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## **Introduction**

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## OHIO RETIREMENT STUDY COUNCIL

### COMPARATIVE PERFORMANCE STUDY PERIOD ENDING DECEMBER 31, 2008

#### INTRODUCTION

Evaluation Associates is pleased to present to the Council the most recent semi-annual performance report of the five Ohio Statewide pension funds pursuant to Section 171.04 of the Revised Code. This is the twentieth report we have prepared pursuant to this authority. The purpose of this performance report is to provide the framework for dialogue with the retirement systems and to assist the Council in meeting its oversight responsibilities. As is our practice, this report reflects investment performance for all five retirement systems over the ten-year period beginning January 1, 1999 through December 31, 2008.

An important value of this type of report is its ability to provide appropriate comparisons 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 since their inception. In light of the fact that rate of return calculations are 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 Mellon Trust Universe Service. The comparisons are formulated by pooling data from a wide range of plan sponsors and they provide a statistically valid measure of results relative to a large group sample.

While the entire measurement period for this report 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

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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 public pension assets 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.

Each of the Ohio systems has established separate investment policies and investment programs for their plans. The Ohio State Teachers Retirement System (STRS) manages approximately 80% of total assets internally, Ohio Public Employees Retirement System (PERS) manages approximately 60% of total assets internally, while the OP&F, SERS, and HPRS investment programs employ external managers for 100% of their assets.

As of January 1, 2005, PERS implemented a new structure for their assets. Approximately \$11 Billion was segregated into a new fund with a separate asset allocation policy, different from the policy for the rest of the fund which now exists solely for the purpose of funding the defined benefit pension obligations (despite the segregation of assets, retiree health care benefits remain discretionary under PERS law). The policy target (asset allocation) for the remaining pension assets was also modified, reflecting the different risk and reward characteristics of the newly segregated fund. Our report reflects these changes by separating the two PERS asset pools whenever appropriate.

Our key findings for the period ending December 31, 2008 may be summarized as follows:

- During the third and fourth quarters of 2008, every area of the financial markets were plagued by the credit crisis that began over a year earlier. As a result, all of the systems posted severe declines in the second half of 2008. Returns for the six-month period ranged from -21.73% (PERS DB) to -23.76% (STRS). The systems benefited from relatively strong fixed income markets during the six months ending December 31, 2008.
- Four of the five systems lagged their respective policy index for the six-month period. HPRS outpaced its benchmark by 216 basis points. OP&F trailed its benchmark index by six basis points. PERS DB and STRS trailed their benchmarks by 27 and 44 basis points, respectively. SERS underperformed its policy benchmark by 225 basis points.

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- In comparison to a broad universe of other public retirement systems (the Mellon All Public Total Fund Universe), four of five plans ranked below median for the six-month period ending December 31, 2008. PERS ranked in the 46<sup>th</sup> percentile among its peers, SERS ranked in the 59<sup>th</sup> percentile, HPRS ranked in the 64<sup>th</sup> percentile, OP&F ranked in the 75<sup>th</sup> percentile and STRS ranked in the 77<sup>th</sup> percentile.
- For the one-year period, two of the five plans outperformed their respective policy benchmark returns. HPRS outpaced its policy index by 306 basis points, OP&F outperformed its benchmark by 84 basis points, PERS HC lagged its benchmark by 160 basis points. Relative to their peers in the Mellon All Public Total Fund Universe, all five plans fell below the median, with PERS placing in the 58<sup>th</sup> percentile among its peers. The remaining four funds placed in the 69<sup>th</sup>, 72<sup>nd</sup>, 77<sup>th</sup> and 85<sup>th</sup> percentiles (SERS, OP&F, HPRS and STRS, respectively).
- On a three-year basis, all systems posted negative returns. HPRS, OP&F and STRS outperformed their policy benchmarks by 144, 90 and 30 basis points, respectively. SERS lagged its benchmark by 59 basis points, while PERS DB and HC trailed their benchmarks by 3 and 82 basis points, respectively.
- Comparing the three-year returns of the systems to the Mellon All Public Total Fund Universe, only one plan ranked above the median. OP&F ranked in the 37<sup>th</sup> percentile followed by PERS, SERS, STRS and HPRS which ranked in the 52<sup>nd</sup>, 52<sup>nd</sup>, 56<sup>th</sup> and 78<sup>th</sup> percentiles, respectively.
- For the five-year period, all systems posted positive returns, and four of the five systems outpaced their respective policy benchmarks with HPRS outperforming by 105 basis points. In comparison to the Mellon All Public Total Fund Universe, STRS (+2.87%), OP&F (+2.64%), SERS (+2.48%) and PERS (+2.33%) ranked in the second quartile. HPRS (+1.34%) ranked in the third quartile.
- Over the ten-year period, all five plans posted positive returns, but underperformed their actuarial interest rate assumption. The ten-year returns were greatly impacted by poor equity markets in 2000, 2001, 2002, and 2008. However, all five plans outperformed their respective policy benchmarks over ten years. HPRS outpaced its benchmark by 114 basis points, OP&F returned +3.33%, while STRS returned +3.30% and SERS returned +3.00% over a ten-year period. For the ten-year period, performance results versus the Mellon All Public Total Fund Universes are mixed. OP&F ranked in the 53<sup>rd</sup> percentile, STRS (56<sup>th</sup> percentile), SERS (77<sup>th</sup> percentile), PERS DB (78<sup>th</sup> percentile), and HPRS (92<sup>nd</sup> percentile).
- During the ten years that we have been reviewing the results of the systems on behalf of the Council, the asset allocation targets became more similar and were reasonably close to each other. The obvious exception is PERS HC. The retirement plans all have

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### COMPARATIVE PERFORMANCE STUDY PERIOD ENDING DECEMBER 31, 2008

actuarial return assumptions of 8.00% to 8.25% while PERS HC has a lower actuarial interest rate assumption than the others, at 6.7%. As a result, PERS HC has a lower equity and higher fixed income allocation than the retirement plans. This similarity in policy makes comparing one system's results to the other a more meaningful exercise over the more recent time periods. Changes to asset allocation policy by HPRS, PERS DB and PERS HC, will likely cause some comparison differences in the near future. HPRS has decreased its domestic equity exposure while PERS DB has slightly decreased domestic equity exposure and slightly increased alternatives exposure. PERS HC has decreased fixed income exposure and increased its equities exposure.

- Please note that comparing investment performance relative to the plans' actuarial interest rate assumption and policy benchmark are of primary importance, while peer group comparisons, although useful, should be of secondary importance in evaluating investment performance. In addition, since the plans have long-term funding schedules and investment time horizons, more emphasis should be placed on evaluating performance over longer holding periods.
- Appendix 1.1 and 1.2 at the end of this report compares the current and target asset allocation of each of the systems to two public fund universes, the total universe of public funds and the universe of public funds in excess of \$1 billion. The following observations are based on a review of the systems' asset allocation in comparison to those peer universes:
  1. The actual and target asset allocation of PERS DB, STRS, OP&F, and HPRS domestic equity rank above the median plan's allocation to domestic equity (33.73%) in the Mellon All Public Total Fund Universe. The SERS actual (26.94%) and target (29.00%) allocation, as well as the PERS HC actual (25.20%) and target (29.00%) allocation to domestic equity are below that of the median plan. The same holds true when the systems are compared to the median (32.87%) of the Mellon Billion Dollar Public Total Fund Universe.
  2. The systems' actual and target asset allocation to fixed income are below the median plan (30.09%) of the Mellon All Public Total Fund Universe. PERS HC is the exception with a target (42.00%) and actual allocation (45.30%) well above the median.
  3. The median plan allocation of the Mellon All Public Total Fund Universe to non-U.S. equity as of December 31, 2008 was 15.79%. The target allocation for HPRS is slightly below the median at 15.00%, and its actual allocation was about 13.42%. The target allocations for the remaining plans were well above the median, with the actual allocations following suit.

## OHIO RETIREMENT STUDY COUNCIL

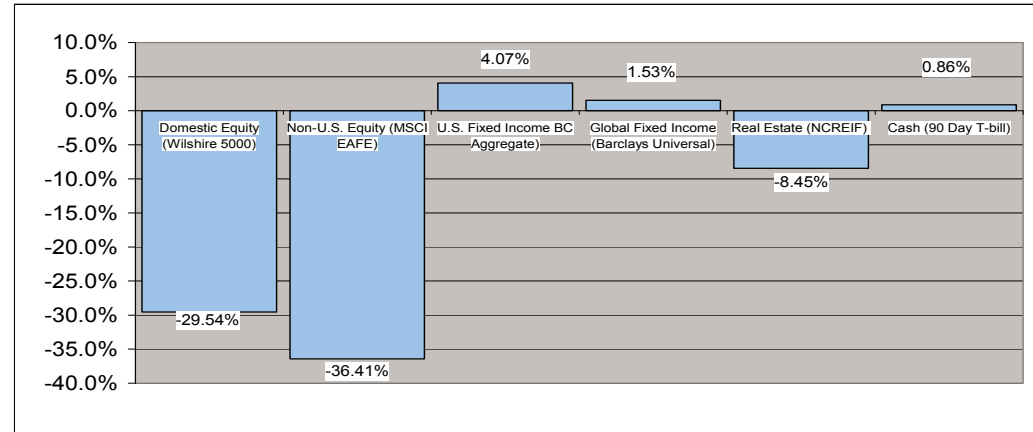
### COMPARATIVE PERFORMANCE STUDY PERIOD ENDING DECEMBER 31, 2008

4. The universe median allocation to real estate of the Mellon All Public Total Fund Universe was 7.83%. The target allocation of each of the systems besides HPRS (5.00%) and PERS HC (6.00%) is above the median allocation. All plans except HPRS and PERS HC are maintaining a current allocation above their respective targets.
  5. HPRS has actual and target allocations to alternatives above the peer median of 10.26%. All other plans have lower target allocations to alternative assets.
- We have made a number of changes to this report. First and foremost, we outlined the report such that each plan's information is grouped together and easily accessible. In addition, you will notice that a former section of this report titled *Appendix: ORSC Performance Attribution* has been removed. In our goal to provide the most appropriate and precise information possible, we have determined that revisiting this section of the report with regard to the methodology of the underlying calculations is warranted and the format in which the data is presented could be enhanced. This section will be included in the June 30, 2009 report. Additionally, we will be re-examining the report in more detail to determine if there are any additional enhancements that should be made. Overall, we believe this report provides the ORSC with a consolidated source of valuable information to assist in its oversight of the five Ohio Statewide pension funds. These reports have provided important high level information to enable the ORSC to evaluate the performance of the plans, and to better understand the impact of the plans' investment policy, and the effectiveness of the implementation of those policies, on total fund performance. In other words, have the investment policies and the implementation of those policies met the objectives of the plans? In order to assist in the oversight duties of the ORSC, we continue to work with the HPRS in this regard.
  - Looking forward, the current global financial crisis may have a protracted effect on the pension funds. Our economic outlook does not bode well for the financial markets and pension funds in the foreseeable future. A global economic recovery may not begin until 2010 and it may be sluggish. This economic outlook may exacerbate the funding challenges for the plans. In light of the low investment returns experienced over the past ten years, combined with our economic outlook, the systems should re-evaluate investment, funding, and benefits policies. Potential changes to the Boards' long-term investment policies may include further diversification into alternative investments including real estate, hedge funds, private equity, commodities, and infrastructure. Changes to funding policies may include raising the contribution rates. Changes to benefits policies may include changes in plan eligibility or plan design.



## Market Environment

The past two quarters produced mixed investment results for the six major asset classes. The best return was achieved by U.S. fixed income (+4.07%) followed by global fixed income (+1.53%), cash (+0.86%), real estate (-8.45%), U.S. domestic equity (-29.54%) and non-U.S. equity (-36.41%).



## Median Fund Returns

The median fund in the Mellon public fund database returned -22.05% for the two quarters ending December 31, 2008. A hypothetical fund with a 60% allocation to the Wilshire 5000 and a 40% allocation to the Barclays Aggregate Bond Index would have returned -17.15% for the two quarters ending December 31, 2008, outperforming relative to the median fund return in the Mellon public fund database.

### Universe Median Performance Summary Periods Ending December 31, 2008

Fund Sponsor Type	<u>Two Quarters</u>	<u>One Year</u>	<u>Three Years</u>	<u>Five Years</u>	<u>Ten Years</u>
Public Fund Universe	-22.05%	-26.75%	-2.91%	2.15%	3.39%
Corporate DB Universe	-20.44%	-25.74%	-2.88%	2.08%	3.56%
Endowment Universe	-21.93%	-24.55%	-1.80%	3.15%	3.90%
Taft-Hartley Universe	-19.51%	-23.76%	-3.23%	0.97%	2.78%
All Fund Universe	-21.10%	-25.71%	-2.82%	2.06%	3.56%
60% Wilshire 5000 / 40% BC Aggregate	-17.15%	-22.19%	-2.77%	1.04%	2.18%

## 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 actuarial interest rate and the respective policy benchmarks over a long-term time period.
- **Peer Rankings:**  
In comparing rankings of fund performance in peer universes, asset allocation differences need to be considered.

**Comparison of Policy Asset Allocation**

	US Equity	Intl Equity	Fixed Income	Private / Public Real Estate	Alternative Investment	Cash
PERS (DB)	43.00%	20.00%	24.00%	8.00%	5.00%	0.00%
PERS (HC)	29.00%	23.00%	42.00%	6.00%	0.00%	0.00%
STRS	42.00%	25.00%	20.00%	9.50%	3.50%	0.00%
OP&F	46.00%	20.00%	23.00%	8.00%	3.00%	0.00%
SERS	29.00%	29.00%	24.00%	10.00%	7.00%	1.00%
HPRS	45.00%	15.00%	20.00%	5.00%	15.00%	0.00%
Mellon Total Funds*	32.87%	16.77%	29.94%	7.83%	10.26%	3.69%

Note: PERS instituted separate policy target allocations for their defined benefit and health care plans in January 2005. An allocation of 50.0% to total fixed income in the Health Care Plan consists of 15.0% (fixed income), 15.0% short duration and 20.0% (TIPS).

The Defined Benefit Plan real estate allocation is comprised of 6.4% private real estate and 1.0% REITS.

\*Represents median allocations in the Bank of New York Mellon Billion Dollar Total Funds - Public

- As seen in the table above, the asset allocation targets for the various systems are fairly similar. All plans are equity-oriented, with exposure to this asset class ranging from 67.0% (STRS) to 52.0% (PERS HC). Another difference in the policy target allocations between the plans is evident with HPRS, which has a target allocation of 15.0% to alternative investments.

## 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 meets the actuarial rate of return assumption, 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, on average, over 90% 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**

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## 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.

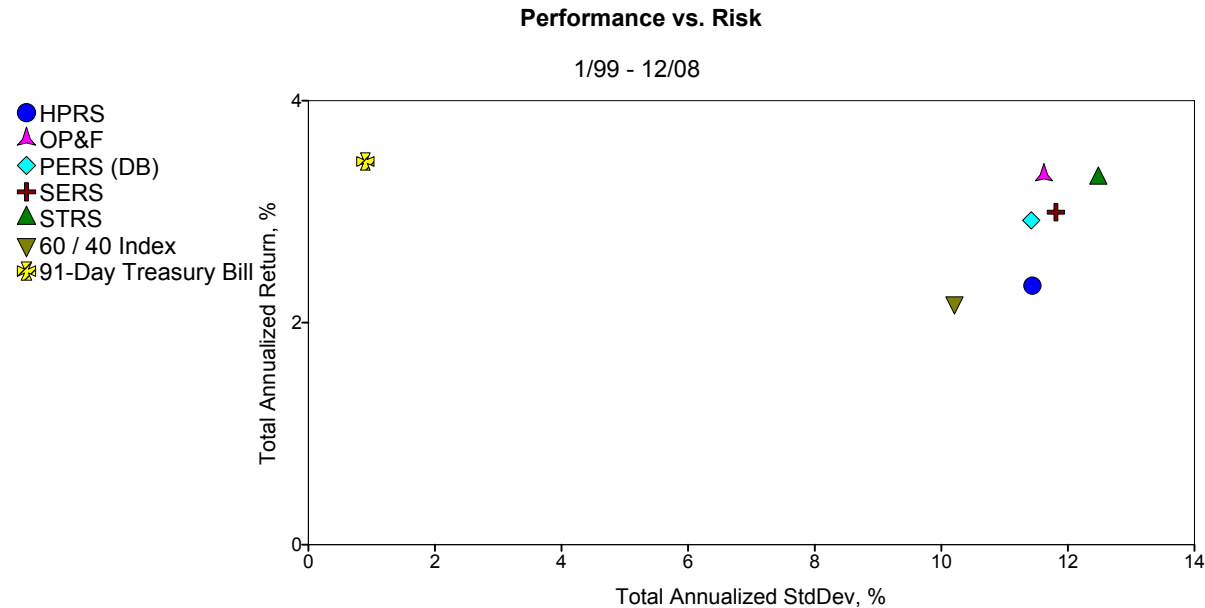
Total Fund Return vs. Policy Benchmark											
Fund	Two Quarters	Rank	One Year	Rank	Three Years	Rank	Five Years	Rank	Ten Years	Rank	Actuarial Interest Rate
PERS (DB)											
Actual	-21.73%	46	-27.15%	58	-2.99%	52	2.33%	40	2.92%	78	8.00%
Policy	-21.46%		-27.06%		-2.96%		2.13%		2.81%		
Difference	-0.27%		-0.09%		-0.03%		0.20%		0.11%		
PERS (HC)											
Actual	-22.11%	N/A	-25.77%	N/A	-3.64%	N/A	N/A	N/A	N/A	N/A	6.70%
Policy	-21.34%		-24.17%		-2.82%		N/A		N/A		
Difference	-0.77%		-1.60%		-0.82%		N/A		N/A		
STRS											
Actual	-23.76%	77	-29.32%	85	-3.18%	56	2.87%	31	3.30%	56	8.00%
Policy	-23.32%		-28.85%		-3.48%		2.17%		2.85%		
Difference	-0.44%		-0.47%		0.30%		0.70%		0.45%		
OP&F											
Actual	-23.53%	75	-28.05%	72	-2.63%	37	2.64%	33	3.33%	53	8.25%
Policy	-23.47%		-28.89%		-3.53%		2.00%		2.93%		
Difference	-0.06%		0.84%		0.90%		0.64%		0.40%		
SERS											
Actual	-22.63%	59	-27.74%	69	-2.96%	52	2.48%	38	3.00%	77	8.00%
Policy	-20.38%		-25.82%		-2.37%		2.57%		2.79%		
Difference	-2.25%		-1.92%		-0.59%		-0.09%		0.21%		
HPRS											
Actual	-22.93%	64	-28.31%	77	-3.92%	78	1.34%	68	2.33%	92	8.00%
Policy	-25.09%		-31.37%		-5.36%		0.29%		1.19%		
Difference	2.16%		3.06%		1.44%		1.05%		1.14%		

\* Note: Actuarial interest rate assumption for PERS Health Care Plan has been projected for 50 years.

All returns are for periods ending 12/31/2008. Returns for periods longer than one year are annualized.

- PERS (DB): The return for the total fund for the two quarters ending December 31, 2008 underperformed its policy index by 0.27% and its policy index by 0.09% for the one-year period. Over the trailing three-year period, the total fund essentially matched its policy index, falling short of the policy index by .03%. Over the trailing five-year period, the total fund outperformed its policy index by 20 basis points.
- PERS (HC): The total fund underperformed its policy index by 0.77% for the two quarters ending December 31, 2008 and by 1.60% for the past year. Over the trailing three-year period, the total fund underperformed its policy index by 82 basis points.
- STRS: The return for the total fund for the two quarters ending December 31, 2008 underperformed its policy index by 0.44%, and 0.47% for the one-year period. Over the trailing three- and five-year periods, the total fund outperformed its policy index by 30 and 70 basis points, respectively.
- OP&F: OP&F trailed its policy index by 0.06% for the two quarters ending December 31, 2008 and outpaced the policy by 0.84% for the trailing one-year period. The total fund outperformed its policy index over the trailing three- and five-year periods by 90 and 64 basis points, respectively.
- SERS: The total fund underperformed its policy index by 2.25% for the two quarters ending December 31, 2008 and 1.92% for the past 12 months. The fund underperformed its policy index over the trailing three- and five-year periods by 59 and 9 basis points, respectively.
- HPRS: The total fund outperformed its policy index for the two quarters ending December 31, 2008 by 2.16% and by 3.06% for the year. For the longer term trailing three- and five-year periods, the total fund outperformed its policy index by 144 and 105 basis points, respectively.

## Total Plans Risk Analysis - Last 10 Years Performance Overview For Period Ending 12/31/08



	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
			Alpha, %	Sharpe Ratio
	Total	Total		
HPRS	2.33	11.44	-0.45	-0.04
OP&F	3.33	11.62	0.55	0.05
PERS (DB)	2.92	11.42	0.12	0.01
SERS	3.00	11.81	0.24	0.02
STRS	3.30	12.48	0.62	0.05
60 / 40 Index	2.18	10.21	-0.74	-0.07
91-Day Treasury Bill	3.45	0.90	0.00	NA

The graph above provides an analysis risk. The ten-year results 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 three funds with the highest ten-year annualized return were STRS, OP&F and SERS. STRS' higher return was achieved with marginally higher risk (volatility) while OP&F and SERS were achieved with marginally lower risk. 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.

## Domestic Equity Returns

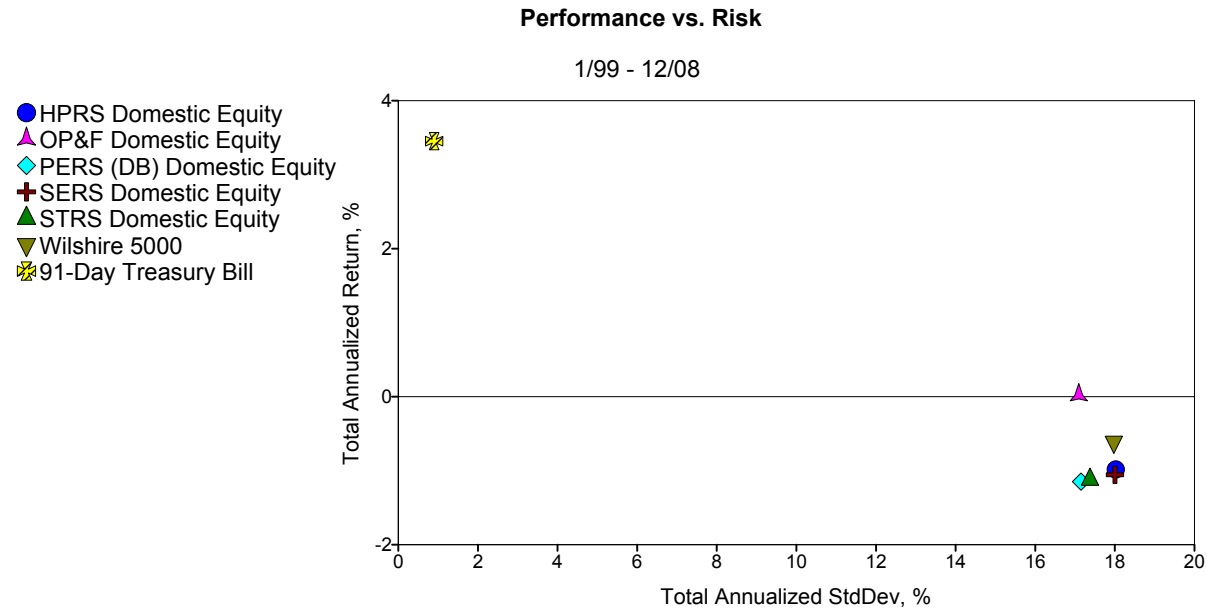
Domestic Equity Return vs. Policy Benchmark					
Fund	Two Quarters	One Year	Three Years	Five Years	Ten Years
PERS (DB)					
Actual	-30.18%	-37.83%	-9.12%	-2.13%	-1.15%
Policy	-29.52%	-37.31%	-8.60%	-1.93%	-0.69%
Difference	-0.66%	-0.52%	-0.52%	-0.20%	-0.46%
PERS (HC)					
Actual	-30.18%	-37.83%	-9.12%	N/A	N/A
Policy	-29.52%	-37.31%	-8.60%	N/A	N/A
Difference	-0.66%	-0.52%	-0.52%	N/A	N/A
STRS					
Actual	-28.87%	-38.12%	-9.09%	-2.16%	-1.12%
Policy	-29.52%	-37.31%	-8.63%	-1.95%	-0.75%
Difference	0.65%	-0.81%	-0.46%	-0.21%	-0.37%
OP&F					
Actual	-31.11%	-38.03%	-9.16%	-1.83%	0.02%
Policy	-29.54%	-37.23%	-8.45%	-1.69%	-0.64%
Difference	-1.57%	-0.80%	-0.71%	-0.14%	0.66%
SERS					
Actual	-30.10%	-38.67%	-9.99%	-2.73%	-1.05%
Policy	-29.52%	-37.31%	-8.63%	-1.95%	-0.80%
Difference	-0.58%	-1.36%	-1.36%	-0.78%	-0.25%
HPRS					
Actual	-30.71%	-38.33%	-9.30%	-1.84%	-0.98%
Policy	-29.40%	-36.92%	-8.65%	-1.75%	0.49%
Difference	-1.31%	-1.41%	-0.65%	-0.09%	-1.47%

All returns are for periods ending 12/31/2008. Returns for periods longer than one year are annualized.

Domestic equity returns were negative for the two quarters ending December 31, 2008. On an absolute and relative basis, STRS (-28.87%) generated the best returns. On an absolute basis for the year, PERS DB & HC had the best result with a -37.83% return, but trailed the policy index by 52 basis points. Over the three-year period, STRS generated the best absolute return, and for the five-year period OP&F and HPRS generated the best absolute returns.



## Domestic Equity Risk Analysis - Last 10 Years Performance Overview For Period Ending 12/31/08



	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
			Alpha, %	Sharpe Ratio
	Total	Total		
HPRS Domestic Equity	-0.98	18.02	-2.75	-0.15
OP&F Domestic Equity	0.02	17.09	-1.90	-0.11
PERS (DB) Domestic Equity	-1.15	17.15	-3.07	-0.18
SERS Domestic Equity	-1.05	18.00	-2.83	-0.16
STRS Domestic Equity	-1.12	17.38	-3.01	-0.17
Wilshire 5000	-0.61	17.98	-2.40	-0.13
91-Day Treasury Bill	3.45	0.90	0.00	NA

The analysis above represents a risk/return of the domestic equity portfolios for all of the plans. OP&F experienced the best risk-adjusted equity results over the ten year period, followed by HPRS, SERS, STRS and PERS DB.

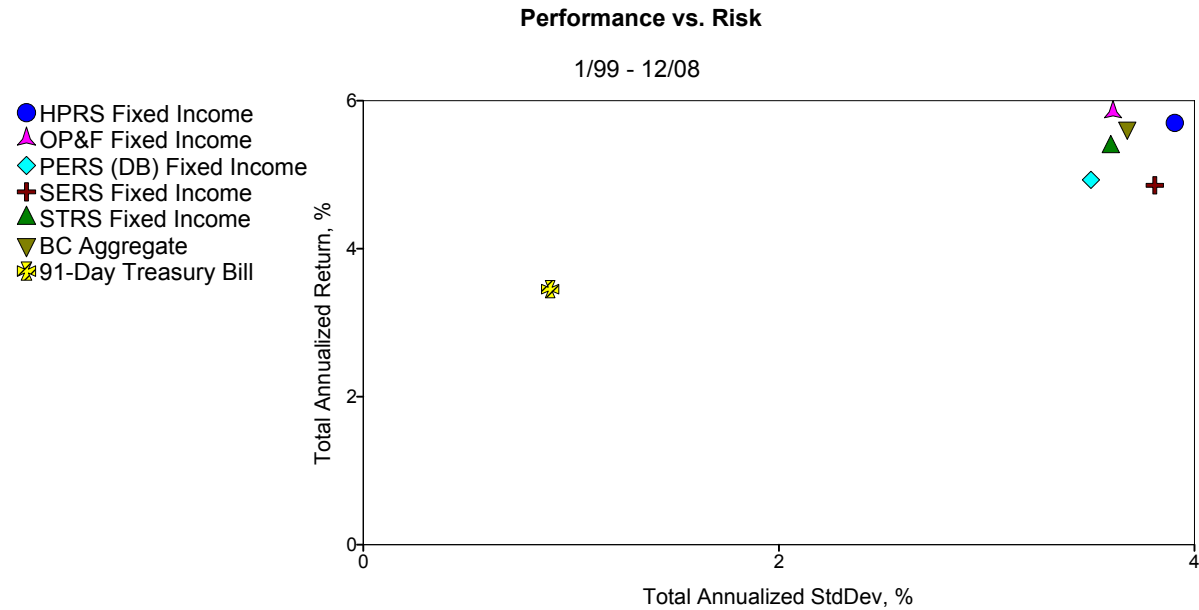
## Fixed Income Returns

Fixed Income Return vs. Policy Benchmark					
Fund	Two Quarters	One Year	Three Years	Five Years	Ten Years
PERS (DB)					
Actual	-3.41%	-4.43%	2.00%	2.99%	4.93%
Policy	1.53%	2.38%	4.60%	4.29%	5.61%
Difference	-4.94%	-6.81%	-2.60%	-1.30%	-0.68%
PERS (HC)					
Actual	-3.41%	-4.40%	1.97%	N/A	N/A
Policy	1.53%	2.38%	4.60%	N/A	N/A
Difference	-4.94%	-6.78%	-2.63%	N/A	N/A
STRS					
Actual	-3.65%	-2.51%	3.16%	3.51%	5.37%
Policy	1.53%	2.38%	4.60%	4.29%	5.50%
Difference	-5.18%	-4.89%	-1.44%	-0.78%	-0.13%
OP&F					
Actual	-5.30%	-3.75%	2.61%	3.72%	5.85%
Policy	4.07%	5.24%	5.51%	4.65%	5.63%
Difference	-9.37%	-8.99%	-2.90%	-0.93%	0.22%
SERS					
Actual	-4.76%	-5.67%	1.58%	2.46%	4.86%
Policy	4.07%	5.24%	5.50%	4.65%	5.63%
Difference	-8.83%	-10.91%	-3.92%	-2.19%	-0.77%
HPRS					
Actual	-2.06%	-1.09%	3.61%	4.11%	5.70%
Policy	4.07%	5.23%	5.49%	4.64%	5.63%
Difference	-6.13%	-6.32%	-1.88%	-0.53%	0.07%

All returns are for periods ending 12/31/2008. Returns for periods longer than one year are annualized.

All six fixed income returns were negative for the two quarters ending December 31, 2008. HPRS was the strongest performer (-2.06%) while OP&F was the weakest performer (-5.30%). On an absolute basis, HPRS had the best return for the year (-1.09%), on a relative basis STRS had the best return for the year, trailing its policy index by 489 basis points. Over the trailing three and five-year periods, HPRS led all plans on an absolute basis. The underperformance relative to the policy benchmarks was primarily attributed to widening credit spreads.

