cumulative performance comparison with measurement periods that are annualized over the last ten years and compares Total Fund results to a universe of Large Public Retirement Systems with total assets over one billion dollars. All Ohio funds ranked in the bottom quartile within the Russell Mellon Large Public Total Fund Universe for the ten-year period.

**Total Plans vs. Russell Mellon Large Public Total Fund Universe  
Performance and Rank Data as of 06/30/05**

**Calendar Year Performance**



Return, %

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS	23.09	14.35	15.73	3.23	6.96	-0.29	-3.46	-8.42	24.96	12.11
OP&F	25.10	13.85	17.15	13.77	13.81	-1.12	-3.88	-9.89	24.97	13.13
PERS	20.47	7.86	13.37	14.45	12.10	-0.72	-4.57	-10.73	25.40	12.51
SERS	26.62	12.85	18.38	16.40	16.40	-0.59	-5.52	-11.57	22.93	11.69
STRS	23.07	10.21	16.51	13.01	18.87	-2.45	-5.66	-11.59	24.16	13.23
60/40 Index	29.03	13.99	22.43	18.14	13.43	-2.02	-3.03	-9.01	20.14	9.25
Universe(5%)	28.41	17.41	22.06	17.69	23.04	3.13	-1.53	-5.23	28.85	15.73
Universe(25%)	25.99	15.01	19.91	15.95	18.51	2.03	-2.94	-7.41	25.40	13.83
Universe(Median)	24.51	14.03	18.49	14.88	16.59	-0.42	-5.06	-9.21	24.32	12.75
Universe(75%)	23.07	13.03	15.97	12.34	14.36	-1.44	-6.00	-10.10	22.30	11.77
Universe(95%)	19.71	9.19	12.99	8.08	9.83	-2.80	-7.31	-12.12	16.14	9.26

Percentile Rank

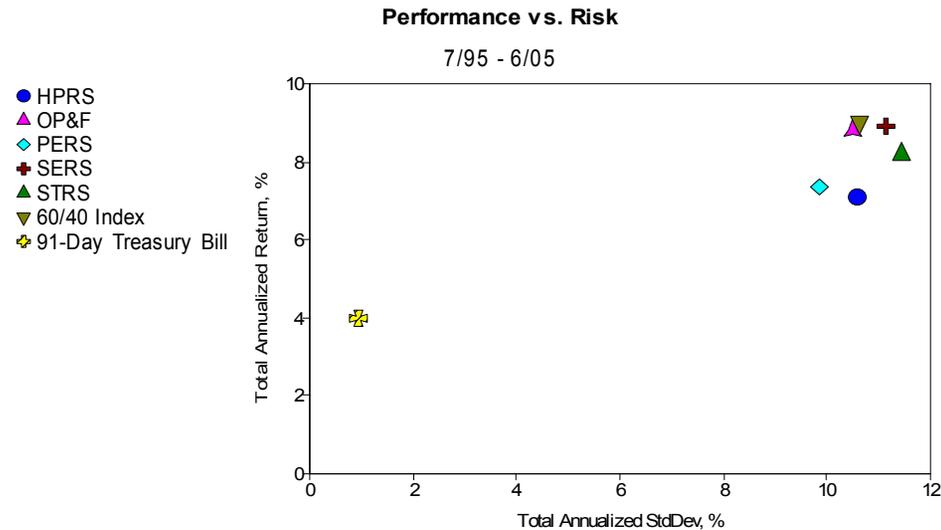
	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS	75	38	78	100	97	45	26	33	32	70
OP&F	46	51	66	64	79	65	31	69	32	41
PERS	92	98	93	59	89	62	42	80	25	62
SERS	19	80	52	18	53	57	58	91	70	78
STRS	75	93	71	70	22	92	61	91	56	38
60/40 Index	2	50	4	4	81	89	25	45	92	95

The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2004. In 2004, STRS and OP&F were the only Ohio funds that ranked above the median return. STRS placed in the 38<sup>th</sup> percentile and OP&F ranked in the 41<sup>st</sup> percentile.

# Ohio Retirement Study Council

## Performance Overview

Returns for Period Ending June 30, 2005



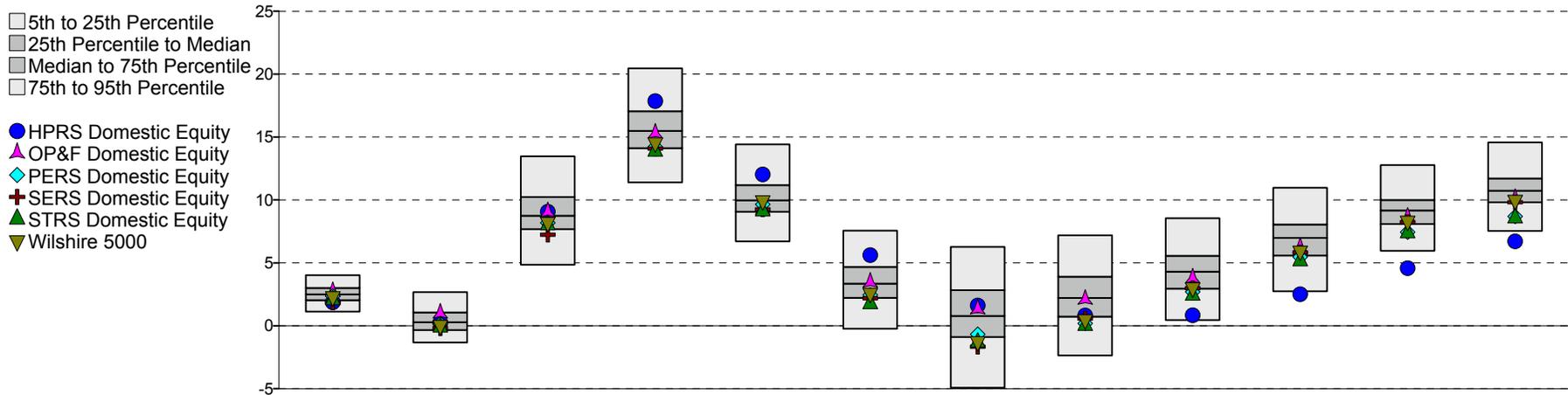
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	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
			Alpha, %	Sharpe Ratio
	Total	Total		
HPRS	7.10	10.59	3.56	0.33
OP&F	8.82	10.49	5.16	0.49
PERS	7.36	9.85	3.72	0.37
SERS	8.90	11.15	5.31	0.47
STRS	8.18	11.43	4.66	0.40
60/40 Index	9.02	10.61	5.36	0.50
91-Day Treasury Bill	3.96	0.94	0.00	NA

The graph above provides the first analysis of risk. The ten-year results of each Total Fund are displayed in the risk-return space. The vertical axis shows the fund's return and the horizontal axis shows the fund's risk (defined as annualized quarterly standard deviation of returns) for the period. This analysis allows us to compare the funds to each other on a risk/return basis. For example, the two funds with the lowest ten-year annualized return were HPRS and PERS. PERS' low return was achieved with the lower risk (volatility) while HPRS' return was achieved with the higher risk (volatility) of the two for the period. The Sharpe Ratio provides another tool for analysis. The number alone is not particularly meaningful, but when comparing two or more funds as is the case in this study, the higher Sharpe Ratio is the better risk-adjusted return.

**Total Domestic Equities vs. Russell Mellon All Domestic Equities Universe  
Performance and Rank Data as of 06/30/05**

**Cumulative Performance Comparison**



Return, %

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Domestic Equity	1.87	0.23	9.07	17.85	12.02	5.62	1.61	0.82	0.84	2.51	4.58	6.72
OP&F Domestic Equity	2.71	1.01	9.06	15.31	9.25	3.46	1.33	2.10	3.79	6.24	8.62	10.10
PERS Domestic Equity	2.37	0.17	8.18	14.22	9.65	2.45	-0.68	0.18	2.69	5.47	7.44	8.69
SERS Domestic Equity	1.86	-0.19	7.25	14.08	9.25	2.18	-1.66	0.57	2.98	5.83	8.23	9.82
STRS Domestic Equity	2.06	-0.11	8.01	13.86	9.11	1.74	-1.32	0.02	2.42	5.16	7.37	8.56
Wilshire 5000	2.32	0.05	8.22	14.55	9.95	2.60	-1.25	0.50	3.02	5.95	8.32	9.99
Universe(5%)	4.02	2.68	13.47	20.45	14.42	7.57	6.27	7.19	8.54	10.97	12.77	14.58
Universe(25%)	3.00	1.06	10.24	17.05	11.18	4.67	2.82	3.90	5.56	8.05	10.00	11.71
Universe(Median)	2.50	0.29	8.74	15.49	9.97	3.35	0.78	2.21	4.30	6.98	9.17	10.74
Universe(75%)	2.03	-0.33	7.68	14.12	9.07	2.22	-0.88	0.73	2.95	5.58	8.09	9.82
Universe(95%)	1.13	-1.33	4.85	11.40	6.71	-0.24	-4.92	-2.35	0.45	2.74	5.96	7.54

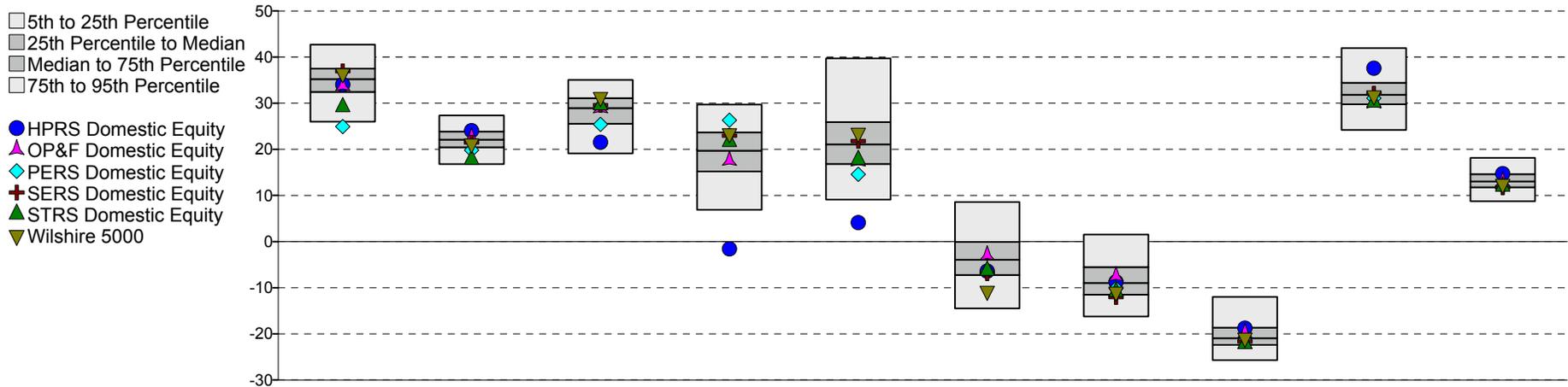
Percentile Rank

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Domestic Equity	82	53	43	15	13	15	38	73	93	95	97	97
OP&F Domestic Equity	37	27	43	53	71	48	41	52	61	64	62	66
PERS Domestic Equity	57	55	63	73	59	69	72	83	80	78	86	90
SERS Domestic Equity	82	71	82	76	71	76	85	78	75	71	70	75
STRS Domestic Equity	74	69	69	80	74	85	81	85	84	84	86	91
Wilshire 5000	60	61	62	66	51	68	80	79	74	69	68	69

The exhibits above, and on the next three pages, focus on domestic equity results. The analysis is similar to the Total Fund analysis, except that now the comparisons are to a broad equity universe (above) and to the equity returns of Public Funds on pages 13 and 14. When compared to equity portfolios in the broad equity universe, for the past 10 years, OP&F placed in the third quartile while HPRS, PERS and STRS have ranked in the fourth quartile. SERS ranked in the 75<sup>th</sup> percentile for the same time period.

**Total Domestic Equities vs. Russell Mellon All Domestic Equities Universe  
Performance and Rank Data as of 06/30/05**

**Calendar Year Performance**



Return, %

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Domestic Equity	34.06	24.06	21.54	-1.59	4.11	-6.40	-8.74	-18.76	37.58	14.74
OP&F Domestic Equity	33.77	22.61	28.96	17.57	17.41	-2.97	-7.47	-19.81	30.00	13.05
PERS Domestic Equity	24.95	19.83	25.41	26.31	14.58	-6.51	-10.14	-21.37	31.09	11.99
SERS Domestic Equity	36.94	21.48	29.59	22.96	21.81	-6.87	-12.04	-21.66	32.12	11.73
STRS Domestic Equity	29.17	17.81	29.58	21.64	17.75	-6.28	-10.90	-22.16	30.20	11.95
Wilshire 5000	36.45	21.21	31.29	23.43	23.56	-10.73	-10.90	-20.86	31.65	12.49
Universe(5%)	42.71	27.35	35.04	29.71	39.71	8.57	1.51	-11.98	41.94	18.16
Universe(25%)	37.50	23.86	31.11	23.67	25.91	-0.06	-5.52	-18.64	34.42	14.61
Universe(Median)	35.24	22.10	28.96	19.71	21.06	-3.93	-8.99	-20.94	31.84	13.05
Universe(75%)	32.45	20.45	25.56	15.21	16.82	-7.23	-11.52	-22.40	29.78	11.79
Universe(95%)	26.00	16.80	19.13	6.90	9.09	-14.49	-16.23	-25.69	24.19	8.74

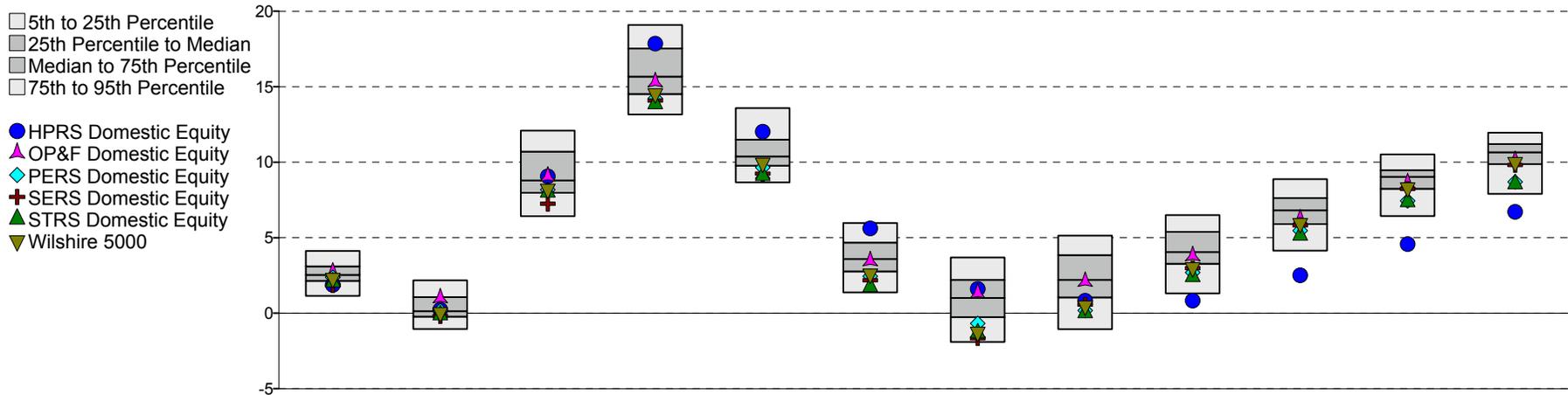
Percentile Rank

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Domestic Equity	62	22	92	99	98	68	49	26	11	23
OP&F Domestic Equity	63	39	50	62	72	43	38	37	73	50
PERS Domestic Equity	96	81	76	13	82	69	61	58	60	72
SERS Domestic Equity	29	61	41	29	47	71	79	63	45	76
STRS Domestic Equity	90	92	42	38	70	67	70	71	70	73
Wilshire 5000	35	66	23	26	36	91	70	48	52	62

The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2004 within the Russell Mellon All Domestic Equities Universe. This graph highlights the fact that HPRS has been outperforming the median return and the Wilshire 5000 Index from 2001 through 2004.

**Total Domestic Equities vs. Russell Mellon All Public Domestic Equity Universe  
Performance and Rank Data as of 06/30/05**

**Cumulative Performance Comparison**



Return, %

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Domestic Equity	1.87	0.23	9.07	17.85	12.02	5.62	1.61	0.82	0.84	2.51	4.58	6.72
OP&F Domestic Equity	2.71	1.01	9.06	15.31	9.25	3.46	1.33	2.10	3.79	6.24	8.62	10.10
PERS Domestic Equity	2.37	0.17	8.18	14.22	9.65	2.45	-0.68	0.18	2.69	5.47	7.44	8.69
SERS Domestic Equity	1.86	-0.19	7.25	14.08	9.25	2.18	-1.66	0.57	2.98	5.83	8.23	9.82
STRS Domestic Equity	2.06	-0.11	8.01	13.86	9.11	1.74	-1.32	0.02	2.42	5.16	7.37	8.56
Wilshire 5000	2.32	0.05	8.22	14.55	9.95	2.60	-1.25	0.50	3.02	5.95	8.32	9.99
Universe(5%)	4.12	2.18	12.09	19.09	13.58	5.97	3.69	5.14	6.50	8.88	10.52	11.96
Universe(25%)	3.10	1.07	10.70	17.53	11.50	4.67	2.20	3.85	5.39	7.62	9.47	11.20
Universe(Median)	2.54	0.14	8.79	15.67	10.38	3.59	1.01	2.21	4.05	6.82	9.04	10.66
Universe(75%)	2.14	-0.22	7.97	14.52	9.77	2.77	-0.26	1.05	3.27	5.90	8.24	9.87
Universe(95%)	1.15	-1.05	6.42	13.16	8.67	1.37	-1.90	-1.06	1.31	4.14	6.44	7.90

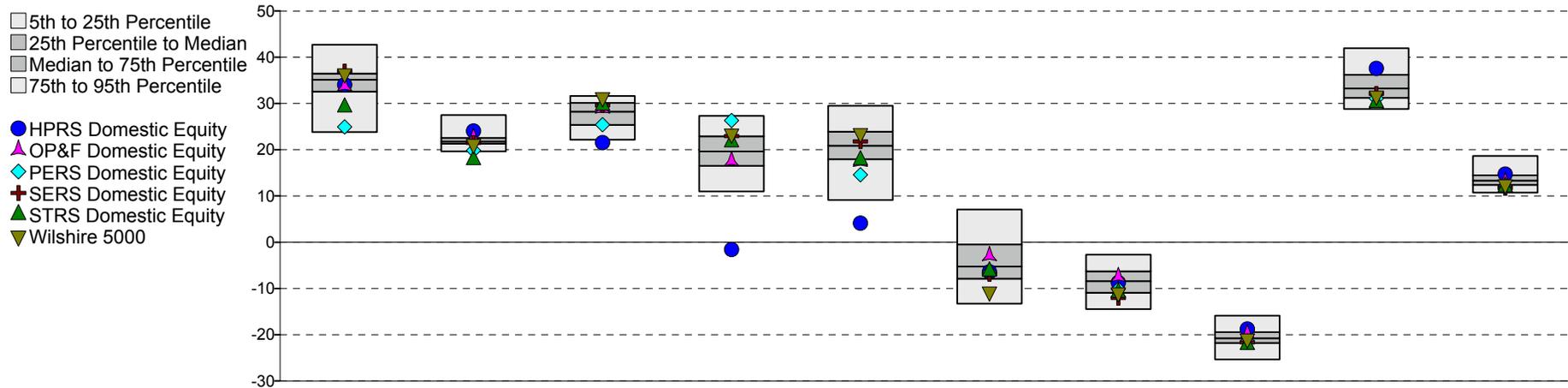
Percentile Rank

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Domestic Equity	89	48	41	20	15	10	34	80	96	98	99	100
OP&F Domestic Equity	43	26	41	56	86	58	41	51	64	67	66	66
PERS Domestic Equity	56	49	65	85	78	82	80	92	91	84	88	91
SERS Domestic Equity	90	74	88	90	86	92	94	87	86	77	75	80
STRS Domestic Equity	80	69	73	91	90	94	90	92	92	85	88	92
Wilshire 5000	62	55	64	73	59	79	88	88	86	73	70	72

The comparisons above compare the domestic equity returns of the five Ohio public funds to the domestic equity returns of all of the public funds in the Russell Mellon Universe. Over the ten-year period, all Ohio funds trailed the median return. HPRS and OP&F posted positive results and beat the median return for the trailing five-year period when all plans fell, to place in the 34<sup>th</sup> percentile and in the 41<sup>st</sup> percentile, respectively. During the same time period, the Wilshire 5000 Index posted a negative 1.25% annualized return.

