

Performance Data

Period ending

December 31, 2013



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## Investment Performance Summary

### PERIOD ENDING December 31, 2013

#### Systems Performance Summary

All six of the Retirement Systems had positive results for the six months ending December 31, 2013, and performance of the Systems over the trailing six months was good relative to other public pension plans, and all but one of the Systems outperformed their index benchmarks. Over the trailing ten years, the performance of the retirement systems is close to their index benchmarks, and rank well versus peers.

One of the six Retirement Systems met their actuarial interest rates (the return target used by the System's actuaries to ensure all benefit payments can be made) over the trailing ten years. STRS had a 10-year return of 7.9% compared to 7.75% for their actuarial rate. The following plans trailed their actuarial rates, PERS DB returned 7.3% compared to 8.0%. SERS had a return of 7.0% compared to 7.75%. PERS HC had a 7-year return of 5.2% compared to 6.7% for their actuarial rate. HPRS had a return of 6.8% compared to 8.0%, and OP&F returned 8.1% compared to 8.25%. All of the Systems beat their actuarial interest rates over the trailing five-year and three-year period.

Below please see the actuarial rates of the various retirement systems:

Plan	Actuarial Rate	Return
PERS DB	8.00 %	7.3 %
PERS HC*	6.70	5.2
STRS	7.75	7.9
OP&F	8.25	8.1
SERS	7.75	7.0
HPRS	8.00	6.8

\*Performance for PERS HC is a 7 year return, the plan does not have 10 years of return history

## **COMPARATIVE PERFORMANCE STUDY**

### **PERIOD ENDING December 31, 2013**

#### **Introduction**

Milliman, Inc. 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. 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, 2003 and ending December 31, 2013.

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 InvestorForce Performance Measurement Platform. 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. Milliman uses the InvestorForce Plan Universes, as compared to the BNY Mellon Plan Universes used by Evaluation Associates in previous reports. With over 3,000 plans and \$4 trillion in assets under advisement on the InvestorForce platform, the InvestorForce plan universes are the most robust and timely universes available in the industry.

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

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

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

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

Each of the Ohio systems has established separate investment policies and investment programs for its plan. The State Teachers Retirement System of Ohio (STRS) manages approximately 75% of total assets internally; Ohio Public Employees Retirement System (PERS) manages approximately 40% 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 its 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. Additionally, the PERS DB and HC Plans now report their fixed income portfolios in aggregate. Where appropriate, the segments of each fixed income portfolio are shown separately.

Our findings may be summarized as follows:

- The second half of 2013 was a very strong period for the financial markets. As a gauge of the marketplace, the Russell 3000 returned 17.1% and the MSCI EAFE returned 18.0% for the two quarters ending December 31, 2013. Despite concerns about a potential reduction of stimulus by the Federal Reserve, the US stock market rose modestly on improving economic data and steady growth in corporate earnings.