## Domestic Fixed Income Risk Analysis - Last 10 Years Performance Overview For Period Ending 12/31/08



	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
HPRS Fixed Income	5.70	3.91	2.24	0.58
OP&F Fixed Income	5.85	3.61	2.37	0.67
PERS (DB) Fixed Income	4.93	3.50	1.49	0.44
SERS Fixed Income	4.86	3.81	1.43	0.38
STRS Fixed Income	5.37	3.60	1.92	0.55
BC Aggregate	5.63	3.68	2.17	0.59
91-Day Treasury Bill	3.45	0.90	0.00	NA

The analysis above represents a risk/return of the domestic fixed income portfolios for all of the plans. OP&F experienced the best risk-adjusted fixed income results over the ten year period, followed by STRS, HPRS, SERS and PERS DB.

## International Equity Returns

International Equity Return vs. Policy Benchmark					
Fund	Two Quarters	One Year	Three Years	Five Years	Ten Years
<b>PERS (DB)</b>					
Actual	-39.80%	-45.80%	-7.10%	2.79%	2.84%
Policy	-39.36%	-45.53%	-6.95%	2.59%	1.96%
Difference	-0.44%	-0.27%	-0.15%	0.20%	0.88%
<b>PERS (HC)</b>					
Actual	-39.82%	-45.80%	-7.07%	N/A	N/A
Policy	-39.36%	-45.53%	-6.95%	N/A	N/A
Difference	-0.46%	-0.27%	-0.12%	N/A	N/A
<b>STRS</b>					
Actual	-36.51%	-43.51%	-6.69%	4.24%	4.57%
Policy	-36.04%	-43.74%	-7.00%	3.60%	3.03%
Difference	-0.47%	0.23%	0.31%	0.64%	1.54%
<b>OP&amp;F</b>					
Actual	-39.19%	-45.71%	-5.66%	3.22%	2.05%
Policy	-39.36%	-45.52%	-6.98%	2.57%	1.96%
Difference	0.17%	-0.19%	1.32%	0.65%	0.09%
<b>SERS</b>					
Actual	-38.76%	-45.30%	-7.05%	3.87%	2.56%
Policy	-35.84%	-43.41%	-7.03%	3.17%	1.97%
Difference	-2.92%	-1.89%	-0.02%	0.70%	0.59%
<b>HPRS</b>					
Actual	-36.39%	-42.00%	-5.10%	2.68%	2.57%
Policy	-39.25%	-45.24%	-6.74%	2.06%	1.00%
Difference	2.86%	3.24%	1.64%	0.62%	1.57%

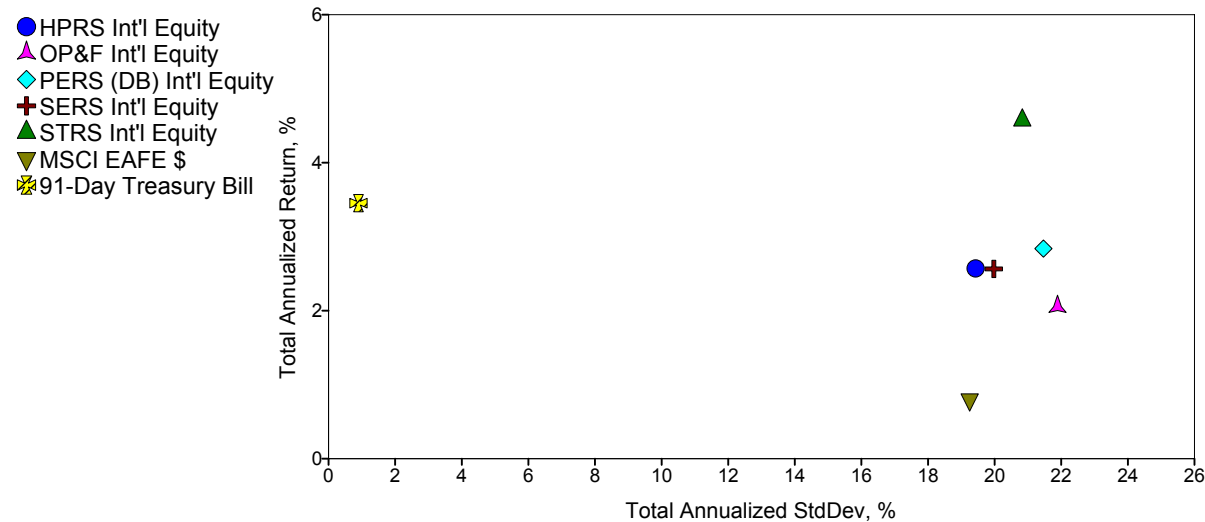
All returns are for periods ending 12/31/2008. Returns for periods longer than one year are annualized.

All of the funds experienced negative returns in international equity for the two quarters ending December 31, 2008. On an absolute and relative basis, HPRS had the best return for the period (-36.39%) and was also the strongest performing fund for the year (-42.00%). HPRS outperformed all other plans for the trailing three-year period, while STRS outperformed all other plans for the trailing five-year period.

## International Equity Risk Analysis - Last 10 Years Performance Overview For Period Ending 12/31/08

### Performance vs. Risk

1/99 - 12/08



	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
			Alpha, %	Sharpe Ratio
	Total	Total		
HPRS Int'l Equity	2.57	19.43	1.03	0.05
OP&F Int'l Equity	2.05	21.89	1.01	0.05
PERS (DB) Int'l Equity	2.84	21.46	1.68	0.08
SERS Int'l Equity	2.56	19.97	1.16	0.06
STRS Int'l Equity	4.57	20.83	3.23	0.15
MSCI EAFE \$	0.80	19.25	-0.76	-0.04
91-Day Treasury Bill	3.45	0.90	0.00	NA

The analysis above represents a risk/return comparison of the international equity portfolios for all of the plans. All plans have demonstrated risk-adjusted results (as measured by their Sharpe Ratios) greater than the non-U.S. equity market as defined by the MSCI EAFE index over the ten-year period. All of the five plans produced similar risk return characteristics for the period led by STRS and PERS.

## Real Estate Returns

Real Estate Return vs. Policy Benchmark					
Fund	Two Quarters	One Year	Three Years	Five Years	Ten Years
PERS (DB)					
Actual	-6.30%	-3.53%	9.54%	N/A	N/A
Policy	0.39%	2.00%	11.26%	N/A	N/A
Difference	-6.69%	-5.53%	-1.72%	N/A	N/A
PERS (DB) "Public Markets Only"					
Actual	-37.67%	-39.79%	-12.27%	N/A	N/A
Policy	-37.71%	-39.83%	-12.44%	N/A	N/A
Difference	0.04%	0.04%	0.17%	N/A	N/A
PERS (HC) "Public Markets Only"					
Actual	-37.67%	-39.79%	-12.26%	N/A	N/A
Policy	-37.71%	-39.83%	-12.44%	N/A	N/A
Difference	0.04%	0.04%	0.18%	N/A	N/A
STRS					
Actual	-7.32%	-4.87%	15.37%	19.30%	14.16%
Policy	-12.54%	-11.36%	5.13%	10.01%	9.60%
Difference	5.22%	6.49%	10.24%	9.29%	4.56%
OP&F					
Actual	-3.38%	2.08%	15.96%	17.46%	14.02%
Policy	-8.45%	-6.46%	8.10%	11.67%	9.26%
Difference	5.07%	8.54%	7.86%	5.79%	4.76%
SERS					
Actual	-8.60%	-8.03%	7.87%	11.84%	10.12%
Policy	-7.64%	-4.73%	8.33%	11.77%	10.90%
Difference	-0.96%	-3.30%	-0.46%	0.07%	-0.78%
HPRS					
Actual	-13.14%	-29.77%	-4.65%	1.82%	5.43%
Policy	-8.45%	-6.46%	8.10%	11.67%	10.48%
Difference	-4.69%	-23.31%	-12.75%	-9.85%	-5.05%

All returns are for periods ending 12/31/2008. Returns for periods longer than one year are annualized.

For the real estate returns for the two quarters ending December 31, 2008, OP&F had the best absolute and relative return (-3.38%). OP&F outperformed all other plans for the one-, three-year periods while STRS outperformed all other plans for the five-year period. 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. The REIT portfolios for the PERS DB and PERS HC plans declined 37.70% for the two quarters ending December 31, 2008 and declined 39.8% for the year.

## Alternative Asset Returns

Alternative Asset Return vs. Policy Benchmark					
Fund	Two Quarters	One Year	Three Years	Five Years	Ten Years
<b>PERS (DB)</b>					
Actual	-7.72%	-7.36%	11.89%	18.00%	13.70%
Policy	-8.91%	-19.12%	3.32%	8.91%	5.09%
Difference	1.19%	11.76%	8.57%	9.09%	8.61%
<b>PERS (HC)</b>					
Actual	-18.96%	N/A	N/A	N/A	N/A
Policy	-19.61%	N/A	N/A	N/A	N/A
Difference	0.65%	N/A	N/A	N/A	N/A
<b>STRS</b>					
Actual	-9.47%	-6.68%	11.23%	14.92%	7.22%
Policy	-28.02%	-34.31%	-5.63%	1.05%	2.20%
Difference	18.55%	27.63%	16.86%	13.87%	5.02%
<b>OP&amp;F</b>					
Actual	-7.81%	-2.32%	14.79%	15.49%	8.45%
Policy	-8.66%	-18.78%	4.14%	10.11%	7.32%
Difference	0.85%	16.46%	10.65%	5.38%	1.13%
<b>SERS</b>					
Actual	-3.18%	4.40%	14.35%	15.03%	8.59%
Policy	-7.94%	-18.98%	3.27%	8.21%	4.24%
Difference	4.76%	23.38%	11.08%	6.82%	4.35%
<b>HPRS</b>					
Actual	-12.32%	-13.64%	N/A	N/A	N/A
Policy	-17.99%	-19.98%	N/A	N/A	N/A
Difference	5.67%	6.34%	N/A	N/A	N/A

All returns are for periods ending 12/31/2008. Returns for periods longer than one year are annualized.

For the two quarters ending December 31, 2008, SERS had the best absolute return (-3.18%) followed by PERS (-7.72%). For the one-year period, SERS had the highest return (+4.40%). For the trailing three-year period, OP&F led the way; over the five-year period, PERS exceeds all other plans. There is also a variation in the policies for alternative investments. As an example, PERS DB adds 3% annually to the Russell 3000 index to benchmark its alternative investment returns, while OP&F adds 3% annually to the Wilshire 5000 index.

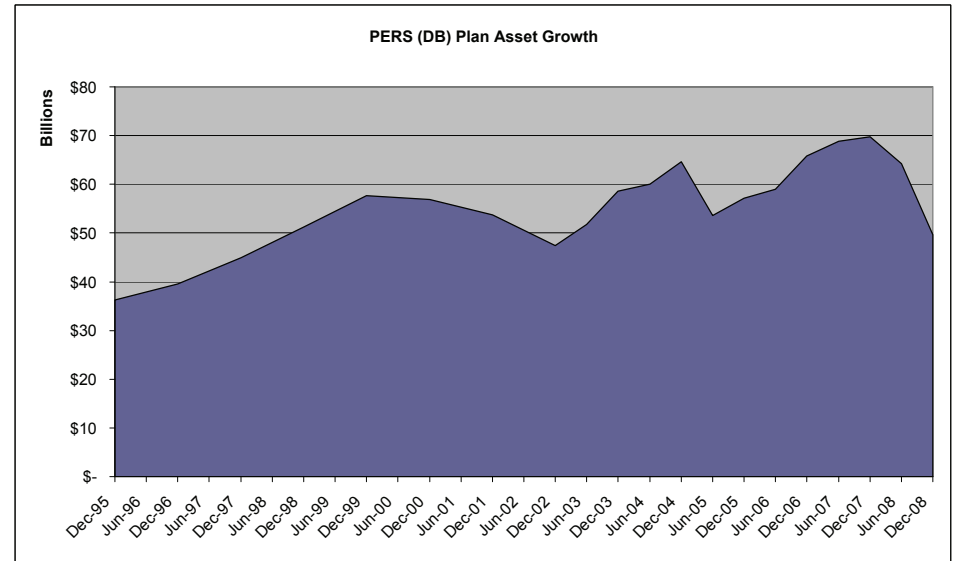
**Public Employees Retirement System (PERS)  
Defined Benefit Plan & Health Care Plan (DB & HC)**

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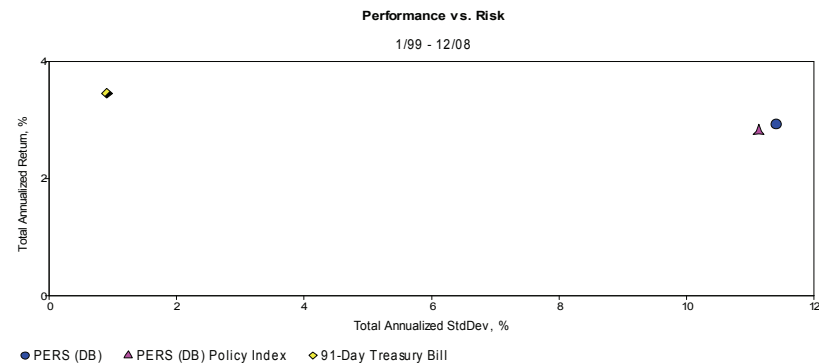


# Public Employees Retirement System Defined Benefit Plan

PERS Returns					
Portfolio	Two Quarters	One Year	Three Years	Five Years	Ten Years
<b>US Equity</b>					
Actual	-30.18%	-37.83%	-9.12%	-2.13%	-1.15%
Benchmark	-29.52%	-37.31%	-8.60%	-1.93%	-0.69%
Difference	-0.66%	-0.52%	-0.52%	-0.20%	-0.46%
<b>Fixed Income</b>					
Actual	-3.41%	-4.43%	2.00%	2.99%	4.93%
Benchmark	1.53%	2.38%	4.60%	4.29%	5.61%
Difference	-4.94%	-6.81%	-2.60%	-1.30%	-0.68%
<b>Intl. Equity</b>					
Actual	-39.80%	-45.80%	-7.10%	2.79%	2.84%
Benchmark	-39.36%	-45.53%	-6.95%	2.59%	1.96%
Difference	-0.44%	-0.27%	-0.15%	0.20%	0.88%
<b>Real Estate</b>					
Actual	-6.30%	-3.53%	9.54%	N/A	N/A
Benchmark	0.39%	2.00%	11.26%	N/A	N/A
Difference	-6.69%	-5.53%	-1.72%	N/A	N/A
<b>REITS</b>					
Actual	-37.67%	-39.79%	-12.27%	N/A	N/A
Benchmark	-37.71%	-39.83%	-12.44%	N/A	N/A
Difference	0.04%	0.04%	0.17%	N/A	N/A
<b>Private Equity</b>					
Actual	-7.72%	-7.36%	11.89%	18.00%	13.70%
Benchmark	-8.91%	-19.12%	3.32%	8.91%	5.09%
Difference	1.19%	11.76%	8.57%	9.09%	8.61%



Note: Defined Benefit and Health Care plan assets were segregated on January 1, 2005.



	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
PERS (DB)	2.92	11.42	0.12	0.01
PERS (DB) Policy Index	2.81	11.14	-0.01	0.00
91-Day Treasury Bill	3.45	0.90	0.00	NA

	Asset Mix		
	Actual December 31, 2008	Target	Difference
US Equity	38.4%	43.4%	-5.0%
Intl. Equity	17.1%	20.0%	-2.9%
Opp. Equity	0.2%	0.2%	0.0%
REITS	0.8%	1.0%	-0.2%
Alternative Inv	5.0%	4.4%	0.6%
Total Equity	61.5%	69.0%	-7.5%
Fixed Income	28.0%	24.0%	4.0%
Real Estate	9.6%	7.0%	2.6%
Short Term Investments	1.0%	0.0%	1.0%
Total Debt	38.5%	31.0%	7.5%
	100.0%	100.0%	0.0%

Note: An allocation of 24.34% to total fixed income consists of 14.54% (fixed income), 0.07% (stable value) and 9.73% (long duration).

### Characteristic Data

Assets at	12/31/2008	\$	49,636,529,558
Actuarial Interest Rate:			8.00%
Investment Staff Size:			56

# Public Employees Retirement System

## Defined Benefit Plan - Performance Overview

Returns for Period Ending December 31, 2008

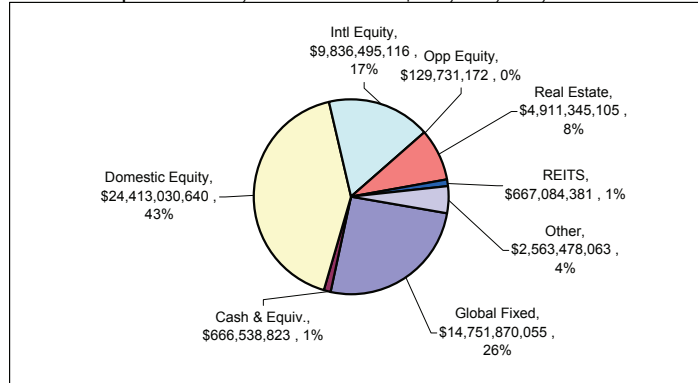
	<u>2 Qtrs</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund	-21.73	-27.15	-2.99	2.33	2.92
Policy Index	-21.46	-27.06	-2.96	2.13	2.81
Domestic Equity	-30.18	-37.83	-9.12	-2.13	-1.15
Domestic Equity Segment Median	-30.37	-37.57	-9.09	-2.12	-0.07
Wilshire 5000	-29.54	-37.23	-8.44	-1.69	-0.61
International Equity	-39.80	-45.80	-7.10	2.79	2.84
International Equity Segment Median	-38.16	-44.58	-6.70	2.62	3.26
MSCI EAFE	-36.41	-43.38	-7.35	1.66	0.80
Fixed Income	-3.41	-4.43	2.00	2.99	4.93
Fixed Income Segment Median	-3.98	-4.11	2.45	3.11	5.21
BC Aggregate	4.07	5.24	5.51	4.65	5.63
Long Duration Fixed Income	7.84	6.33	NA	NA	NA
BC Long-Term Gov't/Credit	9.21	8.44	5.89	6.31	6.63
Cash	0.82	1.99	4.19	3.48	3.58
Real Estate	-6.30	-3.53	9.54	NA	NA
NCREIF	-8.45	-6.46	8.10	11.67	10.48
Public Real Estate	-37.67	-39.79	-12.27	NA	NA
Wilshire Resi Full Cap	-37.70	-39.83	-12.41	0.62	7.33
Alternatives	-7.72	-7.36	11.89	18.00	13.70

Over the past ten-year period, the PERS Defined Benefit Plan outpaced its policy index by 11 basis points. Strong performance in real estate aided relative results. For the more recent one-year period, the plan underperformed the policy benchmark by 9 basis points.

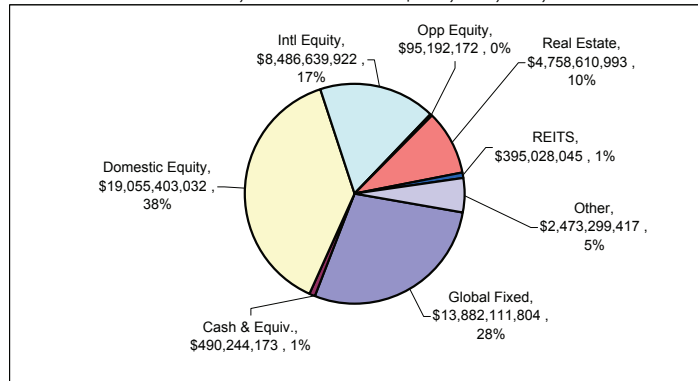
# Public Employees Retirement System

**Asset Allocation  
PERS Defined Benefit Plan**

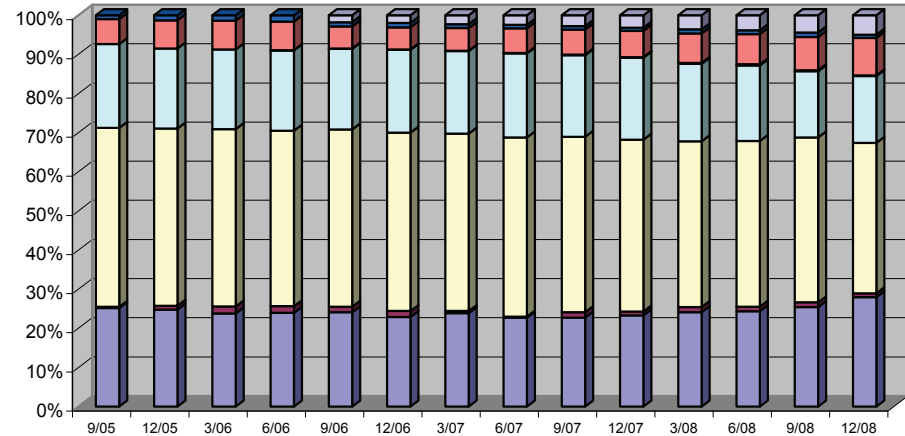
September 30, 2008 \$ 57,939,573,355



December 31, 2008 \$ 49,636,529,558



**Asset Allocation  
PERS Defined Benefit Plan**



	9/05	12/05	3/06	6/06	9/06	12/06	3/07	6/07	9/07	12/07	3/08	6/08	9/08	12/08
Global Fixed %	25.2	24.8	23.8	24.0	24.1	22.9	23.9	22.7	22.7	23.3	24.1	24.3	25.5	28.0
Cash & Equiv. %	0.3	1.0	1.8	1.7	1.4	1.5	0.5	0.2	1.4	1.0	1.3	1.2	1.2	1.0
Domestic Equity %	45.7	45.2	45.3	44.9	45.3	45.6	45.3	45.8	44.8	43.9	42.4	42.4	42.1	38.4
Intl Equity %	21.4	20.5	20.4	20.5	20.6	21.1	21.1	21.5	20.8	20.9	19.8	19.3	17.0	17.1
Opp Equity %	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.2	0.2
Real Estate %	5.7	6.6	6.3	6.2	5.6	5.7	5.8	6.2	6.4	6.7	7.5	7.7	8.5	9.6
REITS %	0.7	0.7	1.1	1.0	1.1	1.1	1.0	0.9	0.9	0.8	1.1	1.0	1.2	0.8
Other %	0.9	0.9	1.0	1.3	1.3	1.6	2.3	2.5	2.8	3.2	3.6	3.8	4.4	5.0
Total Value (\$bil)	52.8	53.7	55.7	57.2	59.7	59.0	66.0	68.9	70.7	69.7	65.1	64.2	57.9	49.6

Note: Defined benefit and health care plan assets were segregated in January 2005. An allocation of 27.99% to total fixed income consists of 16.05% (fixed income), 0.06% (stable value) and 11.87% (long duration) as of December 31, 2008.

This is the first page devoted to the analysis of the Ohio Public Employees Retirement System Defined Benefit Plan's asset allocation. The chart on the left displays the fund's asset allocation over the last two quarters of 2008. The chart on the right tracks the quarterly asset allocation of the fund over the last fourteen quarters.

## Public Employees Retirement System

### Defined Benefit Plan

### Quarter Ending 12/13/2008

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Mar-94	Jun-95	68.0	SB Broad Inv Grade
			17.0	Standard & Poors 500
			8.0	91-Day Treasury Bill
			7.0	NCREIF
	Sep-95	Dec-95	59.0	SB Broad Inv Grade
			26.0	Standard & Poors 500
			8.0	NCREIF
			6.0	91-Day Treasury Bill
	Mar-96	Dec-96	62.5	SB Broad Inv Grade
			23.0	Standard & Poors 500
			8.0	NCREIF
			4.5	91-Day Treasury Bill
	Mar-97	Dec-97	2.0	MSCI EAFE (Net)
			56.5	SB Broad Inv Grade
			27.0	Standard & Poors 500
			8.0	NCREIF
	Mar-98	Dec-98	4.5	91-Day Treasury Bill
			4.0	MSCI EAFE (Net)
			51.0	SB Broad Inv Grade
			30.5	Standard & Poors 500
			8.0	NCREIF
			6.0	MSCI EAFE (Net)
			4.5	91-Day Treasury Bill

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Dec-98	Dec-98	51.0	SB Broad Inv Grade
			30.5	Russell 3000
			6.0	MSCI World Ex-US (Net)
			4.8	NCREIF
			4.5	91-Day Treasury Bill
			1.6	NAREIT
			1.6	Gilberto-Levy Mortgage
	Mar-99	Mar-99	45.4	SB Broad Inv Grade
			35.0	Standard & Poors 500
			7.6	MSCI World Ex-US (Net)
			6.6	NCREIF
	Jun-99	Jun-99	2.2	NAREIT
			2.2	Gilberto-Levy Mortgage
			1.0	91-Day Treasury Bill
			40.1	SB Broad Inv Grade
			35.0	Standard & Poors 500
			12.9	MSCI World Ex-US (Net)
			6.6	NCREIF
			2.2	NAREIT
			2.2	Gilberto-Levy Mortgage
			1.0	91-Day Treasury Bill

## Public Employees Retirement System

### Defined Benefit Plan

### Quarter Ending 12/13/2008

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Sep-99	Mar-02	36.1	SB Broad Inv Grade
			35.0	Standard & Poors 500
			16.9	MSCI World Ex-US (Net)
			6.6	NCREIF
			2.2	NAREIT
			2.2	Gilberto-Levy Mortgage
	1.0	BC Bellweather 3Mth T-Bill		
	Mar-02	Mar-02	34.3	S&P 1500
			31.8	SB Broad Inv Grade
			18.9	MSCI World Ex-US (Net)
			5.7	NCREIF
			3.0	Russell 3000
			2.3	BC Bellweather 3Mth T-Bill
	Jun-02	Sep-02	1.9	NAREIT
			1.9	Gilberto-Levy Mortgage
			0.2	Standard & Poors 500
			34.7	S&P 1500
			29.2	SB Broad Inv Grade
			19.3	MSCI World Ex-US (Net)
			5.8	Russell 3000
5.6			NCREIF	
1.9	NAREIT			
1.9	Gilberto-Levy Mortgage			
1.5	BC Bellweather 3Mth T-Bill			
0.2	Standard & Poors 500			

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Sep-02	Sep-02	44.7	Russell 3000
			25.6	SB Broad Inv Grade
			19.7	MSCI World Ex-US (Net)
			5.5	NCREIF
			1.8	NAREIT
			1.8	Gilberto-Levy Mortgage
	0.7	BC Bellweather 3Mth T-Bill		
	0.2	Standard & Poors 500		
	Dec-02	Dec-02	47.0	Russell 3000
			23.0	SB Broad Inv Grade
			20.0	MSCI World Ex-US (Net)
			5.4	NCREIF
			1.8	NAREIT
			1.8	Gilberto-Levy Mortgage
	0.6	BC Bellweather 3Mth T-Bill		
	0.4	Standard & Poors 500		
	Mar-03	Dec-04	46.0	Russell 3000
			23.0	Barclays Universal
			20.0	MSCI AC World Ex-US (Net)
			8.1	NCREIF
0.9			Wilshire Real Estate Securities	
1.0			BC Bellweather 3Mth T-Bill	
1.0			Russell 3000 + 3% (1 Qtr arrears)	

# Public Employees Retirement System

## Defined Benefit Plan

### Quarter Ending 12/13/2008

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Dec-04	Mar-05	46.3	Russell 3000
			26.2	Barclays Universal
			20.0	MSCI AC World Ex-US (Net)
			5.8	Custom Real Estate
			0.7	Russell 3000 + 3% (1 Qtr arrears)
			1.0	BC Bellweather 3Mth T-Bill
	Mar-05	Jun-05	46.1	Russell 3000
			26.0	Barclays Universal
			20.0	MSCI AC World Ex-US (Net)
			6.0	Custom Real Estate
			0.9	Russell 3000 + 3% (1 Qtr arrears)
			1.0	BC Bellweather 3Mth T-Bill
	Jun-05	Sep-05	46.1	Russell 3000
			25.8	Barclays Universal
			20.0	MSCI AC World Ex-US (Net)
6.2			Custom Real Estate	
0.9			Russell 3000 + 3% (1 Qtr arrears)	
1.0			BC Bellweather 3Mth T-Bill	

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Sep-05	Dec-05	46.0	Russell 3000
			25.6	Barclays Universal
			20.0	MSCI AC World Ex-US (Net)
			6.4	Custom Real Estate
			1.0	Russell 3000 + 3% (1 Qtr arrears)
			1.0	BC Bellweather 3Mth T-Bill
	Dec-05	Mar-06	45.7	Russell 3000
			24.4	Barclays Universal
			20.0	MSCI AC World Ex-US (Net)
			7.6	Custom Real Estate
			1.3	Russell 3000 + 3% (1 Qtr arrears)
			1.0	BC Bellweather 3Mth T-Bill
	Mar-06	Jun-06	45.6	Russell 3000
			24.7	Barclays Universal
			20.0	MSCI AC World Ex-US (Net)
7.3			Custom Real Estate	
1.4			Russell 3000 + 3% (1 Qtr arrears)	
1.0			BC Bellweather 3Mth T-Bill	

# Public Employees Retirement System

## Defined Benefit Plan

### Quarter Ending 12/13/2008

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Jun-06	Sep-06	45.4	Russell 3000
			24.8	Barclays Universal
			20.0	MSCI AC World Ex-US (Net)
			6.3	Real Estate
			1.0	Wilshire Resi Full Cap
			1.6	Russell 3000 + 3% (1 Qtr arrears)
	1.0	BC Bellweather 3Mth T-Bill		
	Sep-06	Dec-06	45.2	Russell 3000
			25.4	Barclays Universal
20.0			MSCI AC World Ex-US (Net)	
5.6			Real Estate	
1.0			Wilshire Resi Full Cap	
1.8			Russell 3000 + 3% (1 Qtr arrears)	
1.0	BC Bellweather 3Mth T-Bill			
Dec-06	Mar-07	46.0	Russell 3000	
		25.3	BC Universal/BC Long G/C	
		20.0	MSCI AC World Ex-US (Net)	
		5.7	Real Estate	
		1.0	Wilshire Resi Full Cap	
		0.1	Russell 3000 + 3% (1 Qtr arrears)	
2.0	BC Bellweather 3Mth T-Bill			

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Mar-07	Jun-07	45.7	Russell 3000
			25.2	BC Universal/BC Long G/C
			20.0	MSCI AC World Ex-US (Net)
			5.8	Real Estate
			1.0	Wilshire Resi Full Cap
			0.1	Russell 3000 + 3% (1 Qtr arrears)
	2.3	BC Bellweather 3Mth T-Bill		
	Jun-07	Sep-07	45.6	Russell 3000
			25.2	BC Universal/BC Long G/C
			20.0	MSCI AC World Ex-US (Net)
			6.8	Real Estate
			2.3	Wilshire Resi Full Cap
0.1			Russell 3000 + 3% (1 Qtr arrears)	
0.0	BC Bellweather 3Mth T-Bill			
Sep-07	Dec-07	45.1	Russell 3000	
		24.6	BC Universal/BC Long G/C	
		20.0	MSCI AC World Ex-US (Net)	
		7.4	Real Estate	
		2.8	Wilshire Resi Full Cap	
		0.2	Russell 3000 + 3% (1 Qtr arrears)	
0.0	BC Bellweather 3Mth T-Bill			

# Public Employees Retirement System

## Defined Benefit Plan

### Quarter Ending 12/13/2008

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Dec-07	Mar-08	44.9	Russell 3000
			24.0	BC Universal/BC Long G/C
			20.0	MSCI AC World Ex-US (Net)
			6.7	Real Estate
			1.0	Wilshire Resi Full Cap
			3.2	Russell 3000 + 3% (1 Qtr arrears)
	0.2	BC Bellweather 3Mth T-Bill		
	Mar-08	Jun-08	44.9	Russell 3000
			24.0	BC Universal/BC Long G/C
			20.0	MSCI AC World Ex-US (Net)
			6.7	Real Estate
			1.0	Wilshire Resi Full Cap
3.2			Russell 3000 + 3% (1 Qtr arrears)	
0.2	BC Bellweather 3Mth T-Bill			
Jun-08	Sep-08	43.9	Russell 3000	
		24.0	BC Universal/BC Long G/C	
		20.0	MSCI AC World Ex-US (Net)	
		7.0	Real Estate	
		1.0	Wilshire Resi Full Cap	
		3.8	Russell 3000 + 3% (1 Qtr arrears)	
0.3	BC Bellweather 3Mth T-Bill			

Label	Quarter Start	Quarter End	Percent	Description	
Policy Index (cont.)	Sep-08	Dec-08	43.4	Russell 3000	
			24.0	BC Universal/BC Long G/C	
			20.0	MSCI AC World Ex-US (Net)	
			7.0	Real Estate	
			1.0	Wilshire Resi Full Cap	
			4.4	Russell 3000 + 3% (1 Qtr arrears)	
	0.2	BC Bellweather 3Mth T-Bill			

The current PERS policy index is listed in the table on the right. PERS instituted separate floating policy indexes for their defined benefit and health care plans in January 2005.