**Total Domestic Equities vs. Russell Mellon All Public Domestic Equity Universe  
Performance and Rank Data as of 06/30/05**

**Calendar Year Performance**



Return, %

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Domestic Equity	34.06	24.06	21.54	-1.59	4.11	-6.40	-8.74	-18.76	37.58	14.74
OP&F Domestic Equity	33.77	22.61	28.96	17.57	17.41	-2.97	-7.47	-19.81	30.00	13.05
PERS Domestic Equity	24.95	19.83	25.41	26.31	14.58	-6.51	-10.14	-21.37	31.09	11.99
SERS Domestic Equity	36.94	21.48	29.59	22.96	21.81	-6.87	-12.04	-21.66	32.12	11.73
STRS Domestic Equity	29.17	17.81	29.58	21.64	17.75	-6.28	-10.90	-22.16	30.20	11.95
Wilshire 5000	36.45	21.21	31.29	23.43	23.56	-10.73	-10.90	-20.86	31.65	12.49
Universe(5%)	42.71	27.49	31.64	27.32	29.52	7.08	-2.69	-15.89	41.94	18.64
Universe(25%)	36.46	22.54	30.11	22.91	23.91	-0.49	-6.29	-19.45	36.21	14.48
Universe(Median)	35.13	21.79	28.24	19.64	20.87	-5.27	-8.42	-20.77	33.26	13.31
Universe(75%)	32.58	21.31	25.39	16.53	17.95	-7.89	-10.92	-21.78	31.21	12.42
Universe(95%)	23.82	19.66	22.16	10.98	9.14	-13.28	-14.47	-25.35	28.79	10.73

Percentile Rank

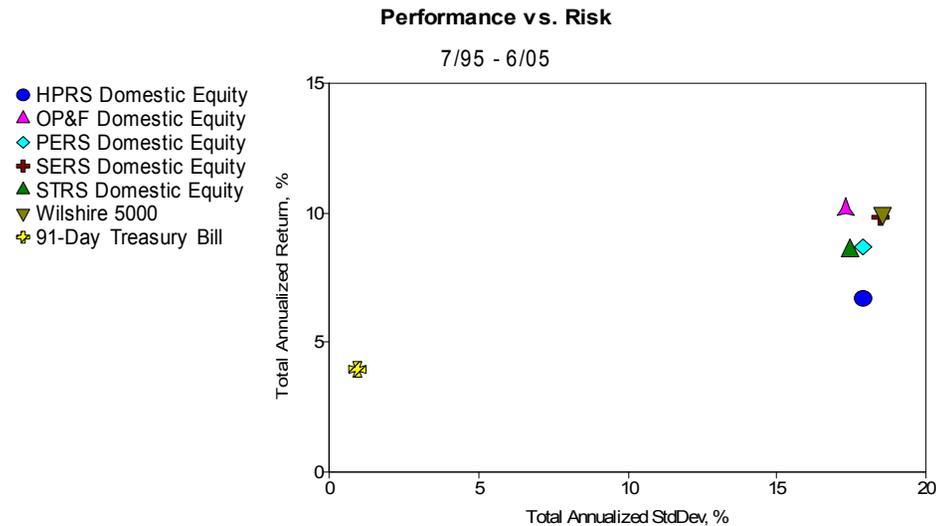
	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Domestic Equity	59	14	98	98	98	57	54	18	13	18
OP&F Domestic Equity	60	23	44	66	77	34	40	28	92	56
PERS Domestic Equity	93	94	75	9	87	57	68	64	81	84
SERS Domestic Equity	21	64	32	22	38	61	84	70	63	88
STRS Domestic Equity	89	100	33	37	76	54	75	79	91	84
Wilshire 5000	25	78	13	16	29	94	75	52	69	70

The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2004 within the Russell Mellon All Public Domestic Equities Universe. Over the past twelve months, the domestic equity results of the five systems have ranged from the 18<sup>th</sup> percentile (HPRS) to the 88<sup>th</sup> percentile (SERS).

# Ohio Retirement Study Council

## Performance Overview

Returns for Period Ending June 30, 2005



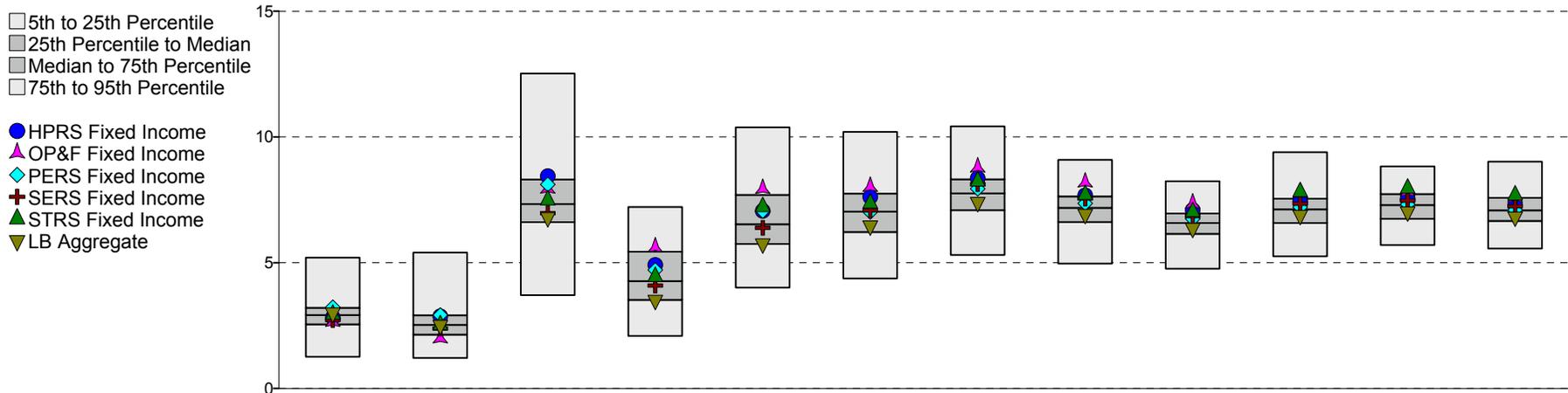
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	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
HPRS Domestic Equity	6.72	17.89	4.23	0.23
OP&F Domestic Equity	10.10	17.34	7.30	0.42
PERS Domestic Equity	8.69	17.87	6.06	0.34
SERS Domestic Equity	9.82	18.44	7.22	0.39
STRS Domestic Equity	8.56	17.44	5.88	0.34
Wilshire 5000	9.99	18.54	7.40	0.40
91-Day Treasury Bill	3.96	0.94	0.00	NA

This is a risk-return analysis of domestic equity portfolios for all of the funds. OP&F experienced the best risk-adjusted equity result over the ten-year period, followed by SERS. Both STRS and PERS bore the same of risk-adjusted risk to earn their ten-year returns, while HPRS achieved the lowest return for the same period.

**Total Fixed Income vs. Russell Mellon All Fixed Income Universe  
Performance and Rank Data as of 06/30/05**

**Cumulative Performance Comparison**



Return, %

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Fixed Income	2.82	2.87	8.44	4.91	7.06	7.61	8.35	7.68	7.10	7.44	7.53	7.28
OP&F Fixed Income	2.66	2.00	7.96	5.62	7.94	8.03	8.80	8.20	7.36	7.78	7.84	7.61
PERS Fixed Income	3.23	2.92	8.11	4.71	7.05	7.01	7.94	7.36	6.74	7.21	7.32	7.09
SERS Fixed Income	2.72	2.38	6.97	4.09	6.39	7.08	8.12	7.55	6.85	7.34	7.47	7.24
STRS Fixed Income	2.94	2.53	7.49	4.45	7.22	7.36	8.24	7.70	7.02	7.82	7.95	7.68
LB Aggregate	3.01	2.51	6.80	3.51	5.76	6.47	7.40	6.93	6.38	6.89	7.03	6.83
Universe(5%)	5.20	5.40	12.52	7.22	10.38	10.20	10.42	9.09	8.24	9.40	8.83	9.02
Universe(25%)	3.21	2.91	8.31	5.43	7.69	7.75	8.31	7.63	6.96	7.55	7.73	7.58
Universe(Median)	2.92	2.53	7.33	4.27	6.53	7.03	7.75	7.18	6.58	7.12	7.29	7.08
Universe(75%)	2.55	2.14	6.61	3.52	5.75	6.22	7.09	6.62	6.15	6.58	6.75	6.66
Universe(95%)	1.26	1.21	3.71	2.09	4.01	4.37	5.31	4.96	4.76	5.25	5.70	5.56

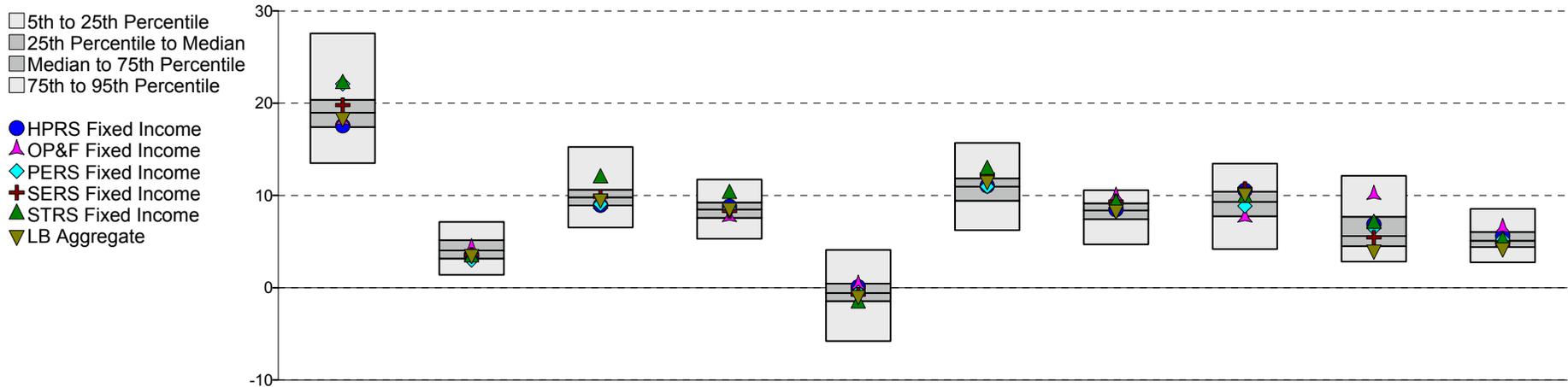
Percentile Rank

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Fixed Income	59	29	22	35	36	30	24	23	22	31	35	37
OP&F Fixed Income	68	79	33	22	23	21	16	13	16	19	20	24
PERS Fixed Income	22	24	29	38	36	51	41	37	39	42	46	49
SERS Fixed Income	65	63	64	56	55	47	32	28	34	35	38	40
STRS Fixed Income	49	51	46	44	33	36	28	21	24	18	18	19
LB Aggregate	43	51	69	76	75	68	65	65	63	62	65	68

The exhibit above, and on the next page, compare the fixed income results of the five funds to that of a broad fixed income universe consisting of all of the fixed income accounts in the Russell Mellon Universe. For the trailing ten-year period, all funds posted better than median returns. STRS (19<sup>th</sup> percentile) and OP&F (24<sup>th</sup> percentile) placed in the top quartile within the universe, while HPRS (37<sup>th</sup> percentile), SERS (40<sup>th</sup> percentile) and PERS (49<sup>th</sup> percentile) placed in the second quartile within the universe.

**Total Fixed Income vs. Russell Mellon All Fixed Income Universe  
Performance and Rank Data as of 06/30/05**

**Calendar Year Performance**



Return, %

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Fixed Income	17.56	3.42	8.95	8.83	0.10	11.05	8.48	10.56	6.87	5.61
OP&F Fixed Income	18.17	4.31	9.11	7.67	0.35	12.55	9.90	7.63	10.08	6.50
PERS Fixed Income	22.10	3.00	9.07	8.53	-0.50	10.97	9.11	8.86	6.48	5.25
SERS Fixed Income	19.79	3.54	9.84	8.32	-0.76	12.29	9.35	10.71	5.45	4.89
STRS Fixed Income	22.10	3.31	11.87	10.19	-1.70	12.80	9.17	9.76	6.94	5.03
LB Aggregate	18.47	3.63	9.65	8.69	-0.82	11.63	8.44	10.26	4.10	4.34
Universe(5%)	27.57	7.14	15.26	11.73	4.10	15.70	10.57	13.46	12.13	8.54
Universe(25%)	20.37	5.16	10.63	9.23	0.44	11.84	9.15	10.41	7.69	6.05
Universe(Median)	18.97	4.04	9.80	8.49	-0.58	10.97	8.39	9.31	5.60	5.09
Universe(75%)	17.42	3.16	8.92	7.58	-1.44	9.43	7.43	7.75	4.51	4.41
Universe(95%)	13.50	1.40	6.53	5.31	-5.78	6.23	4.69	4.19	2.83	2.75

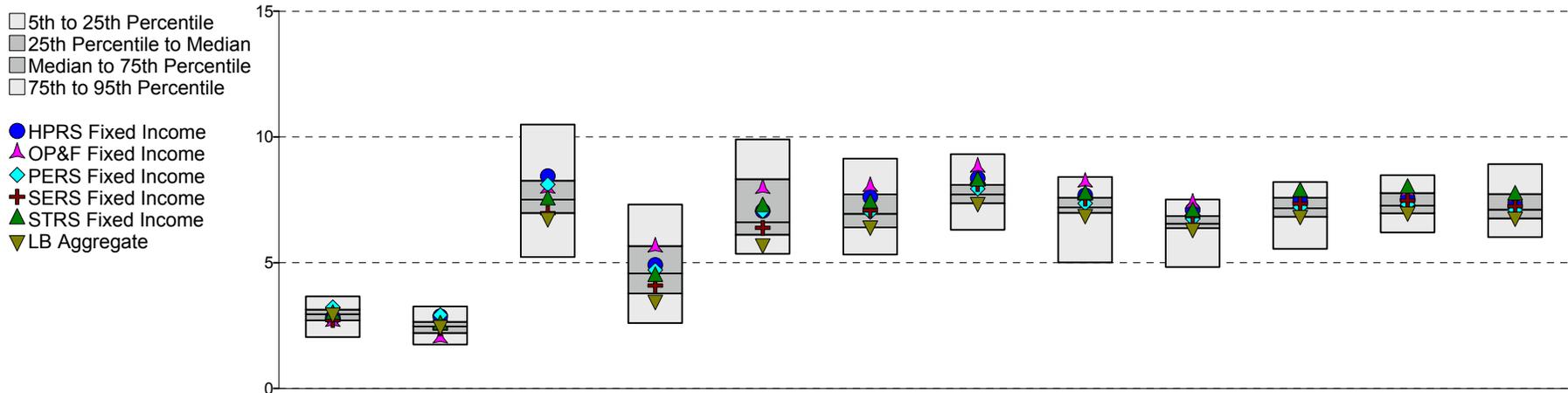
**Percentile Rank**

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Fixed Income	73	71	74	39	30	48	47	23	33	34
OP&F Fixed Income	67	42	73	74	27	11	10	77	11	18
PERS Fixed Income	16	79	73	49	45	50	26	59	38	44
SERS Fixed Income	34	67	47	56	57	14	20	18	53	57
STRS Fixed Income	16	72	13	11	79	10	24	40	33	52
LB Aggregate	61	64	56	44	59	31	48	28	83	77

The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2004 within the Russell Mellon All Fixed Income Universe. In 2004, OP&F (18<sup>th</sup> percentile), HPRS (34<sup>th</sup> percentile) and PERS (44<sup>th</sup> percentile) ranked above the median fixed income return, while STRS placed just outside of the second quartile by ranking in the 52<sup>nd</sup> percentile. SERS ranked in the 57<sup>th</sup> percentile for the same time period.

**Total Fixed Income vs. Russell Mellon All Public Fixed Income Universe  
Performance and Rank Data as of 06/30/05**

**Cumulative Performance Comparison**



Return, %

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Fixed Income	2.82	2.87	8.44	4.91	7.06	7.61	8.35	7.68	7.10	7.44	7.53	7.28
OP&F Fixed Income	2.66	2.00	7.96	5.62	7.94	8.03	8.80	8.20	7.36	7.78	7.84	7.61
PERS Fixed Income	3.23	2.92	8.11	4.71	7.05	7.01	7.94	7.36	6.74	7.21	7.32	7.09
SERS Fixed Income	2.72	2.38	6.97	4.09	6.39	7.08	8.12	7.55	6.85	7.34	7.47	7.24
STRS Fixed Income	2.94	2.53	7.49	4.45	7.22	7.36	8.24	7.70	7.02	7.82	7.95	7.68
LB Aggregate	3.01	2.51	6.80	3.51	5.76	6.47	7.40	6.93	6.38	6.89	7.03	6.83
Universe(5%)	3.66	3.26	10.50	7.32	9.90	9.14	9.32	8.41	7.51	8.21	8.48	8.92
Universe(25%)	3.14	2.65	8.26	5.66	8.32	7.72	8.09	7.58	6.86	7.59	7.77	7.73
Universe(Median)	2.95	2.47	7.51	4.57	6.61	6.94	7.71	7.20	6.55	7.16	7.27	7.11
Universe(75%)	2.71	2.21	6.98	3.77	6.11	6.40	7.37	6.98	6.38	6.83	6.97	6.76
Universe(95%)	2.04	1.75	5.22	2.60	5.35	5.33	6.31	5.01	4.83	5.55	6.20	6.01

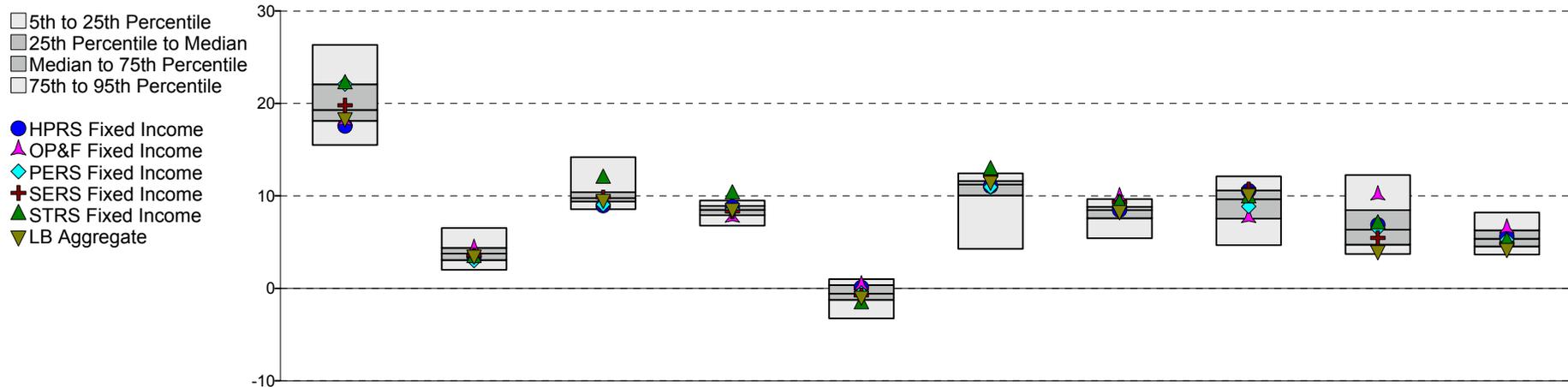
Percentile Rank

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Fixed Income	64	12	20	42	39	27	21	23	17	31	32	38
OP&F Fixed Income	78	84	33	26	29	23	16	8	10	15	22	26
PERS Fixed Income	14	10	27	46	39	41	33	31	30	45	46	53
SERS Fixed Income	74	63	77	62	59	38	23	26	26	38	37	41
STRS Fixed Income	51	42	51	53	32	29	22	23	18	13	21	26
LB Aggregate	39	43	83	85	85	73	70	79	75	71	72	73

The exhibit above compares the fixed income results of the five funds to that of the fixed income returns of the public funds in the Russell Mellon Universe. Over the ten-year period, all plans except PERS (53<sup>rd</sup> percentile) outpaced the median return. It should be noted that fixed income returns for all five systems are near-median or better for all annualized time periods.

