### **Evaluation Associates EXECUTIVE SUMMARY**





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### **November 10, 2010**

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### **TABLE OF CONTENTS**

		<u>Page</u>
TAB 1	Introduction	1
TAB 2	Executive Summary	8
TAB 3	Public Employees Retirement System (PERS)	27
TAB 4	State Teachers Retirement System (STRS)	44
TAB 5	Ohio Police & Fire (OP&F)	52
TAB 6	School Employees Retirement System (SERS)	59
TAB 7	Highway Patrol Retirement System (HPRS)	66
TAB 8	Index Definitions	72
TAB 9	Performance Comparisons	75
<b>TAB 10</b>	APPENDIX	99



## Introduction



## COMPARATIVE PERFORMANCE STUDY PERIOD ENDING JUNE 30, 2010

#### Introduction

Evaluation Associates is pleased to present to the Council the most recent results of our ongoing, semi-annual comparative study of the performance of the six Ohio Statewide funds pursuant to Section 171.04 of the Revised Code. This is the twenty-third report we have prepared pursuant to this authority. The purpose of this comparative report is to provide the framework for dialogue with the retirement systems and to assist the Council in meeting its oversight responsibilities. As is our practice, this report reflects investment performance for all of the retirement systems over the ten-year period beginning July 1, 2000 and ending June 30, 2010.

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

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

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

In order to put performance in the proper context, it is important to understand the historical evolution of the investment restrictions imposed on the funds by statute. Prior to 1993 and the passage of S.B. 43, the investment authority of the funds was severely limited. Only 35% of each fund's assets could be invested in common stock and individual stock purchases were limited to domestic securities specified by a legal list. S.B. 43 expanded the legal list to include American Depository Receipts (ADRs), commingled stock investment funds, derivative instruments and real estate investment trusts (REITs). More importantly, the act permitted the funds to invest up to 50% of their total assets in U.S. stock and 10% in foreign stocks, bonds, and other obligations.

In March 1997, S.B. 82 abolished the legal list and adopted the "prudent person rule." The funds' investment authority under this act is expanded to allow any individual investment, so long as the overall portfolio is diversified. This allows for responses to changes in the economy and investment markets and reliance on professional investment managers and economic advisors to guide the decision-making



## COMPARATIVE PERFORMANCE STUDY PERIOD ENDING JUNE 30, 2010

process. Along with this expansion of investment authority, however, comes the requirement of prudence and diligence in the development of guidelines, benchmarks, and objectives, and importantly, mandates ongoing monitoring by those with fiduciary responsibility.

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

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, the Public Employees Retirement System (PERS) implemented a new structure for their assets. Approximately \$11 billion was segregated into a new fund (with a separate asset allocation policy) solely for the purpose of funding health care obligations. The policy target (asset allocation) for the remaining pension assets was also modified, reflecting the different risk and return objectives of the newly segregated health care fund. Our report reflects these changes by separating the two PERS asset pools whenever appropriate.

Our findings may be summarized as follows:

- During the first and second quarters of 2010, the financial markets experienced mixed results. As a gauge of the marketplace, the Wilshire 5000 finished -5.83% and the MSCI EAFE fell -13.23% for the first two quarters of 2010. Domestically, the second quarter was the most volatile period since March 2009 as the VIX peaked at 45.8 in May. Retail markets were sluggish and housing activity dropped due to the expiration of the first time buyers tax credit. Internationally, Europe's sovereign debt crisis continues to rattle investors, despite the nearly \$1 trillion rescue package; the euro slid 9.42% against the U.S. dollar. In fixed income, interest rates declined and the yield curve flattened on investor risk aversion and flight to quality flows on concerns over the sustainability of economic growth. Short-term rates remained anchored near zero and longer term rates fell; the Federal Reserve has indicated it is still committed to keeping rates low and has not yet signaled the start of the rate-raising cycle.
- The Ohio Statewide fund returns for the six-month period ranged from -1.95% (HPRS) to -2.78% (PERS HC). Four of six systems outperformed their respective policy index for the six-month period. The best relative performers were OP&F (-2.38%) and PERS HC



## COMPARATIVE PERFORMANCE STUDY PERIOD ENDING JUNE 30, 2010

(-2.78%), outperforming their benchmarks by 100 and 33 basis points, respectively. HPRS was the best absolute performer, falling -1.95% over the last two quarters, and outpaced its benchmark by 28 basis points. PERS DB fell -2.51% and outperformed its benchmark by six basis points, STRS fell -2.39% and trailed its benchmark by 20 basis points and SERS lost -2.47% and trailed its benchmark by 82 basis points.

- In comparison to a broad universe of other public retirement systems (the BNY Mellon All Public Total Fund Universe), all of the plans ranked in the third quartile for the six-month period ending June 30, 2010. HPRS ranked in the 53<sup>rd</sup> percentile, OP&F and STRS ranked in the 66<sup>th</sup> percentile, SERS ranked in the 68<sup>th</sup> percentile, PERS DB ranked in the 71<sup>st</sup> percentile and PERS HC ranked in the 77<sup>th</sup> percentile.
- For the one-year period ending June 30, 2010, HPRS (+14.09%) outperformed its benchmark by 153 basis points. PERS HC (+13.81%) outperformed its benchmark by 68 basis points, STRS (+13.54%) outperformed its benchmark by 26 basis points, and OP&F (+13.33%) was in line with its benchmark. Against their peers in the BNY Mellon All Public Total Fund Universe, three of six plans placed above the median, with HPRS placing in the 40<sup>th</sup> percentile among its peers. The remaining five funds placed in the 45<sup>th</sup>, 48<sup>th</sup>, 53<sup>rd</sup>, 62<sup>nd</sup> and 66<sup>th</sup> percentiles (PERS HC, STRS, OP&F, PERS DB and SERS, respectively).
- On a three-year basis, OP&F and STRS were the best relative performers, despite lagging their benchmarks by eight and 30 basis points, respectively. PERS DB, PERS HC, HPRS and SERS lagged their benchmarks by 36, 68, 110 and 208 basis points, respectively. Comparing the three-year returns of the systems to the BNY Mellon All Public Total Fund Universe, only one plan ranked above the median. PERS HC ranked in the 33<sup>rd</sup> percentile, followed by HPRS, OP&F, PERS DB, STRS and SERS, which ranked in the 66<sup>th</sup>, 72<sup>nd</sup>, 73<sup>rd</sup>, 82<sup>nd</sup> and 88<sup>th</sup> percentiles, respectively.
- For the five-year period, three of the six systems outpaced their respective policy benchmarks with STRS, OP&F and PERS DB outperforming their benchmark by 28, 22 and four basis points, respectively. In comparison to the BNY Mellon All Public Total Fund Universe, OP&F (+3.12%) and PERS HC (+3.01%) ranked in the second quartile while STRS (+2.92%) was in-line with the median manager in the Universe. PERS DB (+2.73%), HPRS (+2.59%), and SERS (+2.35%) ranked in the third quartile.
- Over the three, five and ten-year periods, all five plans trailed their actuarial interest rate. When compared to each system's respective policy benchmark, four of five plans outperformed their individual benchmarks. Over the ten-year period, OP&F (+3.57%), STRS (+3.00%), HPRS (+3.34%) and PERS DB (+3.16%) outperformed their benchmarks by 41, 28, 22 and six basis points, respectively and SERS trailed its benchmarks by 30 basis points. Relative to the peer group universe, OP&F, HPRS, PERS DB, STRS and SERS placed in the 37<sup>th</sup>, 47<sup>th</sup>, 59<sup>th</sup>, 66<sup>th</sup>, and 90<sup>th</sup> percentiles, respectively over the ten-year period.



## COMPARATIVE PERFORMANCE STUDY PERIOD ENDING JUNE 30, 2010

- Please note that comparing investment performance relative to the plans' actuarial interest rate and policy benchmark are of primary importance, while peer group comparisons, although useful, should be of secondary importance in the performance evaluation process. 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.
- During the ten-plus years that we have been reviewing the results of the systems on behalf of the Council, the asset allocation targets have became more similar and are reasonably close to each other. The obvious exception is PERS HC. It is important to note that they have a lower actuarial interest rate target than the others, at 6.7%. The retirement plans all have actuarial return assumptions of 8.00% to 8.25%. 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 during the most recent six-month period by PERS HC, PERS DB, STRS and OP&F will likely cause some comparison differences in the near future.
- 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 HPRS domestic equity ranks above the median plan's allocation to domestic equity (40.32%) in the BNY Mellon All Public Total Fund Universe. For OP&F, the actual domestic allocation (41.30%) was above the median, while the target domestic allocation (39.00%) was below the median. The actual (23.85%) and target (27.50%) allocation of SERS, the actual (36.90%) and target (39.61%) allocation of PERS DB, the actual (30.14%) and target (31.90%) allocation of PERS HC, as well as the actual (38.31%) and target (39.00%) allocation of STRS to domestic equity are below that of the median plan. As an important note, SERS has 10.3% allocated to Hedge Funds included in its U.S. Equity and Fixed Income policy target.
  - 2. Five of the six systems' actual and target asset allocation to fixed income are significantly below the median plan (32.36%) of the BNY Mellon All Public Total Fund Universe. PERS HC is the exception with a target (34.00%) and actual allocation (32.92%) above the median.
  - 3. The median plan allocation of the BNY Mellon All Public Total Fund Universe to non-U.S. equity as of June 30, 2010 was 15.87%. The target allocation for HPRS is slightly below the median at 15.00%, and its actual allocation was slightly



## COMPARATIVE PERFORMANCE STUDY PERIOD ENDING JUNE 30, 2010

less at 13.91%. The target allocations for the remaining plans were significantly above the median, with the actual allocations following suit.

- 4. The universe median allocation to real estate of the BNY Mellon All Public Total Fund Universe was 5.36% as of June 30, 2010. The target allocation of each of the systems, with the exception of HPRS (5.00%), is above the median allocation. In addition, the HPRS actual allocation (2.58%) was below the median while the actual allocations for the remaining systems were above.
- 5. HPRS has actual (19.23%) and target (15.00%) allocations to alternatives above the peer median of 10.54%. While SERS has target (10.00%) close to the median, its actual allocation, which includes Hedge Funds from its U.S. Equity and Fixed Income allocations, is well ahead of the median (19.34%). The remaining plans have lower target allocations to alternative assets.
- Overall, we believe this report provides the ORSC with a consolidated source of valuable information to assist in its oversight of
  the six Ohio Statewide funds and ensure that investment policies are effectively implemented. While the report does not
  provide very specific underlying portfolio detail, it does provide the necessary information to allow the ORSC to ask the right
  questions and act as an early indicator of potential issues that should be delved into in more detail. Any modifications to the
  report will only serve to enhance that ability.
- For performance reporting purposes, the asset allocation benchmarks in this report are generally consistent with investment policy asset allocations for all plans. As we previously stated, one of the primary purposes of this report is to provide an accurate representation of plan performance of the Ohio Retirement Systems and to provide an "apples to apples" comparison of the Retirement Systems' investment results. In order for this performance report to fulfill this purpose, it is necessary that each plan provide accurate information. In light of the increased complexity of the plans' portfolios, we have divided the "alternative investment" performance table into separate and distinct categories including private equity, hedge funds, and "other." Footnotes have been added to provide clarity. We will continue to review current performance benchmarking practices and make recommendations to ensure consistent and transparent reporting for all plans in subsequent performance reports.
- In light of the low investment returns experienced over the past three, five and ten-year year periods, the Systems should continue to re-evaluate investment, funding, and benefits policies. Potential changes to the Boards' long-term investment policies may include further diversification into alternative investments including hedge funds, private equity, commodities, and



## COMPARATIVE PERFORMANCE STUDY PERIOD ENDING JUNE 30, 2010

infrastructure. Changes to funding policies may include raising the contribution rates. Changes to benefits policies may include changes in plan eligibility or plan design. (Please see page 12 for investment returns and actuarial interest rate assumptions.)

• The Systems' investment policies are changing and we will, of course, continue to review any changes and proposed changes to the Systems' investment policies and report them to the ORSC in subsequent performance reports.

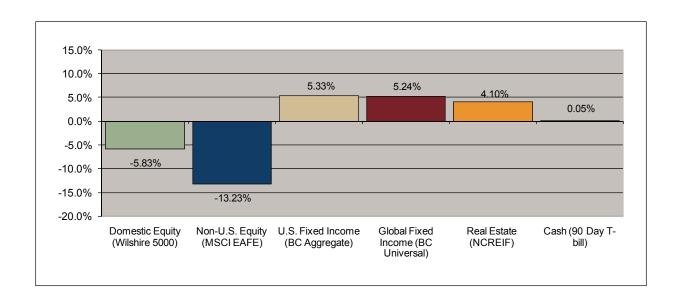


## **Executive Summary**

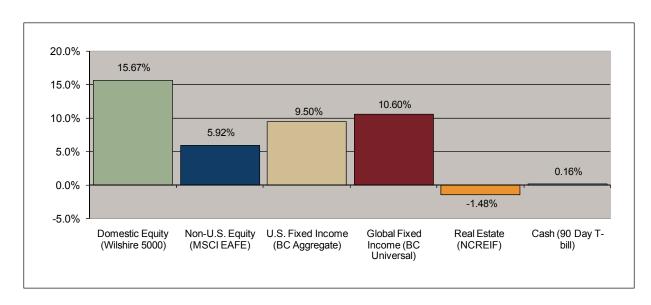
### **Market Environment**

The past two quarters produced mixed investment results for the six major asset classes. The best return was achieved by U.S. fixed income (+5.33%), followed by global fixed income (+5.24%), real estate (+4.10%), cash (+0.05%), U.S. equity (-5.83%) and non-U.S. equity (-13.23%).

### 6 Month Chart

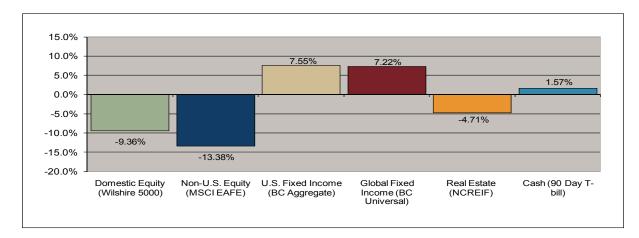


### 1 Year Chart

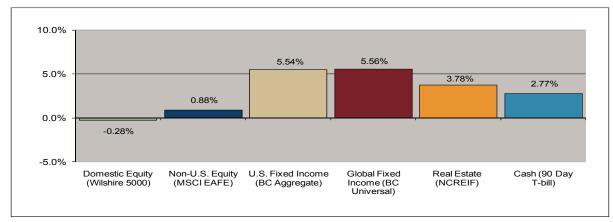




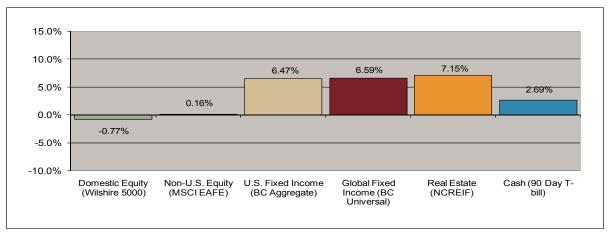
### 3 Year Chart



### 5 Year Chart



### 10 Year Chart





### **Median Fund Returns**

The median fund in the BNY Mellon public fund database returned -1.84% for the two quarters ending June 30, 2010. A hypothetical fund with a 60% allocation to the Wilshire 5000 and a 40% allocation to the Barclays Capital U.S. Aggregate Index would have returned -1.27% for the two quarters ending June 30, 2010, outperforming the median fund return in the BNY Mellon public fund database.

## Universe Median Performance Summary Periods Ending June 30, 2010

	<u>2010</u> <u>Through 6/30/10</u>	<u>One</u> Year	<u>Three</u> <u>Years</u>	<u>Five</u> <u>Years</u>	<u>Ten</u> Years
Fund Sponsor Type					
All Public Fund Universe	-1.84%	13.50%	-3.48%	2.88%	3.31%
Corporate DB Universe	-1.25%	14.32%	-3.44%	3.25%	3.48%
Endowment Universe	-1.17%	12.45%	-3.48%	3.75%	3.95%
Taft-Hartley Universe	-1.35%	11.45%	-4.21%	2.06%	3.19%
All Fund Universe	-1.42%	13.50%	-3.53%	3.12%	3.39%
60% Wilshire 5000 / 40% BC Aggregate	-1.27%	13.57%	-2.41%	2.38%	2.45%

### **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 policies 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)	39.60%	22.00%	25.20%	7.90%	5.30%	0.00%
PERS (HC)	31.90%	26.00%	34.00%	6.00%	2.10%	0.00%
STRS	39.00%	23.00%	20.00%	10.00%	7.00%	1.00%
OP&F	39.00%	24.00%	23.00%	10.00%	4.00%	0.00%
SERS	27.50%	27.50%	24.00%	10.00%	10.00%	1.00%
HPRS	45.00%	15.00%	20.00%	5.00%	15.00%	0.00%
BNYMellon All Public Funds	40.32%	15.87%	32.36%	5.36%	10.54%	2.91%

Note: OP&F has 8.2% allocated to a portable alpha strategy, which includes Hedge Funds, in the U.S. Equity allocation. SERS has 10.3% (as of 6/30/10) allocated to Hedge Funds included in the U.S. Equity and Fixed Income policy targets.

• 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 63.0% (OP&F) to 55.0% (SERS).

### **Asset Allocation – Alternatives**

As of June 30<sup>th</sup>, the Ohio plans had the following allocations to alternative investments:

- PERS DB: 4.9% Private Equity, 1.1% Hedge Funds, 0.6% Tactical Asset Allocation strategy.
- PERS HC: 0.2% Private Equity, 1.2% Hedge Funds, 0.8% Commodities.
- STRS: 5.8% Private Equity, 1.4% Opportunistic includes PPIP, Distressed Debt, Energy Funds, FDIC-Assisted Bank Investments and Hedge Funds (0.3% of total assets).
- OP&F: 3.6% Private Equity. There is 8.2% allocated to a portable alpha strategy, which includes Hedge Funds, in the U.S. Equity allocation.
- SERS: 9.1% Private Equity. There is also 10.3% allocated to Hedge Funds included in the U.S. Equity and Fixed Income policy targets.
- HPRS: 10.6% Private Equity (including 6.3% Timberland), 8.7% Hedge Funds.



### **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.



### **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										
<u>Fund</u>	<u>2010</u> Through 6/30	<u>Rank</u>	<u>One</u> Year	Ranks	Three Years	<u>Rank</u>	<u>Five</u> Years	Rank Rank	<u>Ten</u> Years	<u>Rank</u>	Actuarial Interest Rate
PERS (DB)											
Actual	-2.51%	71	12.71%	62	-4.88%	73	2.73%	58	3.16%	59	8.00%
Policy	-2.57%		14.41%		-4.52%		2.69%		3.10%		
Difference	0.06%		-1.70%		-0.36%		0.04%		0.06%		
PERS (HC)											
Actual	-2.78%	77	13.81%	45	-2.77%	33	3.01%	47	N/A	N/A	6.70%
Policy	-3.11%		13.13%		-2.09%		3.24%		N/A		
Difference	0.33%		0.68%		-0.68%		-0.23%		N/A		
STRS											
Actual	-2.39%	66	13.54%	48	-5.60%	82	2.92%	50	3.00%	66	8.00%
Policy	-2.19%		13.28%		-5.30%		2.64%		2.72%		
Difference	-0.20%		0.26%		-0.30%		0.28%		0.28%		
OP&F											
Actual	-2.38%	66	13.33%	53	-4.77%	72	3.12%	42	3.57%	37	8.25%
Policy	-3.38%		13.33%		-4.69%		2.90%		3.16%		
Difference	1.00%		0.00%		-0.08%		0.22%		0.41%		
SERS											
Actual	-2.47%	68	12.30%	66	-5.95%	88	2.35%	69	2.38%	90	8.00%
Policy	-1.65%		14.70%		-3.87%		3.08%		2.68%		
Difference	-0.82%		-2.40%		-2.08%		-0.73%		-0.30%		
HPRS											
Actual	-1.95%	53	14.09%	40	-4.60%	66	2.59%	62	3.34%	47	8.00%
Policy	-2.23%		12.56%		-3.50%		3.28%		3.12%		
Difference	0.28%		1.53%		-1.10%		-0.69%		0.22%		

All returns are for periods ending 6/30/2010. Returns for periods longer than one year are annualized. Rankings are derived from placement in the BNY Mellon All Public Total Fund Universe. Differences may exist due to rounding.



PERS (DB): The return for the total fund for the two quarters ending June 30, 2010 outperformed its policy index by six basis points, but trailed its benchmark by 1.70% for the one-year period. Over the trailing three-year period, the total fund trailed its policy index by 0.36%. Over the trailing five-year period, the total fund outperformed its policy index by four basis points.

PERS (HC): The total fund outperformed its policy index by 0.33% for the two quarters ending June 30, 2010, and outpaced its policy index by 68 basis points for the past year. Over the trailing five-year period, the total fund underperformed its policy index by 23 basis points.

STRS: The return for the total fund for the two quarters ending June 30, 2010 underperformed its policy index by 0.20%, but outperformed its policy index by 0.26% for the one-year period. Over the trailing five-year period, the fund outperformed its policy index by 28 basis points.