Listed below are conditions that apply to the movement of the defined benefit policy index:

- (1) To the extent that actual real estate investments are below the long run target, the difference will be carried in global bonds.
- (2) To the extent that actual private equity investments are below the long run target, the difference will be carried in U.S. equities.
- (3) Real estate custom benchmark are calculated at 90% NCRIF minus 100 bps annually plus 10% Wilshire RESI minus 20 bps annually.



# Public Employees Retirement System

## Defined Benefit Plan - Asset Allocation Actual vs. Benchmark September 30, 2008

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	42.1%	Russell 3000	43.9%	-1.8%
Fixed Income	25.5%	PERS Custom Index	24.0%	1.5%
Intl. Equity	17.0%	MSCI AC World ex US	20.0%	-3.0%
Opportunistic Equity	0.2%	--	0.3%	-0.1%
Real Estate	8.5%	PERS Custom Index	7.0%	1.5%
REITS	1.2%	Wilshire Resi full cap	1.0%	0.2%
Alternative Investments	4.4%	Russell 3000 + 3% (1 Qtr arrears)	3.8%	0.6%
Short Term	1.2%	BC Bellweather 3 Month T-Bill	0.0%	1.2%

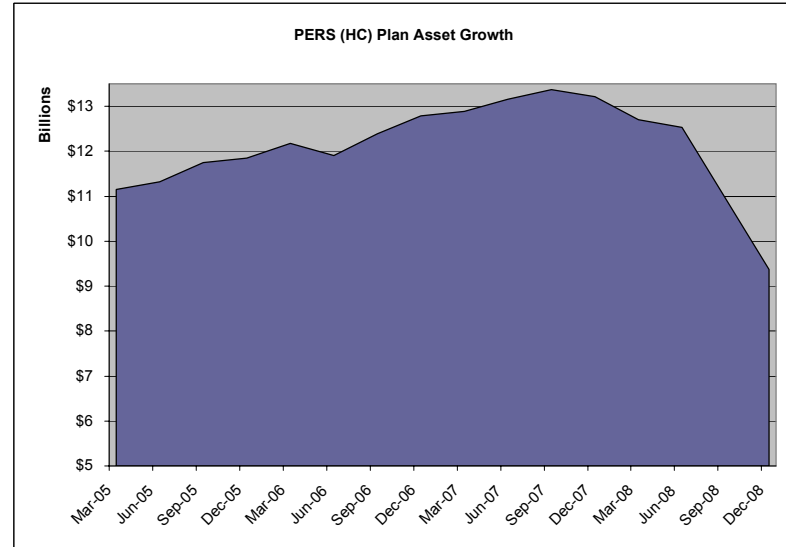
## December 31, 2008

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	38.4%	Russell 3000	43.4%	-5.0%
Fixed Income	28.0%	PERS Custom Index	24.0%	4.0%
Intl. Equity	17.1%	MSCI AC World ex US	20.0%	-2.9%
Opportunistic Equity	0.2%	--	0.2%	0.0%
Real Estate	9.6%	PERS Custom Index	7.0%	2.6%
REITS	0.8%	Wilshire Resi full cap	1.0%	-0.2%
Alternative Investments	5.0%	Russell 3000 + 3% (1 Qtr arrears)	4.4%	0.6%
Short Term	1.0%	BC Bellweather 3 Month T-Bill	0.0%	1.0%

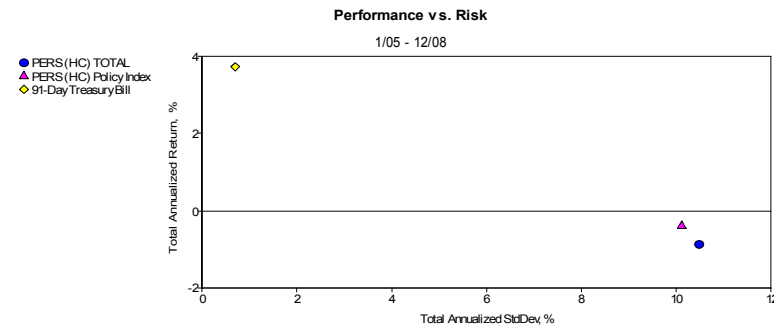
As of the end of the fourth quarter, the PERS Defined Benefit Plan is overweight in fixed income, real estate, alternative investments and cash, while being underweight in domestic and international equity, and REITS.

# Public Employees Retirement System Health Care Plan

PERS Returns					
Portfolio	Two Quarters	One Year	Three Years	Five Years	Ten Years
<b>US Equity</b>					
Actual	-30.18%	-37.83%	-9.12%	N/A	N/A
Benchmark	-29.52%	-37.31%	-8.60%	N/A	N/A
Difference	-0.66%	-0.52%	-0.52%	N/A	N/A
<b>Fixed Income</b>					
Actual	-3.41%	-4.40%	1.97%	N/A	N/A
Benchmark	1.53%	2.38%	4.60%	N/A	N/A
Difference	-4.94%	-6.78%	-2.63%	N/A	N/A
<b>Intl. Equity</b>					
Actual	-39.82%	-45.80%	-7.07%	N/A	N/A
Benchmark	-39.36%	-45.53%	-6.95%	N/A	N/A
Difference	-0.46%	-0.27%	-0.12%	N/A	N/A
<b>REITS</b>					
Actual	-37.67%	-39.79%	-12.26%	N/A	N/A
Benchmark	-37.71%	-39.83%	-12.44%	N/A	N/A
Difference	0.04%	0.04%	0.18%	N/A	N/A
<b>TIPS</b>					
Actual	-6.81%	-2.13%	N/A	N/A	N/A
Benchmark	9.73%	11.58%	N/A	N/A	N/A
Difference	-16.54%	-13.71%	N/A	N/A	N/A
<b>Private Equity</b>					
Actual	-18.96%	N/A	N/A	N/A	N/A
Benchmark	-19.61%	N/A	N/A	N/A	N/A
Difference	0.65%	N/A	N/A	N/A	N/A
<b>Short Duration</b>					
Actual	-3.71%	-6.71%	N/A	N/A	N/A
Benchmark	4.86%	7.07%	N/A	N/A	N/A
Difference	-8.57%	-13.78%	N/A	N/A	N/A



Note: Defined Benefit and Health Care plan assets were segregated on January 1, 2005.



	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
PERS (HC) TOTAL	-0.85	10.50	-4.00	-0.40
PERS (HC) Policy Index	-0.38	10.12	-3.57	-0.37
91-Day Treasury Bill	3.74	0.71	0.00	NA

	Asset Mix		
	Actual December 31, 2008	Target	Difference
US Equity	25.2%	29.0%	-3.8%
Intl. Equity	22.5%	23.0%	-0.5%
Private Equity	0.1%	0.0%	0.1%
Total Equity	47.7%	52.0%	-4.3%
Fixed Income	11.7%	10.3%	1.5%
REITS	4.5%	6.0%	-1.5%
TIPS	19.4%	20.2%	-0.8%
Short Duration Bonds	14.2%	11.5%	2.7%
HC Cash	2.5%	0.0%	2.5%
Total Debt	52.3%	48.0%	4.3%
	100.0%	100.0%	0.0%

### Characteristic Data

Assets at 12/31/2008 \$ 9,677,418,231  
 Actuarial Interest Rate: 6.70%  
 Investment Staff Size: 56

# Public Employees Retirement System

## Health Care Plan - Performance Overview

Returns for Period Ending December 31, 2008

	<u>2 Qtrs</u>	<u>1 Yr</u>	<u>3 Yrs</u>
Total Fund	-22.11	-25.77	-3.64
Policy Index	-21.34	-24.17	-2.82
Domestic Equity	-30.18	-37.83	-9.12
Domestic Equity Segment Median	-30.37	-37.57	-9.09
Wilshire 5000	-29.54	-37.23	-8.44
International Equity	-39.82	-45.80	-7.07
International Equity Segment Median	-38.16	-44.58	-6.70
MSCI EAFE	-36.41	-43.38	-7.35
Fixed Income	-3.41	-4.40	1.97
Fixed Income Segment Median	-3.98	-4.11	2.45
BC Aggregate	4.07	5.24	5.51
Cash	0.78	1.94	4.22
Public Real Estate	-37.67	-39.79	-12.26
Wilshire Resi Full Cap	-37.70	-39.83	-12.41
Treasury Inflation Protected Securities	-6.81	-2.13	3.24
Barclays U.S. TIPS	-6.90	-2.35	3.06
Short Duration	-3.71	-6.71	0.24
Barclays 1-3 Year Government	4.46	6.66	5.95
Alternatives	-18.96	NA	NA

For the trailing three-year period, the PERS Health Care Plan underperformed its policy index by 82 basis points. Performance in domestic equity, international equity, fixed income and short duration securities trailed their respective benchmarks. For the more recent one-year period, the plan underperformed the policy benchmark by 160 basis points.

# Public Employees Retirement System

## Health Care Plan

### Quarter Ending 12/31/2008

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Dec-04	Jun-05	47.5	Russell 3000
			22.0	Barclays Universal
			22.0	MSCI ACWI Ex-US (Net)
			4.0	Wilshire Resi Full Cap
			2.5	Barclays US Tips
	2.0	Barclays 1-3 Yr Gov't		
	Jun-05	Dec-05	42.5	Russell 3000
			20.0	Barclays Universal
			20.0	MSCI ACWI Ex-US (Net)
			4.2	Wilshire Resi Full Cap
			7.5	Barclays US Tips
	5.8	Barclays 1-3 Yr Gov't		
	Dec-05	Jun-06	37.5	Russell 3000
			18.0	Barclays Universal
			18.0	MSCI ACWI Ex-US (Net)
			4.5	Wilshire Resi Full Cap
			12.5	Barclays US Tips
	9.5	Barclays 1-3 Yr Gov't		
	Jun-06	Dec-06	32.5	Russell 3000
			16.0	Barclays Universal
16.0			MSCI ACWI Ex-US (Net)	
4.8			Wilshire Resi Full Cap	
17.5			Barclays US Tips	
13.2	Barclays 1-3 Yr Gov't			

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Dec-06	Dec-07	30.0	Russell 3000
			15.0	Barclays Universal
			15.0	MSCI ACWI Ex-US (Net)
			5.0	Wilshire Resi Full Cap
			20.0	Barclays US Tips
	15.0	Barclays 1-3 Yr Gov't		
	Dec-07	Jun-08	29.6	Russell 3000
			14.8	Barclays Universal
			16.4	MSCI ACWI Ex-US (Net)
			4.1	Wilshire Resi Full Cap
			20.8	Barclays US Tips
	14.3	Barclays 1-3 Yr Gov't		
	Jun-08	Sep-08	28.8	Russell 3000
			9.7	Barclays Universal
			22.6	MSCI ACWI Ex-US (Net)
			5.6	Wilshire Resi Full Cap
21.0			Barclays US Tips	
12.3	Barclays 1-3 Yr Gov't			
Sep-08	Dec-08	29.0	Russell 3000	
		10.3	Barclays Universal	
		23.0	MSCI ACWI Ex-US (Net)	
		6.0	Wilshire Resi Full Cap	
		20.2	Barclays US Tips	
11.5	Barclays 1-3 Yr Gov't			

PERS Health Care Plans' policy index is shown above.

# Public Employees Retirement System

## Health Care Plan - Asset Allocation Actual vs. Benchmark September 30, 2008

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	27.6%	Russell 3000	28.8%	-1.2%
Fixed Income	10.5%	Barclays Universal	9.7%	0.8%
Intl. Equity	20.0%	MSCI AC World ex US	22.6%	-2.6%
REITS	6.4%	Wilshire Resi full cap	5.6%	0.8%
TIPS	21.2%	BC U.S. Tips	21.0%	0.2%
Short Duration Bonds	12.9%	BC 1-3 Yr Gov't	12.3%	0.6%
Private Equity	0.0%	N/A	N/A	N/A
HC Cash	1.5%	91 Day T-Bill	0.0%	1.5%

## December 31, 2008

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	25.2%	Russell 3000	29.0%	-3.8%
Fixed Income	11.7%	Barclays Universal	10.3%	1.4%
Intl. Equity	22.5%	MSCI AC World ex US	23.0%	-0.5%
REITS	4.5%	Wilshire Resi full cap	6.0%	-1.5%
TIPS	19.4%	BC U.S. Tips	20.2%	-0.8%
Short Duration Bonds	14.2%	BC 1-3 Yr Gov't	11.5%	2.7%
Private Equity	0.1%	N/A	N/A	N/A
HC Cash	2.5%	91 Day T-Bill	0.0%	2.5%

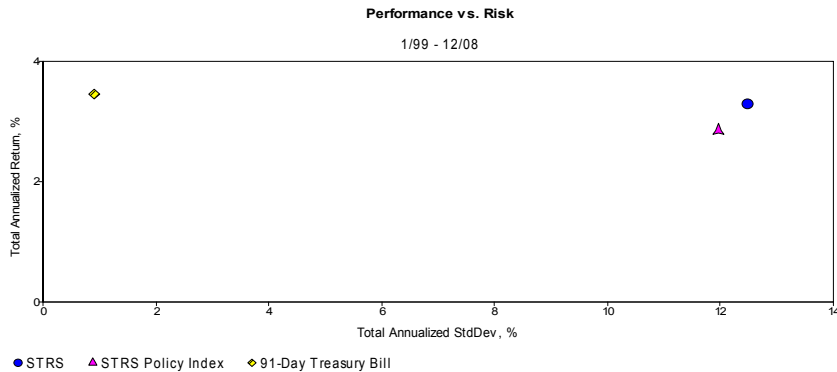
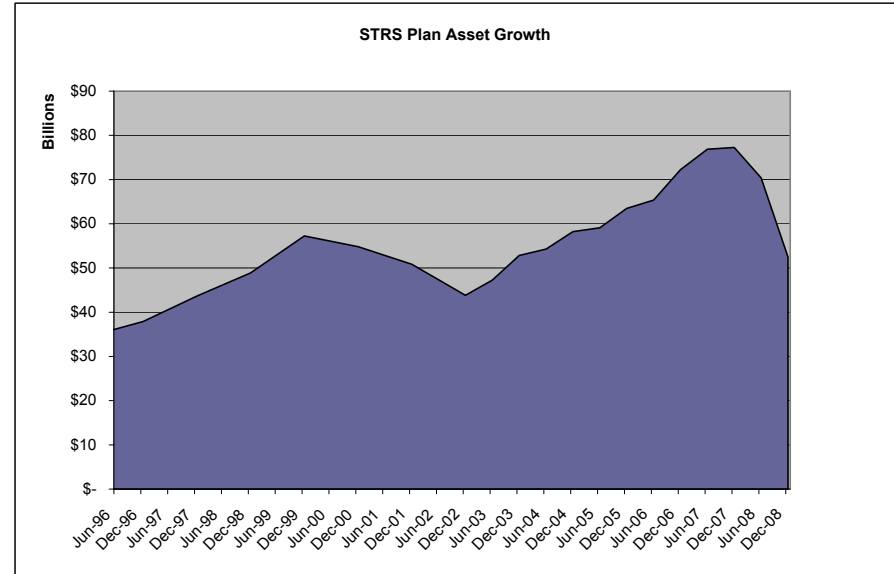
As of the end of the fourth quarter, the PERS Health Care Plan is overweight in fixed income, short duration bonds and cash while being underweight in domestic and international equity, REITS and TIPS

**State Teachers Retirement System  
(STRS)**

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# State Teachers Retirement System

STRS Returns					
Portfolio	Two Quarters	One Year	Three Years	Five Years	Ten Years
<b>US Equity</b>					
Actual	-28.87%	-38.12%	-9.09%	-2.16%	-1.12%
Benchmark	-29.52%	-37.31%	-8.63%	-1.95%	-0.75%
Difference	0.65%	-0.81%	-0.46%	-0.21%	-0.37%
<b>Fixed Income</b>					
Actual	-3.65%	-2.51%	3.16%	3.51%	5.37%
Benchmark	1.53%	2.38%	4.60%	4.29%	5.50%
Difference	-5.18%	-4.89%	-1.44%	-0.78%	-0.13%
<b>Intl. Equity</b>					
Actual	-36.51%	-43.51%	-6.69%	4.24%	4.57%
Benchmark	-36.04%	-43.74%	-7.00%	3.60%	3.03%
Difference	-0.47%	0.23%	0.31%	0.64%	1.54%
<b>Real Estate</b>					
Actual	-7.32%	-4.87%	15.37%	19.30%	14.16%
Benchmark	-12.54%	-11.36%	5.13%	10.01%	9.60%
Difference	5.22%	6.49%	10.24%	9.29%	4.56%
<b>Private Equity</b>					
Actual	-9.47%	-6.68%	11.23%	14.92%	7.22%
Benchmark	-28.02%	-34.31%	-5.63%	1.05%	2.20%
Difference	18.55%	27.63%	16.86%	13.87%	5.02%



	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
STRS	3.30	12.48	0.62	0.05
STRS Policy Index	2.85	11.97	0.12	0.01
91-Day Treasury Bill	3.45	0.90	0.00	NA

	Asset Mix		
	Actual December 31, 2008	Target	Difference
US Equity	40.8%	42.0%	-1.2%
Intl. Equity	22.1%	25.0%	-2.9%
Alternative Assets	6.9%	3.5%	3.4%
<b>Total Equity</b>	<b>69.8%</b>	<b>70.5%</b>	<b>-0.7%</b>
Fixed Income	17.4%	20.0%	-2.6%
Real Estate	12.2%	9.5%	2.7%
Short Term Investments	0.6%	0.0%	0.6%
<b>Total Debt</b>	<b>30.2%</b>	<b>29.5%</b>	<b>0.7%</b>
	100.0%	100.0%	0.0%

**Characteristic Data**

Assets at 12/31/2008 \$ 52,468,125,515  
 Actuarial Interest Rate: 8.00%  
 Investment Staff Size: 112

# State Teachers Retirement System

## Performance Overview

Returns for Period Ending December 31, 2008

	<u>2 Qtrs</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund	-23.76	-29.32	-3.18	2.87	3.30
Policy Index	-23.32	-28.85	-3.48	2.17	2.85
Domestic Equity	-28.87	-38.12	-9.09	-2.16	-1.12
Domestic Equity Segment Median	-30.37	-37.57	-9.09	-2.12	-0.07
Wilshire 5000	-29.54	-37.23	-8.44	-1.69	-0.61
International Equity	-36.51	-43.51	-6.69	4.24	4.57
International Equity Segment Median	-38.16	-44.58	-44.58	2.62	3.26
MSCI EAFE	-36.41	-43.38	-7.35	1.66	0.80
Fixed Income	-3.65	-2.51	3.16	3.51	5.37
Fixed Income Segment Median	-3.98	-4.11	2.45	3.11	5.21
BC Aggregate	4.07	5.24	5.51	4.65	5.63
Cash	0.48	1.91	4.02	3.33	3.55
Real Estate	-7.32	-4.87	15.37	19.30	14.16
NCREIF	-8.45	-6.46	8.10	11.67	10.48
Alternatives	-9.47	-6.68	11.23	14.92	7.22

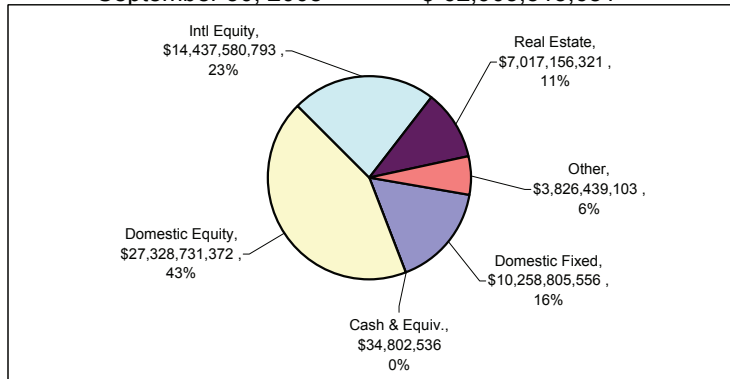
Over the trailing ten-year period, the fund outperformed its policy index by 45 basis points. Strong relative outperformance in international equity, fixed income and real estate contributed to overall returns. Over the more recent one-year period, the fund trailed its policy index by 47 basis points.



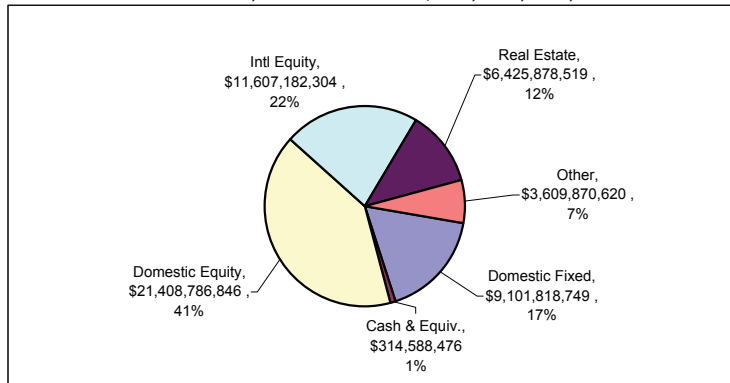
# State Teachers Retirement System

**Asset Allocation  
STRS**

September 30, 2008 \$ 62,903,515,681

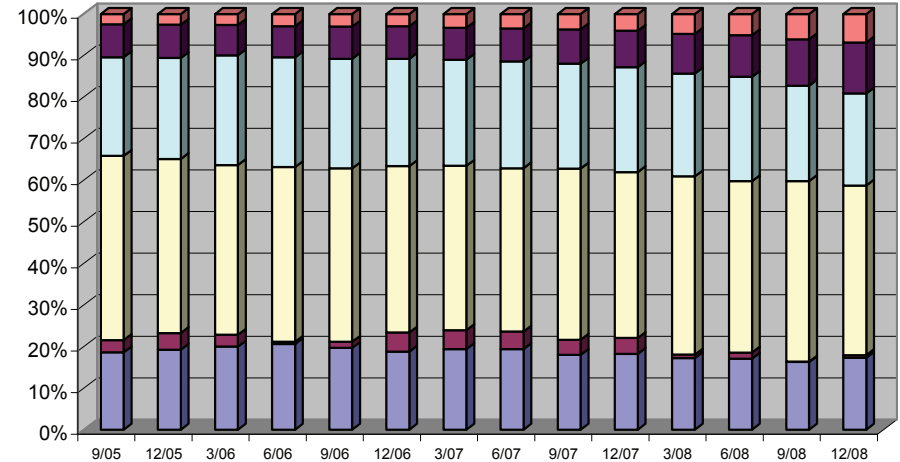


December 31, 2008 \$ 52,468,125,575



**Asset Allocation  
STRS**

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



	9/05	12/05	3/06	6/06	9/06	12/06	3/07	6/07	9/07	12/07	3/08	6/08	9/08	12/08
Domestic Fixed %	18.6	19.2	20.0	20.6	19.7	18.8	19.4	19.4	18.0	18.2	17.2	17.1	16.3	17.4
Cash & Equiv. %	3.0	4.0	2.8	0.5	1.4	4.5	4.6	4.2	3.6	3.8	0.8	1.5	0.1	0.6
Domestic Equity %	44.3	41.9	40.8	42.0	41.7	40.0	39.5	39.2	41.2	39.9	42.9	41.2	43.5	40.8
Intl Equity %	23.7	24.3	26.4	26.4	26.4	25.9	25.5	25.7	25.2	25.2	24.8	25.1	23.0	22.1
Real Estate %	8.0	8.0	7.3	7.5	7.7	7.8	7.7	8.0	8.3	8.7	9.5	10.0	11.2	12.2
Other %	2.5	2.6	2.7	3.0	3.1	3.0	3.3	3.5	3.7	4.1	4.8	5.1	6.1	6.9
Total Value (\$bil)	57.9	59.1	62.0	63.5	66.5	65.4	73.4	76.9	78.6	77.3	71.5	70.4	62.9	52.5

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 last two quarters of 2008. The chart on the right tracks the quarterly asset allocation of the fund over the last fourteen quarters.

# State Teachers Retirement System

## Quarter Ending 12/31/2008

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Mar-94	Dec-94	40.0	Standard & Poors 500
			45.0	Barclays Govt./Corp.
			9.0	STRS NCREIF Hybrid
			3.0	MSCI EAFE (Net)
			3.0	91-Day Treasury Bill
	Mar-95	Dec-95	46.0	Standard & Poors 500
			35.0	BC Aggregate
			9.0	STRS NCREIF Hybrid
			6.0	MSCI EAFE (Net)
			2.0	MSCI Em Mkts Free (Gross)
	Mar-96	Dec-96	45.0	Standard & Poors 500
			35.0	BC Aggregate
			9.0	STRS NCREIF Hybrid
			6.8	MSCI EAFE (Net)
			2.3	MSCI Em Mkts Free (Gross)
	Mar-97	Jun-97	45.0	Standard & Poors 500
34.0			BC Aggregate	
9.0			STRS NCREIF Hybrid	
6.0			MSCI EAFE (Net)	
4.0			MSCI Em Mkts Free (Gross)	
2.0	91-Day Treasury Bill			

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (Cont.)	Sep-97	Dec-97	45.0	Standard & Poors 500
			24.0	BC Aggregate
			12.0	MSCI EAFE (Net)
			9.0	STRS NCREIF Hybrid
			8.0	MSCI Em Mkts Free (Gross)
			2.0	91-Day Treasury Bill
			Mar-98	Sep-98
	24.0	BC Aggregate		
	12.0	MSCI EAFE 50% Hedged		
	9.0	STRS NCREIF Hybrid		
	8.0	MSCI Em Mkts Free (Gross)		
	Dec-98	Sep-00	45.0	S&P 1500
			24.0	BC Aggregate
			14.0	MSCI EAFE 50% Hedged
			9.0	STRS NCREIF Hybrid
			6.0	MSCI Em Mkts Free (Gross)
	Dec-00	Jun-02	45.0	S&P 1500
			25.0	Barclays Universal
			15.0	MSCI EAFE 50% Hedged
			9.0	STRS NCREIF Hybrid
5.0			MSCI Em Mkts Free (Gross)	
1.0	91-Day Treasury Bill			

# State Teachers Retirement System

Quarter Ending 12/31/2008

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Sep-02	Dec-02	45.0	S&P 1500
			23.0	Barclays Universal
			15.0	MSCI EAFE 50% Hedged
			9.0	STRS NCREIF Hybrid
			5.0	MSCI Em Mkts Free (Gross)
			2.0	Alt. Investment Actual Return
			1.0	91-Day Treasury Bill
	Mar-03	Jun-03	45.0	S&P/Russell Hybrid
			23.0	Barclays Universal
			15.0	MSCI EAFE 50% Hedged
			9.0	STRS NCREIF Hybrid
			5.0	MSCI Em Mkts Free (Gross)
			2.0	Alt. Investment Actual Return
			1.0	91-Day Treasury Bill
	Sep-03	Dec-05	45.0	Russell 3000
			23.0	Barclays Universal
			15.0	MSCI World ex US 50% Hedged
			9.0	STRS NCREIF Hybrid
			5.0	MSCI Em Mkts Free (Gross)
			2.0	Alt. Investment Actual Return
			1.0	91-Day Treasury Bill
	Mar-06	Jun-06	42.0	Russell 3000
			21.0	Barclays Universal
			20.0	MSCI World ex US 50% Hedged
			9.0	STRS NCREIF Hybrid
			5.0	MSCI Em Mkts Free (Gross)
			3.0	Alt. Investment Actual Return
			0.0	91-Day Treasury Bill

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Sep-06	Jun-07	42.0	Russell 3000
			20.5	Barclays Universal
			20.0	MSCI World ex US 50% Hedged
			9.5	STRS NCREIF Hybrid
			5.0	MSCI Em Mkts Free (Gross)
			3.0	Alt. Investment Actual Return
			0.0	91-Day Treasury Bill
	Sep-07	Sep-07	42.0	Russell 3000
			20.0	Barclays Universal
			20.0	MSCI World ex US 50% Hedged
			10.0	STRS NCREIF Hybrid
			5.0	MSCI Em Mkts Free (Gross)
			3.0	Alt. Investment Actual Return
			0.0	91-Day Treasury Bill
	Dec-07	Dec-08	42.0	Russell 3000
			20.0	Barclays Universal
			20.0	MSCI World ex US 50% Hedged
			9.5	STRS NCREIF Hybrid
			5.0	MSCI Em Mkts Free (Gross)
			3.5	Alt. Investment Actual Return
			0.0	91-Day Treasury Bill

The current STRS policy index is shown above on the right.