## Total Fixed Income vs. Russell Mellon All Public Fixed Income Universe Performance and Rank Data as of 06/30/05

### Calendar Year Performance



Return, %

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Fixed Income	17.56	3.42	8.95	8.83	0.10	11.05	8.48	10.56	6.87	5.61
OP&F Fixed Income	18.17	4.31	9.11	7.67	0.35	12.55	9.90	7.63	10.08	6.50
PERS Fixed Income	22.10	3.00	9.07	8.53	-0.50	10.97	9.11	8.86	6.48	5.25
SERS Fixed Income	19.79	3.54	9.84	8.32	-0.76	12.29	9.35	10.71	5.45	4.89
STRS Fixed Income	22.10	3.31	11.87	10.19	-1.70	12.80	9.17	9.76	6.94	5.03
LB Aggregate	18.47	3.63	9.65	8.69	-0.82	11.63	8.44	10.26	4.10	4.34
Universe(5%)	26.33	6.52	14.20	9.50	1.01	12.44	9.66	12.12	12.27	8.21
Universe(25%)	22.06	4.38	10.40	8.92	0.35	11.62	8.82	10.60	8.46	6.28
Universe(Median)	19.30	3.76	9.78	8.48	-0.58	11.23	8.46	9.64	6.35	5.36
Universe(75%)	18.12	3.07	9.41	7.91	-1.24	10.05	7.58	7.55	4.73	4.53
Universe(95%)	15.51	2.01	8.57	6.77	-3.24	4.27	5.43	4.67	3.71	3.65

Percentile Rank

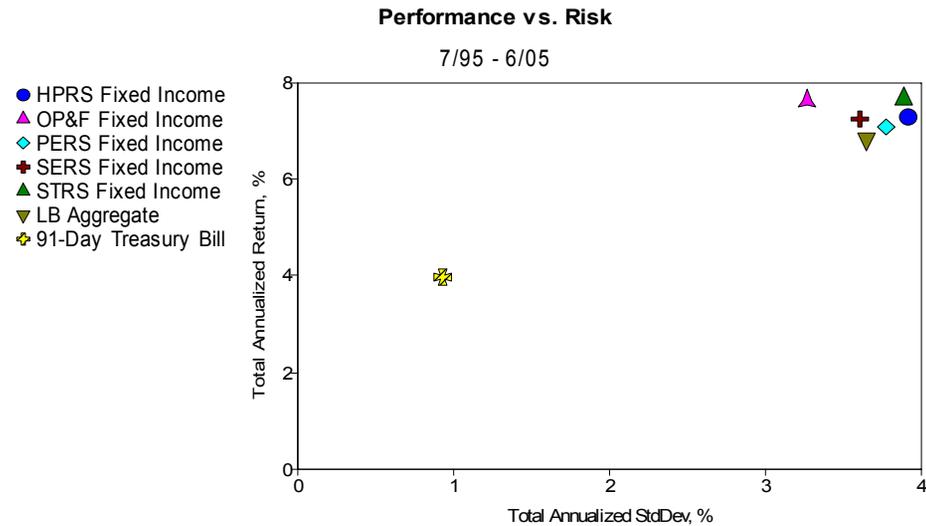
	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Fixed Income	81	64	83	34	30	59	46	28	39	41
OP&F Fixed Income	73	27	82	76	25	4	3	73	15	23
PERS Fixed Income	25	77	82	48	47	63	17	60	47	51
SERS Fixed Income	43	62	43	56	55	6	13	13	62	66
STRS Fixed Income	25	65	11	2	87	3	16	43	39	62
LB Aggregate	68	59	64	42	56	23	52	32	88	84

The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2004 within the Russell Mellon All Public Fixed Income Universe. In 2004, OP&F and HPRS outperformed the median return, placing in the 23<sup>rd</sup> and 41<sup>st</sup> percentiles, respectively. PERS' fixed income performance during 2004 was just shy of median return to rank the fund in the 51<sup>st</sup> percentile. STRS placed in the 62<sup>nd</sup> percentile and SERS ranked in the 66<sup>th</sup> percentile for the same period.

# Ohio Retirement Study Council

## Performance Overview

Returns for Period Ending June 30, 2005



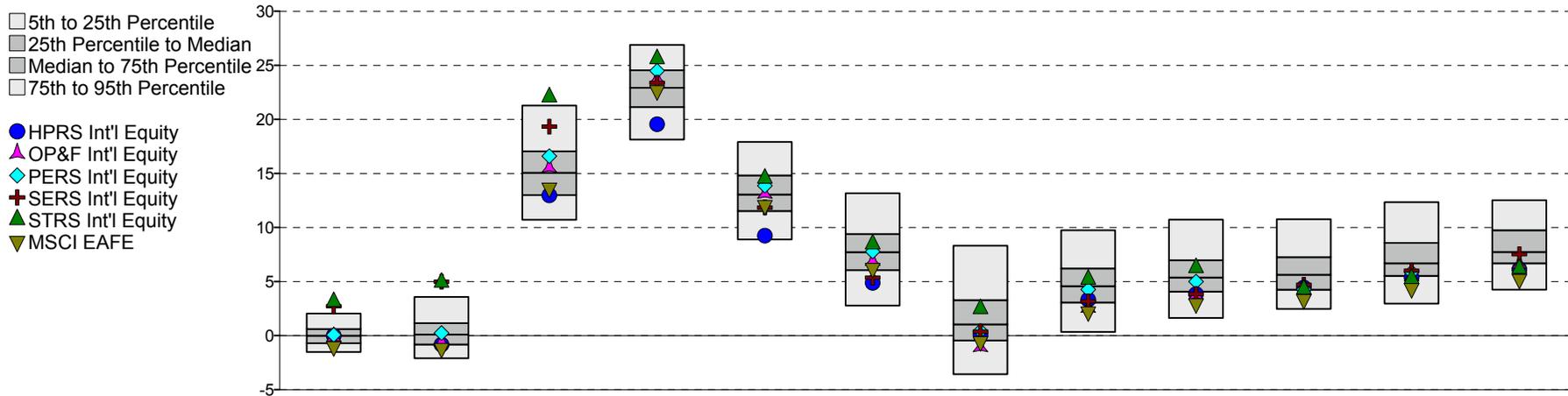
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	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
			Alpha, %	Sharpe Ratio
	Total	Total		
HPRS Fixed Income	7.28	3.91	3.25	0.84
OP&F Fixed Income	7.61	3.27	3.54	1.08
PERS Fixed Income	7.09	3.78	3.07	0.83
SERS Fixed Income	7.24	3.61	3.21	0.91
STRS Fixed Income	7.68	3.89	3.63	0.96
LB Aggregate	6.83	3.65	2.81	0.79
91-Day Treasury Bill	3.96	0.94	0.00	NA

The risk-return analysis above shows that all five of the fund's fixed income portfolios have demonstrated risk-adjusted returns (as measured by their Sharpe Ratios) greater than the bond market as defined by the Lehman Aggregate Bond Index over the ten year period.

## Total International Equities vs. Russell Mellon All International Equity Universe Performance and Rank Data as of 06/30/05

### Cumulative Performance Comparison



Return, %

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Int'l Equity	-0.01	-0.83	12.97	19.55	9.24	4.88	0.06	3.32	3.83	4.44	5.37	6.12
OP&F Int'l Equity	-0.08	-0.54	15.57	23.79	13.16	6.93	-1.03	2.59	3.79	4.25	5.52	6.66
PERS Int'l Equity	0.07	0.24	16.59	24.49	13.86	7.77	0.43	4.26	5.00	4.26	5.87	NA
SERS Int'l Equity	2.72	4.99	19.33	23.38	11.85	5.36	0.37	3.17	3.84	4.70	6.01	7.52
STRS Int'l Equity	3.14	4.92	22.07	25.60	14.55	8.47	2.48	5.20	6.27	4.28	5.27	6.20
MSCI EAFE	-1.01	-1.17	13.65	22.66	12.06	6.23	-0.55	2.21	2.96	3.35	4.36	5.22
Universe(5%)	2.04	3.58	21.27	26.90	17.91	13.17	8.32	9.75	10.73	10.77	12.34	12.52
Universe(25%)	0.61	1.15	17.04	24.54	14.82	9.40	3.28	6.22	6.98	7.25	8.57	9.75
Universe(Median)	-0.01	0.10	15.06	22.91	13.04	7.72	1.03	4.57	5.37	5.64	6.69	7.73
Universe(75%)	-0.71	-0.82	13.00	21.14	11.53	6.06	-0.44	3.06	4.07	4.25	5.53	6.69
Universe(95%)	-1.52	-2.10	10.72	18.13	8.90	2.78	-3.56	0.34	1.63	2.47	2.97	4.25

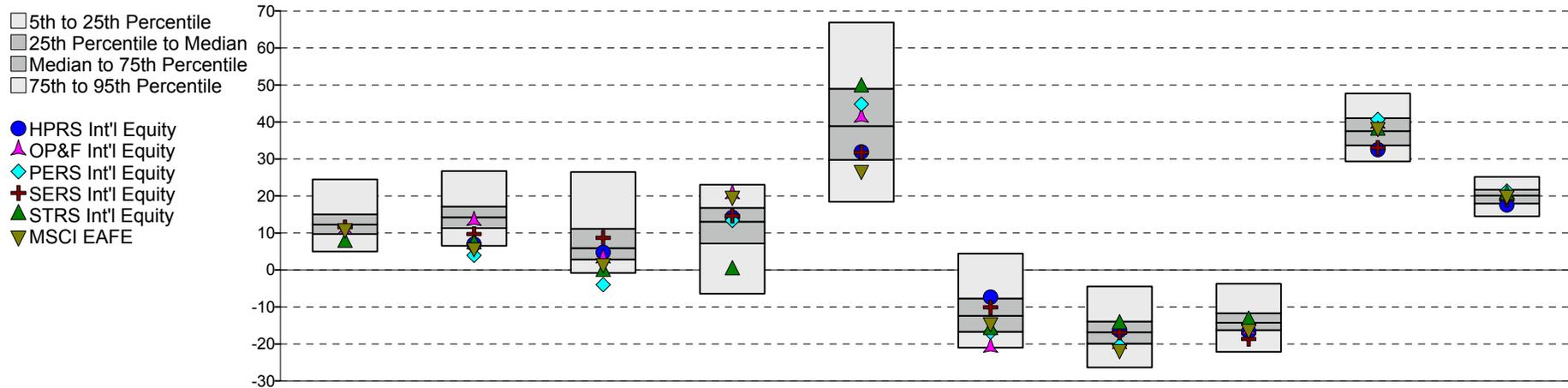
## Percentile Rank

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Int'l Equity	50	75	75	90	93	87	67	71	79	72	78	84
OP&F Int'l Equity	51	65	42	33	46	63	83	84	79	75	75	75
PERS Int'l Equity	46	47	30	26	35	48	60	58	57	75	69	NA
SERS Int'l Equity	2	1	10	40	70	83	63	72	79	67	65	53
STRS Int'l Equity	1	1	3	15	27	38	31	40	35	75	80	84
MSCI EAFE	84	83	68	54	64	73	76	88	91	89	92	93

The exhibit above, and on the next page, compare the international equity results of the five funds to that of a broad international equity universe consisting of all of the international equity accounts in the Russell Mellon Universe. Comparisons beyond nine years are not meaningful, since PERS did not have an allocation to this asset class for that length of time. For the nine-year period ending June 30, 2005, all of the funds have had international equity results that were below the median international equity portfolio in the Russell Mellon Universe.

## Total International Equities vs. Russell Mellon All International Equity Universe Performance and Rank Data as of 06/30/05

### Calendar Year Performance



#### Return, %

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Int'l Equity	NA	6.96	4.76	14.24	31.94	-7.35	-16.34	-16.66	32.50	17.59
OP&F Int'l Equity	10.94	13.32	3.17	20.55	41.21	-20.98	-19.93	-16.17	39.60	20.73
PERS Int'l Equity	NA	3.96	-3.96	13.37	44.83	-16.80	-20.41	-14.55	40.71	21.31
SERS Int'l Equity	11.56	9.71	8.69	14.63	31.73	-10.08	-16.91	-18.64	33.02	19.04
STRS Int'l Equity	7.37	6.97	-0.47	-0.03	49.38	-16.17	-14.63	-13.69	37.71	20.28
MSCI EAFE	11.21	6.05	1.78	20.00	26.97	-14.17	-21.44	-15.94	38.59	20.25
Universe(5%)	24.47	26.73	26.46	23.04	66.91	4.42	-4.45	-3.71	47.71	25.20
Universe(25%)	15.05	17.16	11.13	16.78	48.98	-7.70	-13.94	-11.69	41.02	21.72
Universe(Median)	12.28	14.25	5.90	13.04	38.89	-12.38	-16.86	-14.25	37.53	20.12
Universe(75%)	9.75	11.30	2.84	7.16	29.79	-16.69	-19.89	-16.25	33.71	17.97
Universe(95%)	4.97	6.53	-0.81	-6.40	18.44	-21.01	-26.34	-22.14	29.35	14.51

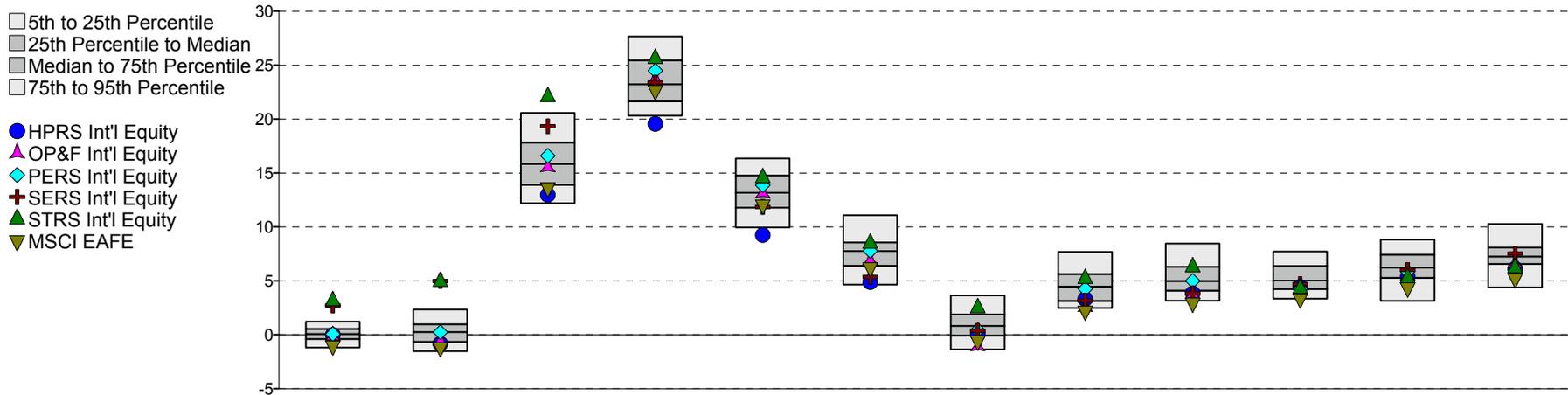
#### Percentile Rank

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Int'l Equity	NA	94	60	41	68	24	47	78	83	78
OP&F Int'l Equity	66	57	73	8	45	95	76	75	36	38
PERS Int'l Equity	NA	97	98	48	36	77	79	53	28	30
SERS Int'l Equity	59	82	31	38	68	36	50	90	79	66
STRS Int'l Equity	89	94	95	91	25	72	30	45	48	48
MSCI EAFE	63	97	85	10	82	61	84	73	42	48

The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2004 within the Russell Mellon All International Equity Universe. PERS, OP&F and STRS placed in the second quartile with 30<sup>th</sup> percentile, 38<sup>th</sup> percentile and 48<sup>th</sup> percentile respective rankings for 2004. SERS ranked in the 66<sup>th</sup> percentile and HPRS ranked in the 78<sup>th</sup> percentile during 2004.

**Total International Equities vs. Russell Mellon All Public International Equity Universe  
Performance and Rank Data as of 06/30/05**

**Cumulative Performance Comparison**



Return, %

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Int'l Equity	-0.01	-0.83	12.97	19.55	9.24	4.88	0.06	3.32	3.83	4.44	5.37	6.12
OP&F Int'l Equity	-0.08	-0.54	15.57	23.79	13.16	6.93	-1.03	2.59	3.79	4.25	5.52	6.66
PERS Int'l Equity	0.07	0.24	16.59	24.49	13.86	7.77	0.43	4.26	5.00	4.26	5.87	NA
SERS Int'l Equity	2.72	4.99	19.33	23.38	11.85	5.36	0.37	3.17	3.84	4.70	6.01	7.52
STRS Int'l Equity	3.14	4.92	22.07	25.60	14.55	8.47	2.48	5.20	6.27	4.28	5.27	6.20
MSCI EAFE	-1.01	-1.17	13.65	22.66	12.06	6.23	-0.55	2.21	2.96	3.35	4.36	5.22
Universe(5%)	1.22	2.34	20.57	27.65	16.36	11.09	3.65	7.68	8.45	7.72	8.81	10.28
Universe(25%)	0.55	0.98	17.82	25.46	14.77	8.56	1.89	5.63	6.31	6.38	7.42	8.08
Universe(Median)	0.07	0.25	15.83	23.22	13.16	7.75	0.82	4.46	4.99	5.03	6.23	7.26
Universe(75%)	-0.39	-0.65	13.90	21.65	11.79	6.41	-0.07	3.14	4.10	4.24	5.28	6.58
Universe(95%)	-1.18	-1.53	12.20	20.31	9.95	4.66	-1.36	2.48	3.16	3.34	3.14	4.39

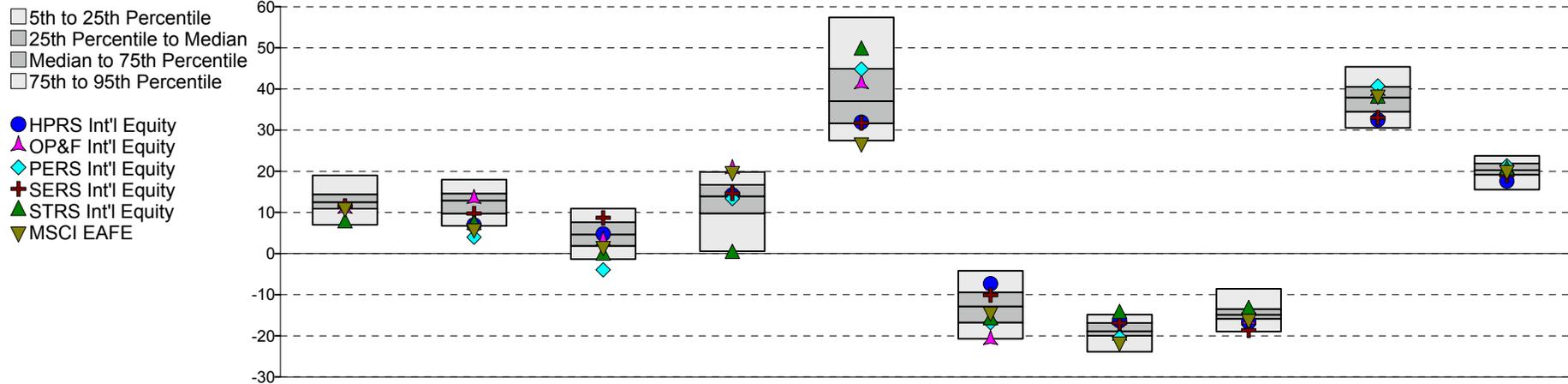
Percentile Rank

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Int'l Equity	54	82	83	98	99	94	70	69	86	65	70	90
OP&F Int'l Equity	55	72	55	42	50	68	92	89	86	75	69	72
PERS Int'l Equity	50	50	32	31	35	49	63	55	50	73	64	NA
SERS Int'l Equity	1	1	8	45	72	91	63	72	86	60	57	42
STRS Int'l Equity	1	1	1	23	28	36	20	36	26	72	76	90
MSCI EAFE	91	89	79	58	68	76	86	97	97	95	93	93

The exhibit above compares the international equity results of the five funds to that of the international equity returns of the public funds in the Russell Mellon Universe. Comparisons beyond nine years are not meaningful, since PERS did not have an allocation to this asset class for that length of time. Over the nine-year period, all Ohio plans trailed the median international equity return of public funds.

## Total International Equities vs. Russell Mellon All Public International Equity Universe Performance and Rank Data as of 06/30/05

### Calendar Year Performance



Return, %

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Int'l Equity	NA	6.96	4.76	14.24	31.94	-7.35	-16.34	-16.66	32.50	17.59
OP&F Int'l Equity	10.94	13.32	3.17	20.55	41.21	-20.98	-19.93	-16.17	39.60	20.73
PERS Int'l Equity	NA	3.96	-3.96	13.37	44.83	-16.80	-20.41	-14.55	40.71	21.31
SERS Int'l Equity	11.56	9.71	8.69	14.63	31.73	-10.08	-16.91	-18.64	33.02	19.04
STRS Int'l Equity	7.37	6.97	-0.47	-0.03	49.38	-16.17	-14.63	-13.69	37.71	20.28
MSCI EAFE	11.21	6.05	1.78	20.00	26.97	-14.17	-21.44	-15.94	38.59	20.25
Universe(5%)	18.99	17.98	10.95	19.82	57.40	-4.19	-14.84	-8.56	45.39	23.73
Universe(25%)	14.38	14.58	7.63	16.71	44.89	-9.43	-16.87	-13.46	40.52	21.89
Universe(Median)	12.51	12.90	4.62	13.92	37.05	-12.86	-18.87	-14.87	37.93	20.28
Universe(75%)	10.90	9.74	1.89	9.78	31.69	-16.75	-19.97	-15.88	34.48	19.17
Universe(95%)	6.98	6.74	-1.37	0.55	27.44	-20.72	-23.86	-18.96	30.53	15.54

Percentile Rank

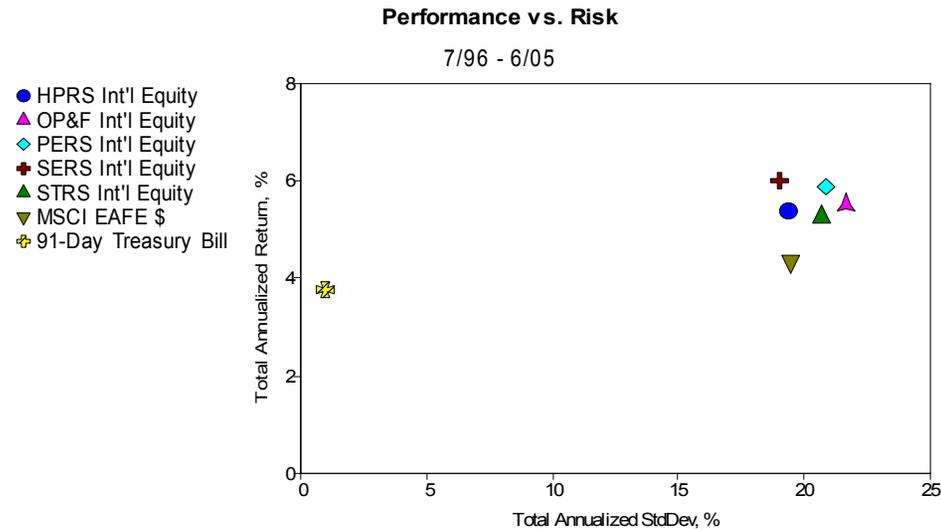
	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Int'l Equity	NA	94	49	48	71	12	20	79	89	88
OP&F Int'l Equity	74	37	62	0	38	96	75	77	36	39
PERS Int'l Equity	NA	97	96	53	25	75	81	43	23	33
SERS Int'l Equity	69	77	10	44	73	27	26	93	86	77
STRS Int'l Equity	92	94	93	95	15	70	3	28	51	50
MSCI EAFE	72	97	82	4	96	59	89	76	45	51

The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2004 within the Russell Mellon All Public International Equity Universe. In 2004, PERS and OP&F outperformed the median return, placing in the 33<sup>rd</sup> and 39<sup>th</sup> percentiles, respectively. STRS' international equity return matched the median return. SERS ranked in the 77<sup>th</sup> percentile, while HPRS placed in the 88<sup>th</sup> percentile.