- The Ohio Statewide fund returns for the six-month period ranged from 8.4% (PERS HC) to 11.5% (HPRS). Five of the six systems outperformed their respective policy index for the six-month period, and one system underperformed its policy. HPRS (11.5%) and SERS (11.0%) were the best absolute performers. The best relative performers were SERS (+1.5%) and OP&F (+1.3%). PERS DB returned 9.8% and beat its benchmark by 0.2%. PERS HC returned 8.4% and beat its benchmark by 0.3%. STRS returned 10.3%, however trailed its benchmark by 20 basis points.
- In comparison to a broad universe of other public retirement systems (the InvestorForce All Public Defined Benefit Universe), four of the plans ranked above the median for the six-month period ending December 31, 2013. HPRS ranked in the 15<sup>th</sup> percentile, SERS ranked in the 28<sup>th</sup> percentile, OP&F ranked in the 33<sup>rd</sup> percentile. The following plans ranked below the median; PERS DB ranked in the 53<sup>rd</sup> percentile and PERS HC ranked in the 84<sup>th</sup> percentile.
- For the one-year period ending December 31, 2013, HPRS (+19.1%) outperformed its benchmark by 230 basis points. SERS (+16.9%) outperformed its benchmark by 160 basis points. OP&F (+16.0%) outperformed its benchmark by 140 basis points, PERS DB (+14.7%) outperformed its benchmark by 50 basis points and PERS HC (+ 11.5%) outperformed its benchmark by 80 basis points. STRS (+17.6%) underperformed its benchmark by 50 basis points. Against their peers in the InvestorForce All Public Defined Benefit Universe, four of six plans placed above the median. HPRS ranked in the 15<sup>th</sup> percentile, STRS ranked in the 26<sup>th</sup> percentile, SERS ranked in the 34<sup>th</sup> percentile and OP&F placing in the 43<sup>rd</sup> percentile among its peers. PERS DB was below the median ranked in the 57<sup>th</sup> percentile amongst its peers and PERS HC also below the median ranked in the 85<sup>th</sup> percentile amongst its peers.
- On a three-year basis, SERS, OP&F, PERS DB and PERS HC were the best relative performers, with SERS leading its benchmark by 70 basis points, and OP&F, PERS DB and PERS HC beating their benchmarks by 50 basis points each. STRS beat its benchmark by 10 basis points. HPRS was 120 basis points behind its benchmark over the trailing three year period. Comparing the three-year returns of the systems to the InvestorForce All Public Defined Benefit Universe, two plans ranked below the median. OP&F ranked in the 8<sup>th</sup> percentile, STRS ranked in the 13<sup>th</sup> percentile, SERS ranked in the 26<sup>th</sup> percentile and PERS DB ranked in the 34<sup>th</sup> percentile. HPRS ranked in the 58<sup>th</sup> percentile and PERS HC plan ranked in the 80<sup>th</sup> percentile.
- For the five-year period, four of the six systems outpaced their respective policy benchmarks, with OP&F outperforming its benchmark by 90 basis points, and PERS HC outperforming its benchmark by 60 basis points, follow by SERS outperforming by 50 basis points and PERS DB outperforming by 30 basis points. In comparison to the InvestorForce All Public Defined Benefit Universe, OP&F (+13.8%) ranked in the 9<sup>th</sup> percentile, STRS (+13.1%) ranked in the 22<sup>nd</sup> percentile, HPRS (+12.6%) ranked in the 37<sup>th</sup> percentile, PERS DB and PERS HC both (+12.4%) ranked in the 45<sup>st</sup> percentile while SERS (+11.8%) ranked in the 54<sup>th</sup> percentile.
- Over the ten-year period, four of the five plans outperformed and one plan matched their policy benchmarks. OP&F (+8.1%) exceeded its policy benchmark by 70 basis points, STRS (+7.9%) was 40 basis points above its benchmark, and PERS DB (+7.3%) was above its benchmark by 30 basis points. SERS (+7.0%) beat its benchmark by 10 basis points, while HPRS (+6.8%) trailed its benchmark by 80 basis points. Relative to the peer group universe, OP&F ranked in the 3<sup>rd</sup> percentile, STRS ranked in the 6<sup>th</sup>

percentile, and PERS DB ranked in the 25<sup>th</sup> percentile over the trailing ten-year period. SERS ranked in the 39<sup>th</sup> percentile, and HPRS ranked in the 52<sup>nd</sup> percentile over the same period.

- Please note that comparing investment performance relative to the plans' actuarial interest rates and policy benchmarks are of primary importance, while peer group comparisons, although useful, should be of secondary importance in the performance evaluation process. Please also note that the asset allocation and size of the Plan play a significant role in performance. In addition, since the plans have long-term funding schedules and investment time horizons, more emphasis should be placed on evaluating performance over longer holding periods.