# State Teachers Retirement System

## Asset Allocation Actual vs. Benchmark September 30, 2008

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	43.5%	Russell 3000	42.0%	1.5%
Fixed Income	16.3%	Barclays Universal	20.0%	-3.7%
Intl. Equity	23.0%	Intl. Hybrid Benchmark	25.0%	-2.0%
Real Estate	11.2%	NCREIF Hybrid	9.5%	1.7%
Alternative Investments	6.1%	Alt. Inv. Actual Return	3.5%	2.6%
Short Term	0.1%	3 Month T-Bill	0.0%	0.1%

## December 31, 2008

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	40.8%	Russell 3000	42.0%	-1.2%
Fixed Income	17.4%	Barclays Universal	20.0%	-2.6%
Intl. Equity	22.1%	Intl. Hybrid Benchmark	25.0%	-2.9%
Real Estate	12.3%	NCREIF Hybrid	9.5%	2.8%
Alternative Investments	6.9%	Alt. Inv. Actual Return	3.5%	3.4%
Short Term	0.6%	3 Month T-Bill	0.0%	0.6%

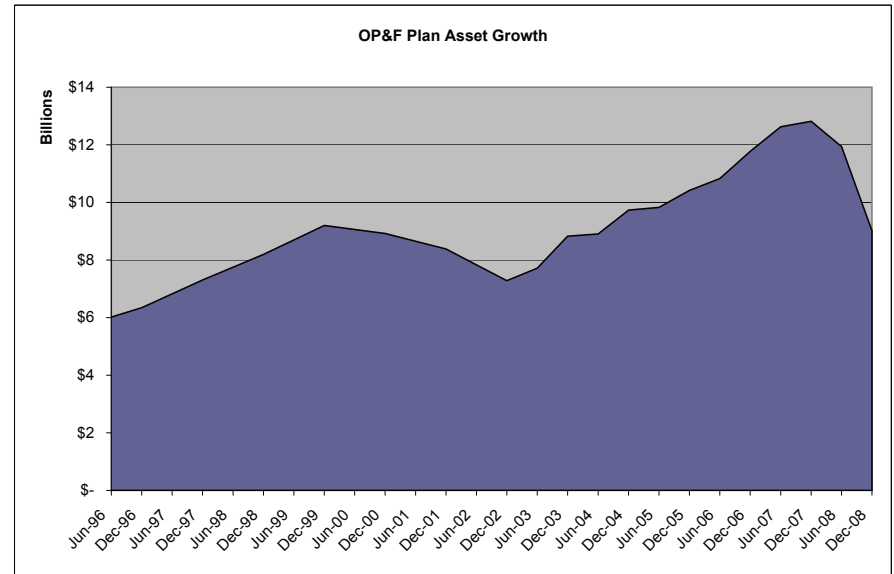
As of the end of the fourth quarter, STRS was overweight in real estate, alternative investments and cash, while being underweight in domestic equity, international equity and fixed income.

**Ohio Police & Fire  
(OP&F)**

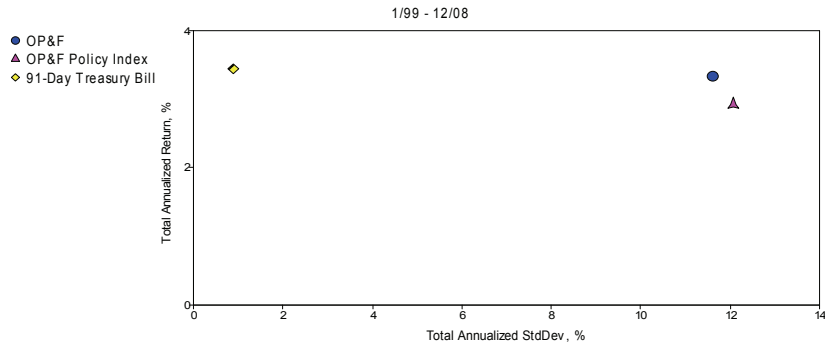
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# Police & Fire Pension Fund

OP&F Returns					
Portfolio	Two Quarters	One Year	Three Years	Five Years	Ten Years
<b>US Equity</b>					
Actual	-31.11%	-38.03%	-9.16%	-1.83%	0.02%
Benchmark	-29.54%	-37.23%	-8.45%	-1.69%	-0.64%
Difference	-1.57%	-0.80%	-0.71%	-0.14%	0.66%
<b>Fixed Income</b>					
Actual	-5.30%	-3.75%	2.61%	3.72%	5.85%
Benchmark	4.07%	5.24%	5.51%	4.65%	5.63%
Difference	-9.37%	-8.99%	-2.90%	-0.93%	0.22%
<b>Intl. Equity</b>					
Actual	-39.19%	-45.71%	-5.66%	3.22%	2.05%
Benchmark	-39.36%	-45.52%	-6.98%	2.57%	1.96%
Difference	0.17%	-0.19%	1.32%	0.65%	0.09%
<b>Real Estate</b>					
Actual	-3.38%	2.08%	15.96%	17.46%	14.02%
Benchmark	-8.45%	-6.46%	8.10%	11.67%	9.26%
Difference	5.07%	8.54%	7.86%	5.79%	4.76%
<b>Alternative Investments</b>					
Actual	-7.81%	-2.32%	14.79%	15.49%	8.45%
Benchmark	-8.66%	-18.78%	4.14%	10.11%	7.32%
Difference	0.85%	16.46%	10.65%	5.38%	1.13%



Performance vs. Risk



	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
OP&F	3.33	11.62	0.55	0.05
OP&F Policy Index	2.93	12.05	0.21	0.02
91-Day Treasury Bill	3.45	0.90	0.00	NA

	Asset Mix		
	Actual December 31, 2008	Target	Difference
US Equity	39.6%	46.0%	-6.4%
Intl. Equity	19.3%	20.0%	-0.7%
Alternative Assets	3.9%	3.0%	0.9%
Total Equity	62.8%	69.0%	-6.2%
Fixed Income	25.0%	23.0%	2.0%
Real Estate	11.2%	8.0%	3.2%
Short Term Investments	1.0%	0.0%	1.0%
Total Debt	37.2%	31.0%	6.2%
	100.0%	100.0%	0.0%

## Characteristic Data

Assets at	12/31/2008	\$	9,015,571,470
Actuarial Interest Rate:			8.25%
Investment Staff Size:			14

# Police & Fire Pension Fund

## Performance Overview

### Returns for Period Ending December 31, 2008

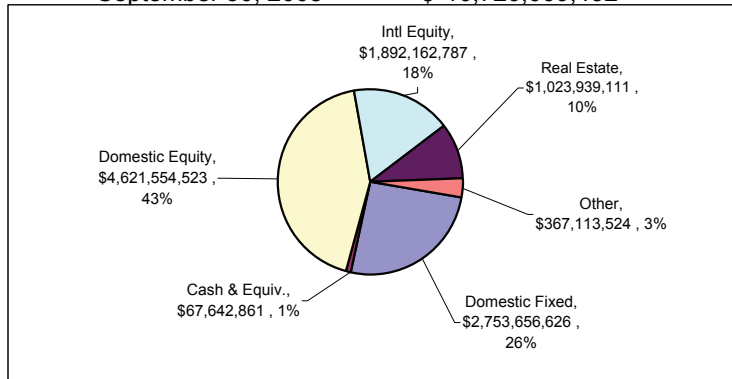
	<u>2 Qtrs</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund	-23.53	-28.05	-2.63	2.64	3.33
Policy Index	-23.47	-28.89	-3.53	2.00	2.93
Domestic Equity	-31.11	-38.03	-9.16	-1.83	0.02
Domestic Equity Segment Median	-30.37	-37.57	-9.09	-2.12	-0.07
Wilshire 5000	-29.54	-37.23	-8.44	-1.69	-0.61
International Equity	-39.19	-45.71	-5.66	3.22	2.05
International Equity Segment Median	-38.16	-44.58	-6.70	2.62	3.26
MSCI EAFE	-36.41	-43.38	-7.35	1.66	0.80
Fixed Income	-5.30	-3.75	2.61	3.72	5.85
Fixed Income Segment Median	-3.98	-4.11	2.45	3.11	5.21
BC Aggregate	4.07	5.24	5.51	4.65	5.63
Cash	0.86	2.05	3.96	3.25	3.42
Real Estate	-3.38	2.08	15.96	17.46	14.02
NCREIF	-8.45	-6.46	8.10	11.67	10.48
Alternatives	-7.81	-2.32	14.79	15.49	8.45

For the trailing ten-year period, the fund outperformed its policy index by 40 basis points. Stronger relative performance in domestic equity, fixed income and real estate continued to contribute to overall performance. In addition, OP&F outperformed its policy index by 84 basis points for the more recent one-year period.

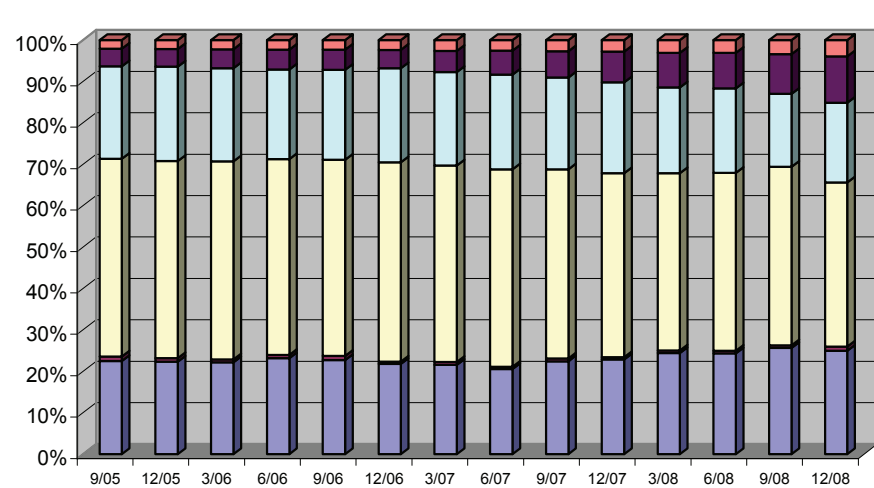
# Police & Fire Pension Fund

**Asset Allocation  
OP&F**

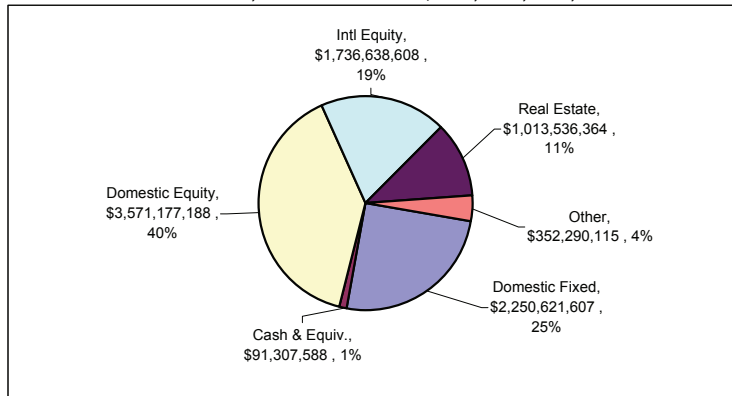
September 30, 2008      \$ 10,726,069,432



**Asset Allocation  
OP&F**



December 31, 2008      \$ 9,015,571,470



	9/05	12/05	3/06	6/06	9/06	12/06	3/07	6/07	9/07	12/07	3/08	6/08	9/08	12/08
Domestic Fixed %	22.5	22.4	22.2	23.2	22.8	21.8	21.6	20.6	22.4	22.9	24.4	24.3	25.7	25.0
Cash & Equiv. %	1.1	0.9	0.7	0.8	0.9	0.6	0.7	0.5	0.6	0.6	0.6	0.7	0.6	1.0
Domestic Equity %	47.7	47.6	47.8	47.3	47.3	48.1	47.9	47.7	45.7	44.4	42.8	42.9	43.1	39.6
Intl Equity %	22.3	22.8	22.5	21.6	21.7	22.7	22.6	22.9	22.2	21.9	20.7	20.4	17.6	19.3
Real Estate %	4.3	4.3	4.6	4.8	4.9	4.4	5.1	5.8	6.3	7.4	8.4	8.6	9.6	11.2
Other %	2.1	2.2	2.2	2.3	2.4	2.4	2.6	2.5	2.7	2.8	3.1	3.1	3.4	3.9
Total Value (\$bil)	9.7	9.8	10.2	10.4	10.9	10.8	12.1	12.6	12.9	12.8	12.0	11.9	10.7	9.0

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 last two quarters of 2008. The chart on the right tracks the quarterly asset allocation of the fund over the last fourteen quarters.



# Police & Fire Pension Fund

Quarter Ending 12/31/2008

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Mar-94	Sep-97	41.0	Wilshire 5000
			39.0	BC Aggregate
			10.0	MSCI EAFE (Net)
			9.0	Wilshire RE Funds
			1.0	S&P 500 + 5%
	Dec-97	Mar-01	41.0	Wilshire 5000
			35.0	BC Aggregate
			10.0	MSCI EAFE (Net)
			8.0	Wilshire RE Funds
			5.0	MSCI Em Mkts Free (Gross)
	Jun-01	Jun-01	41.0	Wilshire 5000
			35.0	BC Aggregate
			10.0	MSCI EAFE (Net)
			8.0	Wilshire RE Funds
			5.0	MSCI Em Mkts Free (Gross)
	Sep-01	Mar-02	1.0	S&P 500 (lagged) + 5%
46.0			Wilshire 5000	
18.0			BC Aggregate	
17.0			MSCI EAFE (Net)	
8.0			Wilshire RE Funds	
5.0			First Boston High Yield	
3.0	MSCI Em Mkts Free (Gross)			
3.0	Wilshire 5000 (lagged) + 5%			

Label	Quarter Start	Quarter End	Percent	Description		
Policy Index (cont.)	Jun-02	Sep-04	48.0	Wilshire 5000		
			18.0	BC Aggregate		
			17.0	MSCI EAFE (Net)		
			8.0	NCREIF		
			5.0	First Boston High Yield		
			3.0	MSCI Em Mkts Free (Gross)		
			1.0	Wilshire 5000 (lagged) + 5%		
			46.0	Wilshire 5000		
	Dec-04	Dec-04	18.0	BC Aggregate		
			17.0	MSCI EAFE (Net)		
			8.0	NCREIF		
			5.0	First Boston High Yield		
			3.0	MSCI Em Mkts Free (Gross)		
			3.0	Wilshire 5000 (lagged) + 5%		
			Mar-05	Dec-06	46.0	Wilshire 5000
					18.0	BC Aggregate
20.0	MSCI ACWI ex-U.S. (Net)					
8.0	NCREIF					
5.0	First Boston High Yield					
3.0	Wilshire 5000 (lagged) + 5%					

# Police & Fire Pension Fund

Quarter Ending 12/31/2008

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Mar-07	Dec-07	46.0	Wilshire 5000
			18.0	BC Aggregate
			20.0	MSCI ACWI ex-U.S. (Net)
			8.0	NCREIF
			5.0	First Boston High Yield
			3.0	Wilshire 5000 (lagged) + 3%
Policy Index	Dec-07	Dec-08	46.0	Wilshire 5000
			18.0	BC Aggregate
			20.0	MSCI ACWI ex-U.S. (Net)
			8.0	NCREIF
			5.0	First Boston High Yield
			3.0	Wilshire 5000 (lagged) + 3%

OP&F's custom policy index is shown above.

# Police & Fire Pension Fund

## Asset Allocation Actual vs. Benchmark September 30, 2008

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	43.1%	Wilshire 5000	46.0%	-2.9%
Fixed Income	25.7%	Barclays Aggregate	23.0%	2.7%
Intl. Equity Comp.	17.6%	MSCI ACWI ex- U.S. (Net)	20.0%	-2.4%
Real Estate	9.6%	NCREIF	8.0%	1.6%
Alternative Investments	3.4%	Wilshire 5000 Lagged + 3%	3.0%	0.4%
Short Term	0.6%	3 Month T-Bill	0.0%	0.6%

## December 31, 2008

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	39.6%	Wilshire 5000	46.0%	-6.4%
Fixed Income	25.0%	Barclays Aggregate	23.0%	2.0%
Intl. Equity Comp.	19.3%	MSCI ACWI ex- U.S. (Net)	20.0%	-0.7%
Real Estate	11.2%	NCREIF	8.0%	3.2%
Alternative Investments	3.9%	Wilshire 5000 Lagged + 3%	3.0%	0.9%
Short Term	1.0%	3 Month T-Bill	0.0%	1.0%

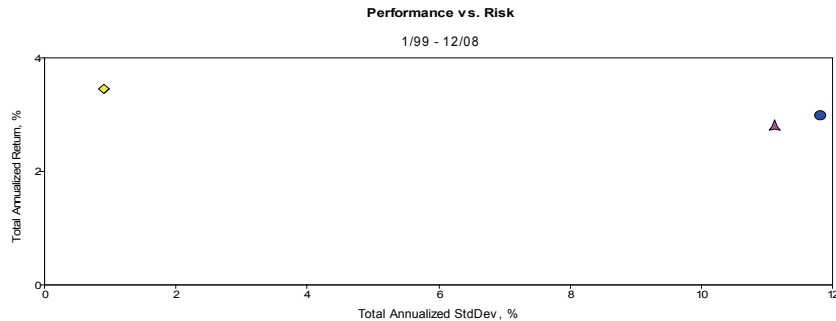
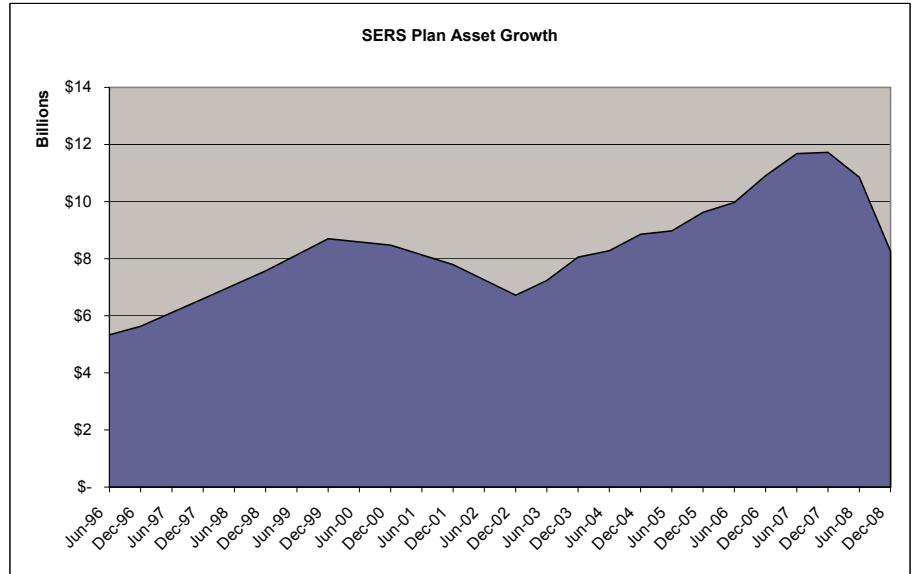
As of the end of the fourth quarter, OP&F is overweight in fixed income, real estate, alternative investments and cash, while being underweight in domestic and international equity.

# **School Employees Retirement System (SERS)**

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# School Employees Retirement System

SERS Returns					
Portfolio	Two Quarters	One Year	Three Years	Five Years	Ten Years
<b>US Equity</b>					
Actual	-30.10%	-38.67%	-9.99%	-2.73%	-1.05%
Benchmark	-29.52%	-37.31%	-8.63%	-1.95%	-0.80%
Difference	-0.58%	-1.36%	-1.36%	-0.78%	-0.25%
<b>Fixed Income</b>					
Actual	-4.76%	-5.67%	1.58%	2.46%	4.86%
Benchmark	4.07%	5.24%	5.50%	4.65%	5.63%
Difference	-8.83%	-10.91%	-3.92%	-2.19%	-0.77%
<b>Intl. Equity</b>					
Actual	-38.76%	-45.30%	-7.05%	3.87%	2.56%
Benchmark	-35.84%	-43.41%	-7.03%	3.17%	1.97%
Difference	-2.92%	-1.89%	-0.02%	0.70%	0.59%
<b>Real Estate</b>					
Actual	-8.60%	-8.03%	7.87%	11.84%	10.12%
Benchmark	-7.64%	-4.73%	8.33%	11.77%	10.90%
Difference	-0.96%	-3.30%	-0.46%	0.07%	-0.78%
<b>Private Equity</b>					
Actual	-3.18%	4.40%	14.35%	15.03%	8.59%
Benchmark	-7.94%	-18.98%	3.27%	8.21%	4.24%
Difference	4.76%	23.38%	11.08%	6.82%	4.35%



	Annualized Return, %		Annualized StdDev, %		MPT Statistics	
	Total	Total	Total	Total	Alpha, %	Sharpe Ratio
SERS	3.00	11.81	11.81	11.81	0.24	0.02
SERS Policy Index	2.79	11.12	11.12	11.12	-0.04	0.00
91-Day Treasury Bill	3.45	0.90	0.90	0.90	0.00	NA

	Asset Mix		
	Actual December 31, 2008	Target	Difference
US Equity	26.9%	29.8%	-2.9%
Intl. Equity	25.9%	29.8%	-3.9%
Alternative Assets	8.4%	5.4%	3.0%
Total Equity	61.3%	65.0%	-3.8%
Fixed Income	21.0%	24.0%	-3.0%
Real Estate	14.2%	10.0%	4.2%
Short Term Investments	3.6%	1.0%	2.6%
Total Debt	38.7%	35.0%	3.8%
	100.0%	100.0%	0.0%

### Characteristic Data

Assets at 12/31/2008 \$ 8,258,191,626  
 Actuarial Interest Rate: 8.00%  
 Investment Staff Size: 14

# School Employees Retirement System

## Performance Overview

Returns for Period Ending December 31, 2008

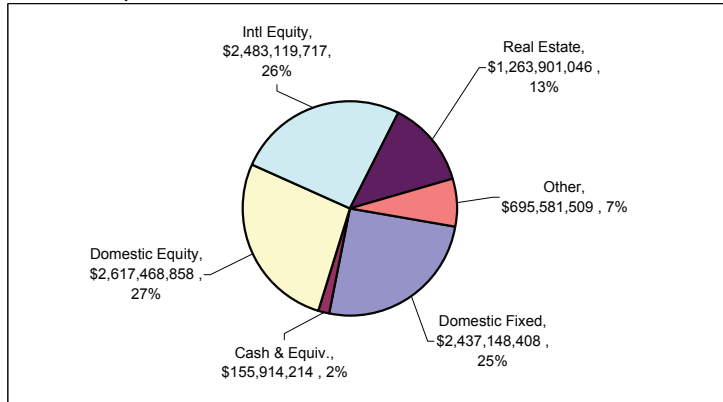
	<u>2 Qtrs</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund	-22.63	-27.74	-2.96	2.48	3.00
Policy Index	-20.38	-25.82	-2.37	2.57	2.79
Domestic Equity	-30.10	-38.67	-9.99	-2.73	-1.05
Domestic Equity Segment Median	-30.37	-37.57	-9.09	-2.12	-0.07
Wilshire 5000	-29.54	-37.23	-8.44	-1.69	-0.61
International Equity	-38.76	-45.30	-7.05	3.87	2.56
International Equity Segment Median	-38.16	-44.58	-6.70	2.62	3.26
MSCI EAFE	-36.41	-43.38	-7.35	1.66	0.80
Fixed Income	-4.76	-5.67	1.58	2.46	4.86
Fixed Income Segment Median	-3.98	-4.11	2.45	3.11	5.21
BC Aggregate	4.07	5.24	5.51	4.65	5.63
Cash	2.33	4.12	4.88	3.89	4.07
Real Estate	-8.60	-8.03	7.87	11.84	10.12
NCREIF	-8.45	-6.46	8.10	11.67	10.48
Alternatives	-3.18	4.40	14.35	15.03	8.59

For the trailing ten-year period, the fund exceeded its policy index by 21 basis points. The more recent one-year period shows that the fund underperformed its policy index by 192 basis points. Weak performance in domestic equity, international equity, fixed income and real estate detracted from relative results.

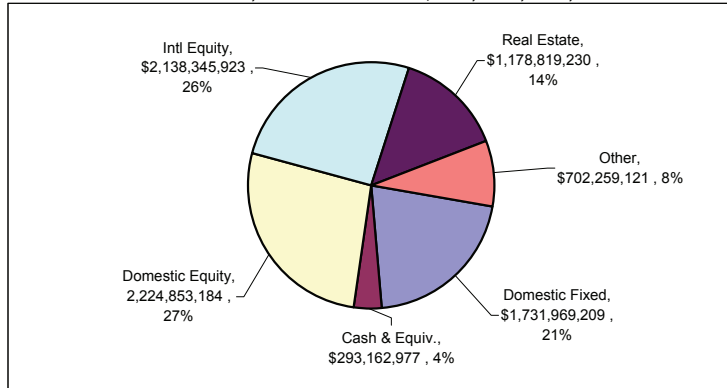
# School Employees Retirement System

**Asset Allocation  
SERS**

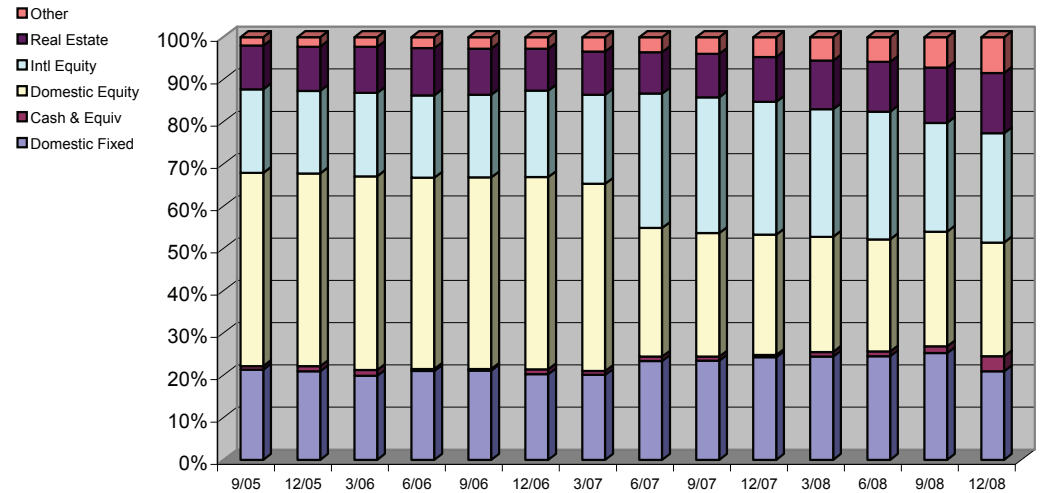
September 30, 2008      \$ 9,653,133,752



December 31, 2008      \$ 8,258,191,626



**Asset Allocation  
SERS**



	9/05	12/05	3/06	6/06	9/06	12/06	3/07	6/07	9/07	12/07	3/08	6/08	9/08	12/08
Domestic Fixed %	21.3	20.9	19.9	21.0	21.1	20.2	20.1	23.4	23.5	24.3	24.5	24.5	25.3	21.0
Cash & Equiv. %	0.8	1.7	1.4	0.5	0.4	1.2	0.9	1.0	1.0	0.5	1.0	1.1	1.6	3.6
Domestic Equity %	45.7	45.1	45.8	45.2	45.3	45.5	44.3	30.4	29.2	28.5	27.3	26.5	27.1	26.9
Intl Equity %	19.8	19.5	19.7	19.5	19.5	20.4	21.1	31.8	32.1	31.4	30.1	30.2	25.7	25.9
Real Estate %	10.3	10.5	10.9	11.2	10.9	9.9	10.2	9.8	10.2	10.6	11.5	11.8	13.1	14.2
Other %	2.0	2.3	2.3	2.6	2.8	2.8	3.4	3.6	4.0	4.7	5.6	5.9	7.2	8.4
Total Value (\$bil)	9.4	9.6	10.1	10.0	10.3	10.9	11.1	11.7	11.9	11.7	10.9	10.8	9.7	8.3

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 last two quarters of 2008. The chart on the right tracks the quarterly asset allocation of the fund over the last fourteen quarters.

# School Employees Retirement System

Quarter Ending 12/31/2008

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Mar-94	Sep-94	45.0	Standard & Poors 500
			28.0	ML Domestic Master Bond Idx
			10.0	MSCI EAFE (Net)
			10.0	NCREIF Classic Ppty Idx (1 Qtr arrear)
			5.0	Citigroup 30 Day T-Bill
		2.0	S&P 500 + 5%	
	Dec-94	Dec-94	45.0	Standard & Poors 500
			28.0	ML Domestic Master Bond Idx
			10.0	MSCI EAFE 50% Hedged
			10.0	NCREIF Classic Ppty Idx (1 Qtr arrear)
			5.0	Citigroup 30 Day T-Bill
		2.0	S&P 500 + 5%	
	Mar-95	Jun-95	45.0	Russell 3000
			28.0	ML Domestic Master Bond Idx
			10.0	MSCI EAFE 50% Hedged
			10.0	NCREIF Classic Ppty Idx (1 Qtr arrear)
			5.0	Citigroup 30 Day T-Bill
		2.0	S&P 500 + 5%	
	Sep-95	Mar-97	45.0	Russell 3000
			28.0	BC Aggregate
			10.0	MSCI EAFE 50% Hedged
			10.0	NCREIF Classic Ppty Idx (1 Qtr arrear)
			5.0	Citigroup 30 Day T-Bill
		2.0	S&P 500 + 5%	
	Jun-97	Jun-97	45.0	Russell 3000
			28.0	BC Aggregate
			15.0	MSCI EAFE 50% Hedged
			10.0	NCREIF Classic Ppty Idx (1 Qtr arrear)
			1.0	Citigroup 30 Day T-Bill
		1.0	S&P 500 + 5%	

Label	Quarter Start	Quarter End	Percent	Description		
Policy Index (cont.)	Sep-97	Jun-99	45.0	Russell 3000		
			28.0	BC Aggregate		
			14.5	MSCI EAFE 50% Hedged		
			0.5	MSCI Em Mkts Free		
			10.0	NCREIF		
			1.0	Citigroup 30 Day T-Bill		
			1.0	S&P 500 +5%		
					45.0	Russell 3000
					28.0	BC Aggregate
					14.0	MSCI EAFE 50% Hedged
		1.0	MSCI Em Mkts Free			
		10.0	NCREIF			
		1.0	Citigroup 30 Day T-Bill			
		1.0	S&P 500 +5%			
	Mar-00	Jun-01	48.0	Russell 3000		
			23.0	BC Aggregate		
			16.0	MSCI ACWI ex US (Developed - 50% Hdg)		
			10.0	NCREIF		
			1.0	S&P 500 +5%		
		2.0	Citigroup 30 Day T-Bill			
	Sep-01	Jun-02	47.0	Russell 3000		
			23.0	BC Aggregate		
			16.0	MSCI ACWI ex US (Developed - 50% Hdg)		
			10.0	NCREIF		
			2.0	Private Equity (0% return arrears switch)		
		2.0	Citigroup 30 Day T-Bill			
	Sep-02	Mar-07	46.0	Russell 3000		
			23.0	BC Aggregate		
			16.0	MSCI ACWI ex US (Developed - 50% Hdg)		
			10.0	80% NCREIF (arrears), 20% NAREIT		
			3.0	S&P 500 (1Qtr arrears) + 3%		
		2.0	Citigroup 30 Day T-Bill			



# School Employees Retirement System

Quarter Ending 12/31/2008

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Mar-07*	Dec-07	30.0	Russell 3000
			24.0	BC Aggregate
			30.0	MSCI ACWI ex US (Developed - 50% Hdg)
			10.0	80% NCREIF (arrears), 20% NAREIT
			5.0	S&P 500 (1Qtr arrears) + 3%
			1.0	Citigroup 30 Day T-Bill
	Dec-07	Dec-08	29.8	Russell 3000
			24.0	BC Aggregate
			29.8	MSCI ACWI ex US (Developed - 50% Hdg)
			10.0	80% NCREIF (arrears), 20% NAREIT
			5.4	S&P 500 (1Qtr arrears) + 3%
			1.0	Citigroup 30 Day T-Bill

\*The current SERS custom policy index calculation was implemented on May 31, 2007.

SERS' custom policy index is shown above.