# Ohio Retirement Study Council

## Performance Overview

Returns for Period Ending June 30, 2005

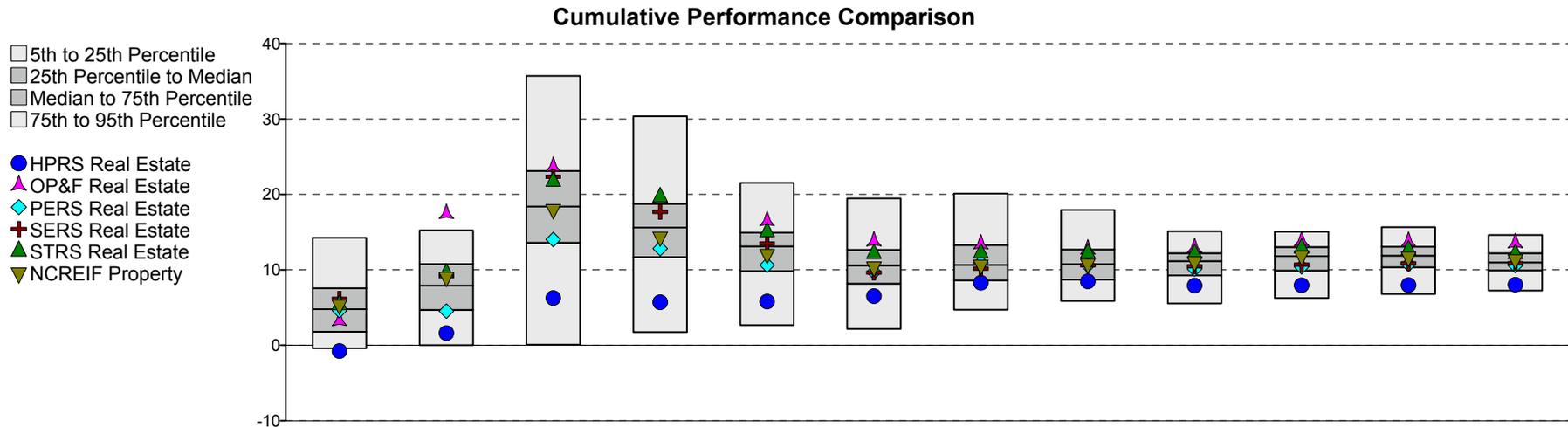


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	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
			Alpha, %	Sharpe Ratio
	Total	Total		
HPRS Int'l Equity	5.37	19.41	3.34	0.17
OP&F Int'l Equity	5.52	21.68	3.90	0.18
PERS Int'l Equity	5.87	20.84	4.06	0.19
SERS Int'l Equity	6.01	18.97	3.90	0.20
STRS Int'l Equity	5.27	20.72	3.49	0.17
MSCI EAFE \$	4.36	19.49	2.37	0.12
91-Day Treasury Bill	3.79	0.95	0.00	NA

The risk-return analysis above shows that all five of the fund's international equity portfolios have demonstrated risk-adjusted returns (as measured by their Sharpe Ratios) greater than the non-U.S. market as defined by the MSCI EAFE Index over the nine-year period.

## Total Real Estate vs. Russell Mellon All Real Estate Universe Performance and Rank Data as of 06/30/05



Return, %

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Real Estate	-0.77	1.60	6.26	5.69	5.80	6.52	8.28	8.47	7.91	7.96	7.96	8.02
OP&F Real Estate	3.23	17.43	23.68	19.54	16.48	13.79	13.41	12.72	12.92	13.81	13.76	13.56
PERS Real Estate	4.60	4.53	14.02	12.82	10.61	9.70	10.92	10.61	10.11	10.40	10.74	10.56
SERS Real Estate	6.16	9.29	22.34	17.68	13.51	9.63	10.17	10.60	10.46	10.69	10.86	10.87
STRS Real Estate	5.36	9.56	21.72	19.66	15.01	12.13	12.21	12.22	12.14	12.87	12.63	12.11
NCREIF Property	5.34	9.04	18.02	14.37	12.08	10.40	10.63	10.80	11.08	11.86	11.74	11.36
Universe(5%)	14.25	15.23	35.71	30.37	21.54	19.46	20.12	17.94	15.10	15.04	15.66	14.62
Universe(25%)	7.57	10.76	23.12	18.76	14.93	12.66	13.27	12.68	12.21	13.02	13.06	12.21
Universe(Median)	4.78	7.92	18.40	15.59	13.10	10.59	10.64	10.76	11.15	11.81	11.88	10.97
Universe(75%)	1.80	4.69	13.58	11.69	9.82	8.17	8.60	8.68	9.25	9.91	10.35	9.92
Universe(95%)	-0.40	0.00	0.09	1.74	2.65	2.16	4.71	5.86	5.53	6.25	6.79	7.26

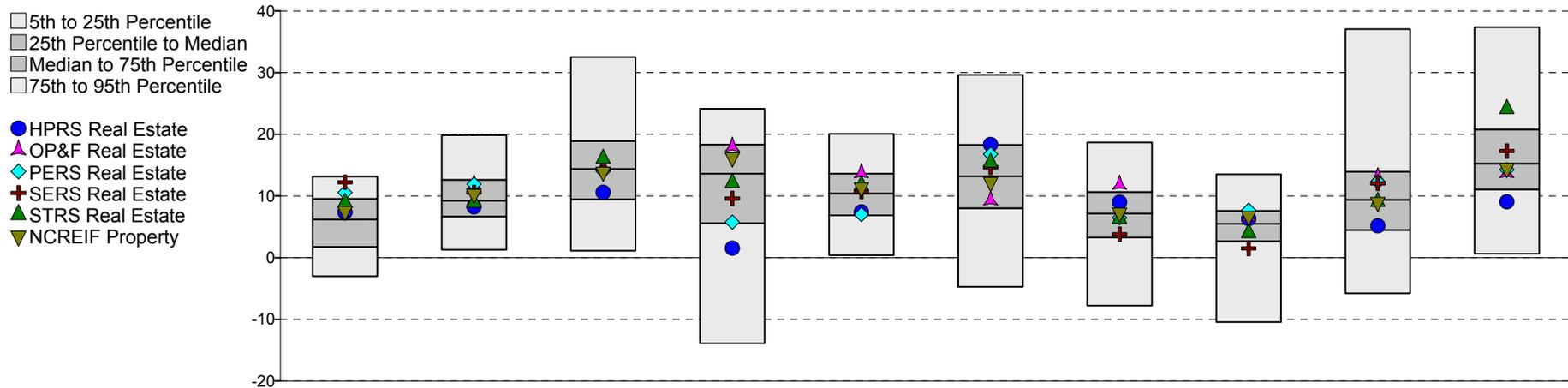
Percentile Rank

	One Quarter	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Real Estate	96	87	89	90	89	84	78	78	85	88	92	91
OP&F Real Estate	67	2	24	21	17	18	22	24	17	18	18	16
PERS Real Estate	52	77	74	71	68	64	47	55	63	70	68	61
SERS Real Estate	37	38	29	31	42	64	59	55	60	67	63	55
STRS Real Estate	42	35	34	21	25	32	36	34	25	26	29	32
NCREIF Property	42	40	53	61	63	53	50	49	53	49	51	41

The exhibit above, and on the next page, compare real estate results of the five funds to that of a broad real estate universe consisting of all of the real estate accounts in the Russell Mellon Universe. For the ten-year period ending December 31, 2004, OP&F and STRS exceeded the median return to place in the 16<sup>th</sup> percentile and 32<sup>nd</sup> percentile, respectively. We have not included a risk/return analysis for real estate. While institutional investors in real property compute and report quarterly returns, these returns are based on appraisals and are not appropriately compared with other investments which actually trade on a daily basis. An annualized quarterly standard deviation of returns for real estate is, in our judgment, a meaningless number.

## Total Real Estate vs. Russell Mellon All Real Estate Universe Performance and Rank Data as of 06/30/05

### Calendar Year Performance



#### Return, %

	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Real Estate	7.39	8.25	10.59	1.55	7.43	18.35	9.00	6.35	5.17	9.06
OP&F Real Estate	8.99	11.89	14.84	18.02	13.72	9.29	11.84	6.70	13.06	13.75
PERS Real Estate	10.55	11.91	14.00	5.77	7.01	16.78	6.46	7.70	12.30	14.28
SERS Real Estate	12.23	10.55	14.33	9.60	10.70	14.65	3.79	1.49	12.05	17.28
STRS Real Estate	8.90	8.91	16.04	12.11	11.73	15.43	6.30	4.01	9.06	24.13
NCREIF Property	7.53	10.30	13.91	16.22	11.35	12.25	7.29	6.74	8.99	14.48
Universe(5%)	13.16	19.85	32.52	24.15	20.08	29.63	18.68	13.53	37.07	37.37
Universe(25%)	9.54	12.62	18.91	18.33	13.63	18.29	10.66	7.60	13.96	20.78
Universe(Median)	6.21	9.24	14.39	13.61	10.40	13.20	7.17	5.49	9.39	15.26
Universe(75%)	1.75	6.67	9.47	5.59	6.88	8.03	3.27	2.66	4.49	11.08
Universe(95%)	-3.01	1.27	1.13	-13.88	0.40	-4.72	-7.78	-10.45	-5.78	0.64

#### Percentile Rank

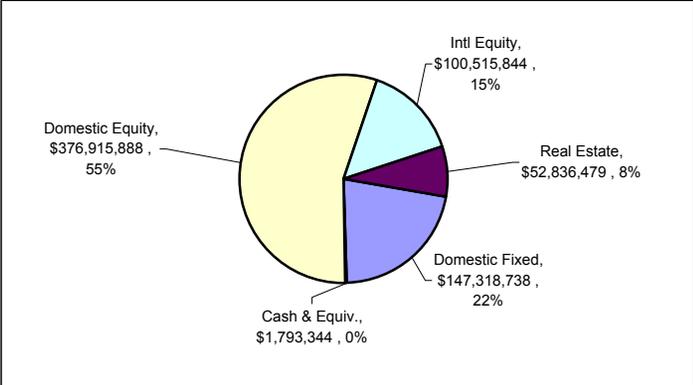
	1/95 - 12/95	1/96 - 12/96	1/97 - 12/97	1/98 - 12/98	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04
HPRS Real Estate	38	61	71	82	71	24	34	39	74	81
OP&F Real Estate	30	31	47	28	24	73	17	34	27	61
PERS Real Estate	14	31	56	74	74	31	53	24	29	57
SERS Real Estate	9	38	52	66	48	40	70	81	30	38
STRS Real Estate	30	53	37	57	41	36	54	67	54	20
NCREIF Property	34	41	56	39	43	61	48	34	54	54

The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2004 within the Russell Mellon All Real Estate Universe. In 2004, STRS and SERS outpaced the median real estate return, which placed the funds in the 20<sup>th</sup> percentile and 38<sup>th</sup> percentile, respectively. For the same time period, OP&F and PERS ranked in the third quartile, while HPRS placed in the fourth quartile.

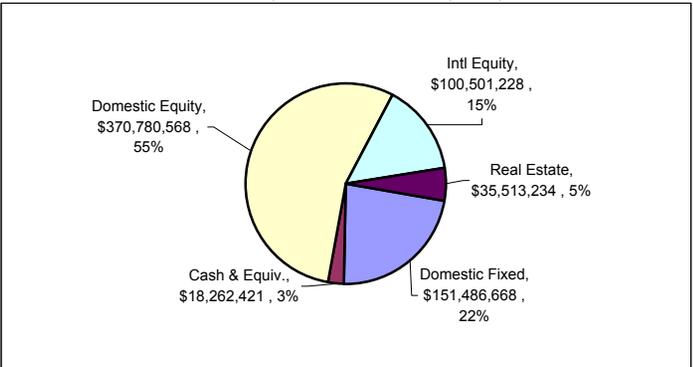
# Highway Patrol Retirement System

**Asset Allocation  
HPRS**

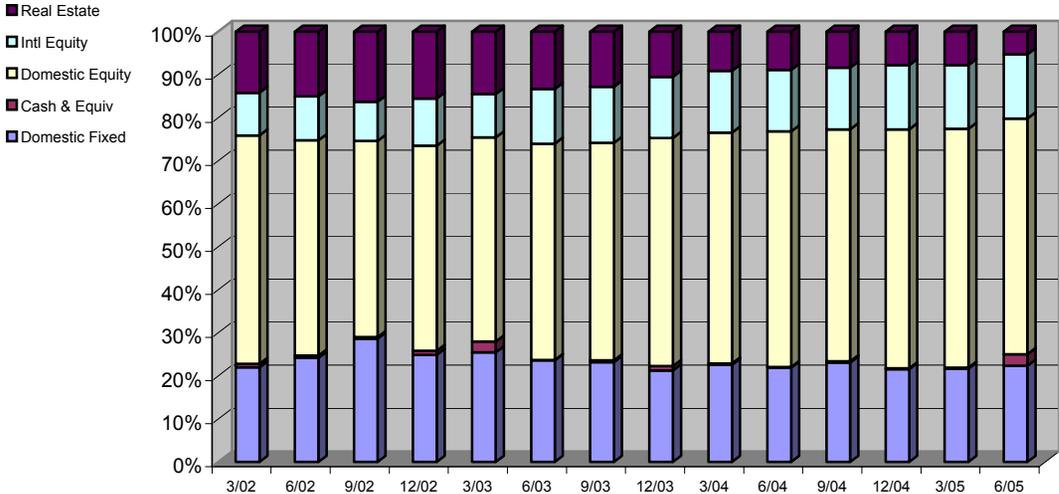
March 31, 2005    \$670,380,293



June 30, 2005    \$676,554,118



**Asset Allocation  
HPRS**



	3/02	6/02	9/02	12/02	3/03	6/03	9/03	12/03	3/04	6/04	9/04	12/04	3/05	6/05
Domestic Fixed %	22.0	24.2	28.7	24.9	25.5	23.6	23.2	21.3	22.6	21.9	23.1	21.6	21.7	22.3
Cash & Equiv. %	0.8	0.5	0.3	0.9	2.5	0.1	0.4	1.0	0.3	0.2	0.3	0.2	0.3	2.7
Domestic Equity %	53.1	50.0	45.6	47.6	47.4	50.2	50.5	53.0	53.6	54.7	53.9	55.5	55.5	54.8
Intl Equity %	9.9	10.2	9.1	11.0	10.1	12.7	13.0	14.2	14.4	14.3	14.3	14.9	14.8	14.9
Real Estate %	14.2	15.0	16.3	15.5	14.5	13.3	12.8	10.5	9.1	8.9	8.4	7.8	7.8	5.3
Total Value (\$mil)	576.6	545.2	485.8	511.9	498.4	553.2	569.8	624.9	639.3	639.2	639.2	681.0	670.3	676.6

This is the first page devoted to the analysis of the Ohio Highway Patrol Retirement System's asset allocation. The chart on the left displays the fund's asset allocation over the first two quarters of 2005. The chart on the right tracks the quarterly asset allocation of the fund over the last fourteen quarters.

# Highway Patrol Retirement System

Quarter Ending 6/30/2005

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Mar-94	Dec-95	50.00	LB Aggregate
			50.00	Standard & Poors 500
	Mar-96	Dec-97	50.00	Standard & Poors 500
			40.00	LB Aggregate
			5.00	MSCI EAFE (Net)
			5.00	NCREIF
	Mar-98	Sep-99	40.00	Standard & Poors 500
25.00			LB Aggregate	
15.00			Russell 2000	
10.00			MSCI EAFE (Net)	
10.00			NCREIF	
Dec-99	Dec-01	40.00	Standard & Poors 500	
		20.00	Russell 2000	
		20.00	LB Aggregate	
		10.00	MSCI EAFE (Net)	
		10.00	NCREIF	
Mar-02	Dec-02	40.00	Standard & Poors 500	
		20.00	Russell 2500	
		20.00	LB Aggregate	
		10.00	MSCI EAFE (Net)	
		10.00	NCREIF	
Mar-03	Jun-05	32.00	Standard & Poors 500	
		16.00	Russell 2500	
		25.00	LB Aggregate	
		15.00	MSCI EAFE (Net)	
		12.00	NCREIF	

HPRS' custom policy index is listed above. The chart tracks the fund's change in asset allocation strategy over the past eleven and a half years.

# Highway Patrol Retirement System

## Performance Overview

Returns for Period Ending June 30, 2005

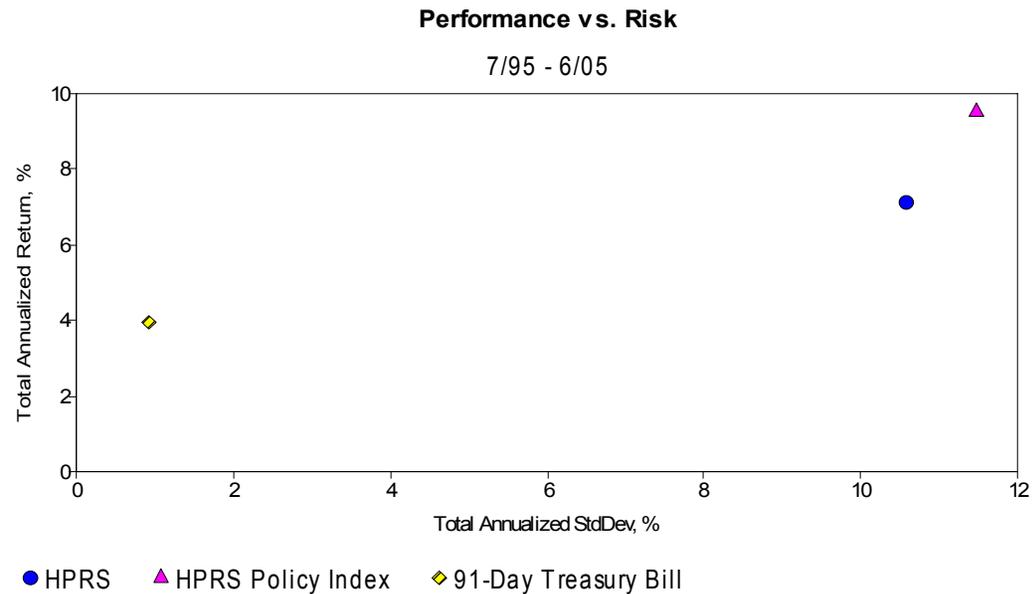
	<u>1 Qtr</u>	<u>2 Qtrs</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund	1.58	0.76	8.84	10.03	4.10	7.10
Policy Index	2.40	1.47	9.98	10.06	3.45	9.54
Domestic Equity	1.87	0.23	9.07	12.02	1.61	6.72
Domestic Equity Segment Median	2.50	0.28	8.75	9.99	0.78	10.80
Wilshire 5000	2.32	0.05	8.22	9.95	-1.25	9.99
International Equity	-0.01	-0.83	12.97	9.24	0.06	6.12
International Equity Segment Median	-0.01	0.16	15.07	13.08	1.03	7.70
MSCI EAFE	-1.01	-1.17	13.65	12.06	-0.55	5.22
Fixed Income	2.82	2.87	8.44	7.06	8.35	7.28
Fixed Income Segment Median	2.92	2.52	7.33	6.52	7.77	7.12
LB Aggregate	3.01	2.51	6.80	5.76	7.40	6.83
Cash	0.91	1.95	3.07	1.92	2.96	4.11
Real Estate	-0.77	1.60	6.26	5.80	8.28	8.02
NCREIF	5.34	9.04	18.02	12.08	10.63	11.36

Over the ten-year period as of June 30, 2005, the fund's total return is trailing its policy index by 2.44% annually. This is due to its domestic equity and real estate returns, which lagged the Wilshire 5000 Index by 327 basis points and NCREIF Index by 334 basis points, respectively. The most recent one year period, however, shows that HPRS has lagged its policy index by a smaller margin of 114 basis points.