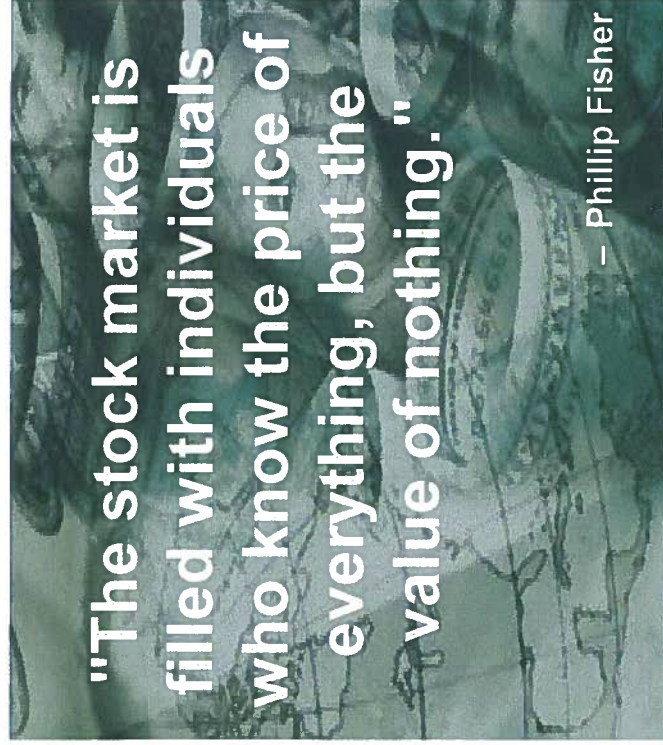
- The following observations are based on a review of the systems' asset allocation in comparison to the InvestorForce All Public Defined Benefit Universe:

1. The actual (37.8%) and target (35.0%) domestic equity allocation of HPRS was above the median plan's allocation to domestic equity (35.0%) in the InvestorForce All Public Defined Benefit Universe. For OP&F, the target allocation to domestic equities (31.6%) was below the median, as was the actual allocation (26.7%). STRS actual (31.3%) and target (33.0%) allocations were below the median for domestic equities. The actual (26.1%) and target (22.5%) allocation of SERS, the actual (21.3%) and target (22.0%) allocation of PERS DB, as well as the actual (23.8%) and target (23.5%) allocation of PERS HC domestic equity were all below that of the median plan.
2. Four of the six systems' actual asset allocations to fixed income were well below the median plan (27.0%) of the InvestorForce All Public Defined Benefit Universe. PERS HC has a target (33.5%) above the median and an actual allocation (30.4%) below target, but above the universe median. OP&F has a target (31.5%) above the median and an actual allocation (27.0%) below target, equal to the universe median
3. The median plan allocation of the InvestorForce All Public Defined Benefit Universe to non-U.S. equity as of December 31, 2013 was 15.0%. The target allocations for all plans were significantly above the median, with the actual allocations following suit.
4. The universe median allocation to real estate in the InvestorForce All Public Defined Benefit Universe was 8.6% as of December 31, 2013. The target allocation of each of the systems, with the exception of HPRS (5.0%) and PERS HC (6.0%), is above the median allocation.
5. The universe median allocation to alternatives in the InvestorForce All Public Defined Benefit Universe was 9.6% as of December 31, 2013. The target allocation of each of the systems, with the exception of OP&F (5.3%) and PERS HC (8.4%), is above the median allocation.

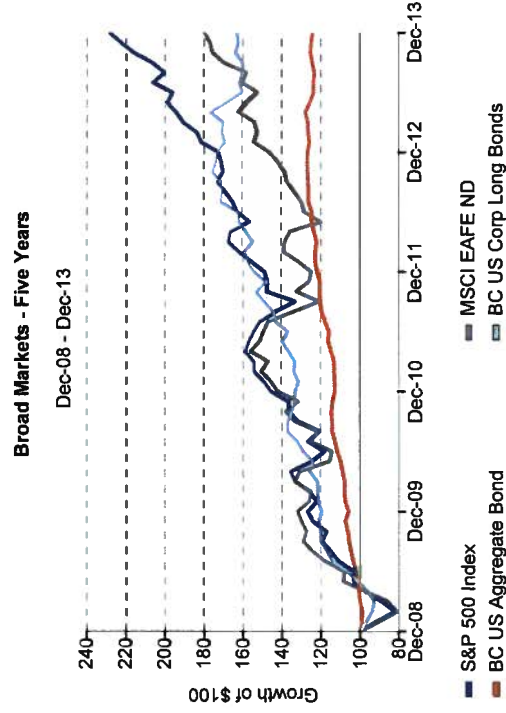


6. PERS DB and PERS HC added to two new asset classes, Risk Parity and GTAA, during the first half of 2013. The actual allocations for PERS DB are (1.8%) Risk Parity and (1.9%) GTAA. PERS HC actual allocations (1.9%) Risk Parity and (1.9%) GTAA. The target allocation is 2.0% for each asset class.
7. OP&F added a new asset class Master Limited Partnerships (MLPs) during the first half of 2013. The actual allocation is 5.4% and the target allocation is 5.0% as of December 31, 2013.
  - 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.” 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.
  - 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.