# School Employees Retirement System

## Asset Allocation Actual vs. Benchmark September 30, 2008

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	27.1%	Russell 3000	29.8%	-2.7%
Fixed Income	25.3%	BC Aggregate	24.0%	1.3%
Intl. Equity	25.7%	MSCI ACWI ex US (Developed - 50% Hdg)	29.8%	-4.1%
Real Estate	13.1%	Custom RE (1 Qtr arrears)	5.4%	7.7%
Alternative Investments	7.2%	S&P 500 (1 Qtr arrears) + 3%	10.0%	-2.8%
Short Term	1.6%	Citigroup 30 Day T-Bill	1.0%	0.6%

## December 31, 2008

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	26.9%	Russell 3000	29.8%	-2.9%
Fixed Income	21.0%	BC Aggregate	24.0%	-3.0%
Intl. Equity	25.9%	MSCI ACWI ex US (Developed - 50% Hdg)	29.8%	-3.9%
Real Estate	14.2%	Custom RE (1 Qtr arrears)	5.4%	8.8%
Alternative Investments	8.4%	S&P 500 (1 Qtr arrears) + 3%	10.0%	-1.6%
Short Term	3.6%	Citigroup 30 Day T-Bill	1.0%	2.6%

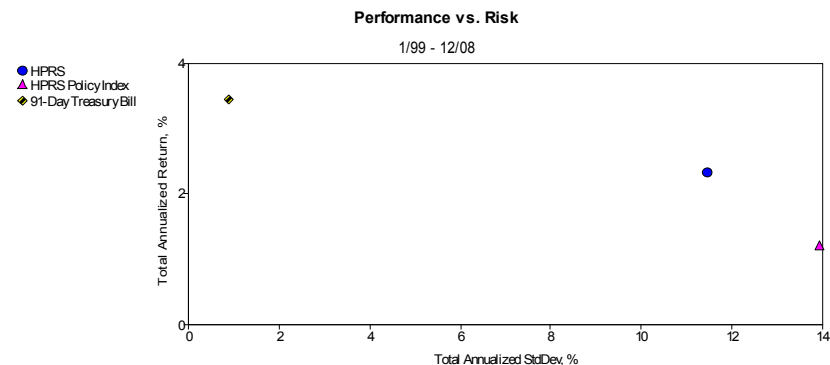
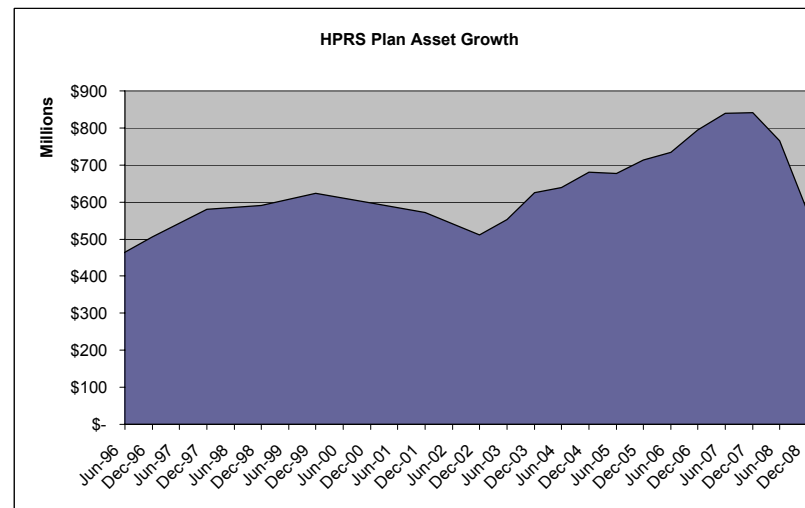
As of the end of the fourth quarter, SERS is overweight in real estate and cash, while being underweight in domestic and international equity, fixed income and alternative investments.

# Highway Patrol Retirement System (HPRS)

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# Highway Patrol Retirement System

HPRS Returns					
Portfolio	Two Quarters	One Year	Three Years	Five Years	Ten Years
<b>US Equity</b>					
Actual	-30.71%	-38.33%	-9.30%	-1.84%	-0.98%
Benchmark	-29.40%	-36.92%	-8.65%	-1.75%	0.49%
Difference	-1.31%	-1.41%	-0.65%	-0.09%	-1.47%
<b>Fixed Income</b>					
Actual	-2.06%	-1.09%	3.61%	4.11%	5.70%
Benchmark	4.07%	5.23%	5.49%	4.64%	5.63%
Difference	-6.13%	-6.32%	-1.88%	-0.53%	0.07%
<b>Intl. Equity</b>					
Actual	-36.39%	-42.00%	-5.10%	2.68%	2.57%
Benchmark	-39.25%	-45.24%	-6.74%	2.06%	1.00%
Difference	2.86%	3.24%	1.64%	0.62%	1.57%
<b>Real Estate</b>					
Actual	-13.14%	-29.77%	-4.65%	1.82%	5.43%
Benchmark	-8.45%	-6.46%	8.10%	11.67%	10.48%
Difference	-4.69%	-23.31%	-12.75%	-9.85%	-5.05%
<b>Alternative Investments</b>					
Actual	-12.32%	-13.64%	N/A	N/A	N/A
Benchmark	-17.99%	-19.98%	N/A	N/A	N/A
Difference	5.67%	6.34%	N/A	N/A	N/A



	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
HPRS	2.33	11.44	-0.45	-0.04
HPRS Policy Index	1.19	13.93	-1.26	-0.09
91-Day Treasury Bill	3.45	0.90	0.00	NA

Asset Mix			
	Actual December 31, 2008	Target	Difference
US Equity	41.4%	45.0%	-3.6%
Intl. Equity	13.4%	15.0%	-1.6%
Alternative Assets	20.9%	15.0%	5.9%
<b>Total Equity</b>	<b>75.8%</b>	<b>75.0%</b>	<b>0.8%</b>
Fixed Income	21.9%	20.0%	1.9%
Real Estate	2.1%	5.0%	-2.9%
Short Term Investments	0.2%	0.0%	0.2%
<b>Total Debt</b>	<b>24.2%</b>	<b>25.0%</b>	<b>-0.8%</b>
	100.0%	100.0%	0.0%

## Characteristic Data

Assets at 12/31/2008 \$ 576,464,728  
 Actuarial Interest Rate: 8.00%  
 Investment Staff Size: 1

# Highway Patrol Retirement System

## Performance Overview

Returns for Period Ending December 31, 2008

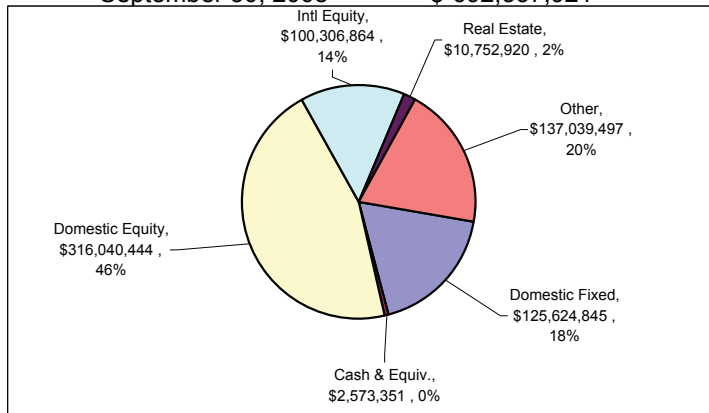
	<u>2 Qtrs</u>	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund	-22.93	-28.31	-3.92	1.34	2.33
Policy Index	-25.09	-31.37	-5.36	0.29	1.19
Domestic Equity	-30.71	-38.33	-9.30	-1.84	-0.98
Domestic Equity Segment Median	-30.37	-37.57	-9.09	-2.12	-0.07
Wilshire 5000	-29.54	-37.23	-8.44	-1.69	-0.61
International Equity	-36.39	-42.00	-5.10	2.68	2.57
International Equity Segment Median	-38.16	-44.58	-6.70	2.62	3.26
MSCI EAFE	-36.41	-43.38	-7.35	1.66	0.80
Fixed Income	-2.06	-1.09	3.61	4.11	5.70
Fixed Income Segment Median	-3.98	-4.11	2.45	3.11	5.21
BC Aggregate	4.07	5.24	5.51	4.65	5.63
Cash	0.92	2.74	4.77	4.07	3.87
Real Estate	-13.14	-29.77	-4.65	1.82	5.43
NCREIF	-8.45	-6.46	8.10	11.67	10.48
Alternatives	-12.32	-13.64	NA	NA	NA

Over the ten-year period as of December 31, 2008, the fund's total return outperformed its policy index by 114 basis points. The more recent one-year period shows that HPRS bested the policy index by 306 basis points.

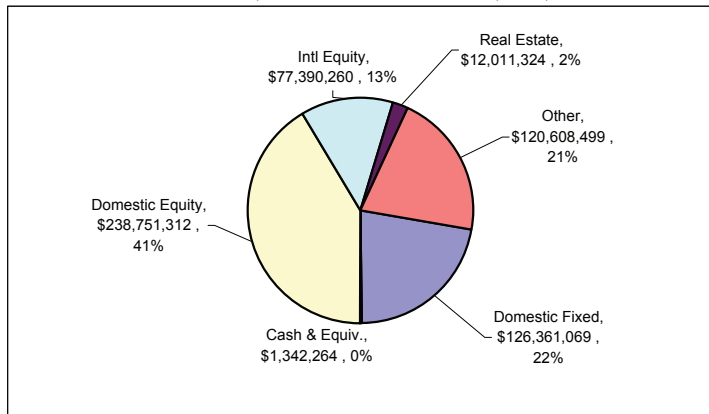
# Highway Patrol Retirement System

**Asset Allocation  
HPRS**

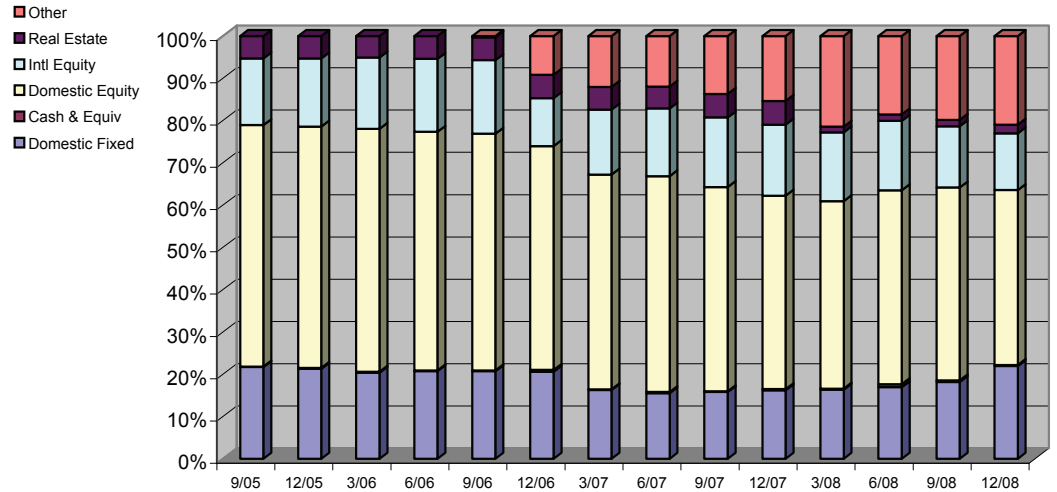
September 30, 2008 \$ 692,337,921



December 31, 2008 \$ 576,464,728



**Asset Allocation  
HPRS**



	9/05	12/05	3/06	6/06	9/06	12/06	3/07	6/07	9/07	12/07	3/08	6/08	9/08	12/08
Domestic Fixed %	21.7	21.3	20.3	20.7	20.7	20.6	16.2	15.5	15.8	16.2	16.3	16.9	18.1	21.9
Cash & Equiv. %	0.1	0.2	0.2	0.2	0.2	0.4	0.2	0.3	0.2	0.3	0.2	0.7	0.4	0.3
Domestic Equity %	57.1	57.1	57.5	56.5	56.0	53.0	50.8	51.1	48.3	45.8	44.4	45.9	45.7	41.4
Intl Equity %	15.8	16.1	16.9	17.3	17.4	11.4	15.4	16.0	16.5	16.8	16.3	16.4	14.5	13.4
Real Estate %	5.3	5.3	5.1	5.4	5.4	5.5	5.4	5.2	5.6	5.6	1.3	1.5	1.5	2.1
Other %					0.3	9.1	12.0	11.9	13.7	15.3	21.5	18.5	19.8	20.9
Total Value (\$mil)	702.5	713.7	749.9	733.6	753.8	794.6	805.4	839.0	845.9	841.4	775.7	764.8	692.3	576.5

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 last two quarters of 2008. The chart on the right tracks the quarterly asset allocation of the fund over the last fourteen quarters.

# Highway Patrol Retirement System

## Quarter Ending 12/31/2008

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Mar-94	Dec-95	50.0	BC Aggregate
			50.0	Standard & Poors 500
	Mar-96	Dec-97	50.0	Standard & Poors 500
			40.0	BC Aggregate
			5.0	MSCI EAFE (Net)
			5.0	NCREIF
	Mar-98	Sep-99	40.0	Standard & Poors 500
			25.0	BC Aggregate
			15.0	Russell 2000
			10.0	MSCI EAFE (Net)
			10.0	NCREIF
	Dec-99	Dec-01	40.0	Standard & Poors 500
			20.0	Russell 2000
20.0			BC Aggregate	
10.0			MSCI EAFE (Net)	
10.0			NCREIF	
Mar-02	Dec-02	40.0	Standard & Poors 500	
		20.0	Russell 2500	
		20.0	BC Aggregate	
		10.0	MSCI EAFE (Net)	
Mar-03	Dec-06	32.0	Standard & Poors 500	
		16.0	Russell 2500	
		25.0	BC Aggregate	
		15.0	MSCI EAFE (Net)	
		12.0	NCREIF	

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Mar-07	Jun-07	32.0	Standard & Poors 500
			18.0	Russell 2500
			15.0	MSCI ACWI ex US
			5.0	NCREIF
			10.0	CPI + 5%
			5.0	HFRI Fund of Funds
	Sep-07	Dec-08	15.0	BC Aggregate
			30.0	Standard & Poors 500
			15.0	Russell 2500
			20.0	BC Aggregate
			15.0	MSCI ACWI ex US
			5.0	NCREIF
			10.0	CPI + 5%
		5.0	HFRI Fund of Funds	

HPRS' custom policy index is shown above.

# Highway Patrol Retirement System

## Asset Allocation Actual vs. Benchmark September 30, 2008

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	45.7%	30% S & P 500 / 15% Russell 2500	45.0%	0.7%
Fixed Income	18.2%	BC Aggregate	20.0%	-1.8%
Intl. Equity	14.5%	MSCI AC World Index ex US	15.0%	-0.5%
Real Estate	1.6%	NCREIF	5.0%	-3.4%
Alternative Investments	19.8%	5% HFRI FOF / 10% CPI + 5%	15.0%	4.8%
Short Term	0.4%	3 Month T-Bill	0.0%	0.4%

## December 31, 2008

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	41.4%	30% S & P 500 / 15% Russell 2500	45.0%	-3.6%
Fixed Income	21.9%	BC Aggregate	20.0%	1.9%
Intl. Equity	13.4%	MSCI AC World Index ex US	15.0%	-1.6%
Real Estate	2.1%	NCREIF	5.0%	-2.9%
Alternative Investments	20.9%	5% HFRI FOF / 10% CPI + 5%	15.0%	5.9%
Short Term	0.2%	3 Month T-Bill	0.0%	0.2%

As of the end of fourth quarter, HPRS is overweight fixed income, alternative investments and cash, while being underweight in domestic equity, international equity and real estate.



## **Index Definitions**

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# 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 8% of the Russell 3000 total market capitalization.

**Russell 2500** – A small-cap index consisting of the smallest 2500 companies in the Russell 3000 index, representing approximately 20% 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.

**S&P 500** – The Standard & Poors 500 is a commonly used benchmark of the U.S. equities market. This market capitalization-weighted index includes 500 leading companies in leading industries of the U.S. economy.

**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.

**DJ 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

**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** – A capitalization-weighted index of stocks from 25 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 and Thailand.

**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.

**Citigroup 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.

**BC 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 they 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

**BC 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).

**BC 1-3 Yr US Government** – An index that includes securities issued by the U.S. Government (i.e., Treasury and Agency Securities) with a maturity from one year up to but not including three years.

**BC US Tips** – An index that consists of Inflation-Protection securities issued by the U.S. Treasury.

**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.

## **Performance Comparison**

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# Ohio Retirement Study Council

## Performance Summary Table

Periods Ending 12/31/08

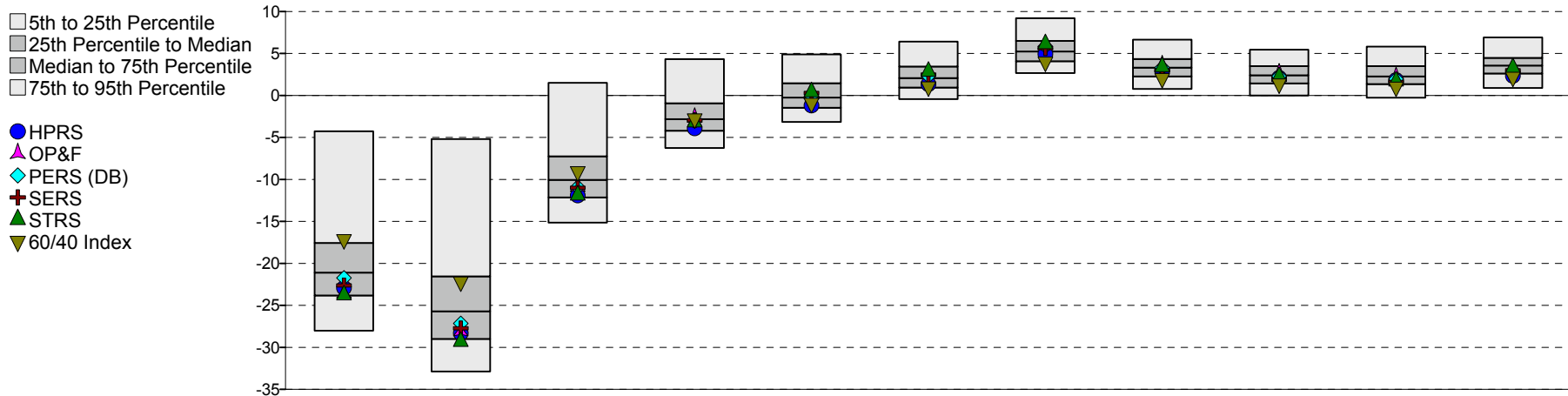
	2 Qtrs	1 Yr	3 Yrs	5 Yrs	10 Yrs	Incept Date
<b>HPRS</b>						
Total Return	-22.93	-28.31	-3.92	1.34	2.33	12/31/93
Domestic Equity	-30.71	-38.33	-9.30	-1.84	-0.98	12/31/93
Fixed Income	-2.06	-1.09	3.61	4.11	5.70	12/31/93
Cash & Equiv	0.92	2.74	4.77	4.07	3.87	3/31/94
Real Estate	-13.14	-29.77	-4.65	1.82	5.43	12/31/93
International Equity	-36.39	-42.00	-5.10	2.68	2.57	3/31/95
Alternatives	-12.32	-13.64	NA	NA	NA	12/31/06
<b>PERS (Defined Benefit Plan)</b>						
Total Return	-21.73	-27.15	-2.99	2.33	2.92	12/31/93
Domestic Equity	-30.18	-37.83	-9.12	-2.13	-1.15	12/31/93
Fixed Income	-3.41	-4.43	2.00	2.99	4.93	12/31/93
Long Duration Fixed Income	7.84	6.33	NA	NA	NA	12/31/06
Cash & Equiv	0.82	1.99	4.19	3.48	3.58	12/31/93
Real Estate	-6.30	-3.53	9.54	NA	NA	3/31/05
Public Real Estate	-37.67	-39.79	-12.27	NA	NA	3/31/06
International Equity	-39.80	-45.80	-7.10	2.79	2.84	9/30/96
Alternatives	-7.72	-7.36	11.89	18.00	13.70	12/31/95
<b>PERS (Health Care Plan)</b>						
Total Return	-22.11	-25.77	-3.64	NA	NA	12/31/04
Domestic Equity	-30.18	-37.83	-9.12	NA	NA	12/31/04
Fixed Income	-3.41	-4.40	1.97	NA	NA	12/31/04
Cash & Equiv	0.78	1.94	4.22	NA	NA	12/31/04
Public Real Estate	-37.67	-39.79	-12.26	NA	NA	12/31/04
International Equity	-39.82	-45.80	-7.07	NA	NA	12/31/04
TIPS	-6.81	-2.13	3.24	NA	NA	2/28/05
Short Duration	-3.71	-6.71	0.24	NA	NA	2/28/05
Alternatives	-18.96	NA	NA	NA	NA	3/31/08
<b>OP&amp;F</b>						
Total Return	-23.53	-28.05	-2.63	2.64	3.33	3/31/88
Domestic Equity	-31.11	-38.03	-9.16	-1.83	0.02	12/31/91
Fixed Income	-5.30	-3.75	2.61	3.72	5.85	3/31/88
Cash & Equiv	0.86	2.05	3.96	3.25	3.42	12/31/91
Real Estate	-3.38	2.08	15.96	17.46	14.02	3/31/88
International Equity	-39.19	-45.71	-5.66	3.22	2.05	9/30/94
Alternatives	-7.81	-2.32	14.79	15.49	8.45	12/31/88

	2 Qtrs	1 Yr	3 Yrs	5 Yrs	10 Yrs	Incept Date
<b>SERS</b>						
Total Return	-22.63	-27.74	-2.96	2.48	3.00	12/31/93
Domestic Equity	-30.10	-38.67	-9.99	-2.73	-1.05	12/31/93
Fixed Income	-4.76	-5.67	1.58	2.46	4.86	12/31/93
Cash & Equiv	2.33	4.12	4.88	3.89	4.07	12/31/93
Real Estate	-8.60	-8.03	7.87	11.84	10.12	12/31/93
International Equity	-38.76	-45.30	-7.05	3.87	2.56	12/31/94
Alternatives	-3.18	4.40	14.35	15.03	8.59	12/31/93
<b>STRS</b>						
Total Return	-23.76	-29.32	-3.18	2.87	3.30	12/31/93
Domestic Equity	-28.87	-38.12	-9.09	-2.16	-1.12	12/31/93
Fixed Income	-3.65	-2.51	3.16	3.51	5.37	12/31/93
Cash & Equiv	0.48	1.91	4.02	3.33	3.55	12/31/93
Real Estate	-7.32	-4.87	15.37	19.30	14.16	12/31/93
International Equity	-36.51	-43.51	-6.69	4.24	4.57	12/31/93
Alternatives	-9.47	-6.68	11.23	14.92	7.22	12/31/93
<b>Indices</b>						
Russell 1000	-29.72	-37.60	-8.66	-2.04	-1.09	
Russell 2000	-26.95	-33.80	-8.29	-0.93	3.02	
Russell 2500	-31.21	-36.78	-9.37	-0.98	4.09	
Russell 3000	-29.53	-37.31	-8.63	-1.95	-0.80	
Standard & Poors 500	-28.48	-37.00	-8.36	-2.19	-1.38	
S&P 500 Equal Wtd	-32.38	-39.72	-10.84	-2.18	2.37	
S&P 600 Small Cap	-25.81	-31.07	-7.51	0.88	5.18	
S&P 400 Mid Cap	-33.64	-36.23	-8.76	-0.08	4.46	
DJ Wilshire 5000	-29.54	-37.23	-8.44	-1.69	-0.61	
MSCI EAFE (Net)	-36.41	-43.38	-7.35	1.66	0.80	
MSCI Em Mkts Free (Gross)	-47.01	-53.18	-4.62	8.02	9.31	
MSCI World ex-U.S. (Net)	-37.45	-45.24	-6.57	3.00	2.27	
Citigroup Broad Inv Grade	5.53	7.02	6.18	5.11	5.86	
BC Aggregate	4.07	5.24	5.51	4.65	5.63	
BC Mortgage	6.29	8.34	6.81	5.54	6.04	
BC 1-3 Yr US Gov't	4.46	6.66	5.95	4.11	4.80	
BC Long-Term Gov't/Credit	9.21	8.44	5.89	6.31	6.63	
BC US TIPS	-6.90	-2.35	3.06	4.07	6.79	
NCREIF Property	-8.45	-6.46	8.10	11.67	10.48	
Wilshire Resi Full Cap	-37.70	-39.83	-12.41	0.62	7.33	

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.

## Total Plans vs. Mellon All Total Fund Universe Performance and Rank Data as of 12/31/08

### Cumulative Performance Comparison



Return, %

	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS	-22.93	-28.31	-11.92	-3.92	-1.20	1.34	4.94	2.92	2.10	1.83	2.33
OP&F	-23.53	-28.05	-10.85	-2.63	0.17	2.64	6.06	3.62	2.65	2.23	3.33
PERS (DB)	-21.73	-27.15	-10.91	-2.99	-0.07	2.33	5.85	3.31	2.29	1.95	2.92
SERS	-22.63	-27.74	-11.00	-2.96	0.30	2.48	5.64	2.99	1.88	1.60	3.00
STRS	-23.76	-29.32	-11.88	-3.18	0.43	2.87	6.15	3.41	2.23	1.70	3.30
60/40 Index	-17.15	-22.19	-9.06	-2.77	-0.91	1.04	4.00	2.03	1.39	1.00	2.18
Universe(5%)	-4.26	-5.20	1.51	4.33	4.89	6.42	9.20	6.64	5.46	5.82	6.92
Universe(25%)	-17.56	-21.55	-7.25	-0.93	1.46	3.44	6.49	4.34	3.50	3.50	4.47
Universe(Median)	-21.10	-25.71	-10.05	-2.82	-0.26	2.06	5.24	3.31	2.40	2.26	3.56
Universe(75%)	-23.82	-28.99	-12.14	-4.20	-1.46	0.94	4.08	2.28	1.44	1.36	2.63
Universe(95%)	-28.02	-32.88	-15.15	-6.25	-3.15	-0.44	2.66	0.79	0.00	-0.27	0.89

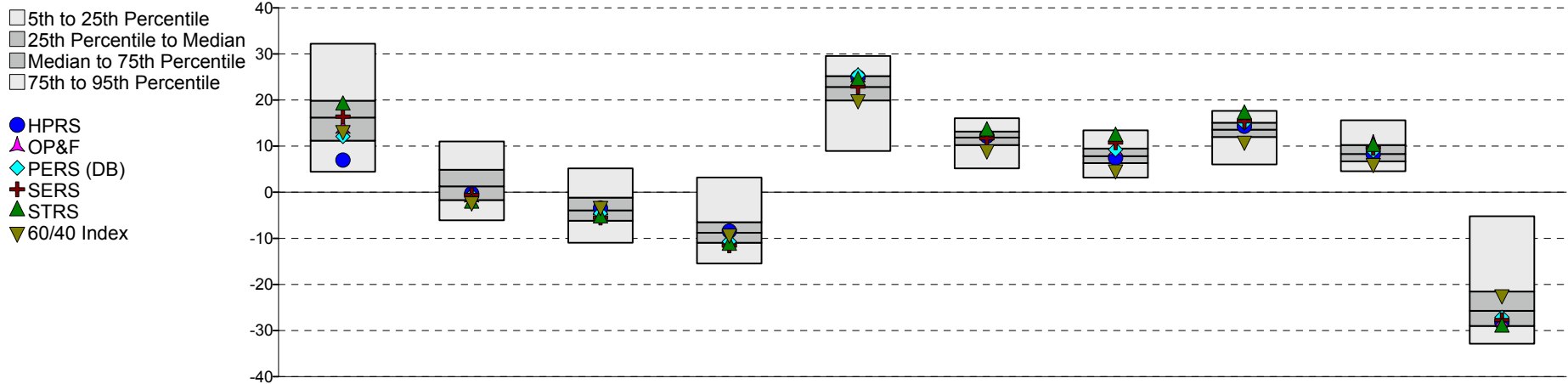
Percentile Rank

	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS	66	72	73	70	70	68	57	60	60	62	82
OP&F	73	70	59	46	41	37	31	38	43	52	58
PERS (DB)	55	64	60	54	46	43	35	50	54	58	70
SERS	63	67	61	53	40	40	40	58	65	71	69
STRS	74	78	72	56	38	33	30	45	58	67	59
60/40 Index	23	28	40	49	63	73	77	78	77	82	84

This page compares the Total Fund results to a broad universe of total funds – 388 other funds, including those of public, corporate, and multi-employer pension plans and totaling \$1.2 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 (DJ Wilshire 5000 Index) and 40% bonds (Barclays 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 OP&F has demonstrated the highest return for the ten-year period with an 3.33% annualized return, which ranks the fund in the 58th percentile followed by STRS (59th percentile), SERS (69th percentile), PERS DB (70th percentile) and HPRS (82nd percentile).

**Total Plans vs. Mellon All Total Fund Universe  
Performance and Rank Data as of 12/31/08**

**Calendar Year Performance**



Return, %

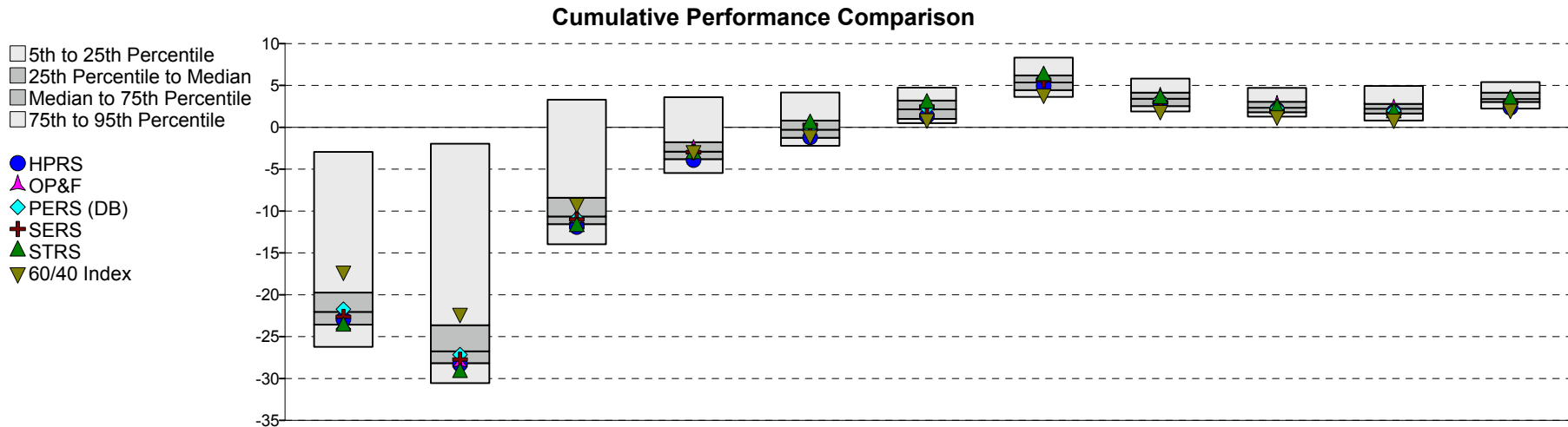
	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04	1/05 - 12/05	1/06 - 12/06	1/07 - 12/07	1/08 - 12/08
HPRS	6.96	-0.29	-3.46	-8.42	24.96	12.18	7.42	14.32	8.22	-28.31
OP&F	13.81	-1.10	-3.88	-9.89	24.97	13.13	9.06	16.15	10.47	-28.05
PERS (DB)	12.10	-0.72	-4.57	-10.73	25.40	12.50	9.25	15.02	8.94	-27.15
SERS	16.40	-0.59	-5.52	-11.57	22.93	11.69	10.76	15.37	9.61	-27.74
STRS	18.87	-2.45	-5.66	-11.59	24.16	13.23	12.08	16.88	9.87	-29.32
60/40 Index	13.43	-2.02	-3.03	-9.01	20.14	9.25	4.90	11.12	6.30	-22.19
Universe(5%)	32.23	11.02	5.16	3.21	29.57	16.06	13.42	17.65	15.61	-5.20
Universe(25%)	19.85	4.89	-1.17	-6.51	25.19	13.17	9.47	15.07	10.25	-21.55
Universe(Median)	16.22	1.27	-3.94	-8.81	22.83	11.86	7.84	13.57	8.29	-25.71
Universe(75%)	11.20	-1.70	-6.18	-10.94	19.91	10.24	6.32	12.00	6.69	-28.99
Universe(95%)	4.44	-6.08	-10.96	-15.46	8.95	5.17	3.18	6.03	4.54	-32.88

Percentile Rank

	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04	1/05 - 12/05	1/06 - 12/06	1/07 - 12/07	1/08 - 12/08
HPRS	88	63	45	46	27	44	58	37	52	72
OP&F	62	70	49	64	27	25	29	14	23	70
PERS (DB)	71	69	57	71	23	36	27	26	41	64
SERS	49	67	68	81	49	54	15	21	31	67
STRS	31	81	69	81	36	24	9	9	28	78
60/40 Index	63	77	43	53	74	83	87	84	80	28

The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2008. PERS ranked in the 64th percentile, SERS placed in the 67th percentile, OP&F ranked in the 70th percentile, HPRS ranked in the 72nd percentile and STRS ranked in the 78th percentile.