OP&F: OP&F outperformed its policy index by 1.00% for the two quarters ending June 30, 2010 and was in-line with its policy benchmark for the trailing one-year period. The total fund outperformed its policy index over the five-year period by 22 basis points.

SERS: The total fund underperformed its policy index by 0.82% for the two quarters ending June 30, 2010 and 2.40% for the past 12 months. The fund underperformed its policy index over the five-year period by 73 basis points.

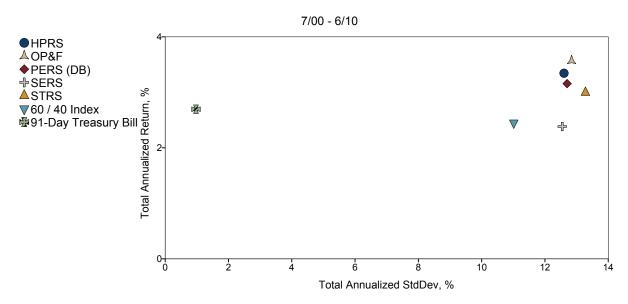
The total fund outperformed its policy index for the two quarters ending June 30, 2010 by 0.28%. For the trailing one-year period, the total fund outperformed its policy index by 153 basis points. For the trailing five-year period, the total fund underperformed its policy index by 69 basis points.



HPRS:

# Total Plans Risk Analysis - Last 10 Years Performance Overview For Period Ending 06/30/10

#### Performance vs. Risk



	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
HPRS	3.34	12.60	1.41	0.11
OP&F	3.57	12.84	1.66	0.13
PERS (DB)	3.16	12.70	1.24	0.10
SERS	2.38	12.55	0.47	0.04
STRS	3.00	13.28	1.16	0.09
60 / 40 Index	2.45	11.02	0.35	0.03
91-Day Treasury Bill	2.69	0.97	0.00	NA

The graph above provides a risk analysis. 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 OP&F, HPRS and PERS DB. STRS and OP&F exhibited marginally higher risk (volatility) while SERS had the lowest risk among all plans. 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								
<u>Fund</u>	<u>2010</u> <u>Through 6/30</u>	One Year	Three Years	Five Years	Ten Years			
PERS (DB)								
Actual	-6.31%	15.29%	-9.71%	-0.71%	-0.69%			
Policy	-6.05%	15.72%	-9.47%	-0.46%	-0.71%			
Difference	-0.26%	-0.43%	-0.24%	-0.25%	0.02%			
PERS (HC)								
Actual	-6.31%	15.29%	-9.71%	-0.71%	N/A			
Policy	-6.05%	15.72%	-9.47%	-0.46%	N/A			
Difference	-0.26%	-0.43%	-0.24%	-0.25%	N/A			
STRS								
Actual	-6.48%	14.93%	-10.24%	-0.69%	-1.01%			
Policy	-6.05%	15.72%	-9.47%	-0.49%	-0.76%			
Difference	-0.43%	-0.79%	-0.77%	-0.20%	-0.25%			
OP&F*								
Actual	-3.66%	19.46%	-8.26%	0.43%	0.88%			
Policy	-5.83%	15.68%	-9.36%	-0.28%	-0.78%			
Difference	2.17%	3.78%	1.10%	0.71%	1.66%			
SERS								
Actual	-5.67%	17.24%	-10.02%	-0.84%	-1.25%			
Policy	-6.05%	15.72%	-9.47%	-0.48%	-0.92%			
Difference	0.38%	1.52%	-0.55%	-0.36%	-0.33%			
HPRS								
Actual	-3.27%	20.85%	-8.64%	0.41%	1.01%			
Policy	-5.03%	17.54%	-9.20%	-0.18%	0.34%			
Difference	1.76%	3.31%	0.56%	0.59%	0.67%			

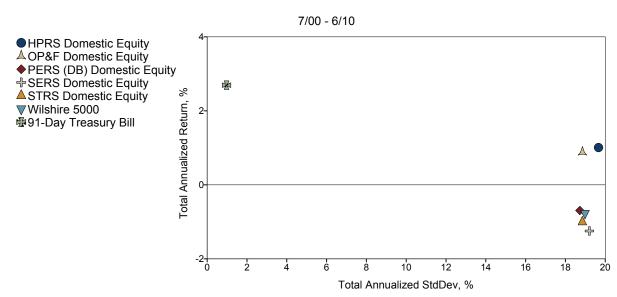
All returns are for periods ending 6/30/2010. Returns for periods longer than one year are annualized. Differences may exist due to rounding. \* A portable alpha strategy, which includes Hedge Funds, is incorporated in the U.S. Equity composite.

Domestic equity returns were negative for the two quarters ending June 30, 2010. HPRS (-3.27%) generated the best absolute return for the period, followed by OP&F (-3.66%). Over the trailing year, HPRS led performance (+20.85%) on an absolute basis, while OP&F (+19.46%) led on a relative basis. Over the three-year period, OP&F (-8.26%) generated the best absolute and relative return.



# Domestic Equity Risk Analysis - Last 10 Years Performance Overview For Period Ending 06/30/10

#### Performance vs. Risk



	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
HPRS Domestic Equity	1.01	19.66	0.26	0.01
OP&F Domestic Equity	0.88	18.85	-0.01	0.00
PERS (DB) Domestic Equity	-0.69	18.73	-1.61	-0.09
SERS Domestic Equity	-1.25	19.20	-2.07	-0.11
STRS Domestic Equity	-1.01	18.85	-1.90	-0.10
Wilshire 5000	-0.77	18.98	-1.63	-0.09
91-Day Treasury Bill	2.69	0.97	0.00	NA

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

### **Fixed Income Returns**

Fixed Income Return vs. Policy Benchmark								
<u>Fund</u>	<u>2010</u> <u>Through 6/30</u>	One Year	Three Years	Five Years	Ten Years			
PERS (DB)								
Actual	7.66%	13.71%	7.04%	5.60%	6.76%			
Policy	7.37%	13.17%	8.27%	6.08%	6.97%			
Difference	0.29%	0.54%	-1.23%	-0.48%	-0.21%			
PERS (HC)								
Actual	5.25%	10.51%	5.22%	4.28%	N/A			
Policy	4.77%	8.93%	7.13%	5.23%	N/A			
Difference	0.48%	1.58%	-1.91%	-0.95%	N/A			
STRS								
Actual	5.28%	13.28%	8.30%	6.36%	7.30%			
Policy	5.25%	10.60%	7.22%	5.56%	6.59%			
Difference	0.03%	2.68%	1.08%	0.80%	0.71%			
OP&F								
Actual	5.52%	15.67%	8.19%	6.79%	7.79%			
Policy	5.33%	9.50%	7.55%	5.54%	6.47%			
Difference	0.19%	6.17%	0.64%	1.25%	1.32%			
SERS								
Actual	5.91%	16.95%	8.14%	6.28%	7.19%			
Policy	5.33%	9.50%	7.55%	5.54%	6.47%			
Difference	0.58%	7.45%	0.59%	0.74%	0.72%			
HPRS								
Actual	5.12%	11.58%	7.15%	6.04%	7.18%			
Policy	5.33%	9.50%	7.55%	5.54%	6.47%			
Difference	-0.21%	2.08%	-0.40%	0.50%	0.71%			

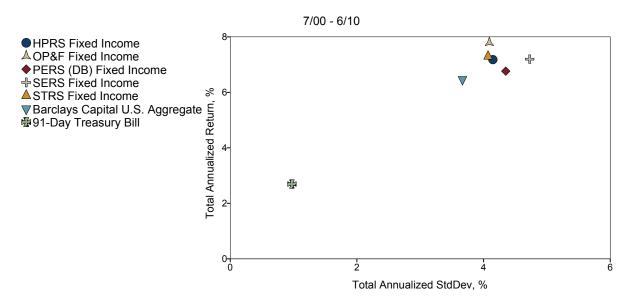
All returns are for periods ending 6/30/2010. Returns for periods longer than one year are annualized. Differences may exist due to rounding.

For two quarters ending June 30, 2010, PERS DB (+7.66%) was the strongest absolute performer. Over the trailing year, SERS (+16.95%) and OP&F (+15.67%) experienced the strongest absolute results. Over the trailing three-year period, STRS (+8.30%), OP&F (+8.19%) and SERS (+8.14%) led all plans on an absolute basis.



# Fixed Income Risk Analysis - Last 10 Years Performance Overview For Period Ending 06/30/10

#### Performance vs. Risk



	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, Sharpe % Ratio	
HPRS Fixed Income	7.18	4.15	4.40	1.04
OP&F Fixed Income	7.79	4.09	4.98	1.18
PERS (DB) Fixed Income	6.76	4.35	4.02	0.91
SERS Fixed Income	7.19	4.73	4.44	0.91
STRS Fixed Income	7.30	4.07	4.51	1.08
Barclays Capital U.S. Aggregate	6.47	3.67	3.71	1.02
91-Day Treasury Bill	2.69	0.97	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, PERS DB and SERS.

### **International Equity Returns**

International Equity Return vs. Policy Benchmark								
<u>Fund</u>	<u>2010</u> <u>Through 6/30</u>	One Year	Three Years	Five Years	Ten Years			
PERS (DB)								
Actual	-9.97%	11.20%	-10.81%	3.64%	2.02%			
Policy	-11.07%	10.43%	-10.70%	3.40%	1.90%			
Difference	1.10%	0.77%	-0.11%	0.24%	0.12%			
PERS (HC)								
Actual	-9.95%	11.21%	-10.77%	3.65%	N/A			
Policy	-11.07%	10.43%	-10.70%	3.40%	N/A			
Difference	1.12%	0.78%	-0.07%	0.25%	N/A			
STRS								
Actual	-7.86%	13.08%	-9.50%	4.61%	3.54%			
Policy	-8.90%	11.45%	-10.02%	4.05%	2.21%			
Difference	1.04%	1.63%	0.52%	0.56%	1.33%			
OP&F								
Actual	-8.78%	13.53%	-9.85%	4.44%	1.67%			
Policy	-11.06%	10.43%	-10.69%	3.38%	1.89%			
Difference	2.28%	3.10%	0.84%	1.06%	-0.22%			
SERS								
Actual	-6.86%	15.41%	-9.96%	5.04%	2.67%			
Policy	-8.55%	12.05%	-9.81%	3.96%	1.61%			
Difference	1.69%	3.36%	-0.15%	1.08%	1.06%			
HPRS								
Actual	-11.38%	8.85%	-10.68%	2.70%	1.37%			
Policy	-10.80%	10.88%	-10.28%	3.39%	1.40%			
Difference	-0.58%	-2.03%	-0.40%	-0.69%	-0.03%			

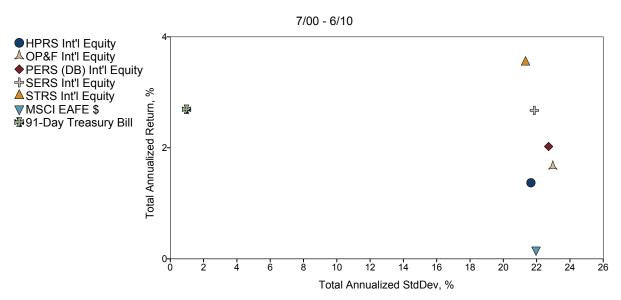
All returns are for periods ending 6/30/2010. Returns for periods longer than one year are annualized. Differences may exist due to rounding.

On an absolute basis, as of June 30, 2010, SERS (-6.86%) had the best absolute return for the period; OP&F (-8.78%) was the best relative performer, gaining 2.28% against its benchmark. Over the one-year period, SERS (+15.41%) was the strongest absolute performer. Over the three-year period, STRS (-9.50%) was the strongest absolute performer, while OP&F (-9.85%) was the strongest relative performer, gaining 0.84% against its benchmark.



# International Equity Risk Analysis - Last 10 Years Performance Overview For Period Ending 06/30/10

#### Performance vs. Risk



	Annualized Return, %	Annualized StdDev, %	MPT Statistics	
	Total	Total	Alpha, %	Sharpe Ratio
HPRS Int'l Equity	1.37	21.66	1.01	0.05
OP&F Int'l Equity	1.67	22.97	1.60	0.07
PERS (DB) Int'l Equity	2.02	22.72	1.88	0.08
SERS Int'l Equity	2.67	21.86	2.36	0.11
STRS Int'l Equity	3.54	21.34	3.07	0.14
MSCI EAFE \$	0.16	21.96	-0.14	-0.01
91-Day Treasury Bill	2.69	0.97	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 SERS.

### **Real Estate Returns**

Real Estate Return vs. Policy Benchmark								
	2010							
<u>Fund</u>	Through 6/30	One Year	Three Years	Five Years	Ten Years			
DEDS (DD)								
PERS (DB) Actual	-1.49%	-12.67%	-7.76%	3.25%	N/A			
	-1.49%	-9.60%		3.01%	N/A			
Policy Difference			-5.74%		N/A			
	-0.12%	-3.07%	-2.02%	0.24%	IN/A			
	iblic Markets Onl		40.040/	0.000/	N1/A			
Actual	5.74%	55.84%	-10.34%	-0.29%	N/A			
Policy	5.40%	56.10%	-10.52%	-0.52%	N/A			
Difference	0.34%	-0.26%	0.18%	0.23%	N/A			
	ıblic Markets Onl							
Actual	5.74%	55.84%	-10.34%	-0.29%	N/A			
Policy	5.40%	56.10%	-10.52%	-0.50%	N/A			
Difference	0.34%	-0.26%	0.18%	0.21%	N/A			
STRS								
Actual	1.62%	-0.31%	-4.50%	7.12%	9.76%			
Policy	4.35%	6.50%	-4.38%	3.92%	7.42%			
Difference	-2.73%	-6.81%	-0.12%	3.20%	2.34%			
OP&F								
Actual	-4.91%	-21.69%	-13.36%	-0.03%	6.38%			
Policy	-1.37%	-9.60%	-4.32%	4.19%	5.98%			
Difference	-3.54%	-12.09%	-9.04%	-4.22%	0.40%			
SERS								
Actual	-6.09%	-16.05%	-16.15%	-4.06%	2.81%			
Policy	-1.85%	-2.77%	-4.44%	3.98%	7.64%			
Difference	-4.24%	-13.28%	-11.71%	-8.04%	-4.83%			
HPRS		10.20,0						
Actual	-6.22%	-5.24%	-11.27%	-2.36%	2.83%			
Policy	4.10%	-1.48%	-4.71%	3.78%	7.15%			
Difference	-10.32%	-3.76%	-6.56%	-6.14%	-4.32%			

All returns are for periods ending 6/30/2010. Returns for periods longer than one year are annualized. Differences may exist due to rounding.

For the real estate returns for the two quarters ending June 30, 2010, STRS was the strongest performer, gaining 1.62%. PERS DB (-1.49%) was the second strongest performer. STRS (-0.31%) outperformed all other plans for the one-year period, followed by HPRS (-5.24%). STRS and PERS DB had the strongest absolute performance over a three-year period, falling 4.50% and 7.76%, respectively.

For the two quarters ending June 30, 2010, the REIT portfolios for the PERS DB and PERS HC plans gained 5.74% and 55.84% for the year.



### **Private Equity Returns**

Private Equity Return vs. Policy Benchmark 2010							
<u>Fund</u>	<u> </u>	One Year	Three Years	Five Years	Ten Years		
PERS (DB)							
Actual	8.66%	20.68%	1.34%	10.02%	6.64%		
Policy	13.84%	56.83%	-1.06%	5.49%	1.85%		
Difference	-5.18%	-36.15%	2.40%	4.53%	4.79%		
PERS (HC)							
Actual	-6.35%	-15.63%	N/A	N/A	N/A		
Policy	13.84%	56.83%	N/A	N/A	N/A		
Difference	-20.19%	-72.46%	N/A	N/A	N/A		
STRS							
Actual	10.60%	20.16%	-0.77%	7.83%	4.09%		
Policy	-4.61%	19.20%	-6.69%	2.55%	2.10%		
Difference	15.21%	0.96%	5.92%	5.28%	1.99%		
OP&F							
Actual	7.36%	11.77%	2.00%	10.03%	-1.14%		
Policy	13.84%	56.59%	-0.87%	6.16%	4.00%		
Difference	-6.48%	-44.82%	2.87%	3.87%	-5.14%		
SERS							
Actual	6.55%	10.19%	1.06%	7.68%	-5.68%		
Policy	12.10%	52.77%	-0.97%	5.05%	2.62%		
Difference	-5.55%	-42.58%	2.03%	2.63%	-8.30%		
HPRS							
Actual	3.33%	9.44%	0.34%	N/A	N/A		
Policy	3.43%	6.10%	6.61%	N/A	N/A		
Difference	-0.10%	3.34%	-6.27%	N/A	N/A		

#### All returns are net of fees.

All returns are for periods ending 6/30/2010. Returns for periods longer than one year are annualized. Differences may exist due to rounding.

For the two quarters ending June 30, 2010, STRS (+10.60%) had the best absolute and relative return. For the one-year period PERS DB had the highest absolute return (+20.68%), despite significantly trailing its benchmark. For the trailing three-year period, OP&F was the best relative and absolute performer (+2.00%).



### **Hedge Fund Returns**

Hedge Fund Returns vs. Policy Benchmark							
	<u>2010</u>						
<u>Fund</u>	Through 6/30	One Year	Three Years	Five Years	Ten Years		
PERS (DB)							
Actual	13.65%	21.76%	5.19%	N/A	N/A		
Policy	2.10%	6.31%	7.34%	N/A	N/A		
Difference	11.55%	15.45%	-2.15%	N/A	N/A		
PERS (HC)							
Actual	13.65%	38.62%	N/A	N/A	N/A		
Policy	2.10%	17.93%	N/A	N/A	N/A		
Difference	11.55%	20.69%	N/A	N/A	N/A		
STRS*							
Actual	-4.05%	3.78%	0.39%	8.77%	N/A		
Policy	-1.20%	4.70%	-3.98%	2.33%	N/A		
Difference	-2.85%	-0.92%	4.37%	6.44%	N/A		
SERS							
Actual	1.88%	12.52%	N/A	N/A	N/A		
Policy	-0.31%	9.17%	N/A	N/A	N/A		
Difference	2.19%	3.35%	N/A	N/A	N/A		
HPRS							
Actual	0.73%	10.10%	1.11%	N/A	N/A		
Policy	-1.20%	4.70%	-3.98%	N/A	N/A		
Difference	1.93%	5.40%	5.09%	N/A	N/A		

#### All returns are net of fees.

All returns are for periods ending 6/30/2010. Returns for periods longer than one year are annualized. Differences may exist due to rounding.

For the two quarters ending June 30, 2010, PERS DB and PERS HC had the best absolute and relative return (+13.65%) followed by SERS (+1.88%). For the one-year period, PERS HC had the highest absolute and relative return (+38.62%).



<sup>\*</sup> Hedge fund allocation is included in the opportunistic composite as well. As on 6/30/2010, hedge funds accounted for 0.3% of total plan assets.

### **Opportunistic Returns**

	Opportunistic Returns vs. Policy Benchmark							
<u>Fund</u>	<u>2010</u> <u>Through 6/30</u>	One Year	Three Years	Five Years	Ten Years			
PERS (DB)*								
Actual	-11.71%	N/A	N/A	N/A	N/A			
Policy	-4.08%	N/A	N/A	N/A	N/A			
Difference	-7.63%	N/A	N/A	N/A	N/A			
PERS (HC)**								
Actual	-9.97%	N/A	N/A	N/A	N/A			
Policy	-11.21%	N/A	N/A	N/A	N/A			
Difference	1.24%	N/A	N/A	N/A	N/A			
STRS***								
Actual	8.35%	19.84%	N/A	N/A	N/A			
Policy	-6.52%	14.59%	N/A	N/A	N/A			
Difference	14.87%	5.25%	N/A	N/A	N/A			

All returns are for periods ending 6/30/2010. Returns for periods longer than one year are annualized. Differences may exist due to rounding.



<sup>\*</sup> PERS DB: Tactical Asset Allocation; underlying managers are utilized for asset allocation and alpha generation.

<sup>\*\*</sup> PERS HC: Commodities allocation.