# Highway Patrol Retirement System

## Performance Overview

Returns for Period Ending June 30, 2005



Created with MPI Stylus™

	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
HPRS	7.10	10.59	3.56	0.33
HPRS Policy Index	9.54	11.46	5.94	0.51
91-Day Treasury Bill	3.96	0.94	0.00	NA

The chart above shows that on a risk-adjusted basis, the fund has fallen well short of the risk-adjusted return of its policy index for the ten year period.

# Highway Patrol Retirement System

## Asset Allocation Actual vs. Benchmark December 31, 2004

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Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	55.53%	32% S & P 500 / 16% Russell 2500	48%	7.53%
Fixed Income	21.62%	LB Aggregate	25%	-3.38%
Intl. Equity	14.88%	MSCI EAFE (Net)	15%	-0.12%
Real Estate	7.80%	NCREIF	12%	-4.20%
Short Term	0.18%	3 Month T-Bill	0%	0.18%

## June 30, 2005

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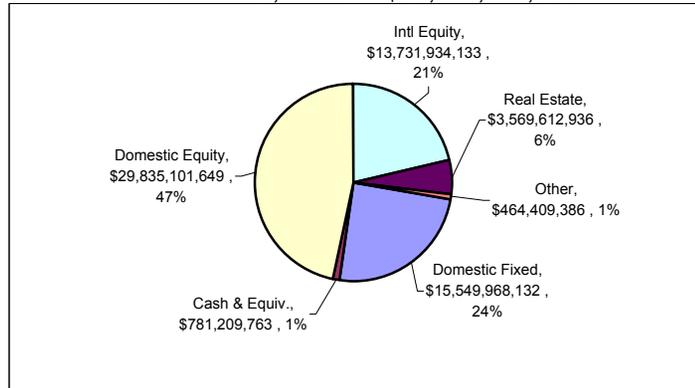
Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	54.80%	32% S & P 500 / 16% Russell 2500	48%	6.80%
Fixed Income	22.40%	LB Aggregate	25%	-2.60%
Intl. Equity	14.90%	MSCI EAFE (Net)	15%	-0.10%
Real Estate	5.30%	NCREIF	12%	-6.70%
Short Term	2.70%	3 Month T-Bill	0%	2.70%

As of the end of second quarter, the HPRS fund is underweight in fixed income and real estate while being overweight in domestic equity and cash.

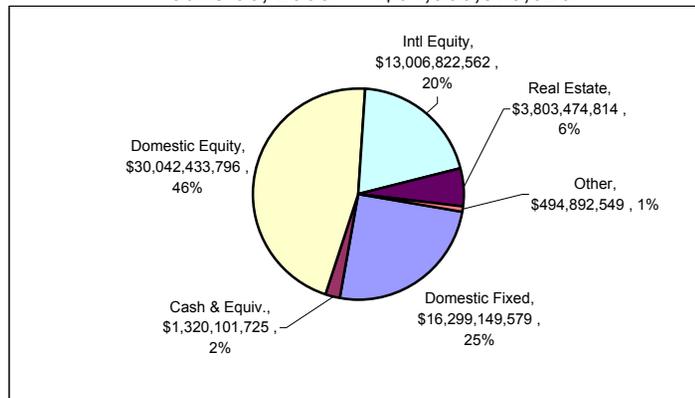
# Public Employees Retirement System

## Asset Allocation PERS

March 31, 2005 \$63,932,235,999

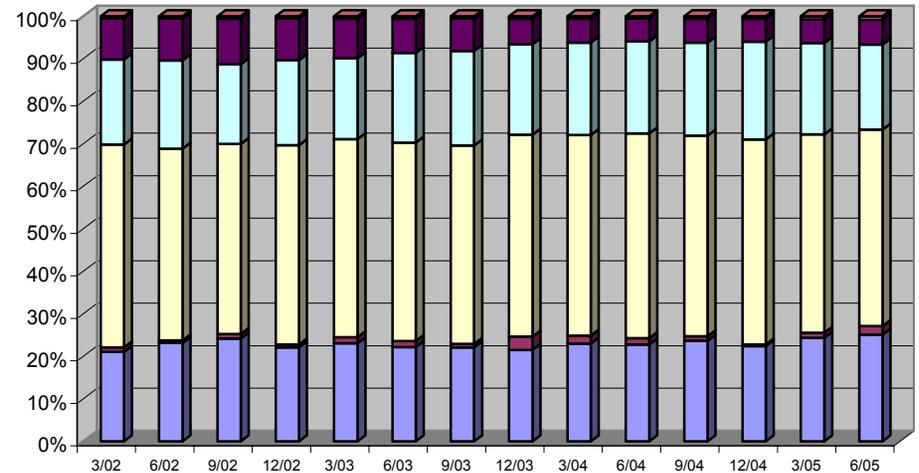


June 30, 2005 \$64,966,875,026



## Asset Allocation PERS

- Other
- Real Estate
- Intl Equity
- Domestic Equity
- Cash & Equiv
- Domestic Fixed



	3/02	6/02	9/02	12/02	3/03	6/03	9/03	12/03	3/04	6/04	9/04	12/04	3/05	6/05
Domestic Fixed %	21.1	23.1	24.2	22.1	23.1	22.2	22.1	21.5	23.0	22.8	23.7	22.4	24.3	25.1
Cash & Equiv. %	1.0	0.6	1.0	0.7	1.4	1.4	0.8	3.2	1.9	1.5	1.0	0.4	1.2	2.0
Domestic Equity %	47.8	45.1	44.7	46.9	46.6	46.7	46.7	47.5	47.2	48.1	47.2	48.2	46.7	46.2
Intl Equity %	20.0	20.7	18.7	20.0	19.0	21.1	22.2	21.3	21.8	21.7	21.9	23.0	21.5	20.0
Real Estate %	9.7	9.9	10.7	9.8	9.3	8.0	7.7	6.0	5.6	5.4	5.6	5.4	5.6	5.9
Other %	0.5	0.5	0.6	0.5	0.6	0.6	0.5	0.6	0.6	0.5	0.6	0.6	0.7	0.8
Total Value (\$bil)	54.4	50.9	45.2	47.4	46.2	51.8	53.7	58.6	60.4	60.0	59.8	64.6	63.9	65.0

This is the first page devoted to the analysis of the Ohio Public Employees Retirement System's asset allocation. The chart on the left displays the fund's asset allocation over the first two quarters of 2005. The chart on the right tracks the quarterly asset allocation of the fund over the last fourteen quarters.

# Public Employees Retirement System

Quarter Ending 6/30/2005

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Mar-94	Jun-95	68.00	SB Broad Inv Grade
			17.00	Standard & Poors 500
			8.00	91-Day Treasury Bill
			7.00	NCREIF
	Sep-95	Dec-95	59.00	SB Broad Inv Grade
			26.00	Standard & Poors 500
			8.00	NCREIF
			6.00	91-Day Treasury Bill
			1.00	MSCI EAFE (Net)
	Mar-96	Dec-96	62.50	SB Broad Inv Grade
			23.00	Standard & Poors 500
			8.00	NCREIF
			4.50	91-Day Treasury Bill
			2.00	MSCI EAFE (Net)
	Mar-97	Dec-97	56.50	SB Broad Inv Grade
			27.00	Standard & Poors 500
			8.00	NCREIF
			4.50	91-Day Treasury Bill
			4.00	MSCI EAFE (Net)
	Mar-98	Dec-98	51.00	SB Broad Inv Grade
30.50			Standard & Poors 500	
8.00			NCREIF	
6.00			MSCI EAFE (Net)	
4.50			91-Day Treasury Bill	

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Dec-98	Dec-98	51.00	SB Broad Inv Grade
			30.50	Russell 3000
			6.00	MSCI World Ex-US (Net)
			4.80	NCREIF
			4.50	91-Day Treasury Bill
			1.60	NAREIT
	Mar-99	Mar-99	45.40	SB Broad Inv Grade
			35.00	Standard & Poors 500
			7.60	MSCI World Ex-US (Net)
			6.60	NCREIF
			2.20	NAREIT
	Jun-99	Jun-99	2.20	Giliberto-Levy Mortgage
			1.00	91-Day Treasury Bill
			40.10	SB Broad Inv Grade
			35.00	Standard & Poors 500
	Jun-99	Jun-99	12.90	MSCI World Ex-US (Net)
			6.60	NCREIF
			2.20	NAREIT
			2.20	Giliberto-Levy Mortgage
			1.00	91-Day Treasury Bill

Charts above and on the following page track PERS asset allocation policy index over the last eleven and a half years. The current policy is located on the following page.

# Public Employees Retirement System

Quarter Ending 6/30/2005

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Sep-99	Mar-02	36.10	SB Broad Inv Grade
			35.00	Standard & Poors 500
			16.90	MSCI World Ex-US (Net)
			6.60	NCREIF
			2.20	NAREIT
			2.20	Giliberto-Levy Mortgage
			1.00	91-Day Treasury Bill
	Mar-02	Mar-02	34.30	S&P 1500
			31.80	SB Broad Inv Grade
			18.90	MSCI World Ex-US (Net)
			5.70	NCREIF
			3.00	Russell 3000
			2.30	91-Day Treasury Bill
			1.90	NAREIT
	Jun-02	Sep-02	34.70	S&P 1500
			29.20	SB Broad Inv Grade
			19.30	MSCI World Ex-US (Net)
			5.80	Russell 3000
			5.58	NCREIF
			1.86	NAREIT
			1.86	Giliberto-Levy Mortgage
1.50	91-Day Treasury Bill			
0.20	Standard & Poors 500			

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Sep-02	Sep-02	44.70	Russell 3000
			25.60	SB Broad Inv Grade
			19.70	MSCI World Ex-US (Net)
			5.46	NCREIF
			1.82	NAREIT
			1.82	Giliberto-Levy Mortgage
			0.70	91-Day Treasury Bill
	Dec-02	Dec-02	47.00	Russell 3000
			23.00	SB Broad Inv Grade
			20.00	MSCI World Ex-US (Net)
			5.40	NCREIF
			1.80	NAREIT
			1.80	Giliberto-Levy Mortgage
			0.60	91-Day Treasury Bill
	Mar-03	Jun-05	46.00	Russell 3000
			23.00	Lehman Universal
			20.00	MSCI World Ex-US (Net)
			8.10	NCREIF
			0.90	Wilshire Real Estate Securities
			1.00	91-Day Treasury Bill
			1.00	Russell 3000 + 3%

# Public Employees Retirement System

## Performance Overview

Returns for Period Ending June 30, 2005

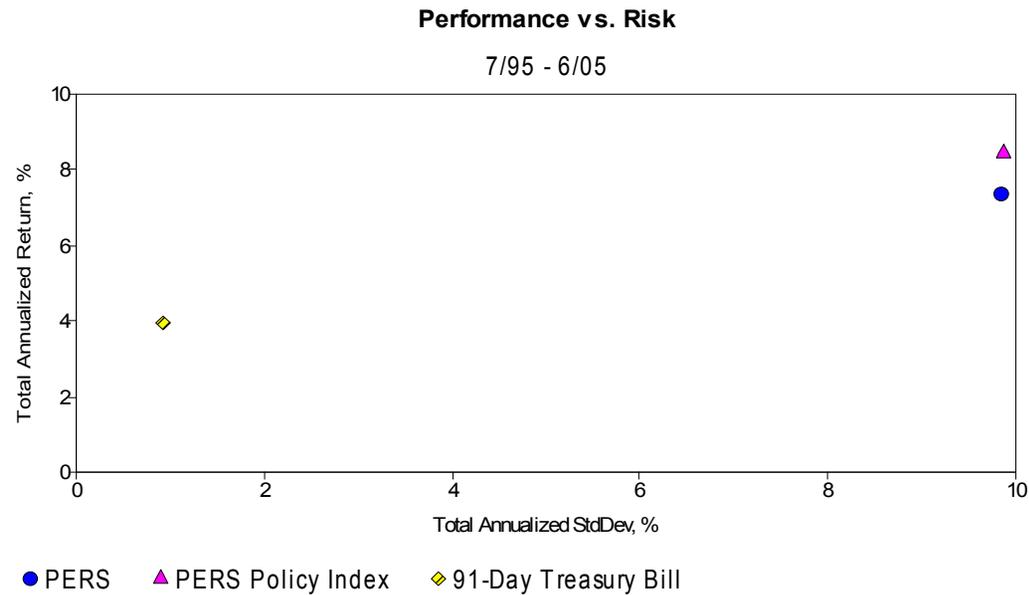
	<u>1 Qtr</u>	<u>2 Qtrs</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund	2.19	1.20	10.47	10.29	3.58	7.36
Policy Index	2.14	1.21	10.31	9.95	3.51	8.46
Domestic Equity	2.37	0.17	8.18	9.65	-0.68	8.69
Domestic Equity Segment Median	2.50	0.28	8.75	9.99	0.78	10.80
Wilshire 5000	2.32	0.05	8.22	9.95	-1.25	9.99
International Equity	0.07	0.24	16.59	13.86	0.43	NA
International Equity Segment Median	-0.01	0.16	15.07	13.08	1.03	7.70
MSCI EAFE	-1.01	-1.17	13.65	12.06	-0.55	5.22
Fixed Income	3.23	2.92	8.11	7.05	7.94	7.09
Fixed Income Segment Median	2.92	2.52	7.33	6.52	7.77	7.12
LB Aggregate	3.01	2.51	6.80	5.76	7.40	6.83
Cash	0.76	1.41	2.42	1.65	2.63	4.13
Real Estate	4.60	4.53	14.02	10.61	10.92	10.56
NCREIF	5.34	9.04	18.02	12.08	10.63	11.36
Alternative	0.80	15.22	21.83	15.93	3.35	NA

Over the past ten-year period, PERS has trailed its policy index by 110 basis points. The bulk of the fund's relative underperformance was due to lackluster performance in domestic equities, which trailed the Wilshire 5000 Index by 130 basis points. The real estate return also fell short of the NCREIF Index by 80 basis points for the same period. Over the past twelve months, the fund has outperformed the policy index by 16 basis points, mainly due to strong results in international equity and fixed income.

# Public Employees Retirement System

## Performance Overview

Returns for Period Ending June 30, 2005



Created with MPI Stylus™

	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
PERS	7.36	9.85	3.72	0.37
PERS Policy Index	8.46	9.86	4.76	0.48
91-Day Treasury Bill	3.96	0.94	0.00	NA

The chart above shows that on a risk-adjusted basis, the fund has fallen short of the risk-adjusted return of its policy index over the last ten year period.

# Public Employees Retirement System

## Asset Allocation Actual vs. Benchmark December 31, 2004

---

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	48.19%	S&P 1500	46.0%	2.19%
Fixed Income	22.44%	SB Broad Inv Grade	23.0%	-0.56%
Intl. Equity	22.97%	MSCI ACWI	20.0%	2.97%
Real Estate	5.42%	PERS Custom Index	9.0%	-3.58%
Private Equity	0.60%	S&P 500	1.0%	-0.40%
Short Term	0.38%	3 Month T-Bill	1.0%	-0.62%

June 30, 2005

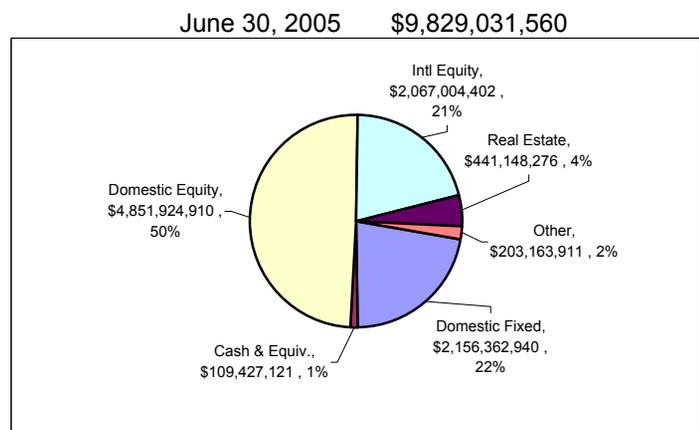
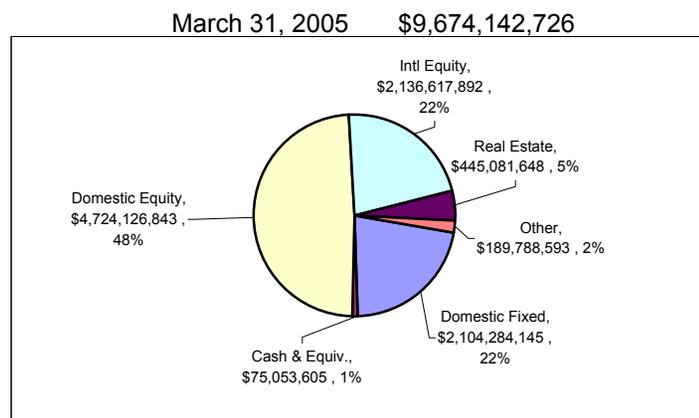
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Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	46.20%	S&P 1500	46.0%	0.20%
Fixed Income	25.10%	SB Broad Inv Grade	23.0%	2.10%
Intl. Equity	20.00%	MSCI ACWI	20.0%	0.00%
Real Estate	5.90%	PERS Custom Index	9.0%	-3.10%
Private Equity	0.80%	S&P 500	1.0%	-0.20%
Short Term	2.00%	3 Month T-Bill	1.0%	1.00%

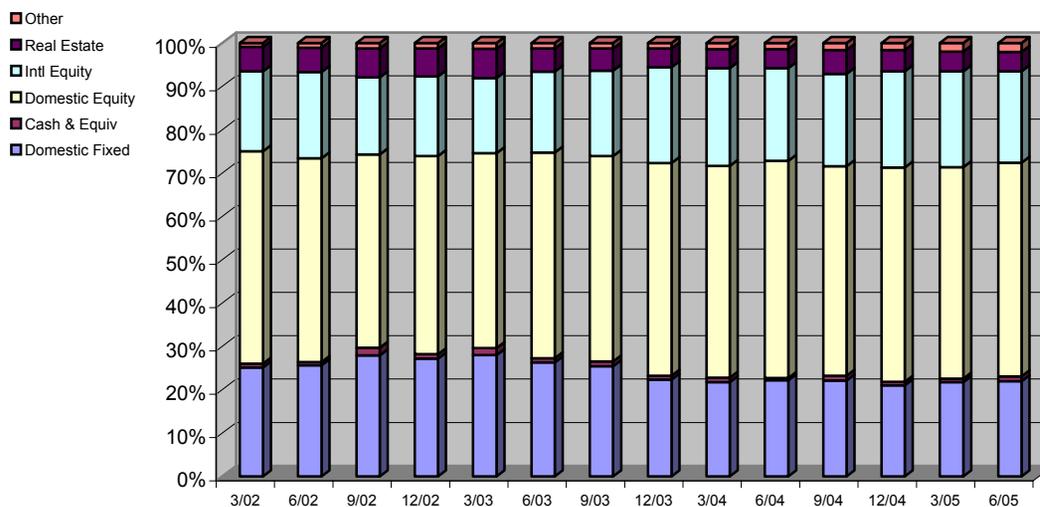
As of the end of the second quarter, PERS is overweight in fixed income and cash while being underweight in real estate and private equity. Allocations to domestic and international equities compared to their respective target weights were minimal and insignificant.

# Police & Fire Pension Fund

**Asset Allocation**



**Asset Allocation**



	3/02	6/02	9/02	12/02	3/03	6/03	9/03	12/03	3/04	6/04	9/04	12/04	3/05	6/05
Domestic Fixed %	25.1	25.7	27.9	27.2	28.0	26.3	25.4	22.3	21.8	22.2	22.1	21.0	21.8	21.9
Cash & Equiv. %	0.9	0.7	1.8	1.0	1.6	1.0	1.1	0.9	1.0	0.5	1.1	0.8	0.8	1.1
Domestic Equity %	49.0	47.1	44.6	45.8	45.0	47.5	47.4	49.0	49.0	50.1	48.4	49.5	48.8	49.4
Intl Equity %	18.5	19.9	17.8	18.4	17.3	18.7	19.7	22.1	22.6	21.4	21.3	22.2	22.1	21.0
Real Estate %	5.6	5.6	6.7	6.5	6.8	5.4	5.2	4.4	4.4	4.4	5.5	4.9	4.6	4.5
Other %	0.9	1.1	1.2	1.2	1.3	1.2	1.2	1.2	1.4	1.4	1.6	1.6	2.0	2.1
Total Value (\$bil)	8.3	7.8	6.9	7.2	7.0	7.7	8.0	8.7	9.0	8.9	9.0	9.7	9.7	9.8

This is the first page devoted to the analysis of the Ohio Police & Fire Pension Fund's asset allocation. The chart on the left displays the fund's asset allocation over the first two quarters of 2005. The chart on the right tracks the quarterly asset allocation of the fund over the last fourteen quarters.