Total Plans vs. Mellon All Public Total Fund Universe  
Performance and Rank Data as of 12/31/08



Return, %

	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS	-22.93	-28.31	-11.92	-3.92	-1.20	1.34	4.94	2.92	2.10	1.83	2.33
OP&F	-23.53	-28.05	-10.85	-2.63	0.17	2.64	6.06	3.62	2.65	2.23	3.33
PERS (DB)	-21.73	-27.15	-10.91	-2.99	-0.07	2.33	5.85	3.31	2.29	1.95	2.92
SERS	-22.63	-27.74	-11.00	-2.96	0.30	2.48	5.64	2.99	1.88	1.60	3.00
STRS	-23.76	-29.32	-11.88	-3.18	0.43	2.87	6.15	3.41	2.23	1.70	3.30
60/40 Index	-17.15	-22.19	-9.06	-2.77	-0.91	1.04	4.00	2.03	1.39	1.00	2.18
Universe(5%)	-2.94	-1.96	3.30	3.59	4.16	4.73	8.32	5.82	4.71	4.95	5.40
Universe(25%)	-19.74	-23.64	-8.41	-1.78	0.80	3.20	6.20	4.14	3.05	2.80	4.14
Universe(Median)	-22.05	-26.75	-10.65	-2.91	-0.28	2.15	5.36	3.41	2.33	2.23	3.39
Universe(75%)	-23.58	-28.17	-11.56	-3.80	-1.25	1.01	4.45	2.54	1.81	1.66	3.03
Universe(95%)	-26.23	-30.55	-13.96	-5.45	-2.21	0.49	3.64	1.89	1.28	0.82	2.24

Percentile Rank

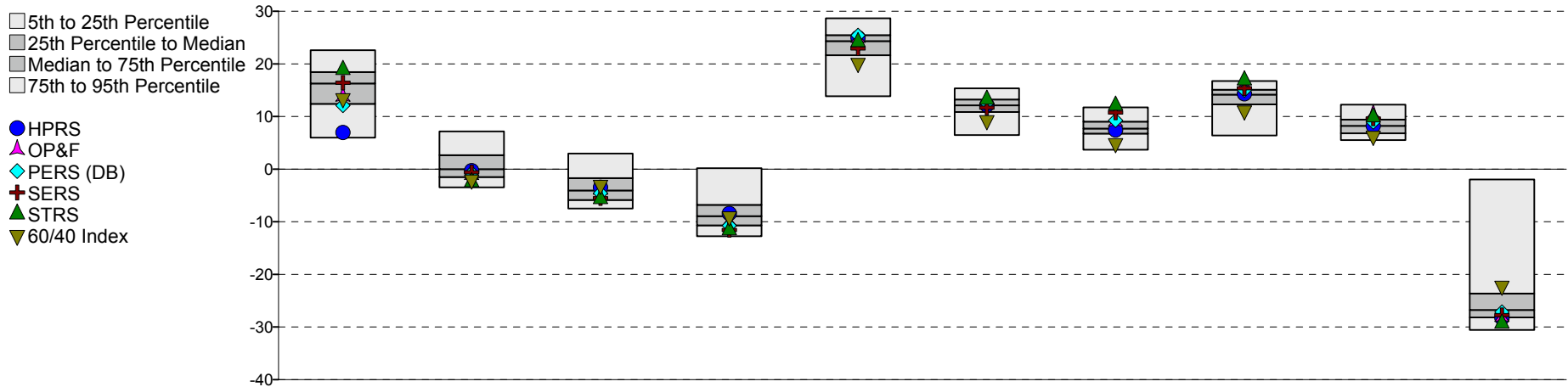
	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS	64	77	78	78	72	68	61	58	66	65	92
OP&F	75	72	56	37	37	33	27	40	37	50	53
PERS (DB)	46	58	57	52	41	40	30	54	58	64	78
SERS	59	69	59	52	36	38	37	56	72	81	77
STRS	77	85	78	56	32	31	25	50	63	67	56
60/40 Index	14	18	28	43	63	74	93	93	90	89	95

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 Mellon All Public Total Fund Universe. OP&F ranked in the 53rd percentile, STRS ranked in the 56th percentile, SERS ranked in the 77th percentile, PERS ranked in the 78th percentile and HPRS ranked in the 92nd percentile of the universe for the ten-year period.



Total Plans vs. Mellon All Public Total Fund Universe  
Performance and Rank Data as of 12/31/08

Calendar Year Performance



Return, %

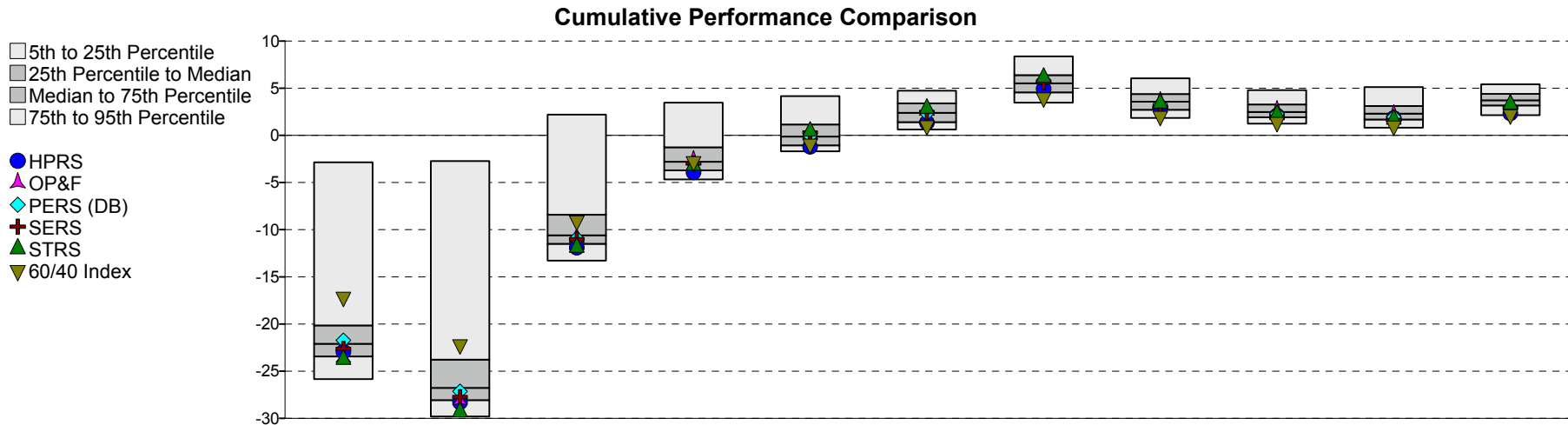
	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04	1/05 - 12/05	1/06 - 12/06	1/07 - 12/07	1/08 - 12/08
HPRS	6.96	-0.29	-3.46	-8.42	24.96	12.18	7.42	14.32	8.22	-28.31
OP&F	13.81	-1.10	-3.88	-9.89	24.97	13.13	9.06	16.15	10.47	-28.05
PERS (DB)	12.10	-0.72	-4.57	-10.73	25.40	12.50	9.25	15.02	8.94	-27.15
SERS	16.40	-0.59	-5.52	-11.57	22.93	11.69	10.76	15.37	9.61	-27.74
STRS	18.87	-2.45	-5.66	-11.59	24.16	13.23	12.08	16.88	9.87	-29.32
60/40 Index	13.43	-2.02	-3.03	-9.01	20.14	9.25	4.90	11.12	6.30	-22.19
Universe(5%)	22.58	7.15	2.96	0.17	28.66	15.35	11.73	16.75	12.25	-1.96
Universe(25%)	18.43	2.66	-1.71	-6.80	25.45	13.22	9.02	15.09	9.40	-23.64
Universe(Median)	16.27	0.00	-4.05	-8.95	24.33	12.13	7.71	14.16	8.23	-26.75
Universe(75%)	12.40	-1.51	-5.87	-10.70	21.64	10.86	6.76	12.30	6.81	-28.17
Universe(95%)	5.97	-3.47	-7.49	-12.75	13.85	6.46	3.68	6.38	5.51	-30.55

Percentile Rank

	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04	1/05 - 12/05	1/06 - 12/06	1/07 - 12/07	1/08 - 12/08
HPRS	94	52	42	45	34	48	65	45	50	77
OP&F	65	66	44	69	34	27	25	10	14	72
PERS (DB)	77	63	52	75	25	40	22	30	37	58
SERS	48	58	66	82	67	64	10	22	22	69
STRS	18	86	68	84	56	25	4	4	18	85
60/40 Index	66	82	41	53	81	85	91	84	83	18

The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2008. Four of the five plans ranked in the third quartile of this universe in 2008. STRS placed in the fourth quartile over a ten-year period.

**Total Plans vs. Mellon Large Public Total Fund Universe  
Performance and Rank Data as of 12/31/08**



Return, %

	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS	-22.93	-28.31	-11.92	-3.92	-1.20	1.34	4.94	2.92	2.10	1.83	2.33
OP&F	-23.53	-28.05	-10.85	-2.63	0.17	2.64	6.06	3.62	2.65	2.23	3.33
PERS (DB)	-21.73	-27.15	-10.91	-2.99	-0.07	2.33	5.85	3.31	2.29	1.95	2.92
SERS	-22.63	-27.74	-11.00	-2.96	0.30	2.48	5.64	2.99	1.88	1.60	3.00
STRS	-23.76	-29.32	-11.88	-3.18	0.43	2.87	6.15	3.41	2.23	1.70	3.30
60/40 Index	-17.15	-22.19	-9.06	-2.77	-0.91	1.04	4.00	2.03	1.39	1.00	2.18
Universe(5%)	-2.86	-2.72	2.20	3.47	4.16	4.73	8.38	6.05	4.79	5.13	5.41
Universe(25%)	-20.15	-23.78	-8.41	-1.27	1.16	3.39	6.39	4.38	3.27	3.11	4.40
Universe(Median)	-22.10	-26.77	-10.60	-2.79	-0.13	2.40	5.52	3.58	2.48	2.30	3.72
Universe(75%)	-23.44	-28.07	-11.50	-3.72	-1.06	1.41	4.56	2.71	1.92	1.69	3.18
Universe(95%)	-25.85	-29.81	-13.28	-4.67	-1.70	0.62	3.47	1.85	1.24	0.81	2.15

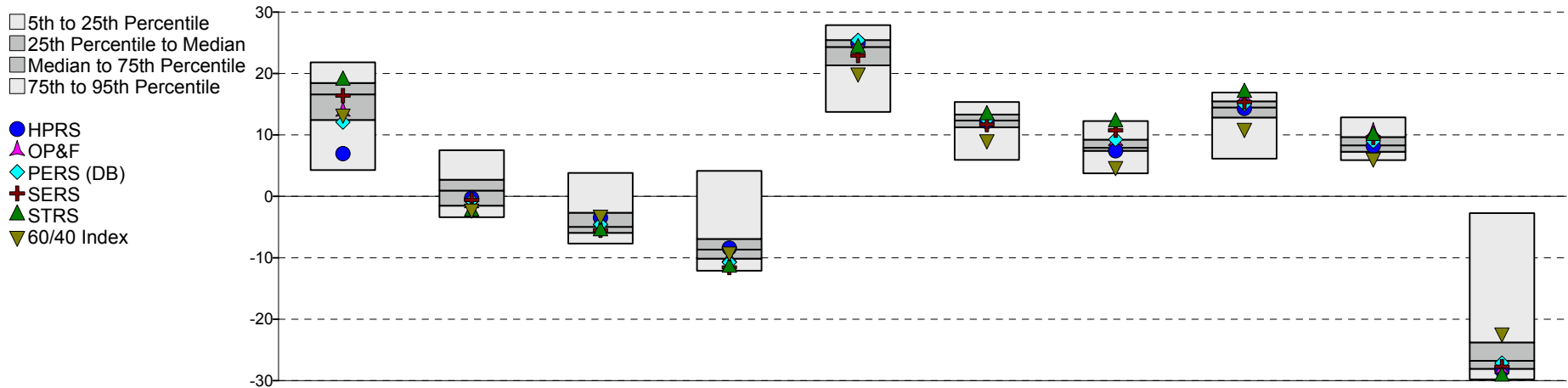
Percentile Rank

	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS	66	78	81	83	80	78	66	68	72	72	94
OP&F	77	75	56	44	45	41	33	48	43	54	61
PERS (DB)	45	58	57	58	48	51	36	63	66	71	84
SERS	60	72	58	58	43	49	45	66	76	82	84
STRS	80	87	81	62	38	38	30	58	70	74	65
60/40 Index	14	15	29	50	70	85	94	93	89	89	95

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. STRS and OP&F placed in the third quartile within the Mellon Large Public Total Fund Universe for the ten-year period, while HPRS, PERS and SERS ranked in the bottom quartile for the same period.

Total Plans vs. Mellon Large Public Total Fund Universe  
Performance and Rank Data as of 12/31/08

Calendar Year Performance



Return, %

	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04	1/05 - 12/05	1/06 - 12/06	1/07 - 12/07	1/08 - 12/08
HPRS	6.96	-0.29	-3.46	-8.42	24.96	12.18	7.42	14.32	8.22	-28.31
OP&F	13.81	-1.10	-3.88	-9.89	24.97	13.13	9.06	16.15	10.47	-28.05
PERS (DB)	12.10	-0.72	-4.57	-10.73	25.40	12.50	9.25	15.02	8.94	-27.15
SERS	16.40	-0.59	-5.52	-11.57	22.93	11.69	10.76	15.37	9.61	-27.74
STRS	18.87	-2.45	-5.66	-11.59	24.16	13.23	12.08	16.88	9.87	-29.32
60/40 Index	13.43	-2.02	-3.03	-9.01	20.14	9.25	4.90	11.12	6.30	-22.19
Universe(5%)	21.82	7.50	3.81	4.15	27.88	15.36	12.27	16.91	12.86	-2.72
Universe(25%)	18.46	2.71	-2.67	-6.93	25.45	13.32	9.23	15.46	9.64	-23.78
Universe(Median)	16.59	0.94	-4.96	-8.65	24.31	12.34	7.90	14.46	8.30	-26.77
Universe(75%)	12.45	-1.51	-5.95	-10.13	21.33	11.25	7.41	12.84	7.27	-28.07
Universe(95%)	4.27	-3.40	-7.68	-12.11	13.74	5.94	3.74	6.14	5.89	-29.81

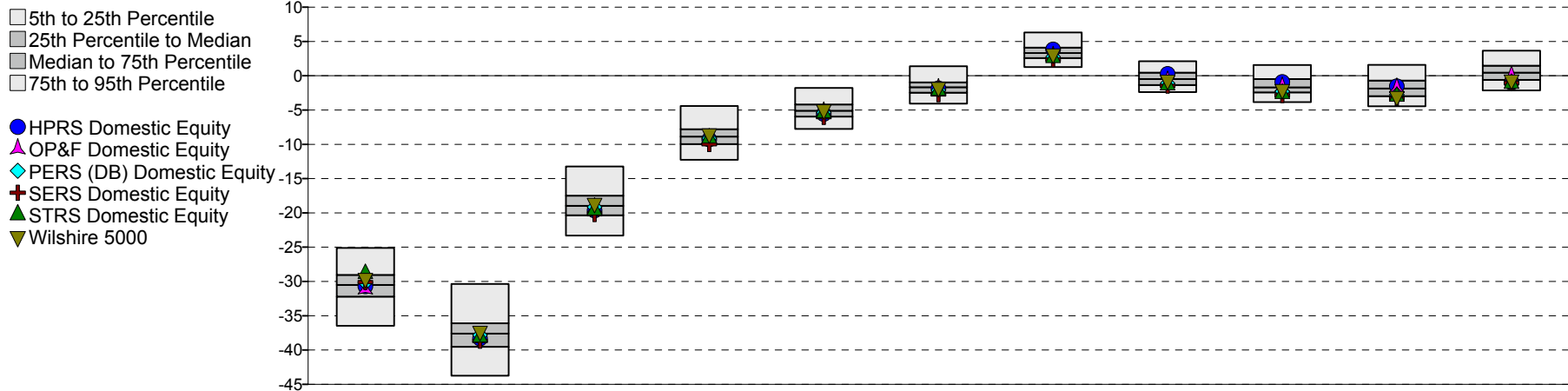
Percentile Rank

	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04	1/05 - 12/05	1/06 - 12/06	1/07 - 12/07	1/08 - 12/08
HPRS	93	55	32	47	32	54	74	52	53	78
OP&F	69	67	34	71	32	29	27	12	14	75
PERS (DB)	79	65	45	78	26	46	25	37	42	58
SERS	55	62	62	87	65	70	13	28	26	72
STRS	19	88	65	89	53	26	6	6	20	87
60/40 Index	70	83	30	58	80	90	93	91	91	15

The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2008. In 2008, all plans lagged the median return for this universe. PERS placed in the 58th percentile, SERS ranked in the 72nd percentile, OP&F ranked in the 75th percentile, HPRS ranked in the 78th percentile and STRS placed in the 87th percentile.

**Total Domestic Equities vs. Mellon All Domestic Equities Universe  
Performance and Rank Data as of 12/31/08**

**Cumulative Performance Comparison**



Return, %

	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	-30.71	-38.33	-19.65	-9.30	-5.59	-1.84	3.84	0.27	-0.91	-1.53	-0.98
OP&F Domestic Equity	-31.11	-38.03	-19.19	-9.16	-5.23	-1.83	2.88	-0.72	-1.59	-1.74	0.02
PERS (DB) Domestic Equity	-30.18	-37.83	-19.16	-9.12	-5.38	-2.13	2.75	-1.10	-2.28	-2.76	-1.15
SERS Domestic Equity	-30.10	-38.67	-20.20	-9.99	-6.04	-2.73	2.36	-1.47	-2.86	-3.31	-1.05
STRS Domestic Equity	-28.87	-38.12	-19.59	-9.09	-5.40	-2.16	2.61	-1.36	-2.61	-3.02	-1.12
Wilshire 5000	-29.54	-37.23	-18.58	-8.44	-4.94	-1.69	3.22	-0.63	-1.97	-2.99	-0.61
Universe(5%)	-25.12	-30.36	-13.23	-4.41	-1.78	1.38	6.31	2.11	1.57	1.58	3.65
Universe(25%)	-29.05	-36.11	-17.49	-7.79	-4.19	-0.97	4.10	0.44	-0.49	-0.70	1.47
Universe(Median)	-30.50	-37.60	-18.98	-8.88	-5.09	-1.67	3.32	-0.49	-1.70	-1.87	0.45
Universe(75%)	-32.20	-39.53	-20.35	-9.97	-5.95	-2.47	2.58	-1.36	-2.43	-2.98	-0.59
Universe(95%)	-36.46	-43.74	-23.31	-12.25	-7.75	-4.07	1.27	-2.38	-3.84	-4.45	-2.14

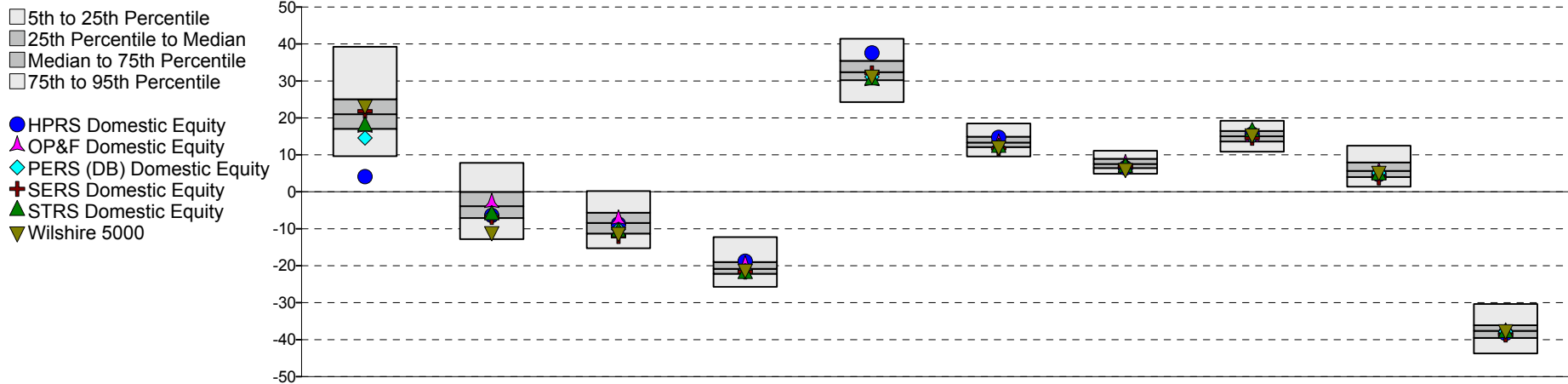
Percentile Rank

	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	54	59	66	60	68	55	34	30	32	43	81
OP&F Domestic Equity	60	55	54	56	56	54	64	57	48	48	60
PERS (DB) Domestic Equity	45	53	54	55	61	66	68	67	71	71	85
SERS Domestic Equity	43	63	74	75	78	79	79	78	87	84	83
STRS Domestic Equity	22	56	65	54	62	67	74	75	80	76	84
Wilshire 5000	33	41	42	37	43	51	53	53	61	75	75

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. When compared to equity portfolios in the broad equity universe, for the past ten years, OP&F placed in the third quartile, while SERS, PERS, STRS and HPRS ranked in the fourth quartile. The DJ Wilshire 5000 Index also ranked in the fourth quartile over the ten-year period.

**Total Domestic Equities vs. Mellon All Domestic Equities Universe  
Performance and Rank Data as of 12/31/08**

**Calendar Year Performance**



Return, %

	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04	1/05 - 12/05	1/06 - 12/06	1/07 - 12/07	1/08 - 12/08
HPRS Domestic Equity	4.11	-6.40	-8.74	-18.76	37.58	14.74	6.45	15.59	4.67	-38.33
OP&F Domestic Equity	17.41	-2.97	-7.47	-19.81	30.00	13.05	7.59	14.81	5.37	-38.03
PERS (DB) Domestic Equity	14.58	-6.51	-10.14	-21.37	31.09	11.99	6.79	14.86	5.12	-37.83
SERS Domestic Equity	21.81	-6.87	-12.04	-21.66	32.12	11.73	6.87	14.54	3.83	-38.67
STRS Domestic Equity	17.75	-6.28	-10.90	-22.16	30.20	11.95	6.59	16.21	4.48	-38.12
Wilshire 5000	23.56	-10.73	-10.90	-20.86	31.65	12.49	6.39	15.77	5.62	-37.23
Universe(5%)	39.23	7.85	0.20	-12.24	41.41	18.47	11.13	19.21	12.47	-30.36
Universe(25%)	25.06	-0.03	-5.65	-18.99	35.42	14.92	8.95	16.47	7.94	-36.11
Universe(Median)	21.00	-3.89	-8.42	-20.84	32.39	13.34	7.54	15.02	5.65	-37.60
Universe(75%)	17.04	-7.09	-11.28	-22.17	30.22	12.11	6.43	13.61	4.01	-39.53
Universe(95%)	9.65	-12.81	-15.28	-25.70	24.26	9.55	4.90	10.86	1.38	-43.74

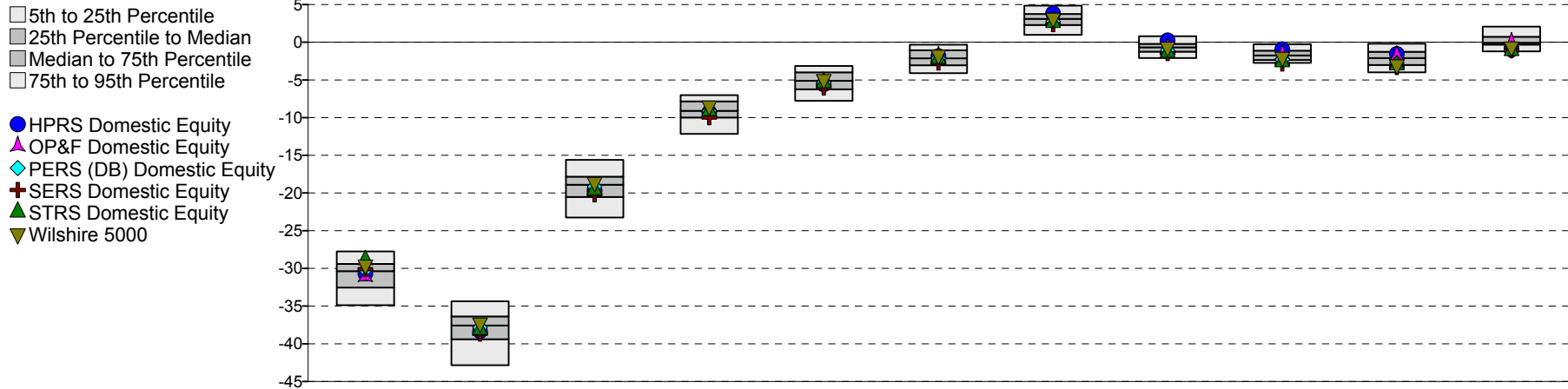
Percentile Rank

	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04	1/05 - 12/05	1/06 - 12/06	1/07 - 12/07	1/08 - 12/08
HPRS Domestic Equity	98	69	51	23	15	27	74	40	68	59
OP&F Domestic Equity	72	42	38	35	77	56	49	55	57	55
PERS (DB) Domestic Equity	84	71	64	63	67	77	66	54	60	53
SERS Domestic Equity	45	73	81	69	52	81	65	60	77	63
STRS Domestic Equity	68	66	73	74	75	78	72	29	69	56
Wilshire 5000	37	93	73	50	59	67	76	36	51	41

The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2008 within the Mellon All Domestic Equities Universe. PERS DB ranked in the 53rd percentile, OP&F ranked in the 55th percentile, STRS placed in the 56th percentile, HPRS placed in the 59th percentile and SERS ranked in the 63rd percentile.

**Total Domestic Equities vs. Mellon All Public Domestic Equity Universe  
Performance and Rank Data as of 12/31/08**

**Cumulative Performance Comparison**



Return, %

	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	-30.71	-38.33	-19.65	-9.30	-5.59	-1.84	3.84	0.27	-0.91	-1.53	-0.98
OP&F Domestic Equity	-31.11	-38.03	-19.19	-9.16	-5.23	-1.83	2.88	-0.72	-1.59	-1.74	0.02
PERS (DB) Domestic Equity	-30.18	-37.83	-19.16	-9.12	-5.38	-2.13	2.75	-1.10	-2.28	-2.76	-1.15
SERS Domestic Equity	-30.10	-38.67	-20.20	-9.99	-6.04	-2.73	2.36	-1.47	-2.86	-3.31	-1.05
STRS Domestic Equity	-28.87	-38.12	-19.59	-9.09	-5.40	-2.16	2.61	-1.36	-2.61	-3.02	-1.12
Wilshire 5000	-29.54	-37.23	-18.58	-8.44	-4.94	-1.69	3.22	-0.63	-1.97	-2.99	-0.61
Universe(5%)	-27.75	-34.36	-15.60	-7.02	-3.15	-0.33	4.86	0.79	-0.27	-0.19	2.07
Universe(25%)	-29.42	-36.38	-17.84	-7.85	-4.00	-1.06	3.74	-0.21	-1.13	-1.27	0.73
Universe(Median)	-30.37	-37.57	-18.90	-9.09	-5.12	-2.12	3.11	-0.67	-1.74	-2.10	-0.07
Universe(75%)	-32.54	-39.40	-20.52	-9.99	-6.24	-3.05	2.29	-1.25	-2.35	-3.02	-0.30
Universe(95%)	-34.88	-42.85	-23.25	-12.16	-7.77	-4.11	0.97	-2.09	-2.73	-4.00	-1.20

Percentile Rank

	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	55	61	69	61	64	39	24	19	17	33	86
OP&F Domestic Equity	57	58	57	55	55	38	58	51	47	38	45
PERS (DB) Domestic Equity	47	57	55	51	57	50	59	68	73	71	92
SERS Domestic Equity	44	65	74	75	72	66	71	86	97	92	88
STRS Domestic Equity	15	58	66	50	59	54	65	82	88	75	90
Wilshire 5000	32	37	43	38	42	37	44	46	62	75	83

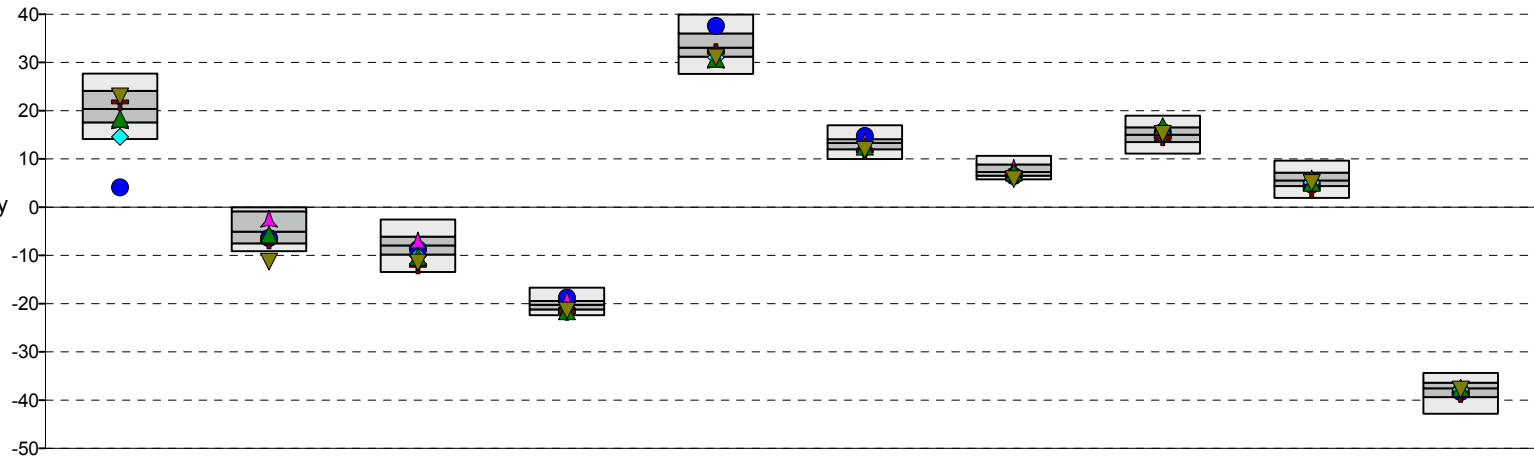
The comparisons above compares the domestic equity returns of the five Ohio public funds to the domestic equity returns of all of the public funds in the Mellon Universe. Over the ten-year period four of the five plans trailed the median return in the universe ranking in the bottom quartile. OP&F placed in the 45th percentile.