<sup>\*\*\*</sup> STRS: Includes PPIP, Distressed Debt, Energy Funds, FDIC-Assisted Bank Investments and Hedge Funds (Hedge Funds account for 0.3% of total assets in the Plan)

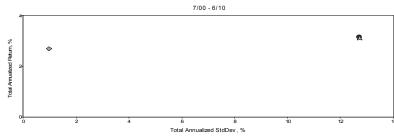


# Public Employees Retirement System (PERS) Defined Benefit Plan & Health Care Plan (DB & HC)

### **Defined Benefit Plan**

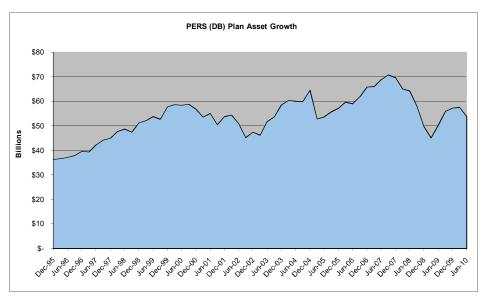
		PERS Return	ıs		
Portfolio	Two Quarters	One Year	Three Years	Five Years	Ten Years
US Equity					
Actual	-6.31%	15.29%	-9.71%	-0.71%	-0.69%
Benchmark	-6.05%	15.72%	-9.47%	-0.46%	-0.71%
Difference	-0.26%	-0.43%	-0.24%	-0.25%	0.02%
Fixed Income					
Actual	7.66%	13.71%	7.04%	5.60%	6.76%
Benchmark	7.37%	13.17%	8.27%	6.08%	6.97%
Difference	0.29%	0.54%	-1.23%	-0.48%	-0.21%
Intl. Equity					
Actual	-9.97%	11.20%	-10.81%	3.64%	2.02%
Benchmark	-11.07%	10.43%	-10.70%	3.40%	1.90%
Difference	1.10%	0.77%	-0.11%	0.24%	0.12%
Real Estate					
Actual	-1.49%	-12.67%	-7.76%	3.25%	N/A
Benchmark	-1.37%	-9.60%	-5.74%	3.01%	N/A
Difference	-0.12%	-3.07%	-2.02%	0.24%	N/A
REITS (Public)					
Actual	5.74%	55.84%	-10.34%	-0.29%	N/A
Benchmark	5.40%	56.10%	-10.52%	-0.52%	N/A
Difference	0.34%	-0.26%	0.18%	0.23%	N/A
Private Equity					
Actual	8.66%	20.68%	1.34%	10.02%	6.64%
Benchmark	13.84%	56.83%	-1.06%	5.49%	1.85%
Difference	-5.18%	-36.15%	2.40%	4.53%	4.79%
Hedge Funds					
Actual	13.65%	21.76%	5.19%	N/A	N/A
Benchmark	2.10%	6.31%	7.34%	N/A	N/A
Difference	11.55%	15.45%	-2.15%	N/A	N/A





PERS (DB) A PERS (DB) Police	y Index ◆91-Day Trea	sury Bill		
	Annualized Return, %	Annualized StdDev, %		PT stics
	Total	Total	Alpha, %	Sharpe Ratio
PERS (DB)	3.16	12.70	1.24	0.10
PERS (DB) PolicyIndex	3.10	12.72	1.19	0.09
04 D. T	200	0.07	0.00	B14





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

#### Asset Mix

	Actual		
	June 30, 2010	Target	Difference
US Equity	36.9%	39.6%	-2.7%
Intl. Equity	22.3%	22.0%	0.3%
Alternative Assets*	6.7%	5.3%	1.5%
Total Equity	66.0%	66.9%	-0.9%
Fixed Income	24.4%	25.2%	-0.8%
Real Estate	8.9%	7.9%	1.0%
Short Term Investments	0.7%	0.0%	0.7%
Total Debt	34.0%	33.1%	0.9%
	100.0%	100.0%	0.0%

<sup>\*</sup>Alternative assets include Private Equity, Hedge Funds and Tactical Asset Allocation segments.

An allocation of 24.6% to total fixed income consists of 12.1% (core fixed income), 2.0% (high yield) and 10.5% (long duration).

An allocation of 8.9% to real estate consists of 8.1% (private real estate) and 0.8% (REITs).

#### **Characteristic Data**

Assets at 6/30/2010 \$ 53,734,499,770
Actuarial Interest Rate: 8.00%
Investment Staff Size: 56

Defined Benefit Plan - Performance Overview Returns for Period Ending June 30, 2010

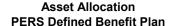
	2 Qtrs	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund	-2.51	12.71	-4.88	2.73	3.16
Policy Index	-2.57	14.41	-4.52	2.69	3.10
Domestic Equity Domestic Equity Segment Median Wilshire 5000	-6.31	15.29	-9.71	-0.71	-0.69
	-5.36	16.31	-9.34	-0.32	0.54
	-5.83	15.67	-9.36	-0.28	-0.77
International Equity International Equity Segment Median MSCI EAFE	-9.97	11.20	-10.81	3.64	2.02
	-10.37	11.10	-10.53	2.91	2.41
	-13.23	5.92	-13.38	0.88	0.16
Fixed Income Fixed Income Segment Median Barclays Capital U.S. Aggregate Index	7.66	13.71	7.04	5.60	6.76
	5.49	13.29	7.37	5.48	6.74
	5.33	9.50	7.55	5.54	6.47
Cash	0.82	1.14	2.17	3.25	2.94
Real Estate	-1.49	-12.67	-7.76	3.25	NA
NCREIF	4.10	-1.48	-4.71	3.78	NA
Public Real Estate	5.74	55.84	-10.34	-0.29	NA
Wilshire Resi Full Cap	5.40	56.06	-10.47	-0.46	NA
Private Equity	8.66	20.68	1.34	10.02	6.64
Hedge Funds	13.65	21.76	5.19	NA	NA
Tactical Asset Allocation**	-11.71	NA	NA	NA	NA

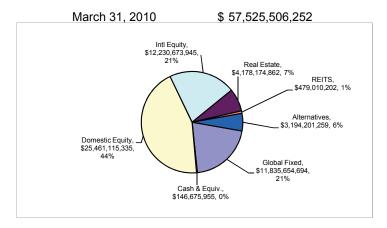
Over the past ten-year period, the PERS Defined Benefit Plan outperformed its policy index by six basis points. Strong performance in non-U.S. equity aided relative results. For the more recent one-year period, the plan underperformed the policy benchmark by 170 basis points.

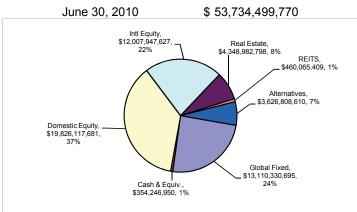
<sup>\*</sup> Benchmarks shown above for individual asset classes are not specific to the Plan's policy. Differences may exist due to rounding.

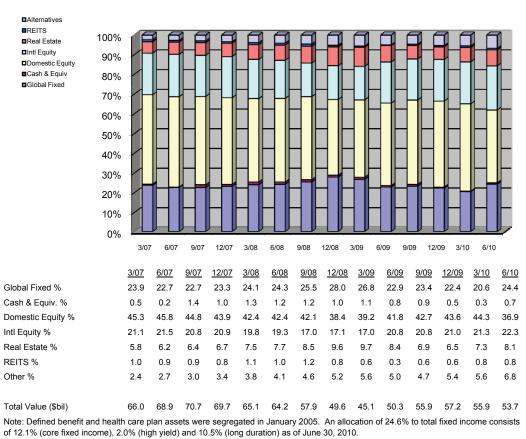
<sup>\*\*</sup> Tactical Asset Allocation: underlying managers are utilized for asset allocation and alpha generation.











This is the first page devoted to the analysis of the Ohio Public Employees Retirement System's (Defined Benefit) asset allocation. The chart on the left displays the fund's asset allocation over the first two quarters of 2010. The chart on the right tracks the quarterly asset allocation of the fund over the last fourteen quarters.



<sup>\*</sup>Differences may occur due to rounding

	Quarter	Quarter		
Label	Start	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
			1.0	MSCI EAFE (Net)
	Mar-96	Dec-96	62.5	SB Broad Inv Grade
			23.0	Standard & Poors 500
			8.0	NCREIF
			4.5	91-Day Treasury Bill
			2.0	MSCI EAFE (Net)
	Mar-97	Dec-97	56.5	SB Broad Inv Grade
			27.0	Standard & Poors 500
			8.0	NCREIF
			4.5	91-Day Treasury Bill
			4.0	MSCI EAFE (Net)
	Mar-98	Dec-98	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

	Quarter	Quarter		
Label	Start	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	Giliberto-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
			2.2	NAREIT
			2.2	Giliberto-Levy Mortgage
			1.0	91-Day Treasury Bill
	Jun-99	Jun-99	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	Giliberto-Levy Mortgage
			1.0	91-Day Treasury Bill



	0	0	Γ	1
I	Quarter	Quarter	l	5
Label	Start	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	Giliberto-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
			1.9	NAREIT
			1.9	Giliberto-Levy Mortgage
			0.2	Standard & Poors 500
	Jun-02	Sep-02	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	Giliberto-Levy Mortgage
			1.5	BC Bellweather 3Mth T-Bill
			0.2	Standard & Poors 500
	ı			

	Quarter	Quarter		
Label	Start	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	Giliberto-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	Giliberto-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)



	Quarter	Quarter		
Label	Start	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

	Quarter	Quarter		
Label	Start	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



Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Jun-06		45.4	Russell 3000
folicy index (cont.)	Juli-00	Sep-06	24.8	
			20.0	Barclays Universal MSCI AC World Ex-US (Net)
			6.3	Real Estate
				. tour Estats
			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

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



# Defined Benefit Plan Quarter Ending 6/30/2010

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Dec-07	Mar-08	44.9	Russell 3000
Folicy index (cont.)	Dec-07	IVIAI-UO	24.0	BC Universal/BC Long G/C
			20.0	MSCI AC World Ex-US (Net)
				Real Estate
			6.7	
			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
			0.0	Be Benwedaner ettiar i Bin
			I	

	Quarter	Quarter		
Label	Start	End	Percent	Description
Policy Index (cont.)	Sep-08	Dec-08	43.4 24.0 20.0 7.0 1.0 4.4 0.2	Russell 3000 BC Universal/BC Long G/C MSCI AC World Ex-US (Net) Real Estate Wilshire Resi Full Cap Russell 3000 + 3% (1 Qtr arrears) BC Bellweather 3Mth T-Bill
	Mar-09	Mar-09	42.4 24.0 20.0 7.0 1.0 5.0 0.6	Russell 3000 BC Universal/BC Long G/C MSCI AC World Ex-US (Net) Real Estate Wilshire Resi Full Cap Russell 3000 + 3% (1 Qtr arrears) BC Bellweather 3Mth T-Bill
	Jun-09	Jun-09	42.3 24.0 20.0 7.0 1.0 5.0 0.7	Russell 3000 BC Universal/BC Long G/C MSCI AC World Ex-US (Net) Real Estate Wilshire Resi Full Cap Russell 3000 + 3% (1 Qtr arrears) BC Bellweather 3Mth T-Bill



## Defined Benefit Plan Quarter Ending 6/30/2010

	0	0		1
	Quarter	Quarter		
Label	Start	End	Percent	Description
Policy Index (cont.)	Sep-09	Dec-09	42.4	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
			5.0	Russell 3000 + 3% (1 Qtr arrears)
			0.6	BC Bellweather 3Mth T-Bill
	Jan-10	Mar-10	42.2	Russell 3000
			12.3	Barclays Capital U.S. Aggregate
			9.4	Barclays Capital Long Gov/Credit
			0.8	Barclays Capital High Yield
			2.0	91-Day Treasury Bill
			20.5	MSCI AC World Ex-US (Net)
			4.2	Russell 3000 + 3% (1 Qtr arrears)
			8.0	NCREIF Property (Quarter Lag)
			0.6	LIBOR + 400 bps
			0.0	LIBON + 400 bps
	Apr-10	Jun-10	39.6	Russell 3000
	Αρι-10	Juli-10	12.6	Barclays Capital U.S. Aggregate
			9.0	Barclays Capital C.S. Aggregate  Barclays Capital Long Gov/Credit
			1.6	Barclays Capital High Yield
				, , ,
			2.0	91-Day Treasury Bill
1			22.0	MSCI AC World Ex-US (Net)
1			4.3	Russell 3000 + 3% (1 Qtr arrears)
			7.9	NCREIF Property (Quarter Lag)
			1.0	LIBOR + 400 bps

The current PERS policy index is listed in the table on the left. 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% NCREIF minus 100 bps annually plus 10% Wilshire RESI minus 20 bps annually.



### Defined Benefit Plan - Asset Allocation Actual vs. Benchmark March 31, 2010

	Benchmark	Benchmark Weighting	Difference
44.3%	Russell 3000	42.2%	2.1%
20.6%	PERS Custom Index	24.5%	-3.9%
21.3%	MSCI AC World ex US	20.5%	0.8%
8.1%	NCREIF Property Qtr Lag	8.0%	0.1%
5.6%	Custom Index	4.8%	0.8%
0.3%		0.0%	0.3%
	l 00, 0040		
	20.6% 21.3% 8.1% 5.6%	20.6% PERS Custom Index 21.3% MSCI AC World ex US 8.1% NCREIF Property Qtr Lag 5.6% Custom Index	20.6%       PERS Custom Index       24.5%         21.3%       MSCI AC World ex US       20.5%         8.1%       NCREIF Property Qtr Lag       8.0%         5.6%       Custom Index       4.8%         0.3%        0.0%

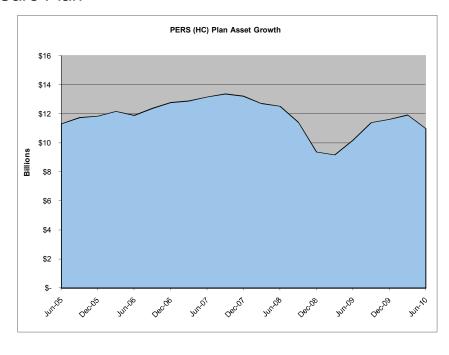
Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	36.9%	Russell 3000	39.6%	-2.7%
Fixed Income	24.4%	PERS Custom Index	25.2%	-0.8%
Intl. Equity	22.3%	MSCI AC World ex US	22.0%	0.3%
Real Estate	9.0%	NCREIF Property Qtr Lag	7.9%	1.1%
Alternative Investments	6.7%	Custom Index	5.3%	1.4%
Short Term	0.7%		0.0%	0.7%

<sup>\*</sup>Alternative investments include Private Equity, Hedge Funds and TAA.

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

### Health Care Plan

PERS Returns							
Portfolio	Two Quarters	One Year	Three Years	Five Years	Ten Years		
US Equity							
Actual	-6.31%	15.29%	-9.71%	-0.71%	N/A		
Benchmark	-6.05%	15.72%	-9.47%	-0.46%	N/A		
Difference	-0.26%	-0.43%	-0.24%	-0.25%	N/A		
Fixed Income							
Actual	5.25%	10.51%	5.22%	4.28%	N/A		
Benchmark	4.77%	8.93%	7.13%	5.23%	N/A		
Difference	0.48%	1.58%	-1.91%	-0.95%	N/A		
ntl. Equity							
Actual	-9.95%	11.21%	-10.77%	3.65%	N/A		
Benchmark	-11.07%	10.43%	-10.70%	3.40%	N/A		
Difference	1.12%	0.78%	-0.07%	0.25%	N/A		
REITS							
Actual	5.74%	55.84%	-10.34%	-0.29%	N/A		
Benchmark	5.40%	56.10%	-10.52%	-0.50%	N/A		
Difference	0.34%	-0.26%	0.18%	0.21%	N/A		
Private Equity							
Actual	-6.35%	-15.63%	N/A	N/A	N/A		
Benchmark	13.84%	56.83%	N/A	N/A	N/A		
Difference	-20.19%	-72.46%	N/A	N/A	N/A		
Hedge Funds							
Actual	13.65%	38.62%	N/A	N/A	N/A		
Benchmark	2.10%	17.93%	N/A	N/A	N/A		
Difference	11.55%	20.69%	N/A	N/A	N/A		



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

**US Equity** 

## Performance vs. Risk 1/05 - 6/10 PERS (HC) TOTAL △ PERS (HC) Policy Index ◆ 91-Day Treasury Bill

	Annualized Return, %	Annualized StdDev, %		PT istics
	Total	Total	Alpha, %	Sharpe Ratio
PERS (HC) TOTAL	2.93	12.49	0.93	0.07
PERS (HC) Policy Index	3.12	12.56	1.11	0.09
91-DayTreasuryRill	275	100	0.00	NΔ

#### Asset Mix

#### June 30, 2010 Target Difference 30.1% 31.9% -1.8% 25.6% 26.0% -0.4% 2.1% 4.0% 6.0% -3.1% Total Equity 64.8% 66.0% -1.2%

Actual

#### **Characteristic Data**

Assets at Actuarial Interest Rate: Investment Staff Size:

6/30/2010 \$ 11,072,077,007



Intl. Equity REITS Alternative Assets\* Fixed Income 32.9% 34.0% -1.1% HC Cash 2.3% 0.0% 2.3% Total Debt 35.2% 34.0% 1.2% 100.0%

<sup>\*</sup> Alternative assets include Private Equity, Hedge Funds and Commodities allocations.

# Health Care Plan - Performance Overview Returns for Period Ending June 30, 2010

	2 Qtrs	<u>1 Yr</u>	<u>3 Yrs</u>	<u>5 Yrs</u>
Total Fund	-2.78	13.81	-2.77	3.01
Policy Index	-3.11	13.13	-2.09	3.24
Domestic Equity Domestic Equity Segment Median Wilshire 5000	-6.31	15.29	-9.71	-0.71
	-5.36	16.31	-9.34	-0.32
	-5.83	15.67	-9.36	-0.28
International Equity International Equity Segment Median MSCI EAFE	-9.95	11.21	-10.77	3.65
	-10.37	11.10	-10.53	2.91
	-13.23	5.92	-13.38	0.88
Fixed Income	5.25	10.51	5.22	4.28
Fixed Income Segment Median	5.49	13.29	7.37	5.48
Barclays Capital U.S. Aggregate Index	5.33	9.50	7.55	5.54
Cash	0.37	0.70	2.02	3.20
Public Real Estate	5.74	55.84	-10.34	-0.29
Wilshire Resi Full Cap	5.40	56.06	-10.47	-0.46
Private Equity	-6.35	-15.63	NA	NA
Hedge Funds	13.65	38.62	NA	NA
Commodities	-9.97	NA	NA	NA

For the trailing five-year period, the PERS Health Care Plan underperformed its policy index by 23 basis points. Performance in real estate and domestic equity detracted from results the most. For the more recent one-year period, the plan outperformed the policy benchmark by 68 basis points.

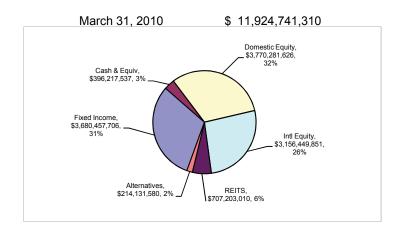
<sup>\*</sup> Benchmarks shown above for individual asset classes are not specific to the Plan's policy. Differences may exist due to rounding.

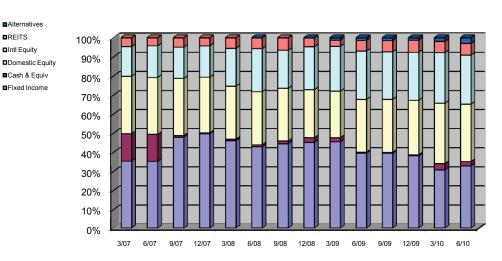
REITS

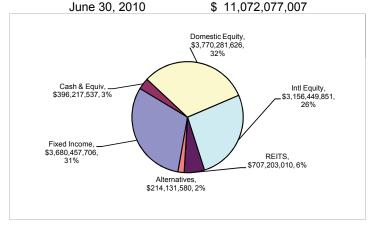
■Intl Equity



#### **Asset Allocation PERS Health Care Plan**









Note: Defined benefit and health care plan assets were segregated in January 2005.

This is the first page devoted to the analysis of the Ohio Public Employees Retirement System's (Health Care) asset allocation. The chart on the left displays the fund's asset allocation over the first two quarters of 2010. The chart on the right tracks the quarterly asset allocation of the fund over the last fourteen quarters.



<sup>\*</sup>Differences may occur due to rounding

# Public Employees Retirement System Health Care Plan

### Health Care Plan Quarter Ending 6/30/2010

Percent 47.5 22.0 22.0 4.0 2.5 2.0 42.5 20.0	Description  Russell 3000  Barclays Universal MSCI ACWI Ex-US (Net) Wilshire Resi Full Cap Barclays US Tips Barclays 1-3 Yr Gov't  Russell 3000 Barclays Universal
47.5 22.0 22.0 4.0 2.5 2.0 42.5 20.0	Russell 3000 Barclays Universal MSCI ACWI Ex-US (Net) Wilshire Resi Full Cap Barclays US Tips Barclays 1-3 Yr Gov't  Russell 3000
22.0 22.0 4.0 2.5 2.0 42.5 20.0	Barclays Universal MSCI ACWI Ex-US (Net) Wilshire Resi Full Cap Barclays US Tips Barclays 1-3 Yr Gov't  Russell 3000
22.0 4.0 2.5 2.0 42.5 20.0	MSCI ACWI Ex-US (Net) Wilshire Resi Full Cap Barclays US Tips Barclays 1-3 Yr Gov't  Russell 3000
4.0 2.5 2.0 42.5 20.0	Wilshire Resi Full Cap Barclays US Tips Barclays 1-3 Yr Gov't Russell 3000
2.5 2.0 42.5 20.0	Barclays US Tips Barclays 1-3 Yr Gov't Russell 3000
2.0 42.5 20.0	Barclays 1-3 Yr Gov't Russell 3000
42.5 20.0	Russell 3000
20.0	
	Paralova Universal
20.0	Darciays 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
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
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
	20.0 4.2 7.5 5.8 37.5 18.0 18.0 4.5 12.5 9.5 32.5 16.0 16.0 4.8 17.5

	Quarter	Quarter		
Label	Start	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
1	Sep-08	Dec-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
1				
1				



## Health Care Plan Quarter Ending 6/30/2010

	0	0		1
Label	Quarter Start	Quarter End	Percent	Description
	Dec-08	Mar-09	29.0	Description Russell 3000
Policy Index	Dec-08	Mar-09		
			10.3	Barclays Universal
			20.2	Barclays U.S. TIPS
			11.5	Barclays 1-3 Yr Gov't
			23.0	MSCI ACWI Ex-US (Net)
			6.0	Wilshire Resi Full Cap
	Mar-09	Dec-09	28.4	Russell 3000
			10.0	Barclays Universal
			20.0	Barclays U.S. TIPS
			10.0	Barclays 1-3 Yr Gov't
			24.5	MSCI ACWI Ex-US (Net)
			6.0	Wilshire Resi Full Cap
			0.1	Russell 3000 + 3% (1 Qtr arrears)
			1.0	BC Bellweather 3 Mth T-Bill
	Jan-10	Mar-10	30.3	Russell 3000
			17.6	Barclays Capital U.S. Aggregate
			13.3	Barclays Capital U.S. TIPS
			0.5	Barclays High Yield
			2.0	91-Day Treasury Bill
			3.1	Custom Emerging Markets Debt
			25.0	MSCI ACWI Ex-US (Net)
			0.1	Custom Private Equity
			6.0	DJ Wilshire Resi Full Cap
			1.1	LIBOR + 400 bps
			1.0	S&P GS Commodity Total Return
Ī				

	Quarter	Quarter		
Label	Start	End	Percent	Description
Policy Index	Apr-10	Jun-10	31.9	Russell 3000
			18.2	Barclays Capital U.S. Aggregate
			8.2	Barclays Capital U.S. TIPS
			0.6	Barclays High Yield
			2.0	91-Day Treasury Bill
			5.0	Custom Emerging Markets Debt
			26.0	MSCI ACWI Ex-US (Net)
			0.1	Custom Private Equity
			6.0	DJ Wilshire Resi Full Cap
			1.0	LIBOR + 400 bps
			1.0	S&P GS Commodity Total Return

PERS Health Care Plans' policy index is shown above.