# Police & Fire Pension Fund

Quarter Ending 6/30/2005

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Mar-94	Sep-97	41.00	Wilshire 5000
			39.00	LB Aggregate
			10.00	MSCI EAFE (Net)
			9.00	Wilshire RE Funds
			1.00	S&P 500 + 5%
	Dec-97	Mar-01	41.00	Wilshire 5000
			35.00	LB Aggregate
			10.00	MSCI EAFE (Net)
			8.00	Wilshire RE Funds
			5.00	MSCI Em Mkts Free (Gross)
	Jun-01	Jun-01	41.00	Wilshire 5000
			35.00	LB Aggregate
			10.00	MSCI EAFE (Net)
			8.00	Wilshire RE Funds
			5.00	MSCI Em Mkts Free (Gross)
	Sep-01	Mar-02	1.00	S&P 500 (lagged) + 5%
46.00			Wilshire 5000	
18.00			LB Aggregate	
17.00			MSCI EAFE (Net)	
8.00			Wilshire RE Funds	
5.00			First Boston High Yield	
3.00	MSCI Em Mkts Free (Gross)			
3.00	Wilshire 5000 (lagged) + 5%			

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Jun-02	Sep-04	48.00	Wilshire 5000
			18.00	LB Aggregate
			17.00	MSCI EAFE (Net)
			8.00	NCREIF
			5.00	First Boston High Yield
	Dec-04	Dec-04	3.00	MSCI Em Mkts Free (Gross)
			1.00	Wilshire 5000 (lagged) + 5%
			46.00	Wilshire 5000
			18.00	LB Aggregate
			17.00	MSCI EAFE (Net)
	Mar-05	Jun-05	8.00	NCREIF
			5.00	First Boston High Yield
			3.00	MSCI Em Mkts Free (Gross)
			3.00	Wilshire 5000 (lagged) + 5%
			46.00	Wilshire 5000
	18.00	LB Aggregate		
20.00	MSCI ACWI ex-U.S.			
8.00	NCREIF			
5.00	First Boston High Yield			
3.00	Wilshire 5000 (lagged) + 5%			

OP&F's custom policy index is listed above. The chart tracks the fund's change in asset allocation strategy over the past eleven and a half years. The current policy index is listed in the table on the right.

# Police & Fire Pension Fund

## Performance Overview

Returns for Period Ending June 30, 2005

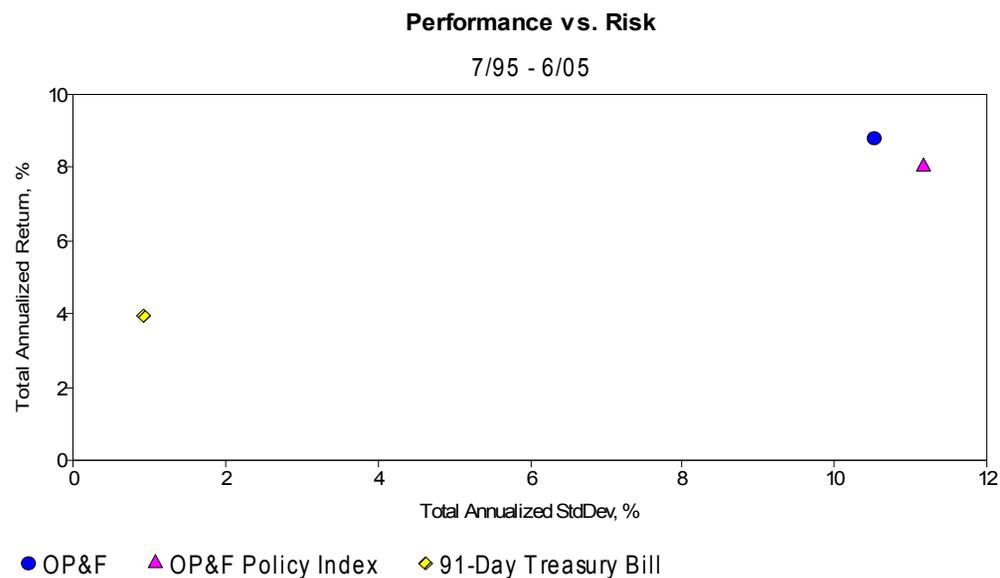
	<u>1 Qtr</u>	<u>2 Qtrs</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund	2.07	1.77	10.85	10.60	4.02	8.82
Policy Index	2.05	1.53	10.71	10.79	2.36	8.05
Domestic Equity	2.71	1.01	9.06	9.25	1.33	10.10
Domestic Equity Segment Median	2.50	0.28	8.75	9.99	0.78	10.80
Wilshire 5000	2.32	0.05	8.22	9.95	-1.25	9.99
International Equity	-0.08	-0.54	15.57	13.16	-1.03	6.66
International Equity Segment Median	-0.01	0.16	15.07	13.08	1.03	7.70
MSCI EAFE	-1.01	-1.17	13.65	12.06	-0.55	5.22
Fixed Income	2.66	2.00	7.96	7.94	8.80	7.61
Fixed Income Segment Median	2.92	2.52	7.33	6.52	7.77	7.12
LB Aggregate	3.01	2.51	6.80	5.76	7.40	6.83
Cash	0.72	1.29	2.16	1.55	2.63	4.30
Real Estate	3.23	17.43	23.68	16.48	13.41	13.56
NCREIF	5.34	9.04	18.02	12.08	10.63	11.36
Alternative	2.50	12.81	13.60	-2.83	-11.18	10.86

For the trailing ten-year period, the fund has outperformed its policy index by 77 basis points. Stronger relative performance in international equity, fixed income and real estate continued to contribute to total performance. OP&F also outperformed for the more recent one and five-year periods, outpacing its policy index by 14 basis points and 166 basis points, respectively.

# Police & Fire Pension Fund

## Performance Overview

Returns for Period Ending June 30, 2005



Created with MPI Stylus™

	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
OP&F	8.82	10.49	5.16	0.49
OP&F Policy Index	8.05	11.18	4.51	0.40
91-Day Treasury Bill	3.96	0.94	0.00	NA

The OP&F total fund return has outperformed the policy index on an absolute and risk-adjusted basis over the last ten year period.

# Police & Fire Pension Fund

## Asset Allocation Actual vs. Benchmark December 31, 2004

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	49.48%	Wilshire 5000	48%	1.48%
Fixed Income	20.95%	Lehman Aggregate	23%	-2.05%
Intl. Equity Comp.	22.20%	MSCI EAFE (Net) -17%, MSCI Em Mkts Free - 3%	20%	2.20%
Real Estate	4.94%	NCREIF	8%	-3.06%
Venture Capital	1.61%	Wilshire 5000 Lagged + 5%	1%	0.61%
Short Term	0.81%	3 Month T-Bill	0%	0.81%

## June 30, 2005

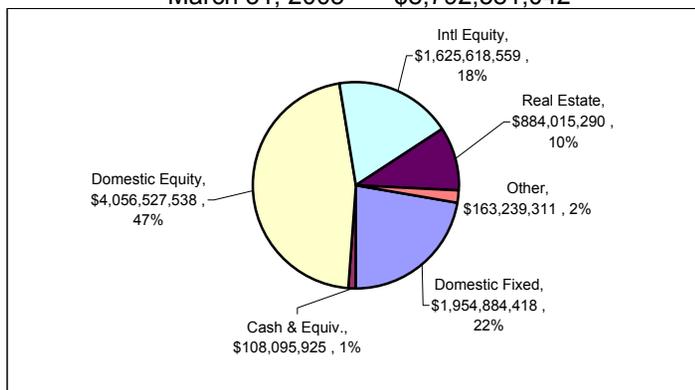
Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	49.36%	Wilshire 5000	46%	3.36%
Fixed Income	21.94%	Lehman Aggregate	23%	-1.06%
Intl. Equity Comp.	21.03%	MSCI ACWI ex- U.S.	20%	1.03%
Real Estate	4.49%	NCREIF	8%	-3.51%
Venture Capital	2.07%	Wilshire 5000 Lagged + 5%	3%	-0.93%
Short Term	1.11%	3 Month T-Bill	0%	1.11%

As of the end of the second quarter, the OP&F fund is overweight in domestic equity, international equity and cash while being underweight in fixed income, real estate and venture capital.

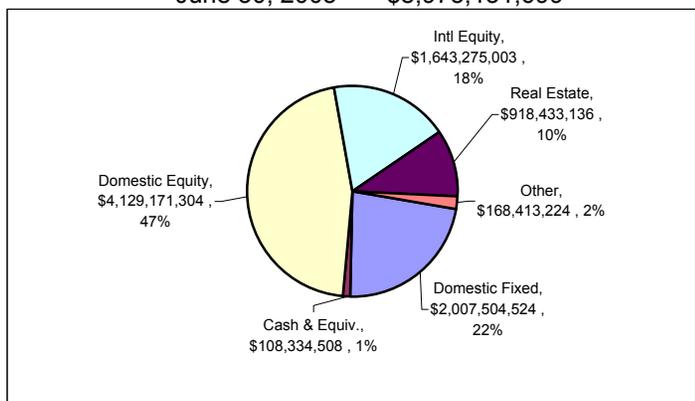
# School Employees Retirement System

**Asset Allocation  
SERS**

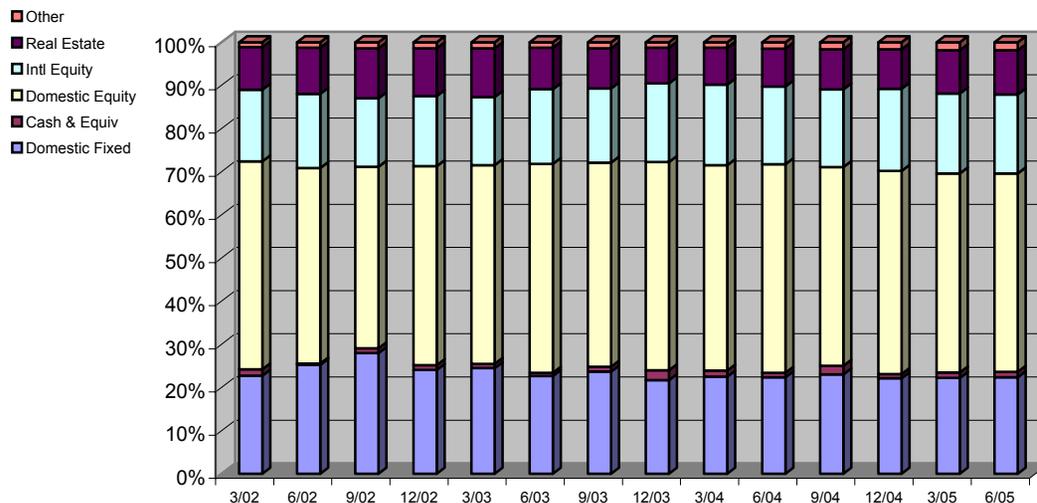
March 31, 2005 \$8,792,381,042



June 30, 2005 \$8,975,131,699



**Asset Allocation  
SERS**



	3/02	6/02	9/02	12/02	3/03	6/03	9/03	12/03	3/04	6/04	9/04	12/04	3/05	6/05
Domestic Fixed %	22.7	25.3	28.0	24.1	24.5	22.7	23.7	21.7	22.5	22.4	23.0	22.2	22.2	22.4
Cash & Equiv. %	1.5	0.3	1.1	1.1	1.0	0.7	1.1	2.3	1.4	1.0	2.0	0.9	1.2	1.2
Domestic Equity %	48.1	45.3	42.1	46.1	46.1	48.4	47.4	48.2	47.6	48.3	46.1	47.1	46.1	46.0
Intl Equity %	16.6	17.2	15.9	16.2	15.8	17.3	17.2	18.2	18.7	18.0	18.0	19.0	18.5	18.3
Real Estate %	9.9	10.7	11.6	11.1	11.3	9.6	9.3	8.2	8.5	8.8	9.3	9.2	10.1	10.2
Other %	1.1	1.3	1.4	1.4	1.4	1.3	1.4	1.3	1.3	1.5	1.6	1.6	1.9	1.9
Total Value (\$bil)	7.9	7.3	6.5	6.7	6.5	7.2	7.5	8.1	8.3	8.3	8.3	8.9	8.8	9.0

This is the first page devoted to the analysis of the Ohio School Employees Retirement System's asset allocation. The chart on the left displays the fund's asset allocation over the first two quarters of 2005. The chart on the right tracks the quarterly asset allocation of the fund over the last fourteen quarters.

# School Employees Retirement System

Quarter Ending 6/30/2005

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Mar-94	Sep-94	45.00	Standard & Poors 500
			28.00	ML Domestic Master Bond Idx
			10.00	MSCI EAFE (Net)
			10.00	NCREIF Classic Pty Idx (1 Qtr arrear)
			5.00	Citigroup 30 Day T-Bill
	Dec-94	Dec-94	45.00	Standard & Poors 500
			28.00	ML Domestic Master Bond Idx
			10.00	MSCI EAFE 50% Hedged
			10.00	NCREIF Classic Pty Idx (1 Qtr arrear)
			5.00	Citigroup 30 Day T-Bill
	Mar-95	Jun-95	45.00	Russell 3000
			28.00	ML Domestic Master Bond Idx
			10.00	MSCI EAFE 50% Hedged
			10.00	NCREIF Classic Pty Idx (1 Qtr arrear)
			5.00	Citigroup 30 Day T-Bill
	Sep-95	Mar-97	45.00	Russell 3000
			28.00	LB Aggregate
			10.00	MSCI EAFE 50% Hedged
			10.00	NCREIF Classic Pty Idx (1 Qtr arrear)
			5.00	Citigroup 30 Day T-Bill
Jun-97	Jun-97	45.00	Russell 3000	
		28.00	LB Aggregate	
		15.00	MSCI EAFE 50% Hedged	
		10.00	NCREIF Classic Pty Idx (1 Qtr arrear)	
		1.00	Citigroup 30 Day T-Bill	
		1.00	S&P 500 + 5%	

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Sep-97	Jun-99	45.00	Russell 3000
			28.00	LB Aggregate
			14.50	MSCI EAFE 50% Hedged
			0.50	MSCI Em Mkts Free
			10.00	NCREIF
	Sep-99	Dec-99	1.00	Citigroup 30 Day T-Bill
			1.00	S&P 500 +5%
			45.00	Russell 3000
			28.00	LB Aggregate
			14.00	MSCI EAFE 50% Hedged
	Mar-00	Jun-01	1.00	MSCI Em Mkts Free
			10.00	NCREIF
			1.00	Citigroup 30 Day T-Bill
			1.00	S&P 500 +5%
			48.00	Russell 3000
	Sep-01	Jun-02	23.00	LB Aggregate
			16.00	MSCI ACWI ex US (Developed - 50% Hdg)
			10.00	NCREIF
			1.00	S&P 500 +5%
			2.00	Citigroup 30 Day T-Bill
Sep-02	Jun-05	47.00	Russell 3000	
		23.00	LB Aggregate	
		16.00	MSCI ACWI ex US (Developed - 50% Hdg)	
		10.00	NCREIF	
		2.00	Private Equity (0% return arrears switch)	
Sep-02	Jun-05	2.00	Citigroup 30 Day T-Bill	
		46.00	Russell 3000	
		23.00	LB Aggregate	
		16.00	MSCI ACWI ex US (Developed - 50% Hdg)	
		10.00	80% NCREIF (arrears), 20% NAREIT	
		3.00	S&P (1Qtr arrears) + 3%	
		2.00	Citigroup 30 Day T-Bill	

SERS' custom policy index is listed above. The charts tracks the fund's change in asset allocation strategy over the past eleven and a half years. The current policy index is listed in the table on the right.

# School Employees Retirement System

## Performance Overview

Returns for Period Ending June 30, 2005

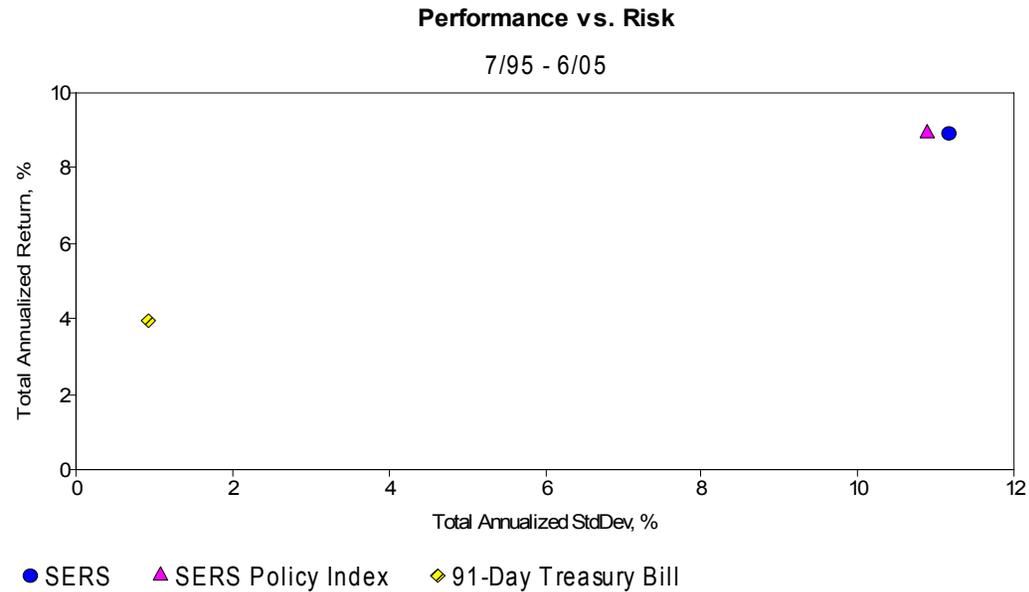
	<u>1 Qtr</u>	<u>2 Qtrs</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund	2.63	2.29	10.49	9.45	2.42	8.90
Policy Index	2.62	2.33	10.27	9.22	2.40	8.92
Domestic Equity	1.86	-0.19	7.25	9.25	-1.66	9.82
Domestic Equity Segment Median	2.50	0.28	8.75	9.99	0.78	10.80
Wilshire 5000	2.32	0.05	8.22	9.95	-1.25	9.99
International Equity	2.72	4.99	19.33	11.85	0.37	7.52
International Equity Segment Median	-0.01	0.16	15.07	13.08	1.03	7.70
MSCI EAFE	-1.01	-1.17	13.65	12.06	-0.55	5.22
Fixed Income	2.72	2.38	6.97	6.39	8.12	7.24
Fixed Income Segment Median	2.92	2.52	7.33	6.52	7.77	7.12
LB Aggregate	3.01	2.51	6.80	5.76	7.40	6.83
Cash	0.76	1.45	2.36	1.53	3.23	4.35
Real Estate	6.16	9.29	22.34	13.51	10.17	10.87
NCREIF	5.34	9.04	18.02	12.08	10.63	11.36
Alternative	2.55	6.60	7.72	-1.39	-13.79	10.11

For the trailing ten-year period, the fund has lagged its policy index by 2 basis points, mainly due to weak results that were produced in domestic equity and real estate. The most recent twelve months show that SERS has outperformed its policy index by 22 basis points. Strong performances in international equity, fixed income and real estate were responsible for the fund's relative outperformance.

# School Employees Retirement System

## Performance Overview

Returns for Period Ending June 30, 2005



Created with MPI Stylus™

	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
			Alpha, %	Sharpe Ratio
	Total	Total		
SERS	8.90	11.15	5.31	0.47
SERS Policy Index	8.92	10.89	5.30	0.48
91-Day Treasury Bill	3.96	0.94	0.00	NA

The SERS total fund return fell shy of the policy index by two basis points on an absolute basis over the last ten year period.

# School Employees Retirement System

## Asset Allocation Actual vs. Benchmark December 31, 2004

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	47.11%	Russell 3000	46%	1.11%
Fixed Income	22.15%	LB Aggregate	23%	-0.85%
Intl. Equity	18.98%	MSCI ACWI ex US (Developed - 50% Hdg)	16%	2.98%
Real Estate	9.18%	Custom RE (1 Qtr arrears)	10%	-0.82%
Venture Capital	1.63%	S&P (1 Qtr arrears) + 3%	3%	-1.37%
Short Term	0.94%	Citigroup 30 Day T-Bill	2%	-1.06%

## June 30, 2005

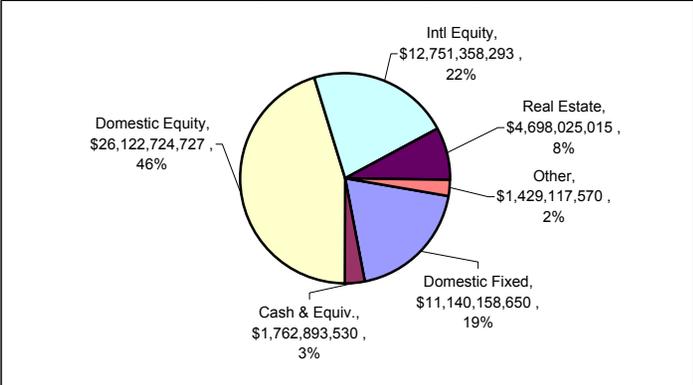
Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	46.00%	Russell 3000	46%	0.00%
Fixed Income	22.40%	LB Aggregate	23%	-0.60%
Intl. Equity	18.30%	MSCI ACWI ex US (Developed - 50% Hdg)	16%	2.30%
Real Estate	10.20%	Custom RE (1 Qtr arrears)	10%	0.20%
Venture Capital	1.90%	S&P (1 Qtr arrears) + 3%	3%	-1.10%
Short Term	1.20%	Citigroup 30 Day T-Bill	2%	-0.80%

As of the end of the second quarter, the SERS fund is overweight in international equity and slightly underweight in fixed income, venture capital and cash.