**Total Domestic Equities vs. Mellon All Public Domestic Equity Universe  
Performance and Rank Data as of 12/31/08**

**Calendar Year Performance**

- 5th to 25th Percentile
- 25th Percentile to Median
- Median to 75th Percentile
- 75th to 95th Percentile

- HPRS Domestic Equity
- ▲ OP&F Domestic Equity
- ◆ PERS (DB) Domestic Equity
- ✚ SERS Domestic Equity
- ▲ STRS Domestic Equity
- ▼ Wilshire 5000



Return, %

	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04	1/05 - 12/05	1/06 - 12/06	1/07 - 12/07	1/08 - 12/08
HPRS Domestic Equity	4.11	-6.40	-8.74	-18.76	37.58	14.74	6.45	15.59	4.67	-38.33
OP&F Domestic Equity	17.41	-2.97	-7.47	-19.81	30.00	13.05	7.59	14.81	5.37	-38.03
PERS (DB) Domestic Equity	14.58	-6.51	-10.14	-21.37	31.09	11.99	6.79	14.86	5.12	-37.83
SERS Domestic Equity	21.81	-6.87	-12.04	-21.66	32.12	11.73	6.87	14.54	3.83	-38.67
STRS Domestic Equity	17.75	-6.28	-10.90	-22.16	30.20	11.95	6.59	16.21	4.48	-38.12
Wilshire 5000	23.56	-10.73	-10.90	-20.86	31.65	12.49	6.39	15.77	5.62	-37.23
Universe(5%)	27.69	-0.05	-2.55	-16.70	39.93	16.97	10.64	18.95	9.63	-34.36
Universe(25%)	24.11	-0.89	-6.12	-19.43	36.03	14.08	8.85	16.54	7.15	-36.38
Universe(Median)	20.37	-5.09	-7.93	-20.25	33.05	13.31	7.30	15.03	5.52	-37.57
Universe(75%)	17.57	-7.50	-9.82	-21.20	31.21	11.99	6.51	13.50	4.36	-39.40
Universe(95%)	14.12	-9.12	-13.44	-22.40	27.62	9.97	5.76	11.11	1.91	-42.85

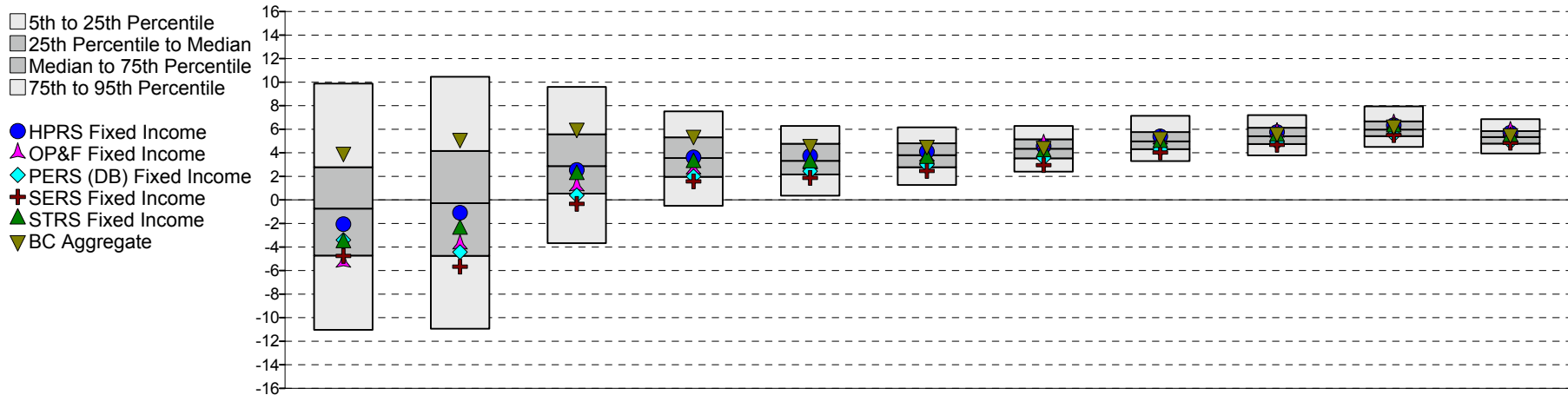
Percentile Rank

	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04	1/05 - 12/05	1/06 - 12/06	1/07 - 12/07	1/08 - 12/08
HPRS Domestic Equity	100	60	65	19	13	12	77	38	67	61
OP&F Domestic Equity	77	36	46	34	85	52	44	53	51	58
PERS (DB) Domestic Equity	94	63	77	78	78	75	66	53	52	57
SERS Domestic Equity	35	67	92	85	61	83	66	61	81	65
STRS Domestic Equity	73	56	85	93	85	76	71	32	69	58
Wilshire 5000	27	96	85	60	68	59	81	37	47	37

The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2008 within the Mellon All Public Domestic Equities Universe. In 2008, PERS ranked in the 57th percentile, OP&F and STRS ranked in the 58th percentile, HPRS ranked in the 61st and SERS ranked in the 65th percentile.

Total Fixed Income vs. Mellon All Domestic Fixed Income Universe  
Performance and Rank Data as of 12/31/08

Cumulative Performance Comparison



Return, %

	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	-2.06	-1.09	2.54	3.61	3.74	4.11	4.56	5.40	5.77	6.34	5.70
OP&F Fixed Income	-5.30	-3.75	1.17	2.61	3.04	3.72	4.75	5.16	5.74	6.48	5.85
PERS (DB) Fixed Income	-3.41	-4.43	0.39	2.00	2.43	2.99	3.56	4.30	4.89	5.55	4.93
SERS Fixed Income	-4.76	-5.67	-0.34	1.58	1.87	2.46	2.96	4.03	4.68	5.50	4.86
STRS Fixed Income	-3.65	-2.51	2.13	3.16	3.13	3.51	4.07	4.86	5.39	6.19	5.37
BC Aggregate	4.07	5.24	6.10	5.51	4.73	4.65	4.56	5.35	5.74	6.37	5.63
Universe(5%)	9.88	10.45	9.60	7.52	6.28	6.16	6.28	7.15	7.20	7.94	6.86
Universe(25%)	2.78	4.16	5.58	5.31	4.77	4.80	5.14	5.77	6.13	6.67	5.85
Universe(Median)	-0.74	-0.27	2.87	3.56	3.32	3.80	4.35	4.97	5.41	5.97	5.34
Universe(75%)	-4.73	-4.74	0.54	1.97	2.16	2.77	3.53	4.31	4.75	5.42	4.78
Universe(95%)	-11.03	-10.94	-3.67	-0.50	0.36	1.27	2.40	3.30	3.78	4.50	3.95

Percentile Rank

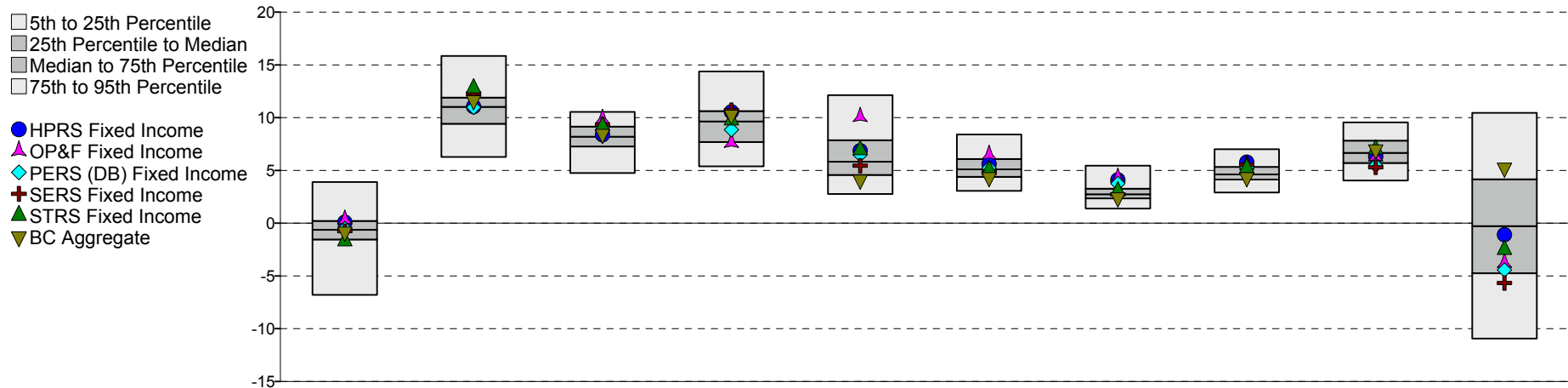
	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Fixed Income	60	54	53	49	42	42	43	36	38	36	34
OP&F Fixed Income	78	68	69	66	55	52	36	45	39	32	25
PERS (DB) Fixed Income	67	73	76	74	69	72	74	75	69	70	71
SERS Fixed Income	76	78	82	79	80	82	87	83	77	72	73
STRS Fixed Income	68	62	59	57	54	56	59	55	51	42	48
BC Aggregate	18	19	21	22	26	29	44	38	39	34	39

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 domestic fixed income accounts in the Mellon Universe. For the trailing ten-year period, three funds placed in the second quartile (OP&F, HPRS and STRS) of the universe, while the remaining two (SERS and PERS) placed in the third quartile among its peers.



Total Fixed Income vs. Mellon All Domestic Fixed Income Universe  
Performance and Rank Data as of 12/31/08

Calendar Year Performance



Return, %

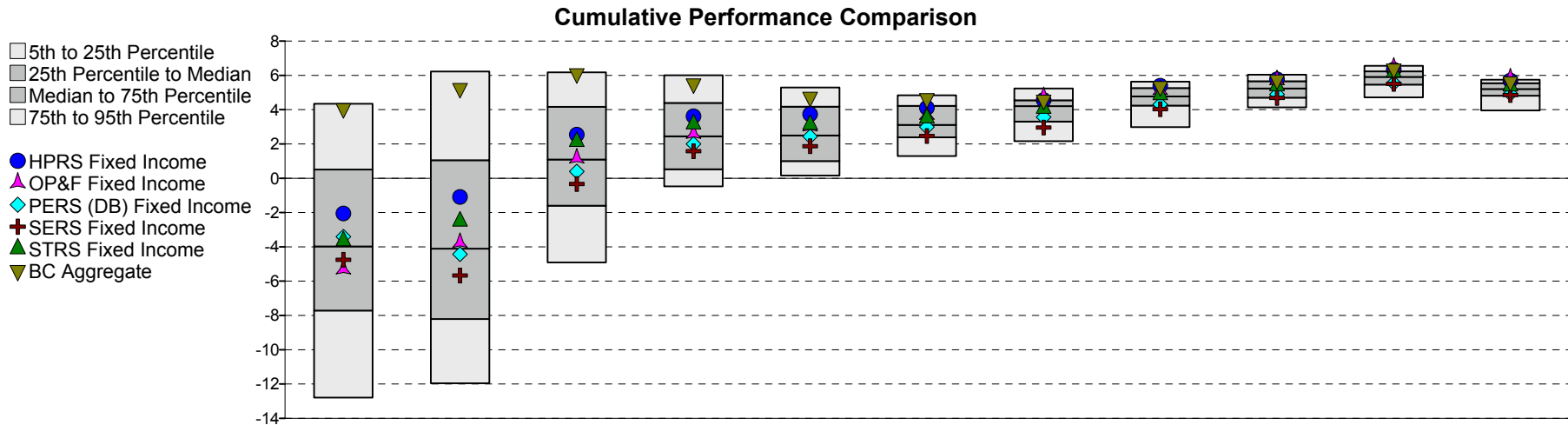
	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04	1/05 - 12/05	1/06 - 12/06	1/07 - 12/07	1/08 - 12/08
HPRS Fixed Income	0.10	11.05	8.37	10.56	6.87	5.61	4.11	5.78	6.31	-1.09
OP&F Fixed Income	0.35	12.55	9.90	7.63	10.08	6.50	4.33	5.54	6.35	-3.75
PERS (DB) Fixed Income	-0.50	10.97	9.11	8.86	6.48	5.25	3.76	5.28	5.47	-4.43
SERS Fixed Income	-0.76	12.29	9.35	10.71	5.45	4.89	2.74	5.52	5.30	-5.67
STRS Fixed Income	-1.70	12.80	9.17	9.76	6.94	5.03	3.04	5.23	7.00	-2.51
BC Aggregate	-0.82	11.63	8.44	10.26	4.10	4.34	2.43	4.33	6.97	5.24
Universe(5%)	3.90	15.84	10.54	14.37	12.13	8.40	5.44	7.01	9.55	10.45
Universe(25%)	0.22	11.90	9.15	10.62	7.86	6.09	3.27	5.34	7.83	4.16
Universe(Median)	-0.63	11.02	8.19	9.64	5.82	5.10	2.73	4.63	6.66	-0.27
Universe(75%)	-1.55	9.42	7.26	7.69	4.57	4.39	2.36	4.13	5.70	-4.74
Universe(95%)	-6.80	6.27	4.75	5.38	2.76	3.07	1.38	2.90	4.04	-10.94

Percentile Rank

	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04	1/05 - 12/05	1/06 - 12/06	1/07 - 12/07	1/08 - 12/08
HPRS Fixed Income	26	50	43	28	34	35	12	16	60	54
OP&F Fixed Income	23	13	11	77	11	19	10	22	59	68
PERS (DB) Fixed Income	46	50	26	61	39	45	14	27	80	73
SERS Fixed Income	55	16	20	23	55	56	49	22	84	78
STRS Fixed Income	77	12	24	47	34	52	33	29	41	62
BC Aggregate	56	34	42	31	83	77	70	67	42	19

The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2008 within the Mellon All Domestic Fixed Income Universe. In 2008, none of the funds placed above the median. HPRS placed in the 54th percentile. The remaining funds ranked as follows: STRS (62nd); OP&F (68th); PERS (73rd); SERS (78th).

**Total Fixed Income vs. Mellon All Public Domestic Fixed Income Universe  
Performance and Rank Data as of 12/31/08**



Return, %

	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	-2.06	-1.09	2.54	3.61	3.74	4.11	4.56	5.40	5.77	6.34	5.70
OP&F Fixed Income	-5.30	-3.75	1.17	2.61	3.04	3.72	4.75	5.16	5.74	6.48	5.85
PERS (DB) Fixed Income	-3.41	-4.43	0.39	2.00	2.43	2.99	3.56	4.30	4.89	5.55	4.93
SERS Fixed Income	-4.76	-5.67	-0.34	1.58	1.87	2.46	2.96	4.03	4.68	5.50	4.86
STRS Fixed Income	-3.65	-2.51	2.13	3.16	3.13	3.51	4.07	4.86	5.39	6.19	5.37
BC Aggregate	4.07	5.24	6.10	5.51	4.73	4.65	4.56	5.35	5.74	6.37	5.63
Universe(5%)	4.34	6.23	6.17	6.01	5.29	4.83	5.23	5.63	6.04	6.56	5.74
Universe(25%)	0.51	1.05	4.16	4.39	4.17	4.22	4.55	5.26	5.66	6.23	5.54
Universe(Median)	-3.98	-4.11	1.09	2.45	2.50	3.11	4.21	4.77	5.23	5.91	5.21
Universe(75%)	-7.72	-8.21	-1.60	0.52	1.01	2.39	3.30	4.24	4.70	5.46	4.82
Universe(95%)	-12.80	-11.96	-4.91	-0.47	0.16	1.29	2.16	2.98	4.13	4.72	3.96

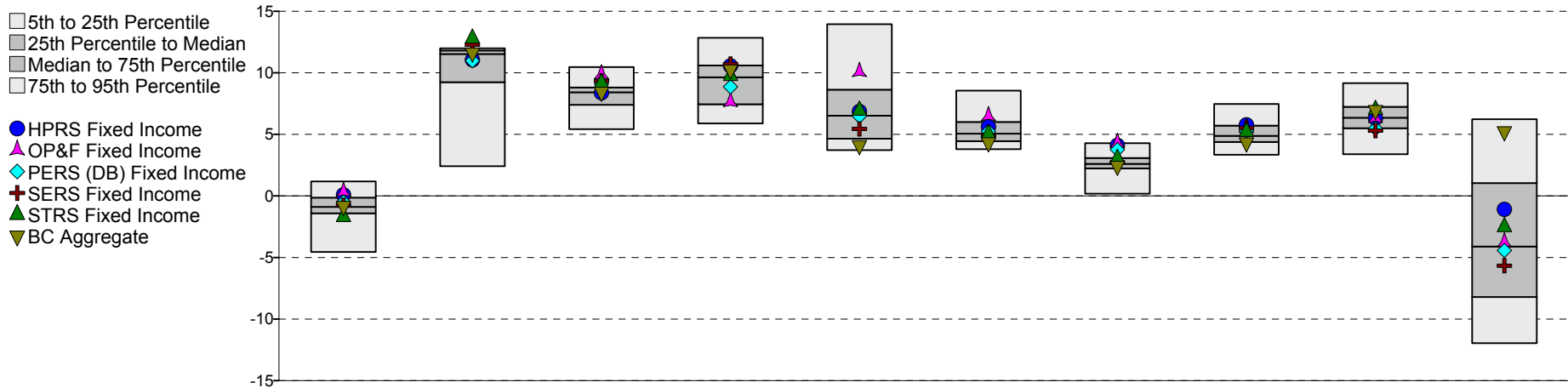
Percentile Rank

	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	37	35	41	38	28	27	24	16	20	14	6
OP&F Fixed Income	59	45	50	47	37	39	20	31	21	8	4
PERS (DB) Fixed Income	44	55	61	58	51	58	68	73	62	69	66
SERS Fixed Income	55	65	67	63	62	69	81	84	80	71	73
STRS Fixed Income	45	43	44	40	37	44	53	46	42	28	41
BC Aggregate	6	7	6	7	11	10	24	20	21	13	8

The exhibit above compares the fixed income results of the five funds to that of the domestic fixed income returns of the public funds in the Mellon Universe. Over the ten-year period, three of the five plans outpaced the median return. OP&F, HPRS ranked in the top quartile, while STRS placed in the second quartile. SERS and PERS placed in the third quartile of the universe.

**Total Fixed Income vs. Mellon All Public Domestic Fixed Income Universe  
Performance and Rank Data as of 12/31/08**

**Calendar Year Performance**



Return, %

	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04	1/05 - 12/05	1/06 - 12/06	1/07 - 12/07	1/08 - 12/08
HPRS Fixed Income	0.10	11.05	8.37	10.56	6.87	5.61	4.11	5.78	6.31	-1.09
OP&F Fixed Income	0.35	12.55	9.90	7.63	10.08	6.50	4.33	5.54	6.35	-3.75
PERS (DB) Fixed Income	-0.50	10.97	9.11	8.86	6.48	5.25	3.76	5.28	5.47	-4.43
SERS Fixed Income	-0.76	12.29	9.35	10.71	5.45	4.89	2.74	5.52	5.30	-5.67
STRS Fixed Income	-1.70	12.80	9.17	9.76	6.94	5.03	3.04	5.23	7.00	-2.51
BC Aggregate	-0.82	11.63	8.44	10.26	4.10	4.34	2.43	4.33	6.97	5.24
Universe(5%)	1.18	11.99	10.46	12.84	13.95	8.55	4.29	7.47	9.16	6.23
Universe(25%)	-0.14	11.82	8.80	10.60	8.63	6.00	3.08	5.71	7.24	1.05
Universe(Median)	-0.89	11.53	8.42	9.64	6.52	5.06	2.60	4.88	6.36	-4.11
Universe(75%)	-1.41	9.24	7.41	7.44	4.65	4.45	2.23	4.38	5.50	-8.21
Universe(95%)	-4.55	2.42	5.42	5.89	3.72	3.79	0.19	3.34	3.39	-11.96

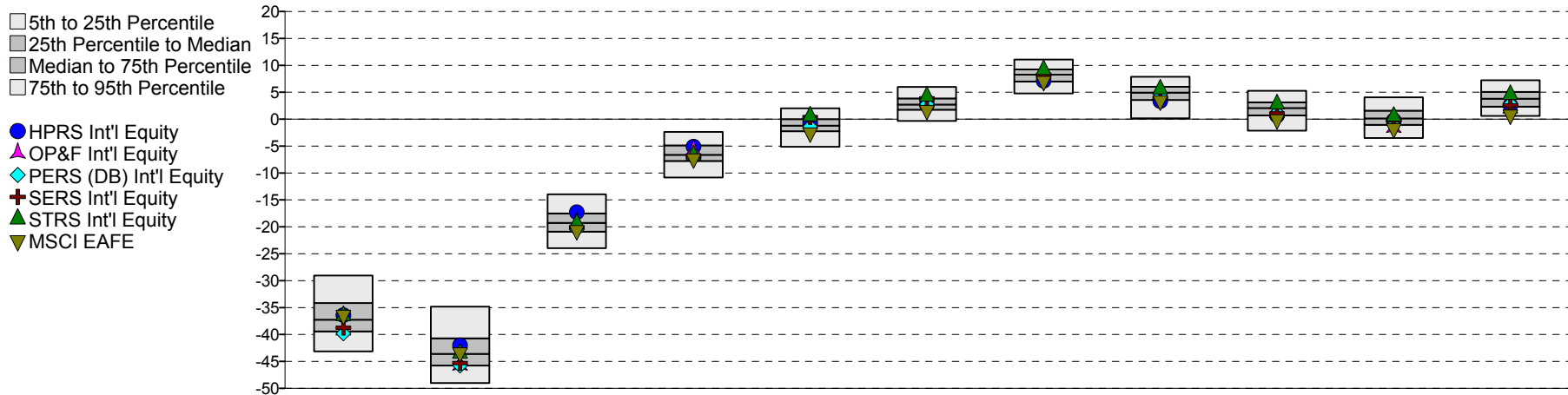
Percentile Rank

	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04	1/05 - 12/05	1/06 - 12/06	1/07 - 12/07	1/08 - 12/08
HPRS Fixed Income	18	62	52	28	44	36	6	22	51	35
OP&F Fixed Income	16	1	9	68	18	20	4	31	50	45
PERS (DB) Fixed Income	39	62	21	58	51	43	9	37	76	55
SERS Fixed Income	44	1	19	12	64	57	38	32	77	65
STRS Fixed Income	85	1	21	47	44	51	26	42	31	43
BC Aggregate	47	32	49	37	86	82	66	78	32	7

The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2008 within the Mellon All Public Domestic Fixed Income Universe. In 2008, OP&F, STRS and HPRS ranked in the second quartile of the universe and PERS and SERS placed in the third quartile.

## Total International Equities vs. Mellon All International Equity Universe Performance and Rank Data as of 12/31/08

### Cumulative Performance Comparison



Return, %

	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	-36.39	-42.00	-17.28	-5.10	-0.74	2.68	7.14	3.36	0.66	-0.26	2.57
OP&F Int'l Equity	-39.19	-45.71	-19.08	-5.66	-0.74	3.22	8.55	4.62	1.18	-1.56	2.05
PERS (DB) Int'l Equity	-39.80	-45.80	-20.48	-7.10	-1.38	2.79	8.31	4.70	1.17	-1.00	2.84
SERS Int'l Equity	-38.76	-45.30	-20.12	-7.05	0.40	3.87	8.25	3.92	1.05	-0.25	2.56
STRS Int'l Equity	-36.51	-43.51	-19.38	-6.69	0.58	4.24	9.19	5.59	2.82	0.51	4.57
MSCI EAFE	-36.41	-43.38	-20.66	-7.35	-2.52	1.66	7.05	3.41	-0.08	-1.75	0.80
Universe(5%)	-29.05	-34.82	-13.95	-2.37	2.01	6.00	11.08	7.86	5.26	4.06	7.22
Universe(25%)	-34.17	-40.71	-17.52	-4.87	0.02	3.86	9.25	6.02	3.12	1.57	5.06
Universe(Median)	-37.26	-43.60	-19.28	-6.63	-1.22	2.72	8.25	4.94	2.06	0.13	3.80
Universe(75%)	-39.41	-45.76	-20.90	-7.77	-2.25	1.75	7.00	3.58	0.70	-1.05	2.33
Universe(95%)	-43.14	-49.02	-23.97	-10.84	-5.12	-0.33	4.78	0.17	-2.14	-3.49	0.59

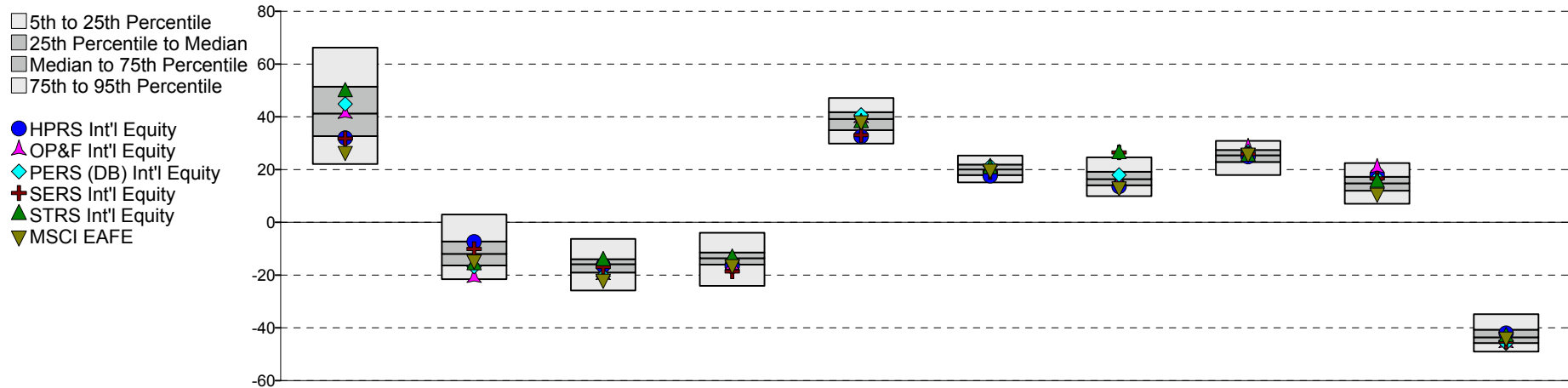
### Percentile Rank

	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	44	38	22	28	40	51	74	80	76	58	72
OP&F Int'l Equity	73	74	46	33	40	38	43	59	67	83	80
PERS (DB) Int'l Equity	79	75	68	63	54	48	49	54	67	74	69
SERS Int'l Equity	68	69	64	63	20	25	50	70	69	58	72
STRS Int'l Equity	45	49	52	53	17	19	26	31	30	42	35
MSCI EAFE	44	48	72	69	77	77	75	79	86	84	94

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 Mellon Universe. For the ten-year period ending December 31, 2008, STRS was the only fund to rank above median (35th percentile). PERS, SERS, HPRS and OP&F ranked in the 69th percentile, 72nd percentile, 72nd percentile and 80th percentile, respectively.

## Total International Equities vs. Mellon All International Equity Universe Performance and Rank Data as of 12/31/08

### Calendar Year Performance



#### Return, %

	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04	1/05 - 12/05	1/06 - 12/06	1/07 - 12/07	1/08 - 12/08
HPRS Int'l Equity	31.94	-7.35	-16.34	-16.66	32.50	17.59	13.58	24.90	17.96	-42.00
OP&F Int'l Equity	41.21	-20.98	-19.93	-16.17	39.60	20.73	15.62	28.23	20.60	-45.71
PERS (DB) Int'l Equity	44.83	-16.80	-20.41	-14.55	40.71	21.30	17.97	26.78	16.67	-45.80
SERS Int'l Equity	31.73	-10.08	-16.91	-18.64	33.02	19.04	26.49	25.88	16.65	-45.30
STRS Int'l Equity	49.38	-16.17	-14.63	-13.69	37.71	20.28	25.94	25.01	15.06	-43.51
MSCI EAFE	26.96	-14.17	-21.44	-15.94	38.59	20.25	13.54	26.34	11.17	-43.38
Universe(5%)	66.23	2.94	-6.29	-3.95	47.12	25.30	24.62	30.88	22.49	-34.82
Universe(25%)	51.43	-7.28	-13.99	-11.44	41.76	21.88	19.14	27.42	17.26	-40.71
Universe(Median)	41.24	-11.94	-15.86	-13.60	39.16	20.05	16.39	25.42	14.76	-43.60
Universe(75%)	32.68	-16.33	-19.02	-16.06	34.96	17.93	14.03	22.86	11.98	-45.76
Universe(95%)	22.10	-21.55	-25.84	-24.09	29.84	15.13	9.92	17.94	7.02	-49.02

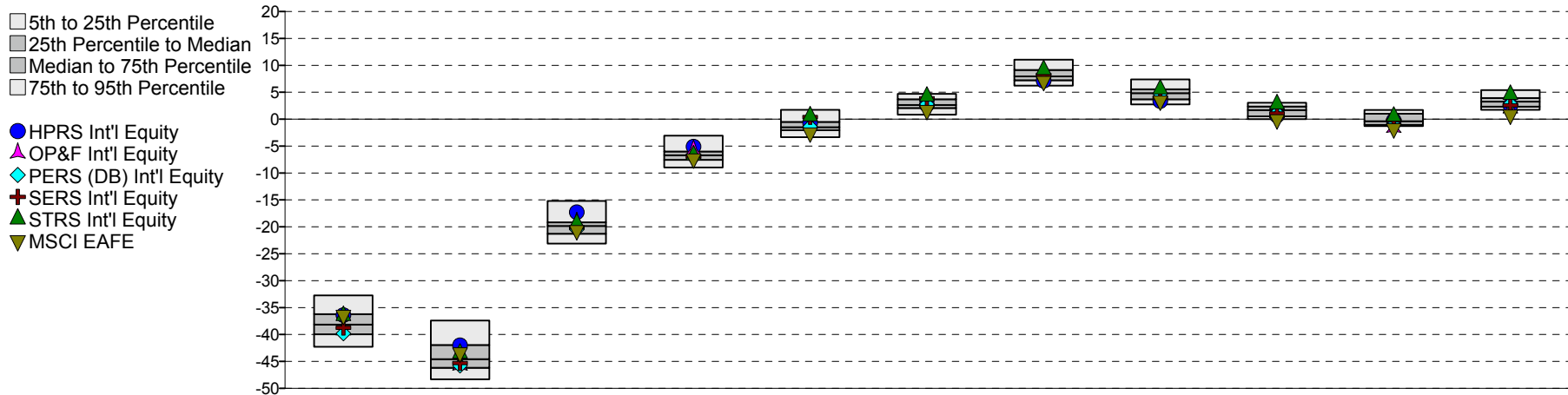
#### Percentile Rank

	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04	1/05 - 12/05	1/06 - 12/06	1/07 - 12/07	1/08 - 12/08
HPRS Int'l Equity	77	25	52	79	89	77	79	57	20	38
OP&F Int'l Equity	50	94	84	77	46	38	59	19	9	74
PERS (DB) Int'l Equity	39	77	86	61	36	31	34	33	32	75
SERS Int'l Equity	78	41	55	88	87	65	2	44	32	69
STRS Int'l Equity	30	73	30	51	58	46	2	56	47	49
MSCI EAFE	88	64	90	74	53	46	79	39	80	48

The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2008 within the Mellon All International Equity Universe. In 2008, HPRS and STRS ranked in the 38th and 49th percentile, respectively, while the remaining three funds (OP&F, PERS and STRS) ranked in the third quartile among their peers.