### Health Care Plan - Asset Allocation Actual vs. Benchmark March 31, 2010

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference			
Domestic Equity	31.6%	Russell 3000	30.3%	1.3%			
Fixed Income	30.9%	Custom Index	36.5%	-5.6%			
Intl. Equity	26.5%	MSCI AC World ex US	25.0%	1.5%			
REITS	5.9%	Wilshire Resi full cap	6.0%	-0.1%			
Alternative Investments	1.8%	Russell 3000 + 3% (1 Qtr arrears)	2.2%	-0.4%			
HC Cash	3.3%		0.0%	3.3%			
	June 30, 2010						

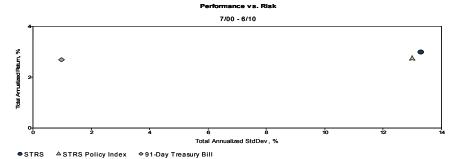
Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	30.1%	Russell 3000	31.9%	-1.8%
Fixed Income	32.9%	Barclays Universal	34.0%	-1.1%
Intl. Equity	25.6%	MSCI AC World ex US	26.0%	-0.4%
REITS	6.1%	Wilshire Resi full cap	6.0%	0.1%
Alternative Investments	2.9%	Russell 3000 + 3% (1 Qtr arrears)	2.1%	0.8%
HC Cash	2.3%		0.0%	2.3%

<sup>\*</sup>Alternative investments include Private Equity, Hedge Funds and Commodities

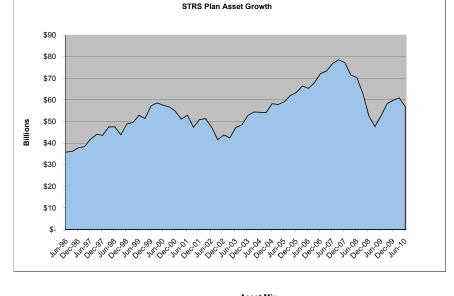
As of the end of the second quarter, the PERS Health Care Plan is overweight to REITS, alternatives and cash, while being underweight in domestic and international equity and fixed income.



		STRS Returns	3		
Portfolio	Two Quarters	One Year	Three Years	Five Years	Ten Years
JS Equity					
Actual	-6.48%	14.93%	-10.24%	-0.69%	-1.01%
Benchmark	-6.05%	15.72%	-9.47%	-0.49%	-0.76%
Difference	-0.43%	-0.79%	-0.77%	-0.20%	-0.25%
Fixed Income					
Actual	5.28%	13.28%	8.30%	6.36%	7.30%
Benchmark	5.25%	10.60%	7.22%	5.56%	6.59%
Difference	0.03%	2.68%	1.08%	0.80%	0.71%
ntl. Equity					
Actual	-7.86%	13.08%	-9.50%	4.61%	3.54%
Benchmark	-8.90%	11.45%	-10.02%	4.05%	2.21%
Difference	1.04%	1.63%	0.52%	0.56%	1.33%
Real Estate					
Actual	1.62%	-0.31%	-4.50%	7.12%	9.76%
Benchmark	4.35%	6.50%	-4.38%	3.92%	7.42%
Difference	-2.73%	-6.81%	-0.12%	3.20%	2.34%
Private Equity					
Actual	10.60%	20.16%	-0.77%	7.83%	4.09%
Benchmark	-4.61%	19.20%	-6.69%	2.55%	2.10%
Difference	15.21%	0.96%	5.92%	5.28%	1.99%
Hedge Funds					
Actual	-4.05%	3.78%	0.39%	8.77%	N/A
Benchmark	-1.20%	4.70%	-3.98%	2.33%	N/A
Difference	-2.85%	-0.92%	4.37%	6.44%	N/A



	Annualized Return, %	Annualized StdDev, %	M Stati	PT stics
	Total	Total	Alpha, %	Sharpe Ratio
STRS	3.00	13.28	1.16	0.09
STRS PolicyIndex	272	13.00	0.86	0.07
91-DayTreasuryBill	2.69	0.97	0.00	NA



Asset Mix								
	Actual							
June 30, 2010 Target Difference								
US Equity	38.3%	39.0%	-0.7%					
Intl. Equity	22.3%	23.0%	-0.7%					
Alternative Assets*	7.2%	7.0%	0.2%					
Total Equity	67.8%	69.0%	-1.2%					
Fixed Income	21.9%	20.0%	1.9%					
Real Estate	8.4%	10.0%	-1.6%					
Short Term Investments 1.9%		1.0%	0.9%					
Total Debt	32.2%	31.0%	1.2%					
	100.0%	100.0%	0.0%					

<sup>\*</sup> Alternative assets includes Private Equity and Opprotunistic strategies (which includes Hedge Funds)

#### **Characteristic Data**

Assets at	6/30/2010 \$	56,891,160,741
Actuarial Interest Rate:		8.00%
Investment Staff Size:		106



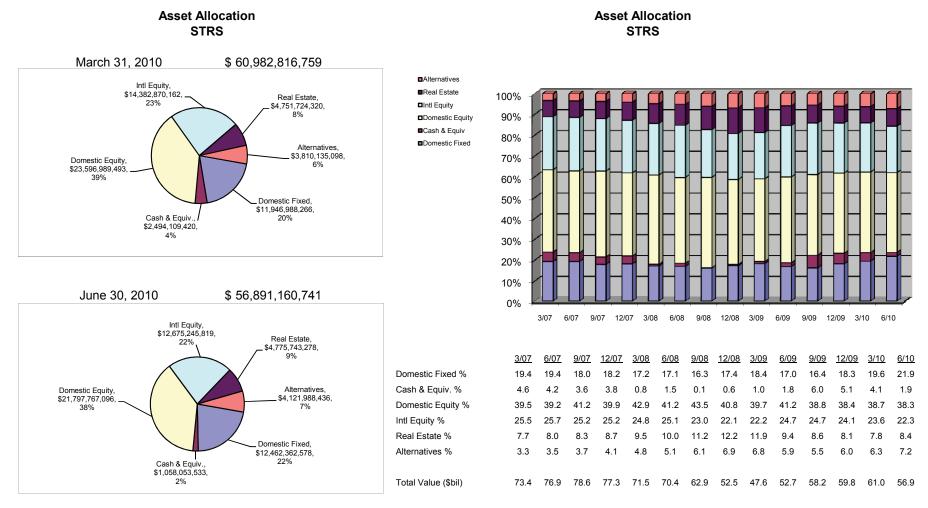
## Performance Overview Returns for Period Ending June 30, 2010

	2 Qtrs	<u>1 Yr</u>	3 Yrs	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund	-2.39	13.54	-5.60	2.92	3.00
Policy Index	-2.19	13.28	-5.30	2.64	2.72
Domestic Equity Domestic Equity Segment Median Wilshire 5000	-6.48	14.93	-10.24	-0.69	-1.01
	-5.36	16.31	-9.34	-0.32	0.54
	-5.83	15.67	-9.36	-0.28	-0.77
International Equity International Equity Segment Median MSCI EAFE	-7.86	13.08	-9.50	4.61	3.54
	-10.37	11.10	-10.53	2.91	2.41
	-13.23	5.92	-13.38	0.88	0.16
Fixed Income Fixed Income Segment Median Barclays Capital U.S. Aggregate Index	5.28	13.28	8.30	6.36	7.30
	5.49	13.29	7.37	5.48	6.74
	5.33	9.50	7.55	5.54	6.47
Cash	0.11	0.30	1.97	3.08	2.85
Real Estate	1.62	-0.31	-4.50	7.12	9.76
NCREIF	4.10	-1.48	-4.71	3.78	7.15
Private Equity	10.60	20.16	-0.77	7.83	4.09
Hedge Funds	-4.05	3.78	0.39	8.77	NA
Opportunistic/Other**	8.35	19.84	NA	NA	NA

Over the trailing ten-year period, the fund outperformed its policy index by 28 basis points. Strong relative outperformance in international equity, real estate and fixed income contributed to overall returns. Over the more recent one-year period, the fund outperformed its policy index by 26 basis points.

<sup>\*</sup> Benchmarks shown above for individual asset classes are not specific to the Plan's policy. Differences may exist due to rounding.

<sup>\*\*</sup> Includes Includes PPIP, Distressed Debt, Energy Funds, FDIC-Assisted Bank Investments and Hedge Funds (Hedge Funds account for 0.3% of total assets in the Plan).



<sup>\*</sup>Differences may occur due to rounding

This is the first page devoted to the analysis of the Ohio State Teachers Retirement System's asset allocation. The chart on the left displays the fund's asset allocation over the first two quarters of 2010. The chart on the right tracks the quarterly asset allocation of the fund over the last fourteen quarters.



### Quarter Ending 6/30/2010

	Quarter	Quarter		
Label	Start	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)
			2.0	91-Day Treasury Bill
	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)
			2.0	91-Day Treasury Bill
	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

	Quarter	Quarter		
Label	Start	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	45.0	S&P 1500
			24.0	BC Aggregate
			12.0	MSCI EAFE 50% Hedged
			9.0	STRS NCREIF Hybrid
			8.0	MSCI Em Mkts Free (Gross)
			2.0	91-Day Treasury Bill
	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)
			2.0	91-Day Treasury Bill
	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



### Quarter Ending 6/30/2010

	Quarter	Quarter		
Label	Start	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

	Quarter	Quarter		
Label	Start	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	Mar-09	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
	Mar-09	Jun-09	40.0	Russell 3000
			20.0	Barclays Universal
			19.2	MSCI World ex US 50% Hedged
			10.0	STRS NCREIF Hybrid
			4.8	MSCI Em Mkts Free (Gross)
			6.0	Alt. Investment Actual Return
			0.0	91-Day Treasury Bill



### Quarter Ending 6/30/2010

	Quarter	Quarter		
Label	Start	End	Percent	Description
Policy Index (cont.)	Jun-09	Jun-10	39.0	Russell 3000
			20.0	Barclays Universal
			18.4	MSCI EAFE 50% Hedged
			10.0	STRS NCREIF Hybrid
			4.6	MSCI Em Mkts Free (Gross)
			7.0	Alt. Investment Actual Return
			1.0	91-Day Treasury Bill

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



### Asset Allocation Actual vs. Benchmark March 31, 2010

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	38.7%	Russell 3000	39.0%	-0.3%
Fixed Income	19.6%	Barclays Universal	20.0%	-0.4%
Intl. Equity	23.6%	Intl. Hybrid Benchmark	23.0%	0.6%
Real Estate	7.8%	NCREIF Hybrid	10.0%	-2.2%
Alternative Investments	6.2%	Alt. Inv. Blended Benchmark*	7.0%	-0.8%
Short Term	4.1%	3 Month T-Bill	1.0%	3.1%
		June 30, 2010		

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	38.3%	Russell 3000	39.0%	-0.7%
Fixed Income	21.9%	Barclays Universal	20.0%	1.9%
Intl. Equity	22.3%	Intl. Hybrid Benchmark	23.0%	-0.7%
Real Estate	8.4%	NCREIF Hybrid	10.0%	-1.6%
Alternative Investments	7.2%	Alt. Inv. Blended Benchmark*	7.0%	0.2%
Short Term	1.9%	3 Month T-Bill	1.0%	0.9%

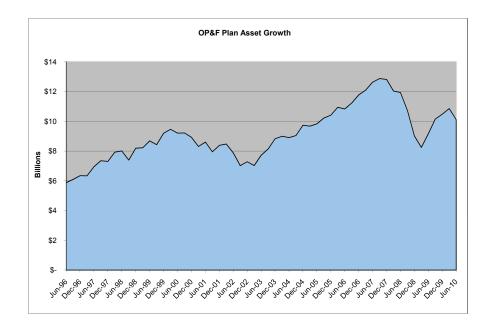
<sup>\*</sup> Alternative investments include Private Equity and Opportunistic (which includes Hedge Funds). This blended benchmark consists of the Russell 3000 + 3% for Private Equity and the Russell 3000 - 1% for Opportunistic.

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



# Ohio Police & Fire (OP&F)

	O	P&F Returns	<del></del>	<del>-</del>	
Portfolio	Two Quarters	One Year	Three Years	Five Years	Ten Years
US Equity					
Actual	-3.66%	19.46%	-8.26%	0.43%	0.88%
Benchmark	-5.83%	15.68%	-9.36%	-0.28%	-0.78%
Difference	2.17%	3.78%	1.10%	0.71%	1.66%
Fixed Income					
Actual	5.52%	15.67%	8.19%	6.79%	7.79%
Benchmark	5.33%	9.49%	7.55%	5.54%	6.47%
Difference	0.19%	6.18%	0.64%	1.25%	1.32%
Intl. Equity					
Actual	-8.78%	13.53%	-9.85%	4.44%	1.67%
Benchmark	-11.06%	10.43%	-10.69%	3.38%	1.89%
Difference	2.28%	3.10%	0.84%	1.06%	-0.22%
Real Estate					
Actual	-4.91%	-21.69%	-13.36%	-0.03%	6.38%
Benchmark	-1.37%	-9.60%	-4.32%	4.19%	5.98%
Difference	-3.54%	-12.09%	-9.04%	-4.22%	0.40%
Private Equity					
Actual	7.36%	11.77%	2.00%	10.03%	-1.14%
Benchmark	13.84%	56.59%	-0.87%	6.16%	4.00%
Difference	-6.48%	-44.82%	2.87%	3.87%	-5.14%



# 

Performance vs. Risk

	Annualized Return, %	Annualized StdDev, %	M Stati	PT stics
	Total	Total	Alpha, %	Sharpe Ratio
OP&F	3.57	12.84	1.66	0.13
OP&F PolicyIndex 91-DayTreasuryBill	3.16	13.25	1.31	0.10
91-DayTreasuryBill	269	0.97	0.00	NA

Total Annualized StdDev. %

#### **Asset Mix** Actual June 30, 2010 Difference Target 39.0% 2.3% **US** Equity 41.3% Intl. Equity 24.0% -1.8% Alternative Assets\* 4.0% -0.4% 67.1% 67.0% 0.1% Total Equity Fixed Income 25.8% 23.0% 2.8% Real Estate 6.3% 10.0% -3.7% Short Term Investments 0.9% 0.0% 0.9% Total Debt 32.9% 33.0% -0.1% 100.0% 0.0%

#### **Characteristic Data**

Assets at	6/30/2010 \$	10,105,852,185
Actuarial Interest Rate:		8.25%
Investment Staff Size:		13



<sup>\*</sup>Alternative assets denotes Private Equity allocation.

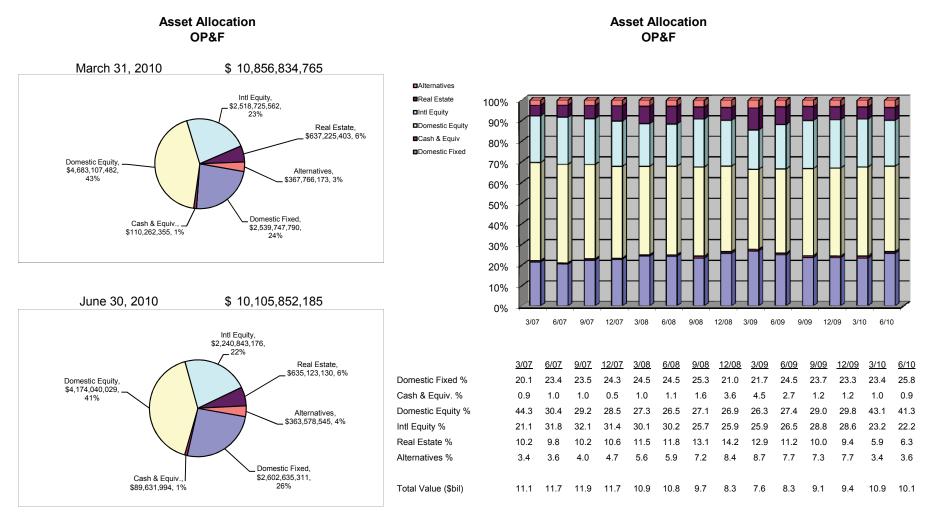
# Performance Overview Returns for Period Ending June 30, 2010

	2 Qtrs	<u>1 Yr</u>	3 Yrs	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund	-2.38	13.33	-4.77	3.12	3.57
Policy Index	-3.38	13.33	-4.69	2.90	3.16
Domestic Equity** Domestic Equity Segment Median Wilshire 5000	-3.66	19.46	-8.26	0.43	0.88
	-5.36	16.31	-9.34	-0.32	0.54
	-5.83	15.67	-9.36	-0.28	-0.77
International Equity International Equity Segment Median MSCI EAFE	-8.78	13.53	-9.85	4.44	1.67
	-10.37	11.10	-10.53	2.91	2.41
	-13.23	5.92	-13.38	0.88	0.16
Fixed Income	5.52	15.67	8.19	6.79	7.79
Fixed Income Segment Median	5.49	13.29	7.37	5.48	6.74
Barclays Capital U.S. Aggregate Index	5.33	9.50	7.55	5.54	6.47
Cash	0.10	0.19	1.71	2.85	2.74
Real Estate	-4.91	-21.69	-13.36	-0.03	6.38
NCREIF	4.10	-1.48	-4.71	3.78	7.15
Private Equity	7.36	11.77	2.00	10.03	-1.14

For the trailing ten-year period, the fund outperformed its policy index by 41 basis points. Stronger relative performance in domestic equity, non-U.S. equity and fixed income continued to contribute to overall performance. Over the more recent one-year period, OP&F matched its custom benchmark.

<sup>\*</sup> Benchmarks shown above for individual asset classes are not specific to the Plan's policy. Differences may exist due to rounding.

<sup>\*\*</sup> OP&F has 8.2% allocated to a portable alpha strategy, which includes Hedge Funds, in the U.S. Equity allocation.



<sup>\*</sup>Differences may occur due to rounding

This is the first page devoted to the analysis of the Ohio Police & Fire Pension Fund's asset allocation. The chart on the left displays the fund's asset allocation over the first two quarters of 2010. The chart on the right tracks the quarterly asset allocation of the func over the last fourteen quarters.