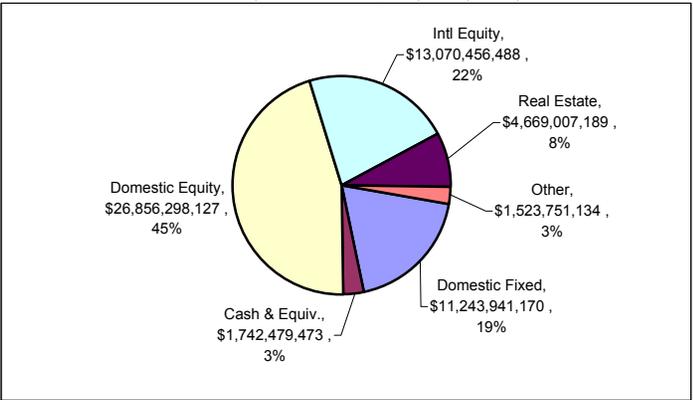
# State Teachers Retirement System

**Asset Allocation  
STRS**

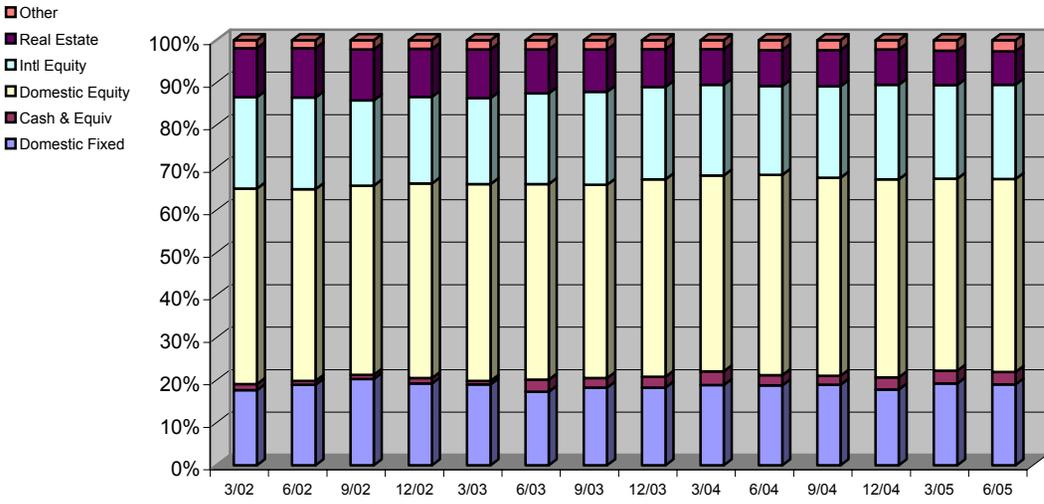
March 31, 2005     \$57,904,277,785



June 30, 2005     \$59,105,933,580



**Asset Allocation  
STRS**



	3/02	6/02	9/02	12/02	3/03	6/03	9/03	12/03	3/04	6/04	9/04	12/04	3/05	6/05
Domestic Fixed %	17.7	18.9	20.3	19.2	19.0	17.3	18.3	18.3	18.9	18.8	19.0	17.8	19.2	19.0
Cash & Equiv. %	1.4	0.9	1.0	1.3	0.8	2.9	2.2	2.5	3.2	2.4	2.1	2.9	3.0	3.0
Domestic Equity %	46.0	45.1	44.5	45.7	46.2	46.0	45.5	46.5	46.1	47.2	46.6	46.7	45.1	45.4
Intl Equity %	21.5	21.5	20.1	20.4	20.2	21.4	21.9	21.7	21.3	20.9	21.5	22.3	22.0	22.1
Real Estate %	11.5	11.6	12.0	11.3	11.4	10.3	9.9	8.9	8.4	8.5	8.5	8.3	8.1	7.9
Other %	1.9	1.9	2.2	2.0	2.2	2.2	2.2	2.1	2.1	2.3	2.3	2.2	2.5	2.6
Total Value (\$bil)	51.3	47.5	41.6	43.8	42.4	47.3	48.5	52.8	54.4	54.3	54.2	58.2	57.9	59.1

This is the first page devoted to the analysis of the Ohio State Teachers Retirement System's asset allocation. The chart on the left displays the fund's asset allocation over the first two quarters of 2005. The chart on the right tracks the quarterly asset allocation of the fund over the last fourteen quarters.

# State Teachers Retirement System

Quarter Ending 6/30/2005

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Mar-94	Dec-94	40.00	Standard & Poors 500
			45.00	Lehman Govt./Corp.
			9.00	STRS NCREIF Hybrid
			3.00	MSCI EAFE (Net)
			3.00	91-Day Treasury Bill
	Mar-95	Dec-95	46.00	Standard & Poors 500
			35.00	LB Aggregate
			9.00	STRS NCREIF Hybrid
			6.00	MSCI EAFE (Net)
			2.00	MSCI Em Mkts Free (Gross)
	Mar-96	Dec-96	45.00	Standard & Poors 500
			35.00	LB Aggregate
			9.00	STRS NCREIF Hybrid
			6.75	MSCI EAFE (Net)
			2.25	MSCI Em Mkts Free (Gross)
	Mar-97	Jun-97	45.00	Standard & Poors 500
34.00			LB Aggregate	
9.00			STRS NCREIF Hybrid	
6.00			MSCI EAFE (Net)	
4.00			MSCI Em Mkts Free (Gross)	
2.00	91-Day Treasury Bill			

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (Cont.)	Sep-97	Dec-97	45.00	Standard & Poors 500
			24.00	LB Aggregate
			12.00	MSCI EAFE (Net)
			9.00	STRS NCREIF Hybrid
			8.00	MSCI Em Mkts Free (Gross)
	Mar-98	Sep-98	2.00	91-Day Treasury Bill
			45.00	S&P 1500
			24.00	LB Aggregate
			12.00	MSCI EAFE 50% Hedged
			9.00	STRS NCREIF Hybrid
	Dec-98	Sep-00	8.00	MSCI Em Mkts Free (Gross)
			2.00	91-Day Treasury Bill
			45.00	S&P 1500
			24.00	LB Aggregate
			14.00	MSCI EAFE 50% Hedged
	Dec-00	Jun-02	9.00	STRS NCREIF Hybrid
6.00			MSCI Em Mkts Free (Gross)	
2.00			91-Day Treasury Bill	
45.00			S&P 1500	
25.00			Lehman Universal	
15.00	MSCI EAFE 50% Hedged			
9.00	STRS NCREIF Hybrid			
5.00	MSCI Em Mkts Free (Gross)			
1.00	91-Day Treasury Bill			

STRS' custom policy index is listed above and on the following page. Charts track the fund's change in asset allocation strategy over the past eleven and a half years.

# State Teachers Retirement System

Quarter Ending 6/30/2005

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Sep-02	Dec-02	45.00	S&P 1500
			23.00	Lehman Universal
			15.00	MSCI EAFE 50% Hedged
			9.00	STRS NCREIF Hybrid
			5.00	MSCI Em Mkts Free (Gross)
			2.00	Alt. Investment Actual Return
	1.00	91-Day Treasury Bill		
	Mar-03	Jun-03	45.00	S&P/Russell Hybrid*
			23.00	Lehman Universal
15.00			MSCI EAFE 50% Hedged	
9.00			STRS NCREIF Hybrid	
5.00			MSCI Em Mkts Free (Gross)	
2.00			Alt. Investment Actual Return	
1.00	91-Day Treasury Bill			
Sep-03	Jun-05	45.00	Russell 3000*	
		23.00	Lehman Universal	
		15.00	MSCI World ex US 50% Hedged	
		9.00	STRS NCREIF Hybrid	
		5.00	MSCI Em Mkts Free (Gross)	
		2.00	Alt. Investment Actual Return	
		1.00	91-Day Treasury Bill	

The current STRS policy index is listed above.

# State Teachers Retirement System

## Performance Overview

Returns for Period Ending June 30, 2005

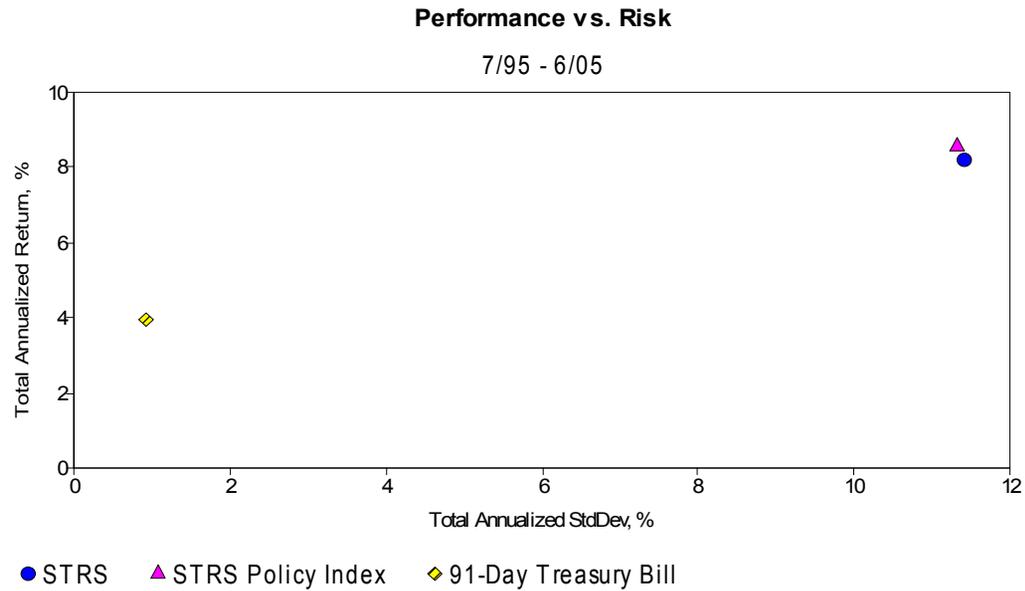
	<u>1 Qtr</u>	<u>2 Qtrs</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund	2.89	2.79	12.25	10.57	3.07	8.18
Policy Index	2.99	2.65	11.43	9.79	2.81	8.58
Domestic Equity	2.06	-0.11	8.01	9.11	-1.32	8.56
Domestic Equity Segment Median	2.50	0.28	8.75	9.99	0.78	10.80
Wilshire 5000	2.32	0.05	8.22	9.95	-1.25	9.99
International Equity	3.14	4.92	22.07	14.55	2.48	6.20
International Equity Segment Median	-0.01	0.16	15.07	13.08	1.03	7.70
MSCI EAFE	-1.01	-1.17	13.65	12.06	-0.55	5.22
Fixed Income	2.94	2.53	7.49	7.22	8.24	7.68
Fixed Income Segment Median	2.92	2.52	7.33	6.52	7.77	7.12
LB Aggregate	3.01	2.51	6.80	5.76	7.40	6.83
Cash	0.75	1.37	2.24	1.59	2.63	4.14
Real Estate	5.36	9.56	21.72	15.01	12.21	12.11
NCREIF	5.34	9.04	18.02	12.08	10.63	11.36
Alternative	9.94	20.63	21.31	8.28	0.48	4.79

Over the trailing ten-year period, the fund has underperformed its policy index by 40 basis points. Despite strong relative performance in international equity, fixed income and real estate, domestic equity returns lagged the broad market as defined by the Wilshire 5000 by 143 basis points. The most recent twelve months show that STRS has outperformed its policy index by 82 basis points. During this time period, international equity, fixed income and real estate have outpaced the respective broad market benchmarks, while domestic equity lagged the Wilshire 5000 Index.

# State Teachers Retirement System

## Performance Overview

Returns for Period Ending June 30, 2005



Created with MPI Stylus™

	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
STRS	8.18	11.43	4.66	0.40
STRS Policy Index	8.58	11.31	5.02	0.44
91-Day Treasury Bill	3.96	0.94	0.00	NA

The chart above shows that on a risk-adjusted basis, the fund has fallen short of the risk-adjusted return of its policy index over the last ten year period.

# State Teachers Retirement System

## Asset Allocation Actual vs. Benchmark December 31, 2004

---

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	46.49%	Russell 3000	45%	1.49%
Fixed Income	17.83%	Lehman Universal	23%	-5.17%
Intl. Equity	22.31%	Intl. Hybrid Benchmark	20%	2.31%
Real Estate	8.32%	NCREIF Adjusted	9%	-0.68%
Venture Capital	2.16%	Alt. Inv. Actual Return	2%	0.16%
Short Term	2.88%	3 Month T-Bill	1%	1.88%

June 30, 2005

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Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	45.40%	Russell 3000	45%	0.40%
Fixed Income	19.00%	Lehman Universal	23%	-4.00%
Intl. Equity	22.10%	Intl. Hybrid Benchmark	20%	2.10%
Real Estate	7.90%	NCREIF Adjusted	9%	-1.10%
Venture Capital	2.60%	Alt. Inv. Actual Return	2%	0.60%
Short Term	2.90%	3 Month T-Bill	1%	1.90%

As of the end of the second quarter, the STRS fund was overweight in domestic and international equities, venture capital, and cash, while being underweight in fixed income and real estate.

# Appendix: ORSC Performance Attribution

The following exhibits provide an analysis of the impact of asset allocation and active management for the past seven years – the time period in which all five funds have been operating under “prudent person” standards. The three data points for each quarter are the allocation index return, the policy index return, and the total fund return. The quarterly asset allocation attribution is the result of deviation in asset allocation from the policy index. In order to accomplish this, an allocation index is created. The allocation index for a particular quarter is created by averaging the weight of a particular asset class at the beginning of the quarter and at the end of a quarter. The resulting average is then multiplied by the return of the market index that has been assigned to that asset class in the policy statement. The product of the allocation weight times the index return is the allocation index return for that asset class. This method is used for each asset class and the results of each asset class are then added together to create the allocation index return for the portfolio.

Here is an example:

## HPRS Allocation Index

<b>Asset Class</b>	<b>Quarter One Weight</b>	<b>Quarter Two Weight</b>	<b>Average Weight</b>	<b>Market Index Return</b>	<b>Avg Wght * Mkt Idx Ret</b>
Large Cap	29.22%	31.09%	30.16%	8.45%	2.548%
Small/Mid Cap	16.07%	16.55%	16.31%	6.64%	1.083%
Fixed Income	28.45%	24.91%	26.68%	1.57%	0.419%
Intl. Equity	9.05%	11.00%	10.03%	6.45%	0.647%
Real Estate	16.89%	15.51%	16.20%	1.59%	0.258%
Cash	0.30%	0.93%	0.62%	0.43%	0.003%
<b>Allocation Index Return</b>					<b>4.96%</b>

The policy index return is then subtracted from the allocation index return in order to determine the value added or subtracted by deviations in the funds’ asset allocation from the policy index.

The next step is to determine the value added or subtracted by active management. The allocation index return is subtracted from the total fund return in order to determine value added or subtracted. Finally, the total attribution is calculated by subtracting the policy index from the total fund return. The result is the total value added or subtracted by the combination of asset allocation and active management.

The lines on the graphs represent the cumulative effect of each quarterly attribution number. The endpoint is the total value added or subtracted from the fund’s return for the past five years. The data points on the graph have not been annualized. The table below each graph provides a one-, three-, and five-year annualized representation of the attribution of each fund.

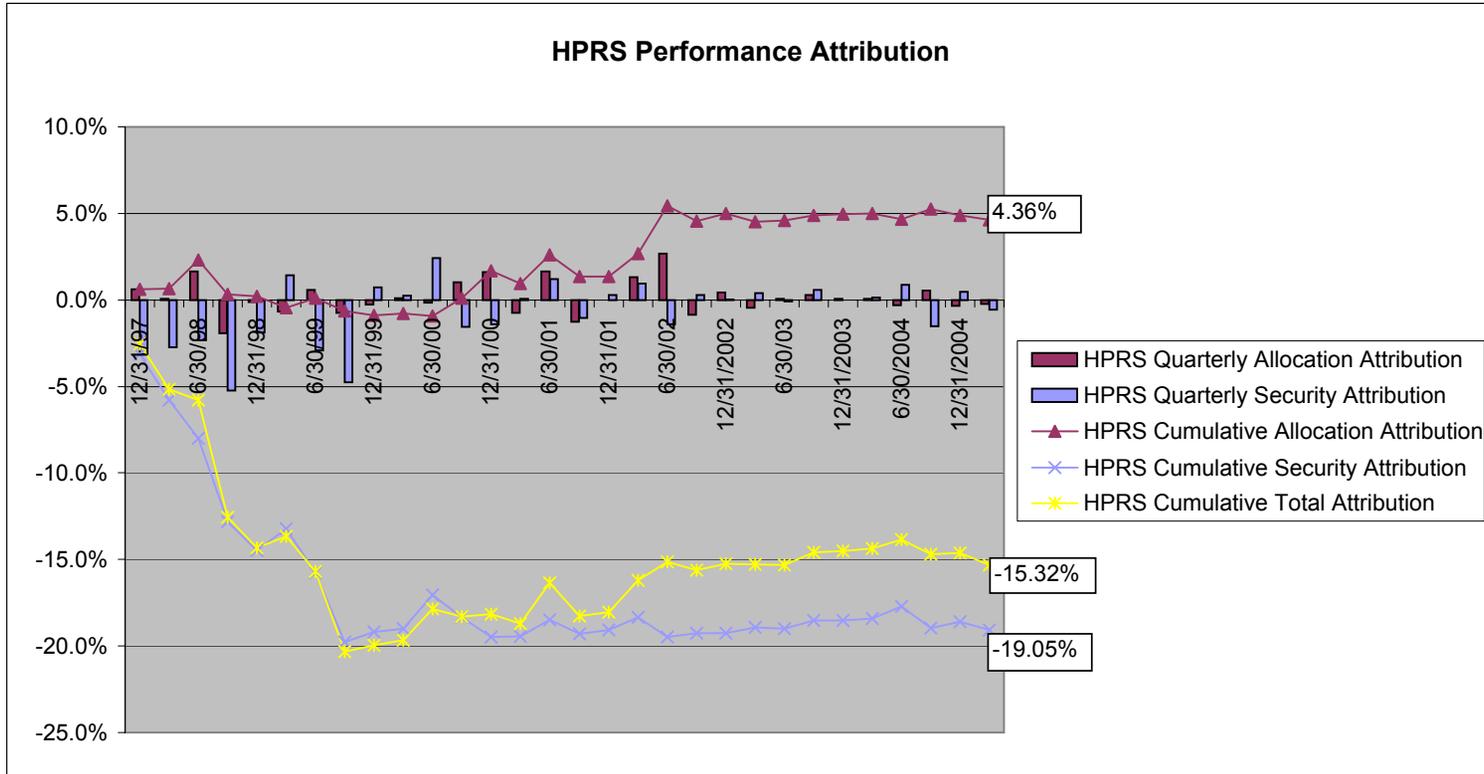
## Appendix: ORSC Performance Attribution

The analysis shows that of the five funds, SERS and STRS have achieved positive total attribution results over the past seven years. From an asset allocation perspective, HPRS, OP&F, SERS and STRS benefited, while PERS was negatively impacted by their asset allocation decisions for the same period. The analysis also illustrates that active management of its investment managers has proven to be the biggest detractor from the performance of all five funds over the past seven years.