## Total International Equities vs. Mellon All Public International Equity Universe Performance and Rank Data as of 12/31/08

### Cumulative Performance Comparison



Return, %

	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	-36.39	-42.00	-17.28	-5.10	-0.74	2.68	7.14	3.36	0.66	-0.26	2.57
OP&F Int'l Equity	-39.19	-45.71	-19.08	-5.66	-0.74	3.22	8.55	4.62	1.18	-1.56	2.05
PERS (DB) Int'l Equity	-39.80	-45.80	-20.48	-7.10	-1.38	2.79	8.31	4.70	1.17	-1.00	2.84
SERS Int'l Equity	-38.76	-45.30	-20.12	-7.05	0.40	3.87	8.25	3.92	1.05	-0.25	2.56
STRS Int'l Equity	-36.51	-43.51	-19.38	-6.69	0.58	4.24	9.19	5.59	2.82	0.51	4.57
MSCI EAFE	-36.41	-43.38	-20.66	-7.35	-2.52	1.66	7.05	3.41	-0.08	-1.75	0.80
Universe(5%)	-32.73	-37.41	-15.20	-3.06	1.74	4.71	11.05	7.39	3.05	1.70	5.40
Universe(25%)	-36.21	-41.96	-19.15	-6.01	-0.52	3.69	9.15	5.55	2.36	1.02	3.92
Universe(Median)	-38.16	-44.58	-19.85	-6.70	-1.50	2.62	7.94	4.83	1.68	-0.38	3.26
Universe(75%)	-39.96	-46.18	-21.29	-7.56	-2.05	2.07	7.24	3.70	0.51	-1.05	2.31
Universe(95%)	-42.29	-48.32	-23.11	-8.98	-3.35	0.83	6.21	2.74	0.00	-1.30	1.73

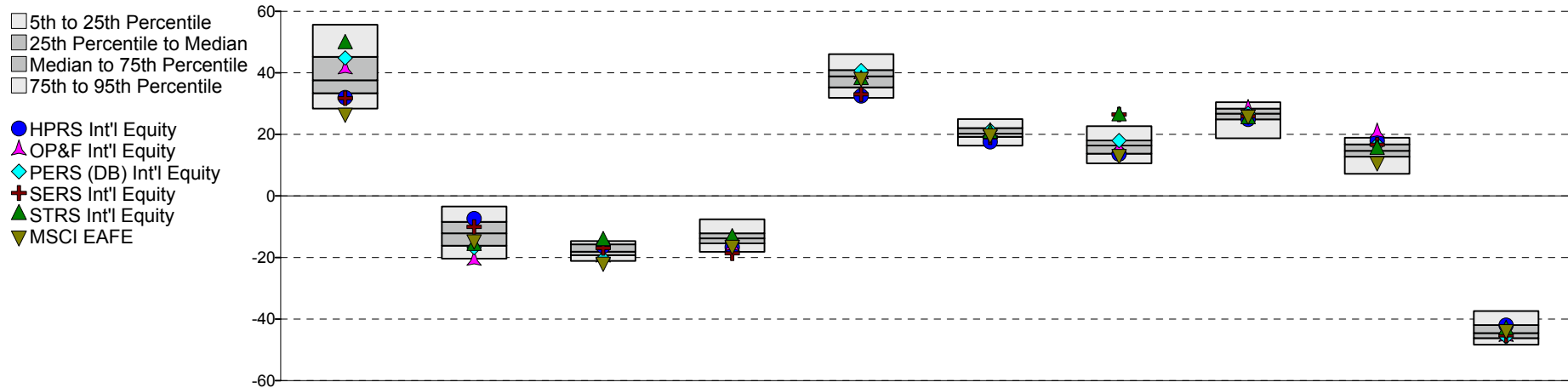
### Percentile Rank

	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	27	25	9	13	28	46	82	84	73	48	65
OP&F Int'l Equity	63	70	25	16	28	31	40	58	65	100	83
PERS (DB) Int'l Equity	70	71	60	66	47	35	43	54	65	71	62
SERS Int'l Equity	59	64	57	65	12	15	44	69	66	48	65
STRS Int'l Equity	29	32	35	48	9	10	22	22	8	35	16
MSCI EAFE	27	31	66	68	88	86	83	83	96	100	100

The exhibit above, and on the next page, compare the international equity results of the five funds to that of the Mellon All Public International Equity Universe. For the ten-year period ending December 31, 2008, STRS ranked in the top quartile, whereas PERS, SERS and HPRS ranked in the third quartile. OP&F ranked in the fourth quartile. STRS ranked in the 16th percentile, PERS ranked in the 62nd percentile, SERS ranked in the 65th percentile, HPRS ranked in the 65th percentile and OP&F ranked in the 83rd percentile.

## Total International Equities vs. Mellon All Public International Equity Universe Performance and Rank Data as of 12/31/08

### Calendar Year Performance



#### Return, %

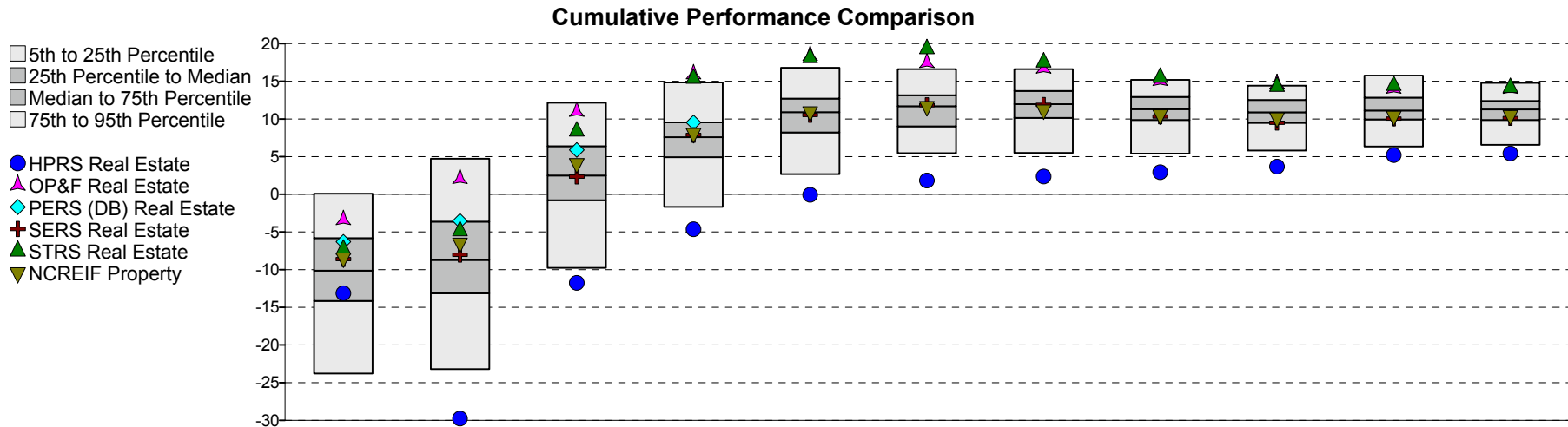
	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04	1/05 - 12/05	1/06 - 12/06	1/07 - 12/07	1/08 - 12/08
HPRS Int'l Equity	31.94	-7.35	-16.34	-16.66	32.50	17.59	13.58	24.90	17.96	-42.00
OP&F Int'l Equity	41.21	-20.98	-19.93	-16.17	39.60	20.73	15.62	28.23	20.60	-45.71
PERS (DB) Int'l Equity	44.83	-16.80	-20.41	-14.55	40.71	21.30	17.97	26.78	16.67	-45.80
SERS Int'l Equity	31.73	-10.08	-16.91	-18.64	33.02	19.04	26.49	25.88	16.65	-45.30
STRS Int'l Equity	49.38	-16.17	-14.63	-13.69	37.71	20.28	25.94	25.01	15.06	-43.51
MSCI EAFE	26.96	-14.17	-21.44	-15.94	38.59	20.25	13.54	26.34	11.17	-43.38
Universe(5%)	55.64	-3.43	-14.67	-7.59	46.05	24.98	22.67	30.46	18.91	-37.41
Universe(25%)	45.20	-8.42	-15.73	-12.14	40.91	22.04	18.01	28.38	16.72	-41.96
Universe(Median)	37.56	-12.14	-18.12	-13.78	38.86	20.22	16.38	26.72	14.66	-44.58
Universe(75%)	33.39	-16.17	-19.26	-15.41	35.29	19.16	13.74	24.89	12.77	-46.18
Universe(95%)	28.36	-20.38	-21.12	-18.16	31.85	16.35	10.59	18.71	7.20	-48.32

#### Percentile Rank

	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04	1/05 - 12/05	1/06 - 12/06	1/07 - 12/07	1/08 - 12/08
HPRS Int'l Equity	84	11	28	84	92	87	79	75	12	25
OP&F Int'l Equity	43	100	87	82	42	37	57	25	1	70
PERS (DB) Int'l Equity	27	77	92	61	28	34	26	49	25	71
SERS Int'l Equity	85	38	34	96	88	79	1	61	25	64
STRS Int'l Equity	16	75	4	40	61	49	2	72	45	32
MSCI EAFE	97	66	100	81	52	50	79	56	84	31

The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2008 within the Mellon All Public International Equity Universe. In 2008, HPRS and STRS ranked in the second quartile, PERS, SERS and OP&F ranked in the third quartile.

## Total Real Estate vs. Mellon All Real Estate Universe Performance and Rank Data as of 12/31/08



Return, %

	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	-13.14	-29.77	-11.76	-4.65	-0.08	1.82	2.37	2.93	3.67	5.21	5.43
OP&F Real Estate	-3.38	2.08	10.99	15.96	18.41	17.46	16.72	15.07	14.66	14.06	14.02
PERS (DB) Real Estate	-6.30	-3.53	5.88	9.54	NA	NA	NA	NA	NA	NA	NA
SERS Real Estate	-8.60	-8.03	2.34	7.87	10.52	11.84	11.88	10.33	9.49	10.05	10.12
STRS Real Estate	-7.32	-4.87	8.38	15.37	18.12	19.30	17.53	15.50	14.30	14.43	14.16
NCREIF Property	-8.45	-6.46	4.09	8.10	10.98	11.67	11.22	10.57	10.15	10.38	10.48
Universe(5%)	0.07	4.72	12.14	14.83	16.80	16.61	16.62	15.18	14.42	15.77	14.78
Universe(25%)	-5.81	-3.64	6.39	9.55	12.71	13.14	13.72	12.93	12.52	12.84	12.39
Universe(Median)	-10.13	-8.72	2.50	7.57	10.90	11.69	11.97	11.29	10.88	11.12	11.26
Universe(75%)	-14.16	-13.13	-0.79	4.92	8.20	9.02	10.14	9.87	9.50	9.93	9.87
Universe(95%)	-23.80	-23.20	-9.76	-1.67	2.68	5.47	5.49	5.40	5.81	6.34	6.56

Percentile Rank

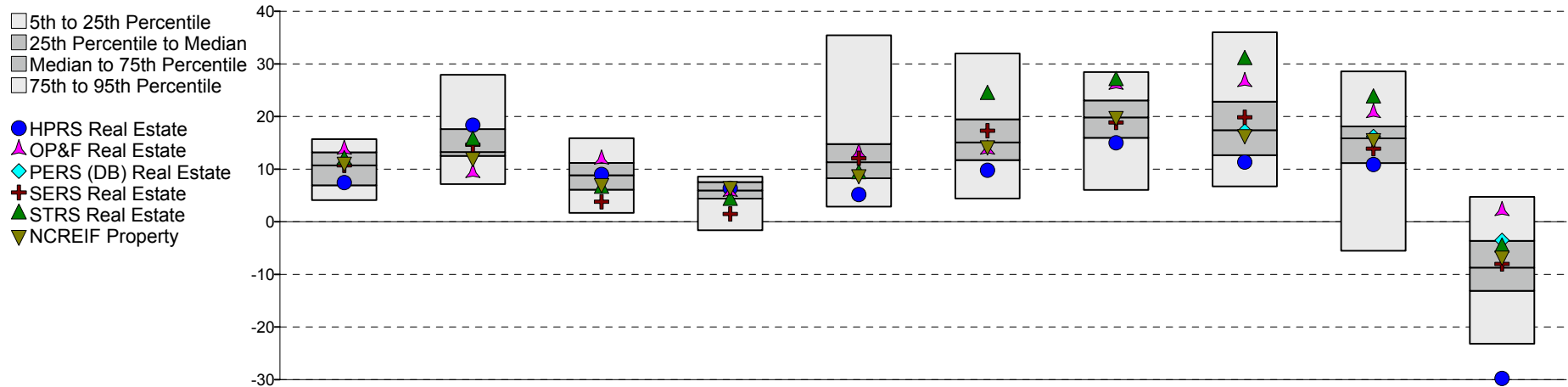
	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
HPRS Real Estate	66	100	96	100	99	99	99	100	100	99	98
OP&F Real Estate	17	11	7	3	1	2	5	6	3	15	14
PERS (DB) Real Estate	29	24	26	25	NA	NA	NA	NA	NA	NA	NA
SERS Real Estate	42	44	54	43	57	47	53	71	75	71	65
STRS Real Estate	35	29	16	4	1	1	3	3	8	14	12
NCREIF Property	41	39	39	39	48	51	68	67	69	63	64

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 Mellon Universe. Beginning January 1, 2006, PERS viewed REITS and private real estate as separate asset classes, therefore the prior return series is no longer being reported. For the ten-year period ending December 31, 2008, STRS and OP&F exceeded the median return to place in the 12th percentile and 14th percentile, respectively. SERS ranked in the third quartile and HPRS ranked in the bottom quartile. 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, an insignificant number.



Total Real Estate vs. Mellon All Real Estate Universe  
Performance and Rank Data as of 12/31/08

Calendar Year Performance



Return, %

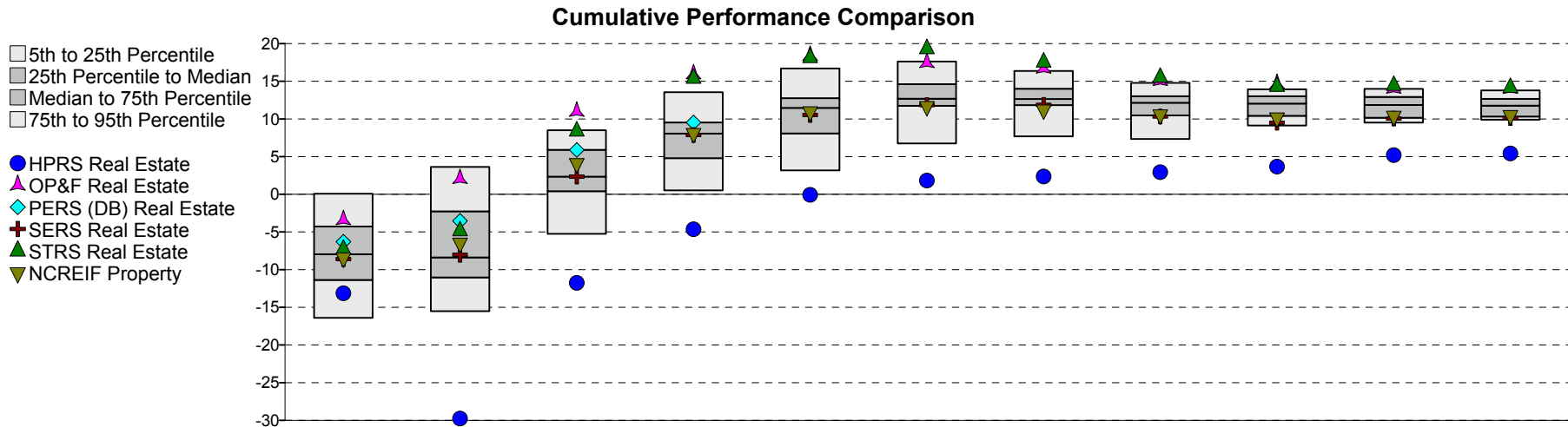
	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04	1/05 - 12/05	1/06 - 12/06	1/07 - 12/07	1/08 - 12/08
HPRS Real Estate	7.43	18.35	9.00	6.35	5.17	9.78	14.99	11.34	10.87	-29.77
OP&F Real Estate	13.72	9.30	11.84	5.70	13.06	13.74	26.07	26.58	20.67	2.08
PERS (DB) Real Estate	NA	NA	NA	NA	NA	NA	NA	17.23	16.20	-3.53
SERS Real Estate	10.70	14.65	3.79	1.49	12.05	17.28	18.87	19.84	13.89	-8.03
STRS Real Estate	11.73	15.43	6.30	4.01	9.06	24.13	26.78	30.75	23.46	-4.87
NCREIF Property	11.35	12.25	7.29	6.74	8.99	14.48	20.06	16.59	15.84	-6.46
Universe(5%)	15.71	27.92	15.88	8.58	35.44	31.97	28.45	35.99	28.57	4.72
Universe(25%)	13.18	17.61	11.17	7.53	14.77	19.46	23.06	22.81	18.11	-3.64
Universe(Median)	10.70	13.25	8.83	5.94	11.32	15.08	19.83	17.41	15.84	-8.72
Universe(75%)	6.93	12.52	6.09	4.40	8.26	11.71	15.95	12.65	11.14	-13.13
Universe(95%)	4.12	7.16	1.68	-1.61	2.87	4.41	6.06	6.71	-5.52	-23.20

Percentile Rank

	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04	1/05 - 12/05	1/06 - 12/06	1/07 - 12/07	1/08 - 12/08
HPRS Real Estate	73	23	49	39	91	82	80	84	77	100
OP&F Real Estate	15	92	16	51	37	66	10	18	17	11
PERS (DB) Real Estate	NA	NA	NA	NA	NA	NA	NA	51	47	24
SERS Real Estate	50	41	85	91	47	33	56	38	60	44
STRS Real Estate	38	35	71	77	73	14	8	8	11	29
NCREIF Property	48	77	65	35	73	57	48	55	50	39

The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2008 within the Mellon All Real Estate Universe. In 2008, four of the five funds outpaced the median fund with OP&F, PERS, STRS and SERS placing in the 11th, 24th, 29th and 44th percentiles, respectively. HPRS placed in the fourth quartile among its peers of the Mellon Universe.

**Total Real Estate vs. Mellon All Public Real Estate Universe  
Performance and Rank Data as of 12/31/08**



Return, %

	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	-13.14	-29.77	-11.76	-4.65	-0.08	1.82	2.37	2.93	3.67	5.21	5.43
OP&F Real Estate	-3.38	2.08	10.99	15.96	18.41	17.46	16.72	15.07	14.66	14.06	14.02
PERS (DB) Real Estate	-6.30	-3.53	5.88	9.54	NA	NA	NA	NA	NA	NA	NA
SERS Real Estate	-8.60	-8.03	2.34	7.87	10.52	11.84	11.88	10.33	9.49	10.05	10.12
STRS Real Estate	-7.32	-4.87	8.38	15.37	18.12	19.30	17.53	15.50	14.30	14.43	14.16
NCREIF Property	-8.45	-6.46	4.09	8.10	10.98	11.67	11.22	10.57	10.15	10.38	10.48
Universe(5%)	0.08	3.63	8.49	13.55	16.71	17.63	16.36	14.79	13.94	13.99	13.79
Universe(25%)	-4.28	-2.27	5.91	9.54	12.76	14.63	14.01	13.02	13.02	12.92	12.66
Universe(Median)	-7.96	-8.38	2.34	8.05	11.47	12.69	12.65	12.15	12.03	11.85	11.77
Universe(75%)	-11.37	-11.03	0.41	4.80	8.07	11.75	11.84	10.48	10.42	10.15	10.33
Universe(95%)	-16.40	-15.51	-5.25	0.52	3.17	6.75	7.70	7.33	9.13	9.51	9.90

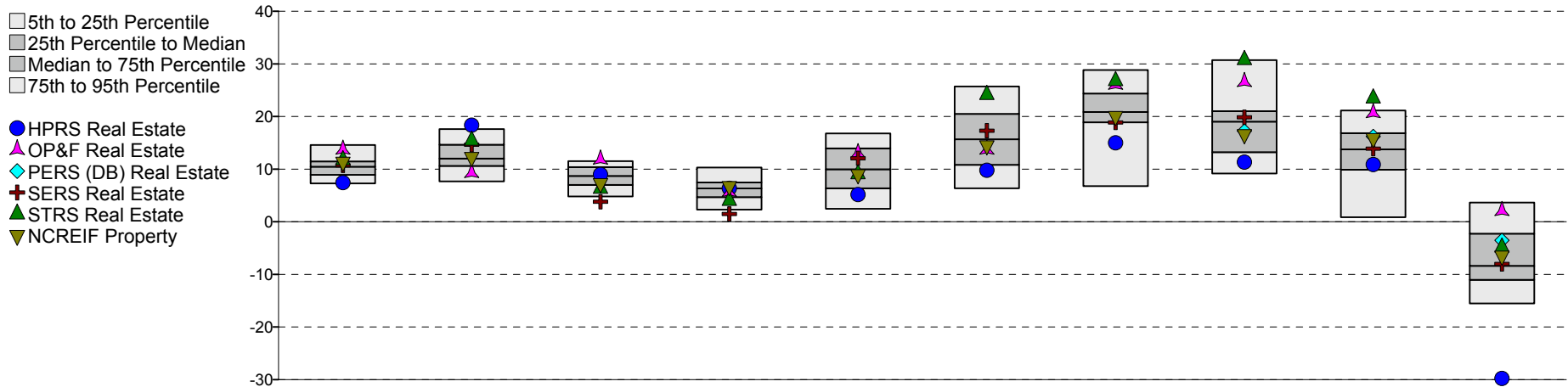
Percentile Rank

	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	81	100	98	100	100	100	100	100	100	100	100
OP&F Real Estate	17	11	1	1	1	6	4	3	1	4	2
PERS (DB) Real Estate	38	31	25	25	NA	NA	NA	NA	NA	NA	NA
SERS Real Estate	52	48	50	53	62	70	61	78	86	86	81
STRS Real Estate	48	33	6	1	1	1	1	1	1	1	1
NCREIF Property	52	39	37	49	54	79	81	74	78	69	72

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 Mellon Universe. Beginning January 1, 2006, PERS viewed REITS and private real estate as separate asset classes, therefore the prior return series is no longer being reported. For the ten-year period ending December 31, 2008, STRS and OP&F exceeded the median return to place in the top quartile. SERS and HPRS ranked in the bottom quartile. 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 insignificant number.

Total Real Estate vs. Mellon All Public Real Estate Universe  
Performance and Rank Data as of 12/31/08

Calendar Year Performance



Return, %

	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04	1/05 - 12/05	1/06 - 12/06	1/07 - 12/07	1/08 - 12/08
HPRS Real Estate	7.43	18.35	9.00	6.35	5.17	9.78	14.99	11.34	10.87	-29.77
OP&F Real Estate	13.72	9.30	11.84	5.70	13.06	13.74	26.07	26.58	20.67	2.08
PERS (DB) Real Estate	NA	NA	NA	NA	NA	NA	NA	17.23	16.20	-3.53
SERS Real Estate	10.70	14.65	3.79	1.49	12.05	17.28	18.87	19.84	13.89	-8.03
STRS Real Estate	11.73	15.43	6.30	4.01	9.06	24.13	26.78	30.75	23.46	-4.87
NCREIF Property	11.35	12.25	7.29	6.74	8.99	14.48	20.06	16.59	15.84	-6.46
Universe(5%)	14.58	17.62	11.51	10.30	16.79	25.72	28.83	30.72	21.13	3.63
Universe(25%)	11.46	14.65	10.38	7.46	13.93	20.49	24.37	21.01	16.83	-2.27
Universe(Median)	10.46	12.01	8.69	6.33	9.96	15.66	20.84	19.02	13.75	-8.38
Universe(75%)	8.92	10.62	7.01	4.67	6.35	10.81	18.88	13.22	9.89	-11.03
Universe(95%)	7.28	7.67	4.80	2.31	2.45	6.36	6.78	9.16	0.86	-15.51

Percentile Rank

	1/99 - 12/99	1/00 - 12/00	1/01 - 12/01	1/02 - 12/02	1/03 - 12/03	1/04 - 12/04	1/05 - 12/05	1/06 - 12/06	1/07 - 12/07	1/08 - 12/08
HPRS Real Estate	93	3	46	50	91	79	84	90	73	100
OP&F Real Estate	9	91	1	66	28	62	15	13	7	11
PERS (DB) Real Estate	NA	NA	NA	NA	NA	NA	NA	54	34	31
SERS Real Estate	40	25	100	100	31	38	75	43	45	48
STRS Real Estate	20	13	88	80	60	8	13	5	1	33
NCREIF Property	27	44	73	42	60	59	67	55	36	39

The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2008 within the Mellon All Real Estate Universe. In 2008, OP&F outpaced the median real estate return, which placed them in the top quartile of the universe. For the same time period, SERS, STRS & PERS also beat the median real estate return to place in the second quartile of the universe, while HPRS lagged the median return to rank in the fourth quartile of the Mellon Universe.

## **Appendix**

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## Appendix 1.1 - Ohio Retirement Systems Asset Allocation Comparison Analysis

### Comparison of Asset Allocation versus Mellon All Public Total Fund Universe

	U.S. Equity	Fixed Income	Non-U.S. Equity	Private / Public Real Estate	Alternatives	Cash
PERS (DB) - ACTUAL	38.42%	27.99%	17.11%	10.39%	4.91%	0.99%
PERS (DB) - TARGET	43.40%	24.00%	20.00%	8.00%	4.40%	0.00%
PERS (HC) - ACTUAL	25.20%	45.30%	22.50%	4.50%	0.10%	2.50%
PERS (HC) - TARGET	29.00%	42.00%	23.00%	6.00%	0.00%	0.00%
STRS - ACTUAL	40.80%	17.36%	22.12%	12.25%	6.88%	0.60%
STRS - TARGET	42.00%	20.00%	25.00%	9.50%	3.50%	0.00%
OP&F - ACTUAL	39.61%	24.96%	19.26%	11.24%	3.91%	1.01%
OP&F - TARGET	46.00%	23.00%	20.00%	8.00%	3.00%	0.00%
SERS - ACTUAL	26.94%	20.97%	25.89%	14.20%	8.40%	3.60%
SERS - TARGET	29.00%	24.00%	29.00%	10.00%	7.00%	1.00%
HPRS - ACTUAL	41.42%	21.92%	13.42%	2.08%	20.92%	0.23%
HPRS - TARGET	45.00%	20.00%	15.00%	5.00%	15.00%	0.00%
Maximum	95.26%	78.97%	25.34%	16.63%	43.06%	71.00%
5th	55.33%	51.65%	22.08%	15.91%	29.31%	54.31%
25th	42.55%	34.92%	18.17%	11.42%	15.43%	23.08%
Median	33.73%	30.09%	15.79%	7.83%	10.26%	4.92%
75th	27.77%	25.48%	11.82%	6.22%	5.97%	2.90%
95th	15.68%	14.80%	5.27%	0.78%	3.90%	0.85%
Minimum	9.82%	0.00%	3.81%	0.00%	1.38%	0.64%

Note:

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

Fifty-one institutions represented the universe run.

PERS (DB) fixed income allocation is comprised of 16.05% in fixed income, 0.06% in stable value and 11.87% in long duration fixed income. The real estate allocation is comprised of 9.59% private real estate and 0.80% REITS.

Additionally, an allocation of 0.19% to opportunistic equity was not included. The target allocation does not include an allocation of 0.2% to opportunistic equity.

Source: Mellon Trust Universe Quarter Ended December 31, 2008.

## Appendix 1.2 - Ohio Retirement Systems Asset Allocation Comparison Analysis

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

	U.S. Equity	Fixed Income	Non-U.S. Equity	Private / Public Real Estate	Alternatives	Cash
PERS (DB) - ACTUAL	38.42%	27.99%	17.11%	10.39%	4.91%	0.99%
PERS (DB) - TARGET	43.40%	24.00%	20.00%	8.00%	4.40%	0.00%
PERS (HC) - ACTUAL	25.20%	45.30%	22.50%	4.50%	0.10%	2.50%
PERS (HC) - TARGET	29.00%	42.00%	23.00%	6.00%	0.00%	0.00%
STRS - ACTUAL	40.80%	17.36%	22.12%	12.25%	6.88%	0.60%
STRS - TARGET	42.00%	20.00%	25.00%	9.50%	3.50%	0.00%
OP&F - ACTUAL	39.61%	24.96%	19.26%	11.24%	3.91%	1.01%
OP&F - TARGET	46.00%	23.00%	20.00%	8.00%	3.00%	0.00%
SERS - ACTUAL	26.94%	20.97%	25.89%	14.20%	8.40%	3.60%
SERS - TARGET	29.00%	24.00%	29.00%	10.00%	7.00%	1.00%
HPRS - ACTUAL	41.42%	21.92%	13.42%	2.08%	20.92%	0.23%
HPRS - TARGET	45.00%	20.00%	15.00%	5.00%	15.00%	0.00%
Maximum	66.35%	78.97%	25.34%	21.12%	27.78%	22.18%
5th	54.22%	53.19%	23.09%	18.04%	25.84%	14.80%
25th	42.40%	32.76%	19.34%	9.75%	13.35%	5.17%
Median	32.87%	29.94%	16.77%	7.83%	10.26%	3.69%
75th	26.00%	26.54%	14.16%	5.74%	6.00%	2.18%
95th	16.20%	17.41%	8.68%	0.68%	3.34%	0.87%
Minimum	10.74%	2.44%	5.25%	0.00%	1.38%	0.64%

Note:

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

Thirty-five institutions represented the universe run.

HPRS total assets for period ended December 31, 2008 was \$576,464,729.

PERS (DB) fixed income allocation is comprised of 16.05% in fixed income, 0.06% in stable value and 11.87% in long duration fixed income. The real estate allocation is comprised of 9.59% private real estate and 0.80% REITS.

Additionally, an allocation of 0.19% to opportunistic equity was not included. The target allocation does not include an allocation of 0.2% to opportunistic equity.

Source: Mellon Trust Universe Quarter Ended December 31, 2008.

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