### Quarter Ending 6/30/2010

	Quarter	Quarter		
Label	Start	End	Percent	Description
Policy Index	Jun-88	Sep-97	41.0	Wilshire 5000
			39.0	BC Aggregate
			10.0	MSCI EAFE Index (Net)
			9.0	Wilshire Real Estate Fund
			1.0	S&P 500 + 5%
	Dec-97	Mar-01	41.0	Wilshire 5000
			35.0	BC Aggregate
			10.0	MSCI EAFE Index (Net)
			8.0	Wilshire Real Estate Fund
			5.0	MSCI Em Mkts Index (Gross)
			1.0	S&P 500 + 5%
	Jun-01	Jun-01	41.0	Wilshire 5000
			35.0	BC Aggregate
			10.0	MSCI EAFE Index (Net)
			8.0	Wilshire Real Estate Fund
			5.0	MSCI Em Mkts Index (Gross)
			1.0	S&P 500 (lagged) + 5%
	Sep-01	Mar-02	46.0	Wilshire 5000
			18.0	BC Aggregate
			17.0	MSCI EAFE Index (Net)
			8.0	Wilshire Real Estate Fund
			5.0	CS Developed Countries HY
			3.0	MSCI Em Mkts Index (Gross)
			3.0	Wilshire 5000 (lagged) + 5%

	Quarter	Quarter		
Label	Start	End	Percent	Description
Policy Index (cont.)	Jun-02	Sep-04	48.0	Wilshire 5000
			18.0	BC Aggregate
			17.0	MSCI EAFE Index (Net)
			8.0	NCREIF Property Index (lagged)
			5.0	CS Developed Countries HY
			3.0	MSCI Em Mkts Index (Gross)
			1.0	Wilshire 5000 (lagged) + 5%
	Dec-04	Dec-04	46.0	Wilshire 5000
			18.0	BC Aggregate
			17.0	MSCI EAFE Index (Net)
			8.0	NCREIF Property Index (lagged)
			5.0	CS Developed Countries HY
			3.0	MSCI Em Mkts Index (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 Property Index (lagged)
			5.0	CS Developed Countries HY
			3.0	Wilshire 5000 (lagged) + 5%



### Quarter Ending 6/30/2010

	Quarter	Quarter		
Label	Start	End	Percent	Description
Policy Index	Mar-07	Sep-08	46.0	Wilshire 5000
			18.0	BC Aggregate
			20.0	MSCI ACWI ex-U.S. (Net)
			8.0	NCREIF Property Index (lagged)
			5.0	CS Developed Countries HY
			3.0	Wilshire 5000 + 3% Qtr Lagged
	Dec-08	Dec-08	45.0	Wilshire 5000
			12.0	BC Aggregate
			21.0	MSCI ACWI ex-U.S. (Net)
			8.0	NCREIF Property Index (lagged)
			6.0	Bridgewater Custom GIPS
			5.0	CS Developed Countries HY
			3.0	Wilshire 5000 + 3% Qtr Lagged
	Mar-09	Mar-09	43.0	Wilshire 5000
			11.0	BC Aggregate
			22.0	MSCI ACWI ex-U.S. (Net)
			9.0	NCREIF Property Index (lagged)
			6.0	Bridgewater Custom GIPS
			6.0	CS Developed Countries HY
			3.0	Wilshire 5000 + 3% Qtr Lagged
	Jun-09	Jun-09	42.0	Wilshire 5000
			11.0	BC Aggregate
			22.0	MSCI ACWI ex-U.S. (Net)
			9.0	NCREIF Property Index (lagged)
			6.0	Bridgewater Custom GIPS
			6.0	CS Developed Countries HY
			4.0	Wilshire 5000 + 3% Qtr Lagged

	Quarter	Quarter		
Label	Start	End	Percent	Description
Policy Index (cont.)	Sep-09	Sep-09	40.0	Wilshire 5000
			10.0	BC Aggregate
			23.0	MSCI ACWI ex-U.S. (Net)
			10.0	NCREIF Property Index (lagged)
			6.0	Bridgewater Custom GIPS
			7.0	CS Developed Countries HY
			4.0	Wilshire 5000 + 3% Qtr Lagged
	Dec-09	Jun-10	39.0	Wilshire 5000
			10.0	BC Aggregate
			24.0	MSCI ACWI ex-U.S. (Net)
			10.0	NCREIF Property Index (lagged)
			6.0	Bridgewater Custom GIPS
			7.0	CS Developed Countries HY
			4.0	Wilshire 5000 + 3% Qtr Lagged

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



### Asset Allocation Actual vs. Benchmark March 31, 2010

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	43.1%	Wilshire 5000	39.0%	4.1%
Fixed Income	23.4%	Barclays Aggregate	23.0%	0.4%
Intl. Equity Comp.	23.2%	MSCI ACWI ex- U.S. (Net)	24.0%	-0.8%
Real Estate	5.9%	NCREIF Property Index (lagged)	10.0%	-4.1%
Private Equity	3.4%	Wilshire 5000 + 3% Qtr Lagged	4.0%	-0.6%
Short Term	1.0%	3 Month T-Bill	0.0%	1.0%
		June 30, 2010		

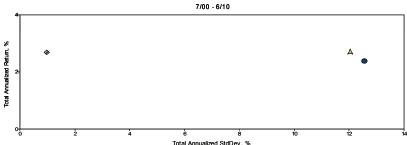
Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	41.3%	Wilshire 5000	39.0%	2.3%
Fixed Income	25.8%	Barclays Aggregate	23.0%	2.8%
Intl. Equity Comp.	22.2%	MSCI ACWI ex- U.S. (Net)	24.0%	-1.8%
Real Estate	6.3%	NCREIF Property Index (lagged)	10.0%	-3.7%
Private Equity	3.6%	Wilshire 5000 + 3% Qtr Lagged	4.0%	-0.4%
Short Term	0.9%	3 Month T-Bill	0.0%	0.9%

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



	SERS Returns							
Portfolio	Two Quarters	One Year	Three Years	Five Years	Ten Years			
US Equity								
Actual	-5.67%	17.24%	-10.02%	-0.84%	-1.25%			
Benchmark	-6.05%	15.72%	-9.47%	-0.48%	-0.92%			
Difference	0.38%	1.52%	-0.55%	-0.36%	-0.33%			
Fixed Income								
Actual	5.91%	16.95%	8.14%	6.28%	7.19%			
Benchmark	5.33%	9.50%	7.55%	5.54%	6.47%			
Difference	0.58%	7.45%	0.59%	0.74%	0.72%			
ntl. Equity								
Actual	-6.86%	15.41%	-9.96%	5.04%	2.67%			
Benchmark	-8.55%	12.05%	-9.81%	3.96%	1.61%			
Difference	1.69%	3.36%	-0.15%	1.08%	1.06%			
Real Estate								
Actual	-6.09%	-16.05%	-16.15%	-4.06%	2.81%			
Benchmark	-1.85%	-2.77%	-4.44%	3.98%	7.64%			
Difference	-4.24%	-13.28%	-11.71%	-8.04%	-4.83%			
Private Equity								
Actual	6.55%	10.19%	1.06%	7.68%	-5.68%			
Benchmark	12.10%	52.77%	-0.97%	5.05%	2.62%			
Difference	-5.55%	-42.58%	2.03%	2.63%	-8.30%			
Hedge Funds								
Actual	1.88%	12.52%	N/A	N/A	N/A			
Benchmark	-0.31%	9.17%	N/A	N/A	N/A			
Difference	2.19%	3.35%	N/A	N/A	N/A			

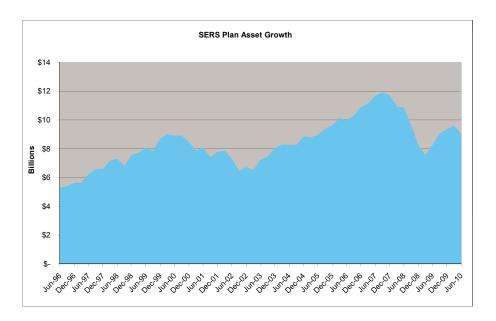




• SERS	△ SERS Policy Index	♦91-Day Treasury Bill		
		Annualized Return, %	Annualized StdDev, %	s
		Total	Total	Alpha, %

	Annualized Return, %	Annualized StdDev, %	M Stati	PT stics
	Total	Total	Alpha, %	Sharpe Ratio
SERS	2.38	12.55	0.47	0.04
SERS Policy Index	2.68	12.03	0.70	0.06
91-DayTreasuryBill	2.69	0.97	0.00	NA





#### **Asset Mix**

Actual

	June 30, 2010	Target	Difference
US Equity	23.8%	27.5%	-3.7%
Intl. Equity	28.6%	27.5%	1.1%
Alternative Assets*	19.3%	10.0%	9.3%
Total Equity	69.0%	65.0%	4.0%
Fixed Income	21.3%	24.0%	-2.7%
Real Estate	8.9%	10.0%	-1.1%
Short Term Investments	1.2%	1.0%	0.2%
Total Debt	31.3%	35.0%	-3.7%
	100.0%	100.0%	0.0%

<sup>\*</sup>Alternative assets includes Private Equity and Hedge Funds

#### **Characteristic Data**

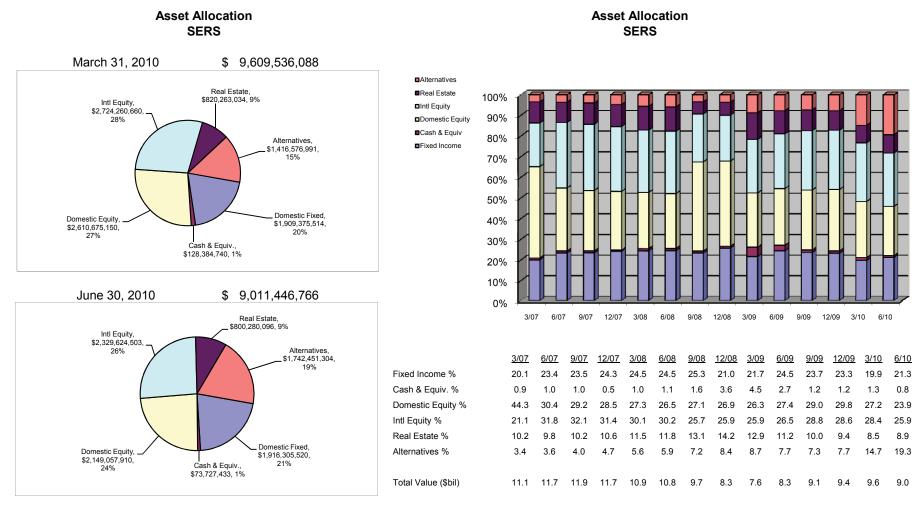
6/30/2010 \$	9,011,446,766
	8.00%
	14
	6/30/2010 \$

# Performance Overview Returns for Period Ending June 30, 2010

	2 Qtrs	<u>1 Yr</u>	3 Yrs	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund	-2.47	12.30	-5.95	2.35	2.38
Policy Index	-1.65	14.70	-3.87	3.08	2.68
Domestic Equity Domestic Equity Segment Median Wilshire 5000	-5.67	17.24	-10.02	-0.84	-1.25
	-5.36	16.31	-9.34	-0.32	0.54
	-5.83	15.67	-9.36	-0.28	-0.77
International Equity International Equity Segment Median MSCI EAFE	-6.86	15.41	-9.96	5.04	2.67
	-10.37	11.10	-10.53	2.91	2.41
	-13.23	5.92	-13.38	0.88	0.16
Fixed Income	5.91	16.95	8.14	6.28	7.19
Fixed Income Segment Median	5.49	13.29	7.37	5.48	6.74
Barclays Capital U.S. Aggregate Index	5.33	9.50	7.55	5.54	6.47
Cash	0.12	0.36	2.50	3.47	3.35
Real Estate	-6.09	-16.05	-16.15	-4.06	2.81
NCREIF	4.10	-1.48	-4.71	3.78	7.15
Private Equity	6.55	10.19	1.06	7.68	-5.68
Hedge Funds	1.88	12.52	NA	NA	NA

For the trailing ten-year period, the fund underperformed its policy index by 30 basis points. The more recent one-year period shows that the fund underperformed its policy index by 240 basis points. Weak performance in real estate detracted from relative results over the one-year period despite strong results in domestic and non-U.S. equities.

<sup>\*</sup> Benchmarks shown above for individual asset classes are not specific to the Plan's policy. Differences may exist due to rounding.



<sup>\*</sup>Differences may occur due to rounding

This is the first page devoted to the analysis of the Ohio School Employees Retirement System's asset allocation. The chart on the left displays the fund's asset allocation over the first two quarters of 2010. The chart on the right tracks the quarterly asset allocation of the fund over the last fourteen quarters.



### Quarter Ending 6/30/2010

	Quarter	Quarter		
Label	Start	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%

	Quarter	Quarter		
Label	Start	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%
	Sep-99	Dec-99	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



### Quarter Ending 6/30/2010

r	Ouestes	Ouerten	1	Т
Labal	Quarter	Quarter	D	Description
Label	Start	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	Jan-09	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
	Feb-09	Jun-10	27.5	Russell 3000
			24.0	BC Aggregate
			27.5	MSCI ACWI ex US (Developed - 50% Hdg)
			10.0	80% NCREIF (arrears), 20% NAREIT
			10.0	S&P 500 (1Qtr arrears) + 3%
			1.0	Citigroup 30 Day T-Bill
				<u> </u>

<sup>\*</sup>The SERS custom policy index calcuation was implemented on May 31, 2007.

SERS' custom policy index is shown above.



### Asset Allocation Actual vs. Benchmark March 31, 2010

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	27.2%	Russell 3000	27.5%	-0.3%
Fixed Income	19.9%	BC Aggregate	24.0%	-4.1%
Intl. Equity	28.4%	MSCI ACWI ex US (Developed - 50% Hdg)	27.5%	0.9%
Real Estate	8.5%	Custom RE (1 Qtr arrears)	10.0%	-1.5%
Alternative Investments	14.7%	S&P 500 (1 Qtr arrears) + 3%	10.0%	4.7%
Short Term	1.3%	Citigroup 30 Day T-Bill	1.0%	0.3%
		June 30, 2010		

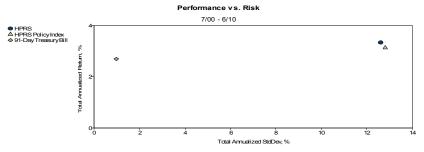
Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	23.9%	Russell 3000	27.5%	-3.6%
Fixed Income	21.3%	BC Aggregate	24.0%	-2.7%
Intl. Equity	25.8%	MSCI ACWI ex US (Developed - 50% Hdg)	27.5%	-1.7%
Real Estate	8.9%	Custom RE (1 Qtr arrears)	10.0%	-1.1%
Alternative Investments	19.3%	S&P 500 (1 Qtr arrears) + 3%	10.0%	9.3%
Short Term	0.8%	Citigroup 30 Day T-Bill	1.0%	-0.2%

<sup>\*</sup>Alternative investments include Private Equity and Hedge Funds

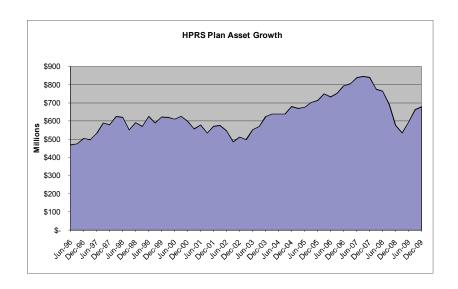
As of the end of the second quarter, SERS is overweight in alternatives, while being underweight in domestic equity, international equity, fixed income, real estate and cash.



	HPRS Returns								
Portfolio	Two Quarters	One Year	Three Years	Five Years	Ten Years				
US Equity									
Actual	-3.27%	20.85%	-8.64%	0.41%	1.01%				
Benchmark	-5.03%	17.54%	-9.20%	-0.18%	0.34%				
Difference	1.76%	3.31%	0.56%	0.59%	0.67%				
Fixed Income									
Actual	5.12%	11.58%	7.15%	6.04%	7.18%				
Benchmark	5.33%	9.50%	7.55%	5.54%	6.47%				
Difference	-0.21%	2.08%	-0.40%	0.50%	0.71%				
Intl. Equity									
Actual	-11.38%	8.85%	-10.68%	2.70%	1.37%				
Benchmark	-10.80%	10.88%	-10.28%	3.39%	1.40%				
Difference	-0.58%	-2.03%	-0.40%	-0.69%	-0.03%				
Real Estate									
Actual	-6.22%	-5.24%	-11.27%	-2.36%	2.83%				
Benchmark	4.10%	-1.48%	-4.71%	3.78%	7.15%				
Difference	-10.32%	-3.76%	-6.56%	-6.14%	-4.32%				
Private Equity									
Actual	3.33%	9.44%	0.34%	N/A	NA				
Benchmark	3.43%	6.10%	6.61%	N/A	N/A				
Difference	-0.10%	3.34%	-6.27%	N/A	N/A				
Hedge Funds									
Actual	0.73%	10.10%	1.11%	NA	NA				
Benchmark	-1.20%	4.70%	-3.98%	N/A	N/A				
Difference	1.93%	5.40%	5.09%	N/A	N/A				



	Annualized Return, %	Annualized StdDev, %		
	Total	Total	Alpha, %	Sharpe Ratio
HPRS	3.34	12.60	1.41	0.11
HPRS Policy Index	3.12	12.81	1.22	0.09
91-DayTreasuryBill	2.69	0.97	0.00	NA



### Asset Mix Actual

	June 30, 2010	Target	Difference		
US Equity	43.4%	45.0%	-1.6%		
Intl. Equity	13.9%	15.0%	-1.1%		
Alternative Assets*	19.2%	15.0%	4.2%		
Total Equity	76.5%	75.0%	1.5%		
Fixed Income 20.0%		20.0%	0.0%		
Real Estate	eal Estate 2.6%		-2.4%		
Short Term Investments 0.9%		0.0%	0.9%		
Total Debt 23.5%		25.0%	-1.5%		
	100.0%	100.0%	0.0%		

<sup>\*</sup>Alternative assets includes Private Equity and Hedge Funds.

#### **Characteristic Data**

Assets at	6/30/2010	\$ 646,720,587
Actuarial Interest Rate:		8.00%
Investment Staff Size:		1

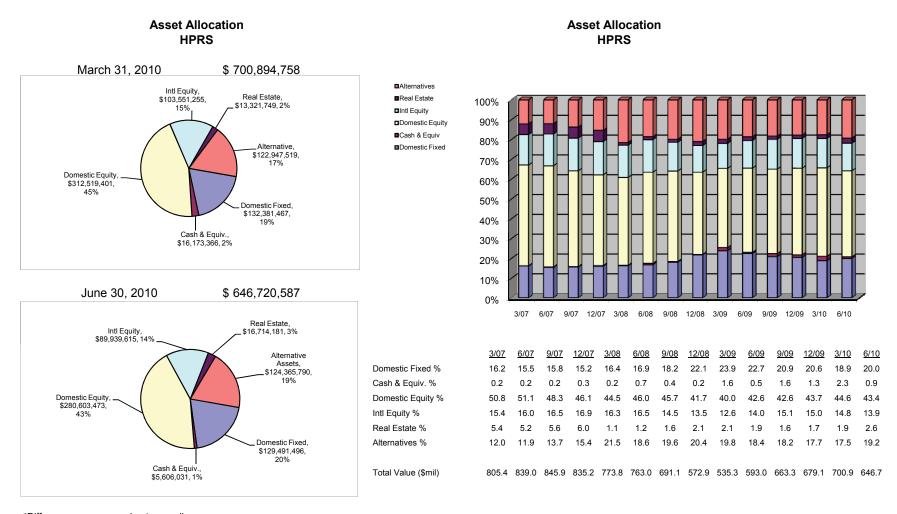


# Performance Overview Returns for Period Ending June 30, 2010

	2 Qtrs	<u>1 Yr</u>	3 Yrs	<u>5 Yrs</u>	<u>10 Yrs</u>
Total Fund	-1.95	14.09	-4.60	2.59	3.34
Policy Index	-2.23	12.56	-3.50	3.28	3.12
Domestic Equity Domestic Equity Segment Median Wilshire 5000	-3.27	20.85	-8.64	0.41	1.01
	-5.36	16.31	-9.34	-0.32	0.54
	-5.83	15.67	-9.36	-0.28	-0.77
International Equity International Equity Segment Median MSCI EAFE	-11.38	8.85	-10.68	2.70	1.37
	-10.37	11.10	-10.53	2.91	2.41
	-13.23	5.92	-13.38	0.88	0.16
Fixed Income	5.12	11.58	7.15	6.04	7.18
Fixed Income Segment Median	5.49	13.29	7.37	5.48	6.74
Barclays Capital U.S. Aggregate Index	5.33	9.50	7.55	5.54	6.47
Cash	0.05	0.17	2.24	3.37	3.16
Real Estate	-6.22	-5.24	-11.27	-2.36	2.83
NCREIF	4.10	-1.48	-4.71	3.78	7.15
Private Equity	3.33	9.44	0.34	NA	NA
Hedge Funds	0.73	10.10	1.11	NA	NA

Over the ten-year period, the fund's total return outperformed its policy index by 22 basis points. Strong performance in fixed income drove absolute reults while domestic equities aided relative performance. The more recent one-year period shows that HPRS outperformed the index by 153 basis points.

<sup>\*</sup> Benchmarks shown above for individual asset classes are not specific to the Plan's policy. Differences may exist due to rounding.



<sup>\*</sup>Differences may occur due to rounding

This is the first page devoted to the analysis of the Ohio Highway Patrol Retirement System's asset allocation. The chart on the left displays the fund's asset allocation over the first two quarters of 2010. The chart on the right tracks the quarterly asset allocation of the fund over the last fourteen quarters.