### Breakdown of Attribution Results - Last 7 Years

	<b>Asset Attribution</b>	<b>Selection Attribution</b>	<b>Total Attribution</b>
<b>HPRS</b>	0.56%	-2.14%	-1.61%
<b>PERS</b>	-0.24%	-0.24%	-0.47%
<b>OP&amp;F</b>	0.05%	-0.36%	-0.30%
<b>SERS</b>	0.35%	-0.13%	0.22%
<b>STRS</b>	0.16%	-0.06%	0.10%

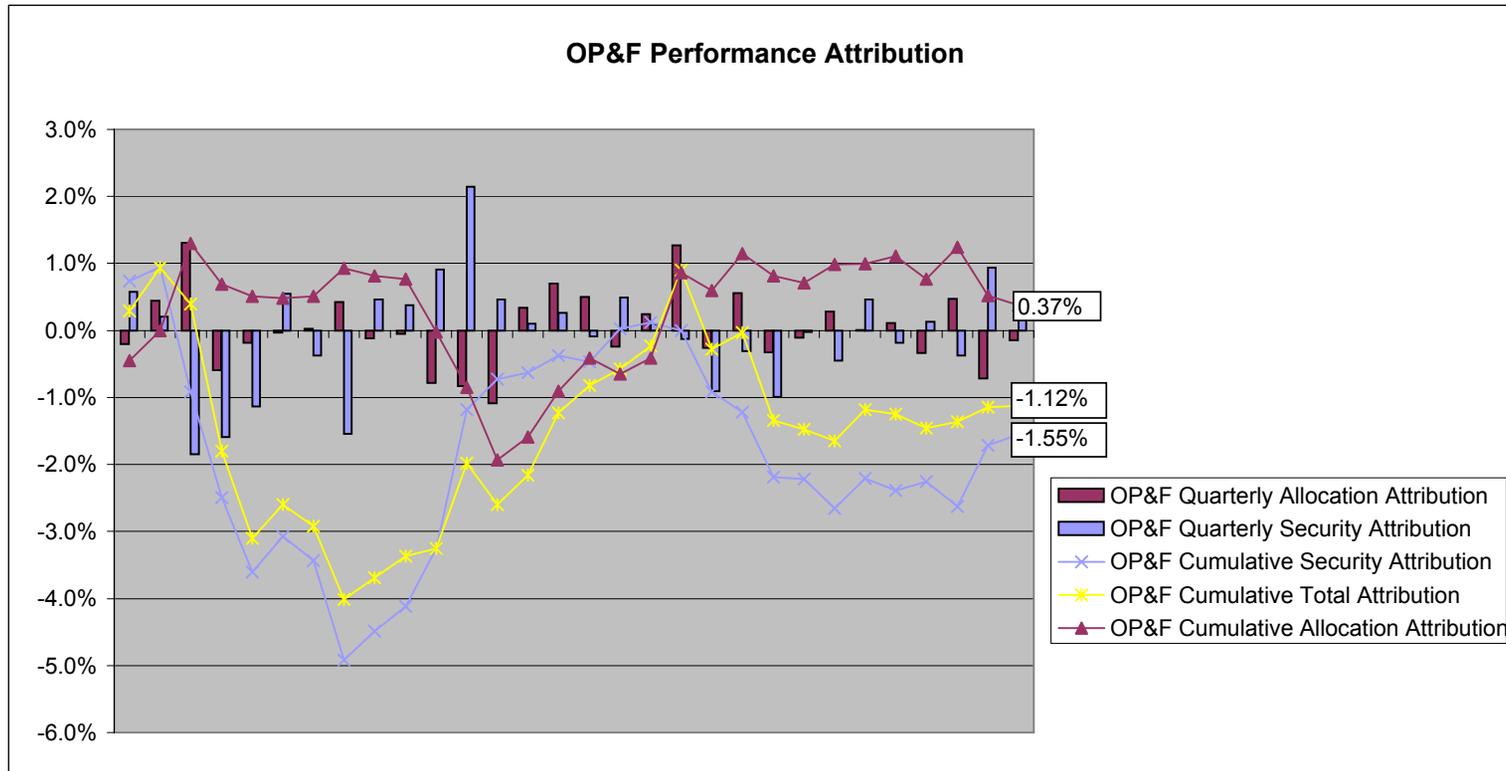
# Appendix: ORSC Performance Attribution



Annualized Attribution	One Year	Three Years	Five Years	Seven Years
Asset Allocation Attribution	-0.356%	0.629%	1.068%	0.555%
Security Selection Attribution	-0.791%	-0.295%	-0.015%	-2.143%
Total Attribution	-1.133%	0.349%	1.063%	-1.605%

The graph above provides seven year attribution analysis for the Highway Patrol Retirement System. The bars represent the value added to (or subtracted from) the portfolio each quarter from the fund's asset allocation decisions - decisions to be under or overweight in a particular asset class versus the policy target. The blue bars represent the value added to (or subtracted from) the portfolio from active portfolio management. The red line is a cumulative measure of the value added to (or subtracted from) the portfolio from asset allocation strategies over the seven years (+4.36%). The blue line represents the cumulative measure of the value added to (or subtracted from) the portfolio from active management over the past seven years (-19.05%). The yellow line represents the total value added to (or subtracted by) a combination of asset allocation strategies and active portfolio management (-15.32%). The above graph demonstrates that over the past seven years, HPRS' asset allocation strategy has added 4.36% to the return of the fund, while over the same period, the active management of their investment managers has subtracted 19.05% from the fund's performance. The cumulative effect of active management and asset allocation has subtracted 15.32% from the fund's performance over the past seven years, however the fund has added value over three- and five-year periods. HPRS' one-year total attribution results were negatively impacted by both asset allocation decision and active management of its portfolio managers.

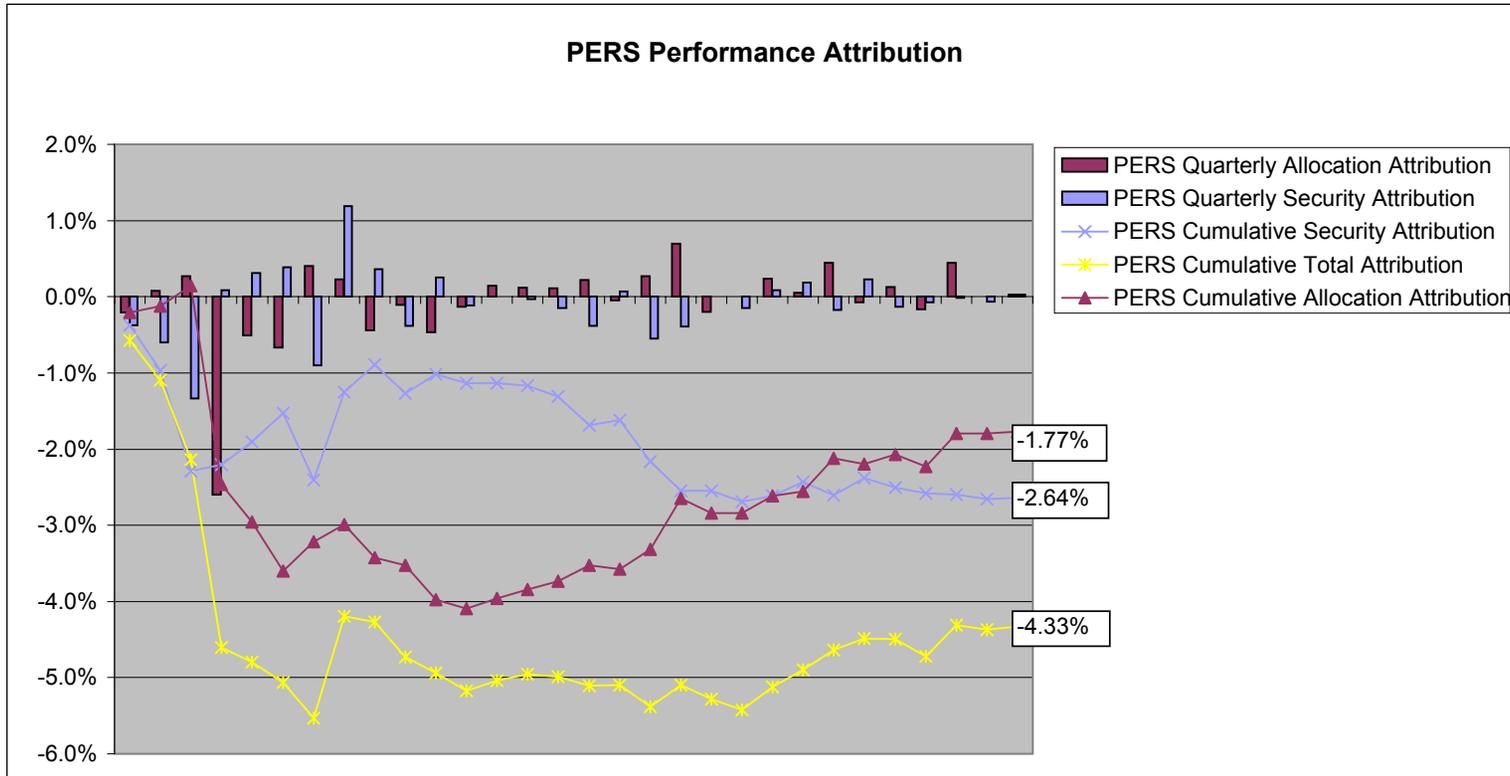
## Appendix: ORSC Performance Attribution



Annualized Attribution	One Year	Three Years	Five Years	Seven Years
Asset Allocation Attribution	-0.730%	0.261%	-0.078%	0.054%
Security Selection Attribution	0.856%	-0.560%	0.531%	-0.357%
Total Attribution	0.130%	-0.298%	0.461%	-0.295%

The graph above shows that for the seven-year period, OP&F's active management of the fund's investment managers detracted the most from overall performance, despite positive asset allocation decisions. However, over the trailing one- and five-year periods, manager selection had the reverse effect, as it contributed to overall performance, while asset allocation decisions detracted from total performance.

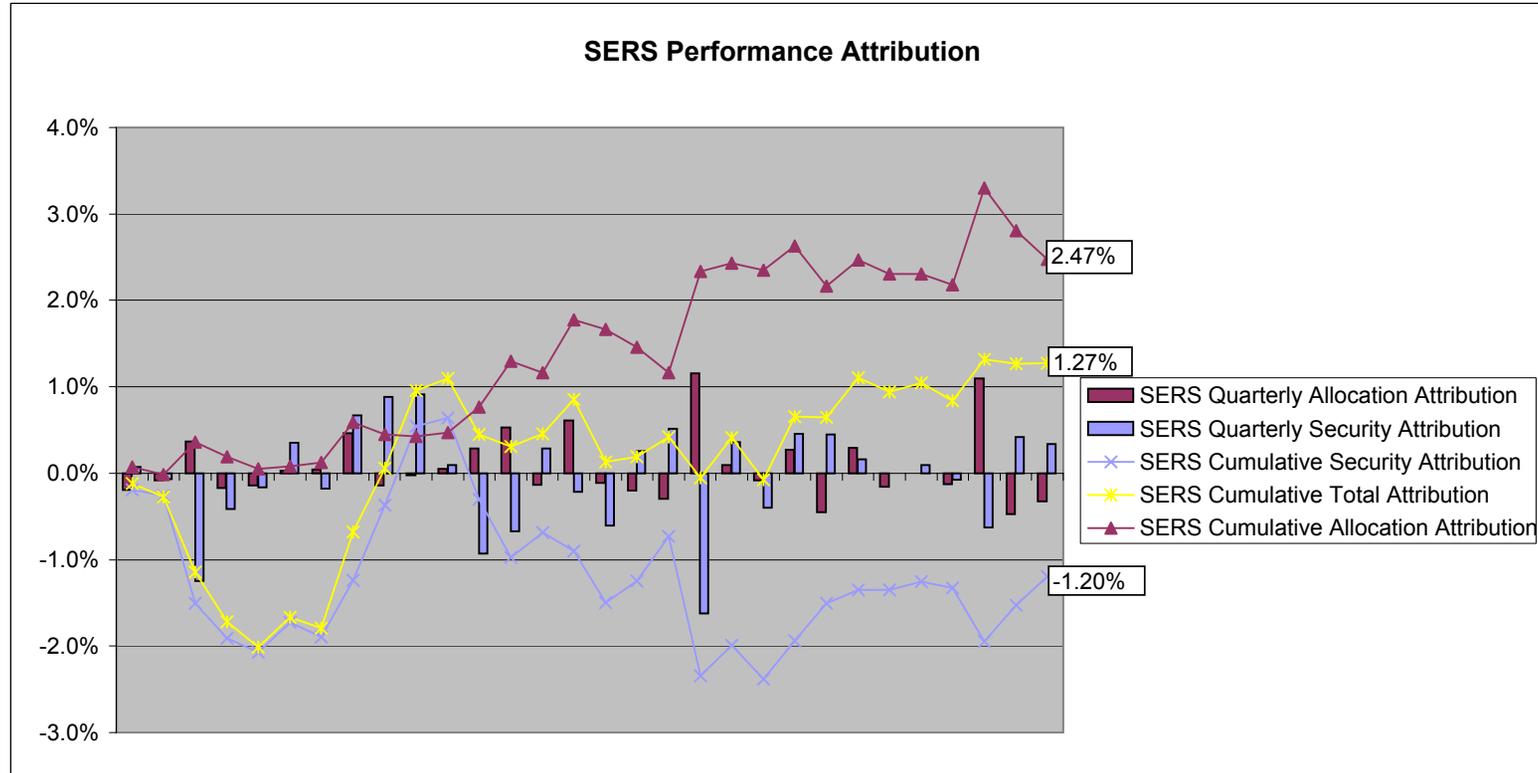
# Appendix: ORSC Performance Attribution



Annualized Attribution	One Year	Three Years	Five Years	Seven Years
Asset Allocation Attribution	0.311%	0.532%	0.361%	-0.237%
Security Selection Attribution	-0.132%	-0.163%	-0.279%	-0.242%
Total Attribution	0.179%	0.370%	0.085%	-0.474%

The above graph shows that asset allocation and selection have both detracted from PERS' performance results over the past seven years. For trailing one-, three- and five-year periods, PERS' decision on asset allocation has positively contributed to overall performance, while active management of its investment managers detracted from overall performance for the same periods.

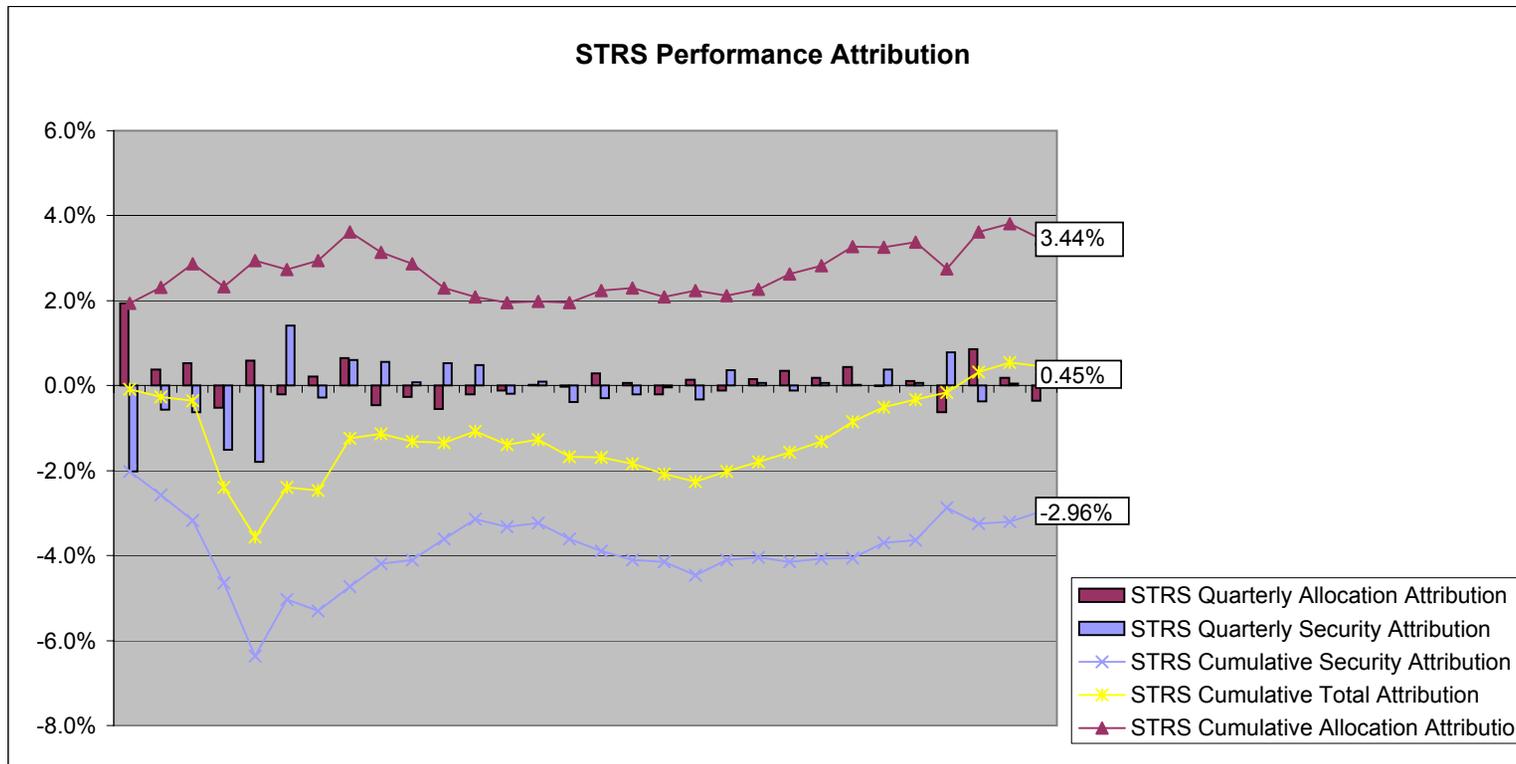
# Appendix: ORSC Performance Attribution



Annualized Attribution	One Year	Three Years	Five Years	Seven Years
Asset Allocation Attribution	0.163%	0.430%	0.404%	0.351%
Security Selection Attribution	0.056%	-0.156%	-0.349%	-0.134%
Total Attribution	0.229%	0.284%	0.063%	0.220%

The graph above shows that SERS has added most value through asset allocation for the trailing seven-year period, counteracting the negative impact of security selection decisions and resulting in overall positive results. The fund has added value over the one-, three- and five-year periods as well, due to positive asset allocation decisions.

# Appendix: ORSC Performance Attribution



Annualized Attribution	One Year	Three Years	Five Years	Seven Years
Asset Allocation Attribution	0.061%	0.439%	0.113%	0.157%
Security Selection Attribution	0.701%	0.411%	0.239%	-0.057%
Total Attribution	0.771%	0.855%	0.356%	0.103%

The graph above shows that STRS has added most value through asset allocation over the past seven years. For one-, three- and five-year periods, both asset allocation strategy and active management of their investment managers have contributed to total performance.

## Appendix - Ohio Retirement Systems Asset Allocation Comparison Analysis

### Comparison of Asset Allocation versus The Russell/Mellon Total Public Fund Universe

	U.S. Equity	Fixed Income	Non-U.S. Equity	Real Estate	Alternatives	Cash
PERS - ACTUAL	46.20%	25.10%	20.00%	5.90%	0.80%	2.00%
PERS - TARGET	46.00%	23.00%	20.00%	9.00%	1.00%	1.00%
STRS - ACTUAL	45.40%	19.00%	22.10%	7.90%	2.60%	2.90%
STRS - TARGET	45.00%	23.00%	20.00%	9.00%	2.00%	1.00%
OP&F - ACTUAL	49.36%	21.94%	21.03%	4.49%	2.07%	1.11%
OP&F - TARGET	46.00%	23.00%	20.00%	8.00%	3.00%	0.00%
SERS - ACTUAL	46.00%	22.40%	18.30%	10.20%	1.90%	1.20%
SERS - TARGET	46.00%	23.00%	16.00%	10.00%	3.00%	2.00%
HPRS - ACTUAL	54.80%	22.40%	14.90%	5.30%	0.00%	2.70%
HPRS - TARGET	48.00%	25.00%	15.00%	12.00%	0.00%	0.00%
Maximum	66.28%	82.80%	28.06%	12.82%	31.39%	8.26%
5th	56.29%	51.17%	24.30%	10.95%	24.21%	7.75%
25th	49.63%	37.89%	19.77%	6.60%	11.14%	5.28%
Median	43.86%	30.40%	16.75%	5.20%	4.90%	2.16%
75th	38.74%	24.67%	13.64%	2.47%	1.93%	0.82%
95th	31.92%	17.90%	9.97%	0.00%	0.87%	0.00%
Minimum	17.22%	2.54%	3.64%	0.00%	0.61%	0.00%

Note:

Report is based upon plans that have submitted asset class data greater than 70% of the total market value.

Sixty-nine institutions represented the universe run.

Source: Russell/Mellon Trust Universe Quarter Ended June 30, 2005

## Appendix - Ohio Retirement Systems Asset Allocation Comparison Analysis

### Comparison of Asset Allocation versus The Russell/Mellon Billion Dollar Public Fund Universe

	U.S. Equity	Fixed Income	Non-U.S. Equity	Real Estate	Alternatives	Cash
PERS - ACTUAL	46.20%	25.10%	20.00%	5.90%	0.80%	2.00%
PERS - TARGET	46.00%	23.00%	20.00%	9.00%	1.00%	1.00%
STRS - ACTUAL	45.40%	19.00%	22.10%	7.90%	2.60%	2.90%
STRS - TARGET	45.00%	23.00%	20.00%	9.00%	2.00%	1.00%
OP&F - ACTUAL	49.36%	21.94%	21.03%	4.49%	2.07%	1.11%
OP&F - TARGET	46.00%	23.00%	20.00%	8.00%	3.00%	0.00%
SERS - ACTUAL	46.00%	22.40%	18.30%	10.20%	1.90%	1.20%
SERS - TARGET	46.00%	23.00%	16.00%	10.00%	3.00%	2.00%
HPRS - ACTUAL	54.80%	22.40%	14.90%	5.30%	0.00%	2.70%
HPRS - TARGET	48.00%	25.00%	15.00%	12.00%	0.00%	0.00%
Maximum	59.82%	59.44%	28.06%	10.79%	31.39%	8.26%
5th	56.61%	48.90%	24.50%	8.39%	28.79%	8.09%
25th	48.95%	33.70%	20.74%	5.84%	9.81%	5.39%
Median	42.88%	27.41%	18.19%	3.09%	4.90%	2.98%
75th	38.55%	22.74%	15.11%	0.91%	2.40%	0.75%
95th	32.16%	15.77%	10.49%	0.00%	1.34%	0.00%
Minimum	20.72%	2.54%	8.85%	0.00%	0.96%	0.00%

Note:

Report is based upon plans that have submitted asset class data greater than 70% of the total market value.

Forty-six institutions represented the universe run.

HPRS' total assets for period ended June 30, 2005 was \$676,554,118.

Source: Russell/Mellon Trust Universe Quarter Ended June 30, 2005

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