### Quarter Ending 6/30/2010

	Quarter	Quarter		
Label	Start	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)
			10.0	NCREIF
	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

	Quarter	Quarter		
Label	Start	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
			15.0	BC Aggregate
	Sep-07	Jun-10	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 March 31, 2010

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	44.6%	S&P 500 / Russell 2500 Blend	45.0%	-0.4%
Fixed Income	18.9%	BC Aggregate	20.0%	-1.1%
Intl. Equity	14.8%	MSCI AC World Index ex US	15.0%	-0.2%
Real Estate	1.9%	NCREIF	5.0%	-3.1%
Alternative Investments	17.5%	HFRI Fund of Funds / CPI +5% Blend	15.0%	2.5%
Short Term	2.3%	N/A	0.0%	2.3%
		June 30, 2010		

Asset Class	Asset Allocation	Benchmark	Benchmark Weighting	Difference
Domestic Equity	43.4%	S&P 500 / Russell 2500 Blend	45.0%	-1.6%
Fixed Income	20.0%	BC Aggregate	20.0%	0.0%
Intl. Equity	13.9%	MSCI AC World Index ex US	15.0%	-1.1%
Real Estate	2.6%	NCREIF	5.0%	-2.4%
Alternative Investments	19.2%	HFRI Fund of Funds / CPI +5% Blend	15.0%	4.2%
Short Term	0.9%	N/A	0.0%	0.9%

<sup>\*</sup>Alternatives include Private Equity and Hedge Funds

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



## **Index Definitions**

## 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.

Barclays Capital U.S. 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

**Barclays Capital 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).

**Barclays Capital 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.

**Barclays Capital U.S. 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**

## Ohio Retirement Study Council

Performance Summary Table Periods Ending 6/30/2010

	2 Qtrs	1 Yr	3 Yrs	5 Yrs	10 Yrs	Incept Date
HPRS						
Total Return	-1.95	14.09	-4.60	2.59	3.34	12/31/93
Domestic Equity	-3.27	20.85	-8.64	0.41	1.01	12/31/93
Fixed Income	5.12	11.58	7.15	6.04	7.18	12/31/93
Cash & Equiv	0.05	0.17	2.24	3.37	3.16	3/31/94
Real Estate	-6.22	-5.24	-11.27	-2.36	2.83	12/31/93
International Equity	-11.38	8.85	-10.68	2.70	1.37	3/31/95
Private Equity	3.33	9.44	0.34	NA	NA	9/30/06
Hedge Funds	0.73	10.10	1.11	NA	NA	12/31/06
PERS (Defined Benefit Plan)						
Total Return	-2.51	12.71	-4.88	2.73	3.16	12/31/93
Domestic Equity	-6.31	15.29	-9.71	-0.71	-0.69	12/31/93
Fixed Income	7.66	13.71	7.04	5.60	6.76	12/31/93
Cash & Equiv	0.82	1.14	2.17	3.25	2.94	12/31/93
Real Estate	-1.49	-12.67	-7.76	3.25	NA	12/31/02
Public Real Estate	5.74	55.84	-10.34	-0.29	NA	12/31/02
International Equity	-9.97	11.20	-10.81	3.64	2.02	12/31/95
Private Equity	8.66	20.68	1.34	10.02	6.64	12/31/95
Hedge Funds	13.65	21.76	5.19	NA	NA	3/31/06
Tactical Asset Allocation**	-11.71	NA NA	NA	NA NA	NA NA	12/31/09
ractical Asset Allocation	-11.71	INA	INA	INA	INA	12/31/03
PERS (Health Care Plan)						
Total Return	-2.78	13.81	-2.77	3.01	NA	12/31/04
Domestic Equity	-6.31	15.29	-9.71	-0.71	NA	12/31/04
Fixed Income	5.25	10.51	5.22	4.28	NA	12/31/04
Cash & Equiv	0.37	0.70	2.02	3.20	NA	12/31/04
Public Real Estate	5.74	55.84	-10.34	-0.29	NA	12/31/04
International Equity	-9.95	11.21	-10.77	3.65	NA	12/31/04
Private Equity	-6.35	-15.63	NA	NA	NA	3/31/08
Hedge Funds	13.65	38.62	NA	NA	NA	2/28/05
Commodities	-9.97	NA	NA	NA	NA	3/31/08
OP&F***						
Total Return	-2.38	13.33	-4.77	3.12	3.57	3/31/88
Domestic Equity	-3.66	19.46	-8.26	0.43	0.88	12/31/91
Fixed Income	5.52	15.67	8.19	6.79	7.79	3/31/88
Cash & Equiv	0.10	0.19	1.71	2.85	2.74	12/31/91
Real Estate	-4.91	-21.69	-13.36	-0.03	6.38	3/31/88
International Equity	-8.78	13.53	-9.85	4.44	1.67	9/30/94
Private Equity	7.36	11.77	2.00	10.03	-1.14	12/31/88

	2 Qtrs	1 Yr	3 Yrs	5 Yrs	10 Yrs	Incept Date
SERS						
Total Return	-2.47	12.30	-5.95	2.35	2.38	12/31/93
Domestic Equity	-5.67	17.24	-10.02	-0.84	-1.25	12/31/93
Fixed Income	5.91	16.95	8.14	6.28	7.19	12/31/93
Cash & Equiv	0.12	0.36	2.50	3.47	3.35	12/31/93
Real Estate	-6.09	-16.05	-16.15	-4.06	2.81	12/31/93
International Equity	-6.86	15.41	-9.96	5.04	2.67	12/31/94
Private Equity	6.55	10.19	1.06	7.68	-5.68	12/31/93
Hedge Funds	1.88	12.52	NA	NA	NA	3/31/08
STRS						
Total Return	-2.39	13.54	-5.60	2.92	3.00	12/31/93
Domestic Equity	-6.48	14.93	-10.24	-0.69	-1.01	12/31/93
Fixed Income	5.28	13.28	8.30	6.36	7.30	12/31/93
Cash & Equiv	0.11	0.30	1.97	3.08	2.85	12/31/93
Real Estate	1.62	-0.31	-4.50	7.12	9.76	12/31/93
International Equity	-7.86	13.08	-9.50	4.61	3.54	12/31/93
Private Equity	10.60	20.16	-0.77	7.83	4.09	12/31/93
Hedge Funds	-4.05	3.78	0.39	8.77	NA	3/31/03
Opportunistic****	8.35	19.84	NA	NA	NA	3/31/09
ndices						
Russell 1000	-6.41	15.22	-9.55	-0.56	-1.23	
Russell 2000	-1.96	21.48	-8.60	0.36	3.00	
Russell 2500	-1.70	24.01	-7.99	0.98	4.15	
Russell 3000	-6.05	15.72	-9.47	-0.48	-0.92	
Standard & Poors 500	-6.65	14.43	-9.81	-0.79	-1.59	
S&P 500 Equal Wtd	-3.43	24.99	-7.39	1.48	4.83	
S&P 600 Small Cap	-0.88	23.64	-7.64	0.82	5.56	
S&P 400 Mid Cap	-1.36	24.93	-5.90	2.21	5.31	
DJ Wilshire 5000	-5.83	15.67	-9.36	-0.28	-0.77	
MSCI EAFE (Net)	-13.23	5.92	-13.38	0.88	0.16	
MSCI Em Mkts Free (Gross)	-6.04	23.48	-2.22	13.07	10.34	
MSCI World ex-U.S. (Net)	-12.47	7.03	-12.61	1.48	0.58	
Citigroup Broad Inv Grade	5.27	9.03	7.94	5.76	6.61	
Barclays Capital Aggregate	5.33	9.50	7.55	5.54	6.47	
BC Mortgage	4.46	7.47	8.23	6.25	6.53	
BC 1-3 Yr US Gov't	1.89	2.85	4.94	4.37	4.53	
BC Long-Term Gov't/Credit	10.24	16.49	9.43	5.57	8.05	
BC US TIPS	4.41	9.52	7.62	4.98	7.45	
NCREIF Property	4.10	-1.48	-4.71	3.78	7.15	
Wilshire Resi Full Cap	5.40	56.06	-10.47	-0.46	9.49	

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.

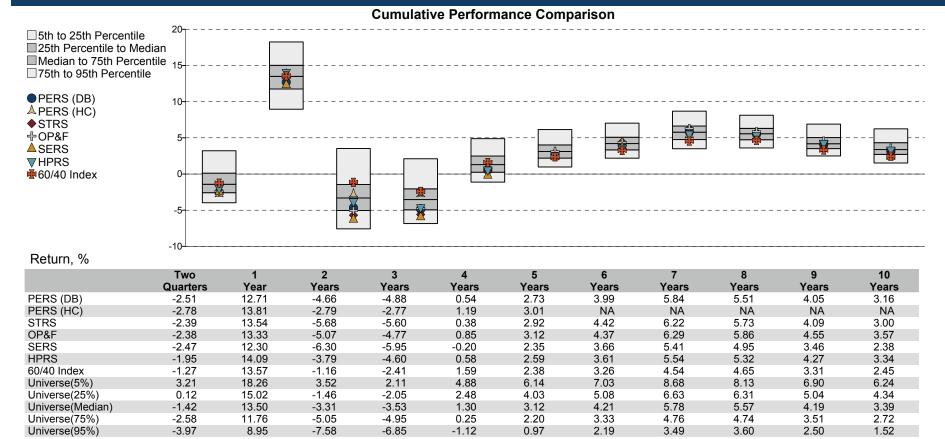
<sup>\*</sup> Differences may exist due to rounding

<sup>\*\*</sup> Tactical Asset Allocation; underlying managers are utilized for asset allocation and alpha generation.

<sup>\*\*\*</sup> Portable alpha strategy, which includes Hedge Funds, is embedded in U.S. equity composite.

<sup>\*\*\*\*</sup> Opportunistic allocation includes PPIP, Distressed Debt, Energy Funds, FDIC-Assisted Bank Investments and Hedge Funds (0.3%).

## Total Plans vs. BNYMellon All Total Fund Universe Performance and Rank Data as of 06/30/10

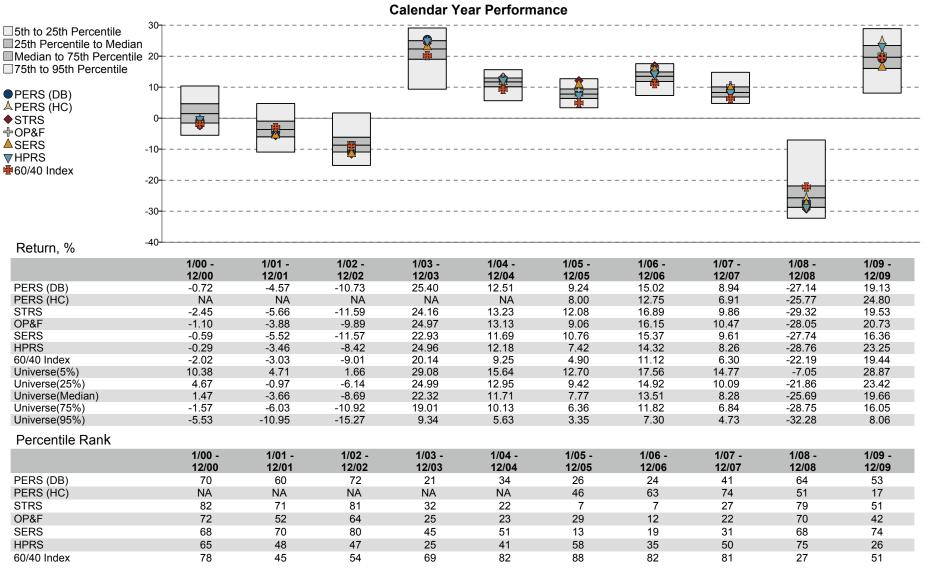


#### Percentile Rank

	Two	1	2	3	4	5	6	7	8	9	10
	Quarters	Year	Years								
PERS (DB)	74	62	70	74	69	60	57	48	53	56	58
PERS (HC)	79	45	42	37	53	53	NA	NA	NA	NA	NA
STRS	71	49	80	85	72	55	41	36	43	55	63
OP&F	71	53	75	72	62	50	43	33	37	41	44
SERS	72	67	85	88	83	72	66	58	69	77	83
HPRS	63	40	57	68	68	65	67	55	59	48	52
_60/40 Index	48	. 49	. 21	31	43	71	76	80	. 77	80	81

This page compares the Total Fund results to a broad universe of total funds 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 Capital U.S. Aggregate Index). The graph above is a cumulative performance comparison with measurement periods that are annualized over the last ten years ending June 30, 2010. The graph shows that OP&F has demonstrated the highest return for the ten-year period with an 3.57% annualized return, which ranks the fund in the 44th percentile followed by HPRS (52nd percentile), PERS DB (58th percentile), STRS (63rd percentile).

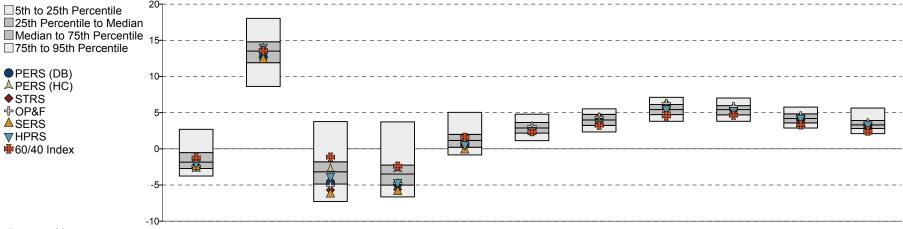
## Total Plans vs. BNYMellon All Total Fund Universe as of 06/30/10 Performance and Rank Data



The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2009. PERS HC ranked in the top quartile of the universe while HPRS and OP&F ranked in the second quartile. STRS, PERS DB and SERS ranked in the third quartile.

## Total Plans vs. BNYMellon All Public Total Fund Universe Performance and Rank Data as of 06/30/10

## **Cumulative Performance Comparison**



Return, %

ixetuiri, 70											
	Two	1	2	3	4	5	6	7	8	9	10
	Quarters	Year	Years								
PERS (DB)	-2.51	12.71	-4.66	-4.88	0.54	2.73	3.99	5.84	5.51	4.05	3.16
PERS (HC)	-2.78	13.81	-2.79	-2.77	1.19	3.01	NA	NA	NA	NA	NA
STRS	-2.39	13.54	-5.68	-5.60	0.38	2.92	4.42	6.22	5.73	4.09	3.00
OP&F	-2.38	13.33	-5.07	-4.77	0.85	3.12	4.37	6.29	5.86	4.55	3.57
SERS	-2.47	12.30	-6.30	-5.95	-0.20	2.35	3.66	5.41	4.95	3.46	2.38
HPRS	-1.95	14.09	-3.79	-4.60	0.58	2.59	3.61	5.54	5.32	4.27	3.34
60/40 Index	-1.27	13.57	-1.16	-2.41	1.59	2.38	3.26	4.54	4.65	3.31	2.45
Universe(5%)	2.70	18.03	3.77	3.73	5.04	4.79	5.53	7.12	7.02	5.77	5.63
Universe(25%)	-0.52	14.80	-1.79	-2.25	1.99	3.63	4.76	6.12	5.97	4.83	3.91
Universe(Median)	-1.84	13.50	-3.17	-3.48	1.16	2.88	3.99	5.43	5.43	4.18	3.31
Universe(75%)	-2.73	11.91	-4.86	-5.02	0.22	2.18	3.23	4.73	4.70	3.58	2.81
Universe(95%)	-3.76	8.62	-7.28	-6.65	-0.84	1.13	2.33	3.80	3.80	2.88	2.10

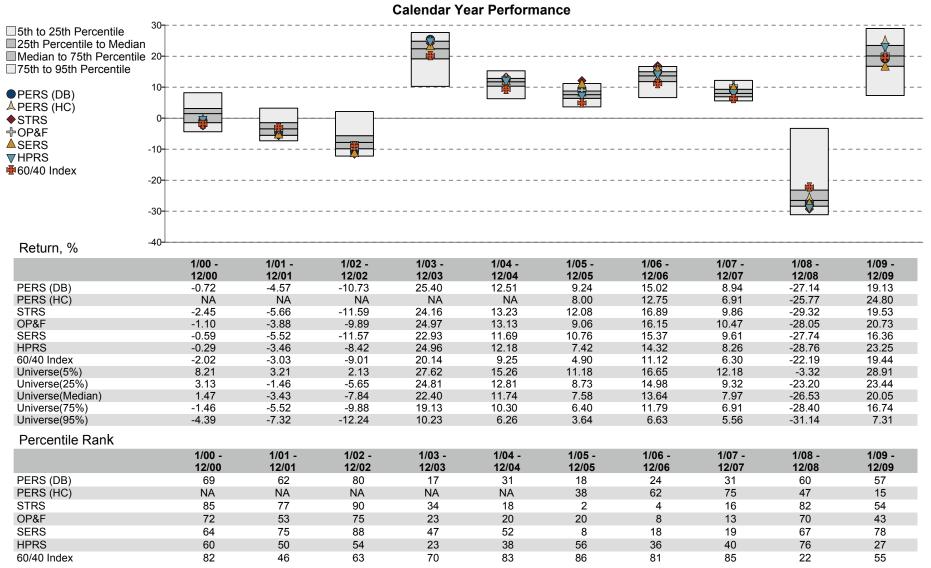
#### Percentile Rank

	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
PERS (DB)	71	62	73	73	70	58	50	35	46	55	59
PERS (HC)	77	45	41	33	48	47	NA	NA	NA	NA	NA
STRS	66	48	81	82	72	50	34	23	34	54	66
OP&F	66	53	77	72	60	42	36	19	28	34	37
SERS	68	66	86	88	85	69	64	51	64	82	90
HPRS	53	40	62	66	69	62	65	46	56	41	47
60/40 Index	38	48	18	26	39	68	74	80	77	86	86

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. As of June 30, 2010, OP&F ranked in the 37th percentile, HPRS ranked in the 47th percentile, PERS DB ranked in the 59th percentile, STRS ranked in the 66th percentile and SERS ranked in the 90th percentile of the universe for the ten-year period.

<sup>\*</sup>Differences may exist due to rounding.

## Total Plans vs. BNYMellon All Public Total Fund Universe as of 06/30/10 Performance and Rank Data



The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2009. PERS HC ranked in the top quartile of the universe while HPRS and OP&F ranked in the second quartile. STRS and PERS DB ranked in the third quartile. SERS placed in the bottom quartile.

## Total Plans vs. BNYMellon Large Public Total Fund Universe Performance and Rank Data as of 06/30/10

# Cumulative Performance Comparison | Sth to 25th Percentile | 25th Percentile to Median | Median to 75th Percentile | 15th to 95th Percentile | 15t

#### Return, %

	Two	1	2	3	4	5	6	7	8	9	10
	Quarters	Year	Years								
PERS (DB)	-2.51	12.71	-4.66	-4.88	0.54	2.73	3.99	5.84	5.51	4.05	3.16
PERS (HC)	-2.78	13.81	-2.79	-2.77	1.19	3.01	NA	NA	NA	NA	NA
STRS	-2.39	13.54	-5.68	-5.60	0.38	2.92	4.42	6.22	5.73	4.09	3.00
OP&F	-2.38	13.33	-5.07	-4.77	0.85	3.12	4.37	6.29	5.86	4.55	3.57
SERS	-2.47	12.30	-6.30	-5.95	-0.20	2.35	3.66	5.41	4.95	3.46	2.38
HPRS	-1.95	14.09	-3.79	-4.60	0.58	2.59	3.61	5.54	5.32	4.27	3.34
60/40 Index	-1.27	13.57	-1.16	-2.41	1.59	2.38	3.26	4.54	4.65	3.31	2.45
Universe(5%)	3.20	16.83	4.99	4.67	5.13	4.78	5.70	7.57	7.25	5.97	5.67
Universe(25%)	-0.52	14.86	-2.11	-2.54	2.00	3.79	4.81	6.26	6.09	4.91	3.94
Universe(Median)	-1.72	13.55	-3.37	-3.67	1.16	3.02	4.21	5.62	5.57	4.22	3.43
Universe(75%)	-2.48	12.00	-4.78	-4.99	0.28	2.42	3.57	4.93	4.93	3.80	2.90
Universe(95%)	-3.79	9.51	-7.28	-6.61	-0.80	1.19	2.60	3.86	3.82	3.00	2.38

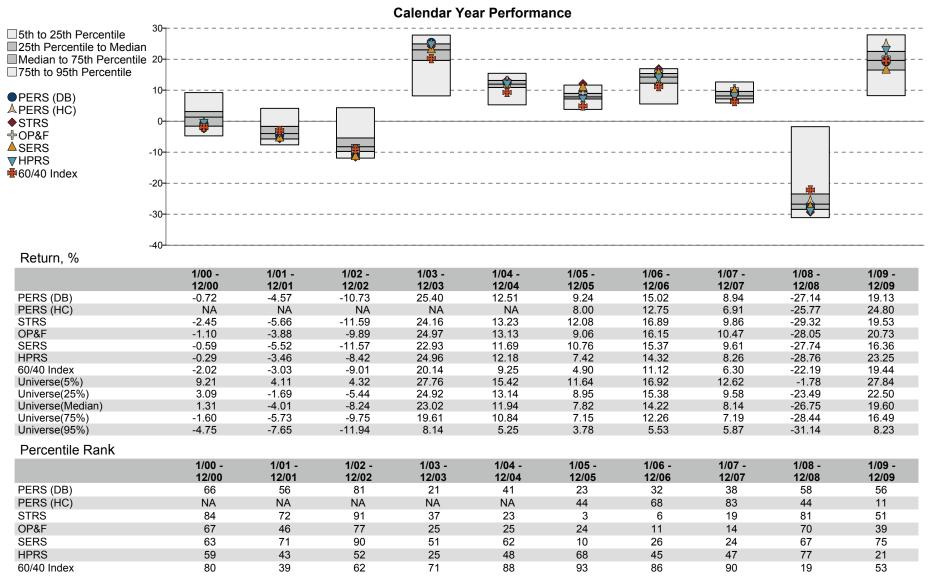
#### Percentile Rank

	Two	1	2	3	4	5	6	7	8	9	10
	Quarters	Year	Years								
PERS (DB)	77	63	72	74	71	67	60	40	52	63	61
PERS (HC)	82	47	36	31	47	52	NA	NA	NA	NA	NA
STRS	69	50	79	84	73	56	39	27	38	61	68
OP&F	69	54	77	72	62	46	41	23	32	40	46
SERS	72	69	84	88	88	76	73	60	74	86	95
HPRS	58	41	58	65	70	70	74	55	66	48	53
60/40 Index	40	50	14	25	36	76	82	85	82	90	91

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

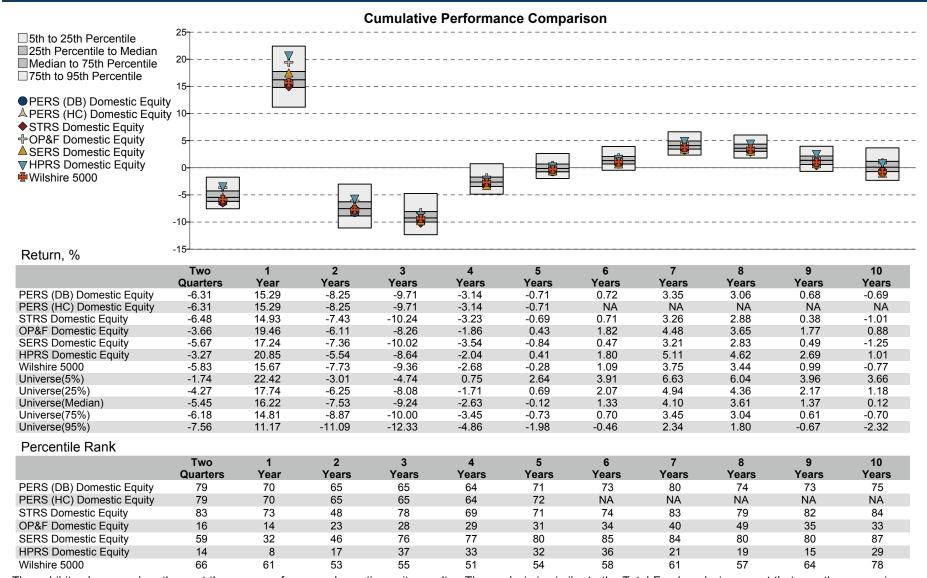
<sup>\*</sup>Differences may exist due to rounding.

## Total Plans vs. BNYMellon Large Public Total Fund Universe as of 06/30/10 Performance and Rank Data



The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2009. In 2009, PERS HC and HPRS placed in the top quartile while OP&F placed in the second quartile. STRS, PERS DB and SERS placed in the third quartile.

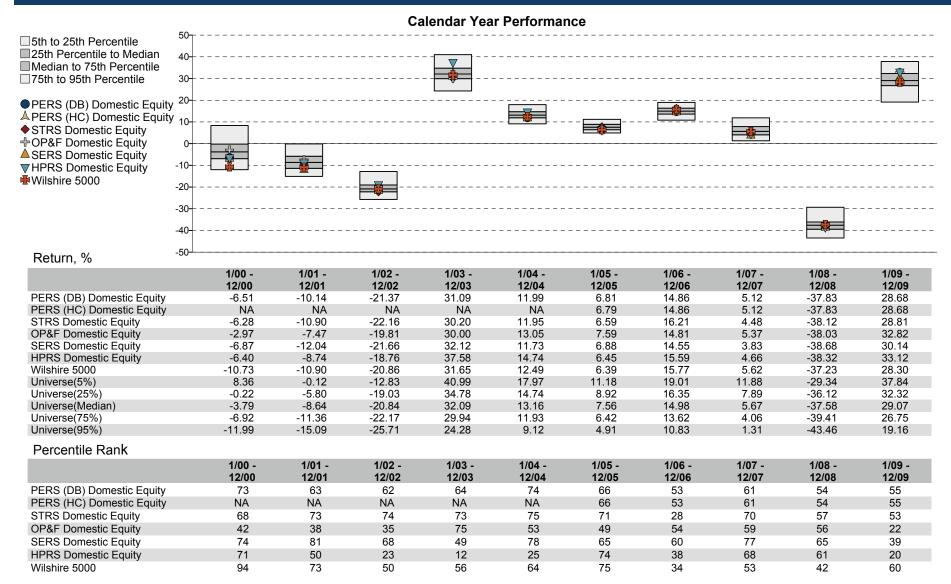
## Total Domestic Equities vs. BNYMellon All Domestic Equities Universe Performance and Rank Data as of 06/30/10



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 ending June 30, 2010, HPRS and OP&F placed in the second quartile. PERS DB ranked in the third quartile, while STRS and SERS ranked in the fourth quartile.

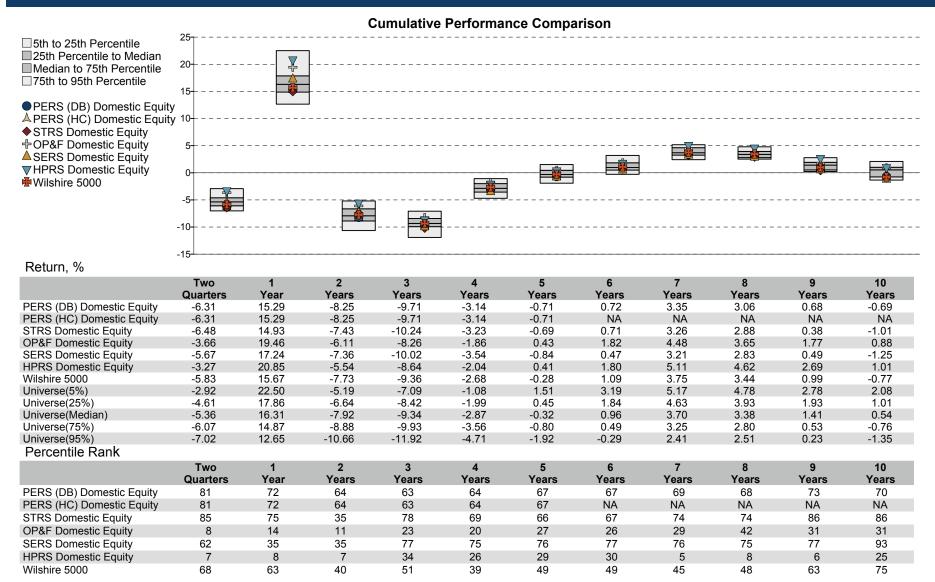
<sup>\*</sup>Differences may exist due to rounding.

## Total Domestic Equities vs. BNYMellon All Domestic Equities Universe as of 06/30/10 Performance and Rank Data



The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2009 within the Mellon All Domestic Equities Universe. HPRS and OP&F ranked in the first quartile and SERS ranked in the second quartile. STRS, PERS DB and HC ranked in the third quartile.

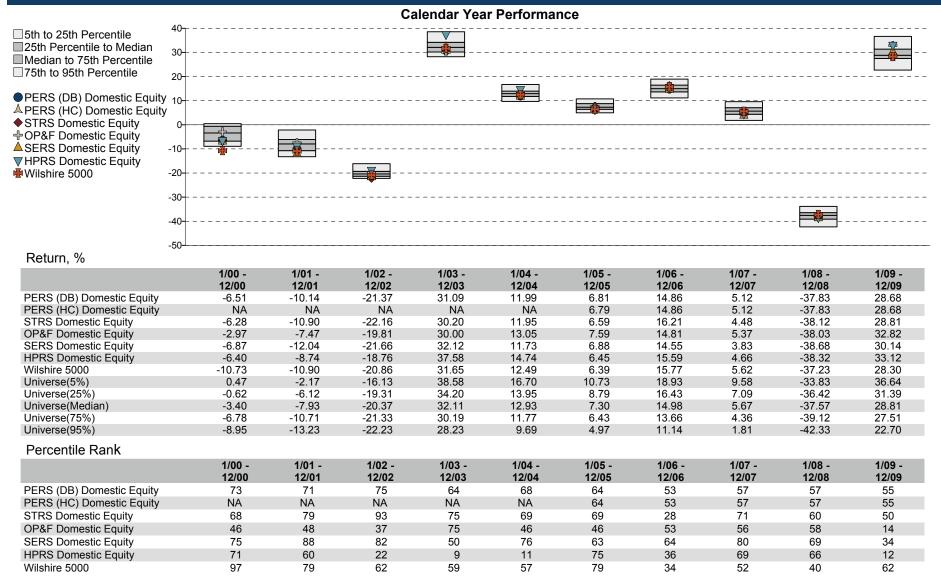
## Total Domestic Equities vs. BNYMellon All Public Domestic Equity Universe Performance and Rank Data as of 06/30/10



The comparisons above compares the domestic equity returns of the six Ohio public funds to the domestic equity returns of all of the public funds in the Mellon Universe. Over the ten-year period ending June 30, 2010, HPRS placed in the top quartile, O&F placed in the second quartile, PERS DB placed in the third quartile, and STRS and SERS placed in the bottom quartile.

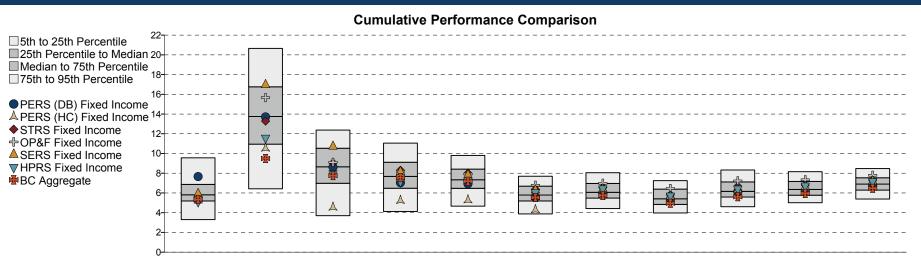
<sup>\*</sup>Differences may exist due to rounding.

# Total Domestic Equities vs. BNYMellon All Public Domestic Equity Universe as of 06/30/10 Performance and Rank Data



The graph above is a calendar year performance comparison with twelve-month measurement periods ending December 31, 2009 within the Mellon All Public Domestic Equities Universe. In 2009, HPRS and OP&F ranked in the top quartile and SERS and STRS placed in the second quartile. PERS DB & HC ranked in the third quartile.

## Total Fixed Income vs. BNYMellon All Domestic Fixed Income Universe Performance and Rank Data as of 06/30/10



#### Return, %

	Two	1	2	3	4	5	6	7	8	9	10
	Quarters	Year	Years								
PERS (DB) Fixed Income	7.66	13.71	8.62	7.04	6.92	5.60	6.01	5.34	6.14	6.22	6.76
PERS (HC) Fixed Income	5.25	10.51	4.53	5.22	5.27	4.28	NA	NA	NA	NA	NA
STRS Fixed Income	5.28	13.28	9.05	8.30	8.01	6.36	6.55	5.81	6.68	6.81	7.30
OP&F Fixed Income	5.52	15.67	9.11	8.19	7.92	6.79	6.98	6.45	7.22	7.34	7.79
SERS Fixed Income	5.91	16.95	10.71	8.14	7.81	6.28	6.39	5.65	6.32	6.63	7.19
HPRS Fixed Income	5.12	11.58	7.96	7.15	7.27	6.04	6.43	5.71	6.42	6.73	7.18
BC Aggregate	5.33	9.50	7.76	7.55	7.19	5.54	5.75	4.96	5.62	5.95	6.47
Universe(5%)	9.56	20.65	12.37	11.05	9.80	7.70	8.05	7.25	8.33	8.16	8.47
Universe(25%)	6.87	16.76	10.53	9.12	8.42	6.69	6.97	6.39	7.12	7.17	7.54
Universe(Median)	5.81	13.75	8.66	7.68	7.34	5.79	6.07	5.41	6.16	6.36	6.90
Universe(75%)	5.19	10.94	6.98	6.48	6.47	5.19	5.48	4.84	5.58	5.78	6.29
Universe(95%)	3.30	6.42	3.70	4.12	4.66	3.87	4.42	3.97	4.61	5.01	5.39

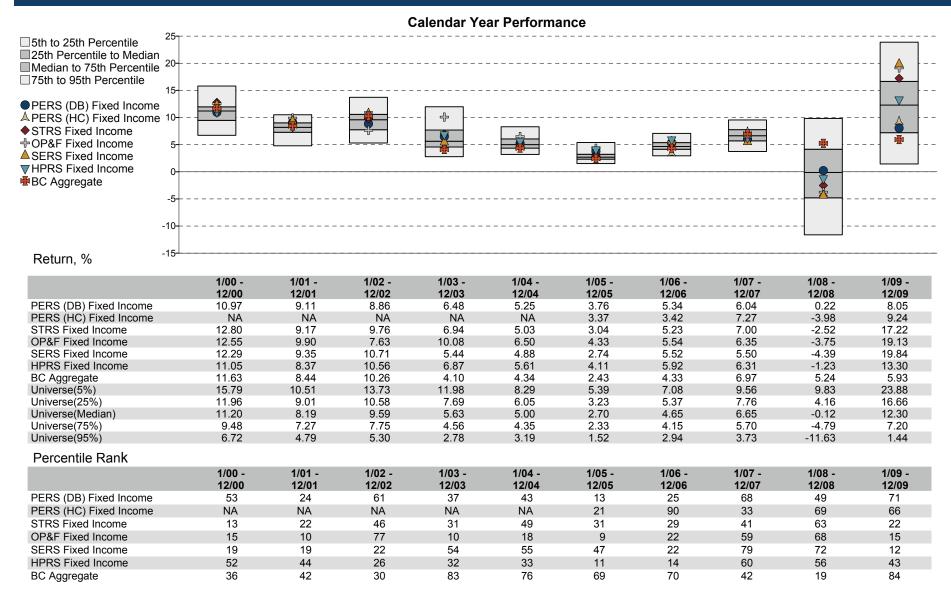
#### Percentile Rank

	Two Quarters	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
PERS (DB) Fixed Income	18	51	50	64	62	58	51	52	50	55	53
PERS (HC) Fixed Income	73	77	93	89	90	91	NA	NA	NA	NA	NA
STRS Fixed Income	72	55	44	37	32	34	37	41	38	38	34
OP&F Fixed Income	60	34	43	39	34	23	24	24	22	18	15
SERS Fixed Income	45	23	22	40	37	35	40	43	46	43	36
HPRS Fixed Income	76	72	59	62	54	44	40	42	45	39	38
BC Aggregate	70	86	64	54	55	59	62	70	73	65	64

The exhibit above, and on the next page, compare the fixed income results of the six 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 ending June 30, 2010, OP&F placed in the 15th percentile, while STRS, SERS and HPRS placed in the 34th, 36th and 38th percentiles, respectively. PERS DB placed in the 53rd percentile.

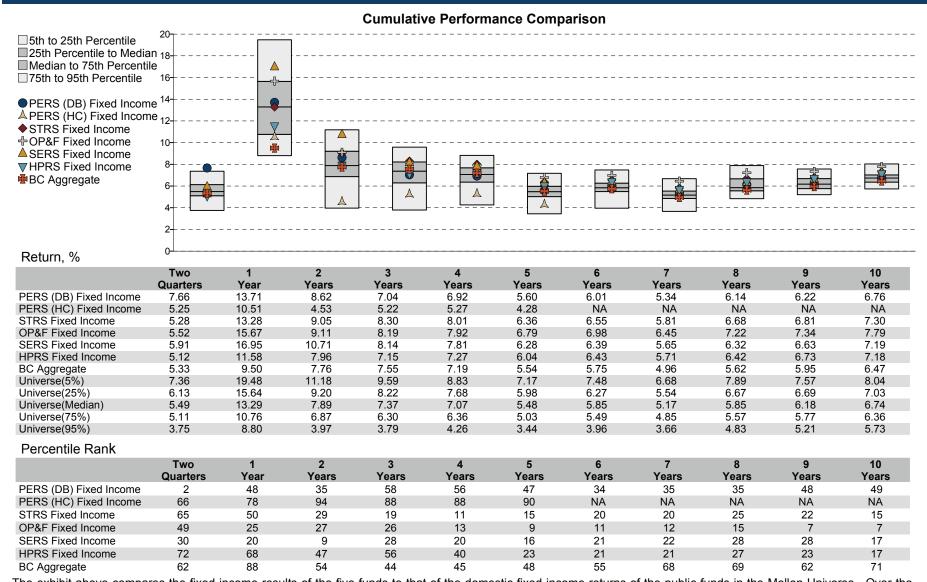
<sup>\*</sup>Differences may exist due to rounding.

## Total Fixed Income vs. BNYMellon All Domestic Fixed Income Universe as of 06/30/10 Performance and Rank Data



The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2009 within the Mellon All Domestic Fixed Income Universe. In 2009, SERS was the best performer relative to its peers, placing in the 12th percentile, followed by OP&F (15th percentile) and STRS (22nd percentile). HPRS placed in the 43rd percentile while PERS HC and DB both placed in the 66th and 71st percentiles, respectively.

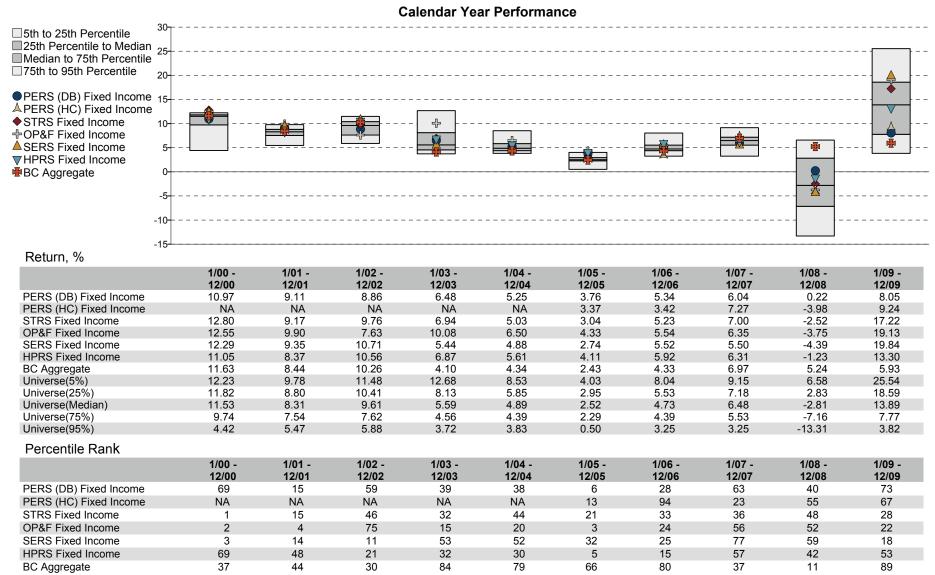
# Total Fixed Income vs. BNYMellon All Public Domestic Fixed Income Universe Performance and Rank Data as of 06/30/10



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 ending June 30, 2010, all five plans outpaced the median return. SERS, OP&F, STRS and HPRS ranked in the top quartile, while PERS DB placed in the second quartile of the universe.

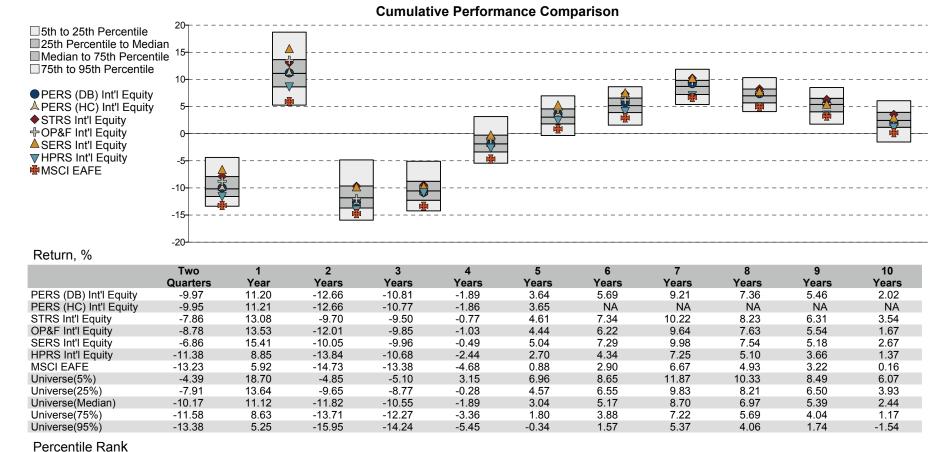
<sup>\*</sup>Differences may exist due to rounding.

# Total Fixed Income vs. BNYMellon All Public Domestic Fixed Income Universe as of 06/30/10 Performance and Rank Data



The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2009 within the Mellon All Public Domestic Fixed Income Universe. In 2009, SERS and OP&F ranked in the top quartile of the universe, while STRS ranked in the second quartile. HPRS, PERS HC and PERS DB placed in the third quartile.

## Total International Equities vs. BNYMellon All International Equity Universe Performance and Rank Data as of 06/30/10

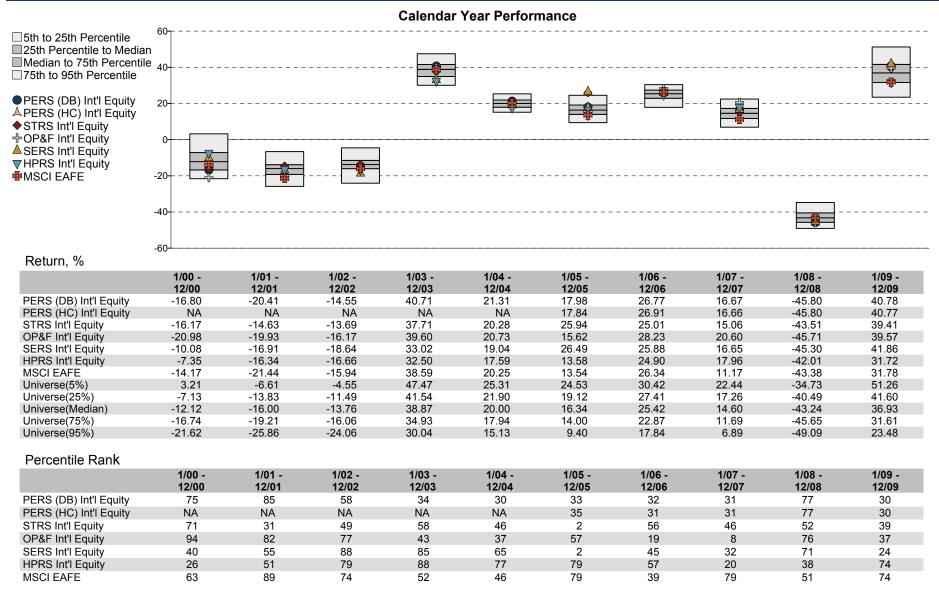


	Two	1	2	3	4	5	6	7	8	9	10
	Quarters	Year	Years								
PERS (DB) Int'l Equity	46	49	60	55	50	41	37	37	40	49	60
PERS (HC) Int'l Equity	46	49	60	54	49	41	NA	NA	NA	NA	NA
STRS Int'l Equity	24	30	25	34	33	24	14	19	25	29	31
OP&F Int'l Equity	31	26	53	38	34	27	31	30	36	48	67
SERS Int'l Equity	17	14	29	39	28	19	14	21	37	52	43
HPRS Int'l Equity	70	73	76	53	61	58	64	74	85	83	72
MSCLEAFE	94	93	86	89	90	87	87	85	87	87	89

The exhibit above, and on the next page, compare the international equity results of the six 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 June 30, 2010, STRS (31st percentile) and SERS (43rd percentile) were the only funds to rank above median. PERS DB ranked in the 60th percentile while OP&F and HPRS ranked in the 67th and 72nd percentiles, respectively.

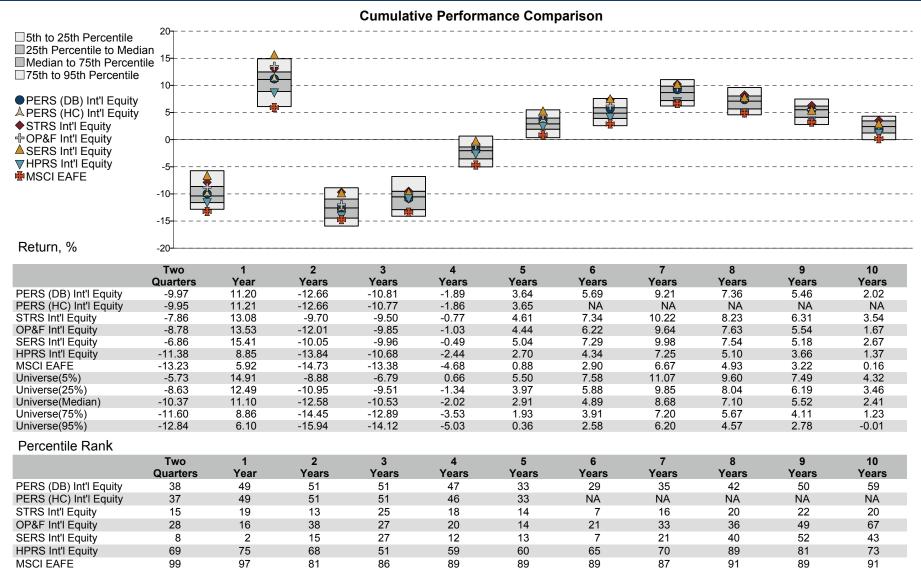
<sup>\*</sup>Differences may exist due to rounding.

## Total International Equities vs. BNYMellon All International Equity Universe as of 06/30/10 Performance and Rank Data



The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2009 within the Mellon All International Equity Universe. In 2009, SERS ranked in the 24th percentile, PERS DB and HC ranked in the 30th percentile, OP&F ranked in the 37th percentile and STRS ranked in the 39th percentile. HPRS ranked in the 74th percentile.

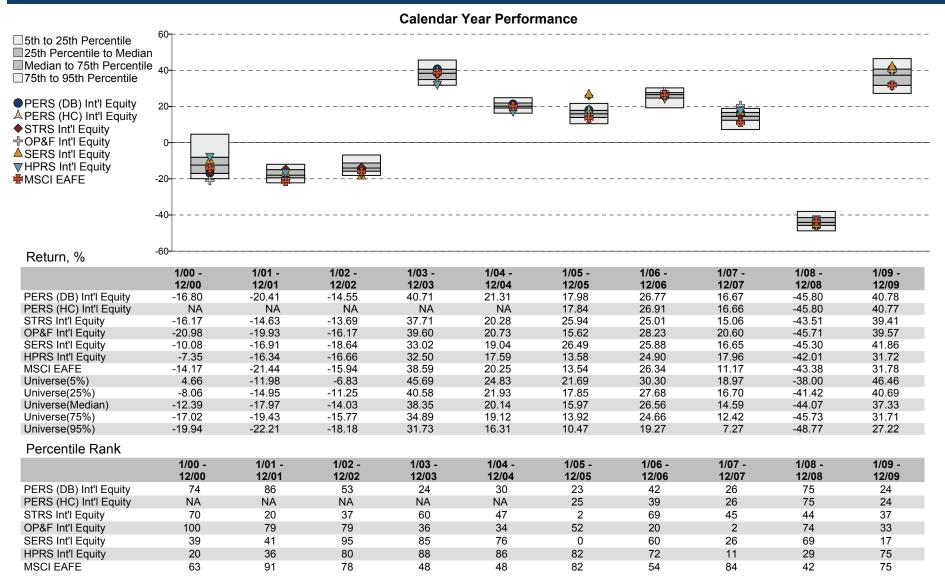
## Total International Equities vs. BNYMellon All Public International Equity Universe Performance and Rank Data as of 06/30/10



The exhibit above, and on the next page, compare the international equity results of the six funds to that of the Mellon All Public International Equity Universe. For the ten-year period ending June 30, 2010, STRS ranked in the 20th percentile, SERS ranked in the 43rd percentile, PERS DB ranked in the 59th percentile, OP&F ranked in the 67th percentile and HPRS ranked in the 73rd percentile.

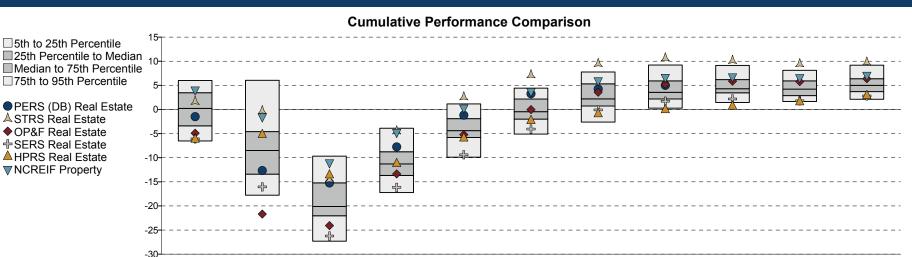
<sup>\*</sup>Differences may exist due to rounding.

# Total International Equities vs. BNYMellon All Public International Equity Universe as of 06/30/10 Performance and Rank Data



The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2009 within the Mellon All Public International Equity Universe. In 2009, SERS, PERS DB and PERS HC ranked in the top quartile. OP&F and STRS ranked in the second quartile; HPRS ranked in the third quartile.

## Total Real Estate vs. BNYMellon All Real Estate Universe Performance and Rank Data as of 06/30/10



#### Return, %

	Two	1	2	3	4	5	6	7	8	9	10
	Quarters	Year	Years	Years	Years	Years	Years	Years	Years	Years	Years
PERS (DB) Real Estate	-1.49	-12.67	-15.24	-7.76	-1.18	3.25	4.26	5.00	NA	NA	NA
STRS Real Estate	1.62	-0.31	-14.55	-4.50	2.56	7.12	9.46	10.64	10.11	9.43	9.76
OP&F Real Estate	-4.91	-21.69	-24.09	-13.36	-5.23	-0.03	3.58	5.21	5.87	5.78	6.38
SERS Real Estate	-6.09	-16.05	-26.23	-16.15	-9.40	-4.06	-0.09	1.71	2.18	1.80	2.81
HPRS Real Estate	-6.22	-5.24	-13.63	-11.27	-5.99	-2.36	-0.95	-0.10	0.64	1.51	2.83
NCREIF Property	4.10	-1.48	-10.98	-4.71	0.36	3.78	6.03	6.70	6.82	6.67	7.15
Universe(5%)	6.02	6.05	-9.68	-3.89	1.15	4.41	7.77	9.21	9.13	8.11	9.17
Universe(25%)	3.47	-4.59	-15.22	-8.77	-1.90	2.16	5.31	5.92	6.19	5.93	6.38
Universe(Median)	0.23	-8.50	-20.11	-11.29	-4.39	-0.45	2.19	3.55	4.30	4.22	5.01
Universe(75%)	-3.39	-13.42	-22.03	-13.67	-5.82	-2.01	0.72	2.18	3.46	2.88	3.71
Universe(95%)	-6.53	-17.78	-27.31	-17.23	-9.90	-5.10	-2.62	0.27	1.44	1.65	2.11

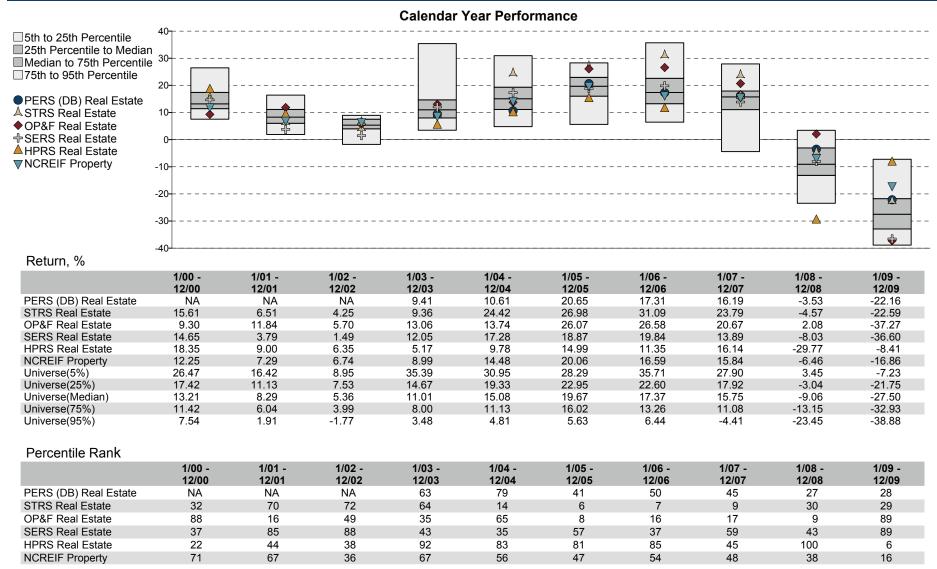
#### Percentile Rank

1 Grochine Name											
	Two	1	2	3	4	5	6	7	8	9	10
	Quarters	Year	Years								
PERS (DB) Real Estate	67	64	25	23	21	15	30	32	NA	NA	NA
STRS Real Estate	38	13	21	8	0	0	0	0	0	0	0
OP&F Real Estate	83	99	86	74	63	41	32	31	33	30	25
SERS Real Estate	90	91	92	88	88	83	82	83	86	90	89
HPRS Real Estate	92	30	18	50	78	77	90	96	100	97	89
NCREIF Property	14	17	8	9	7	7	16	16	16	14	13

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 June 30, 2010, STRS and OP&F exceeded the median return to place in the top quartile. HPRS and SERS 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.

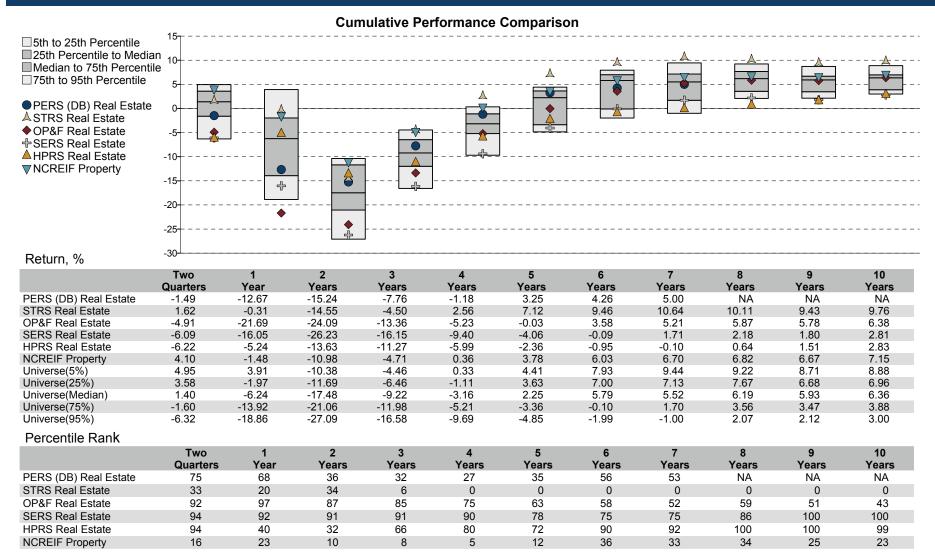
<sup>\*</sup>Differences may exist due to rounding.

## Total Real Estate vs. BNYMellon All Real Estate Universe as of 06/30/10 Performance and Rank Data



The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2009 within the Mellon All Real Estate Universe. In 2009, three of the five funds outpaced the median fund with HPRS, PERS DB and STRS placing in the 6th, 28th and 29th percentiles, respectively. OP&F and SERS placed in the fourth quartile among its peers of the Mellon Universe.

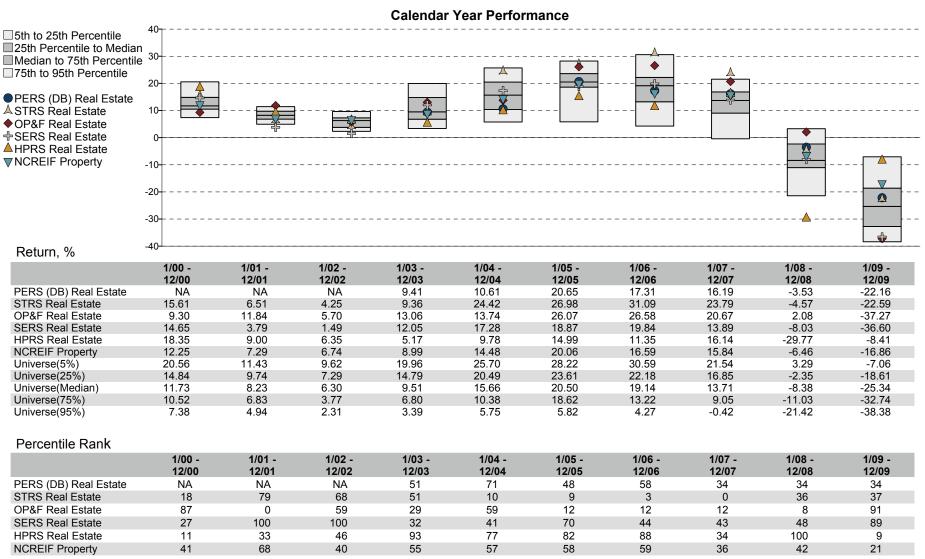
## Total Real Estate vs. BNYMellon All Public Real Estate Universe Performance and Rank Data as of 06/30/10



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 June 30, 2010, STRS ranked in the top quartile while OP&F ranked in the second quartile. HPRS and SERS 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.

<sup>\*</sup>Differences may exist due to rounding.

# Total Real Estate vs. BNYMellon All Public Real Estate Universe as of 06/30/10 Performance and Rank Data



The graph above provides an analysis of the calendar year performance with twelve-month measurement periods ending December 31, 2009 within the Mellon All Real Estate Universe. In 2009, HPRS ranked in the top quartile, PERS DB and STRS ranked in the second quartile and SERS and OP&F ranked in the bottom quartile of the universe.



## **Appendix**

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

Comparison of Asset Allocation versus BNYMellon All Public Total Fund Universe

·		Private / Public Real				
	U.S. Equity	Fixed Income	Non-U.S. Equity	Estate	Alternatives	Cash
PERS (DB) - ACTUAL	36.90%	24.40%	22.35%	8.90%	6.75%	0.70%
PERS (DB) - TARGET	39.61%	25.16%	22.00%	7.94%	5.29%	0.00%
PERS (HC) - ACTUAL	30.14%	32.92%	25.62%	6.13%	2.90%	2.29%
PERS (HC) - TARGET	31.90%	34.00%	26.00%	6.00%	2.10%	0.00%
STRS - ACTUAL	38.31%	21.91%	22.28%	8.39%	7.25%	1.86%
STRS - TARGET	39.00%	20.00%	23.00%	10.00%	7.00%	1.00%
OP&F - ACTUAL	41.30%	25.75%	22.17%	6.28%	3.60%	0.89%
OP&F - TARGET	39.00%	23.00%	24.00%	10.00%	4.00%	0.00%
SERS - ACTUAL	23.85%	21.27%	25.85%	8.88%	19.34%	0.82%
SERS - TARGET	27.50%	24.00%	27.50%	10.00%	10.00%	1.00%
HPRS - ACTUAL	43.39%	20.02%	13.91%	2.58%	19.23%	0.87%
HPRS - TARGET	45.00%	20.00%	15.00%	5.00%	15.00%	0.00%
Maximum	89.46%	93.29%	19.13%	11.84%	29.18%	61.29%
5th	54.10%	72.31%	28.09%	9.50%	26.82%	23.91%
25th	45.76%	38.91%	19.85%	7.27%	15.89%	6.47%
Median	40.32%	32.36%	15.87%	5.36%	10.54%	2.91%
75th	30.08%	27.28%	13.61%	4.61%	5.76%	0.97%
95th	15.06%	16.79%	7.25%	0.83%	0.86%	0.00%
Minimum	12.38%	1.66%	3.17%	0.55%	0.78%	-2.42%

#### Note:

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

Seventy-three institutions represented the universe run.

PERS (DB) fixed income allocation is comprised of 12.1% in core fixed income, 2.0% in high yield and 10.5% in long duration fixed income. The real estate allocation is comprised of 8.1% private real estate and 0.8% REITS.

Source: BNYMellon Trust Universe Quarter Ended June 30, 2010.



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

Comparison of Asset Allocation versus BNYMellon Billion Dollar Public Fund Universe

·			Private / Public Real			
	U.S. Equity	Fixed Income	Non-U.S. Equity	Estate	Alternatives	Cash
PERS (DB) - ACTUAL	36.90%	24.40%	22.35%	8.90%	6.75%	0.70%
PERS (DB) - TARGET	39.61%	25.16%	22.00%	7.94%	5.29%	0.00%
PERS (HC) - ACTUAL	30.14%	32.92%	25.62%	6.13%	2.90%	2.29%
PERS (HC) - TARGET	31.90%	34.00%	26.00%	6.00%	2.10%	0.00%
STRS - ACTUAL	38.31%	21.91%	22.28%	8.39%	7.25%	1.86%
STRS - TARGET	39.00%	20.00%	23.00%	10.00%	7.00%	1.00%
OP&F - ACTUAL	41.30%	25.75%	22.17%	6.28%	3.60%	0.89%
OP&F - TARGET	39.00%	23.00%	24.00%	10.00%	4.00%	0.00%
SERS - ACTUAL	23.85%	21.27%	25.85%	8.88%	19.34%	0.82%
SERS - TARGET	27.50%	24.00%	27.50%	10.00%	10.00%	1.00%
HPRS - ACTUAL	43.39%	20.02%	13.91%	2.58%	19.23%	0.87%
HPRS - TARGET	45.00%	20.00%	15.00%	5.00%	15.00%	0.00%
Maximum	73.68%	93.29%	28.94%	11.84%	29.18%	33.71%
5th	48.37%	74.38%	27.02%	10.40%	27.48%	22.36%
25th	42.91%	40.12%	20.12%	7.30%	15.13%	5.26%
Median	34.62%	30.90%	16.18%	5.07%	10.81%	3.07%
75th	27.06%	25.54%	14.87%	4.47%	6.10%	1.35%
95th	15.93%	8.66%	7.38%	0.72%	0.83%	-0.65%
Minimum	12.38%	1.66%	5.98%	0.55%	0.78%	-2.42%

#### 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.

PERS (DB) fixed income allocation is comprised of 12.1% in core fixed income, 2.0% in high yield and 10.5% in long duration fixed income. The real estate allocation is comprised of 8.1% private real estate and 0.8% REITS.

Source: BNYMellon Trust Universe Quarter Ended June 30, 2010.



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