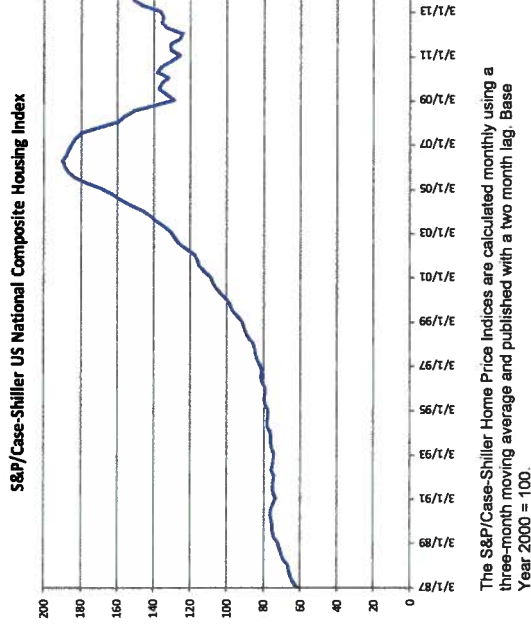
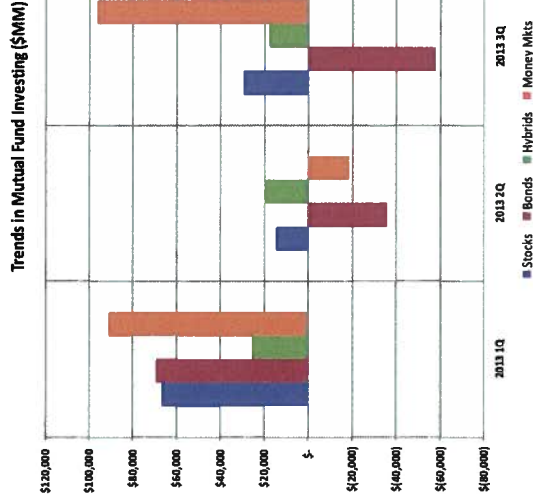
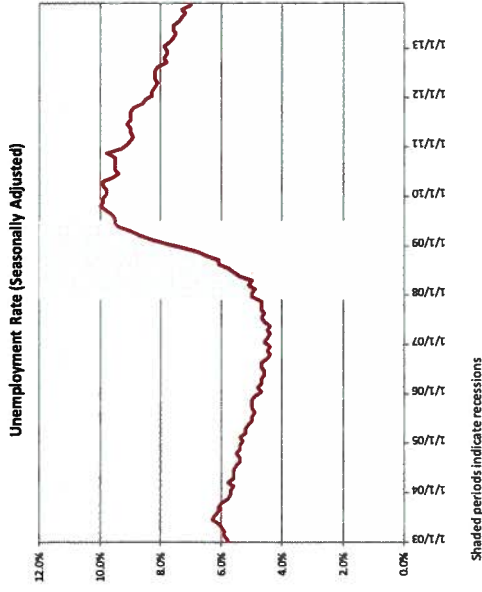
# Market Commentary - 4th Quarter 2013



	Qtr	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
S&P 500 Index	10.51	32.39	32.39	16.18	17.94	7.41
Russell 1000 Index	10.23	33.11	33.11	16.30	18.59	7.78
Russell 1000 Value Index	10.01	32.53	32.53	16.06	16.67	7.58
Russell 1000 Growth Index	10.44	33.48	33.48	16.45	20.39	7.83
Russell 2000 Index	8.72	38.82	38.82	15.67	20.08	9.07
Russell 2000 Value Index	9.30	34.52	34.52	14.49	17.64	8.61
Russell 2000 Growth Index	8.17	43.30	43.30	16.82	22.58	9.41
MSCI EAFE ND	5.71	22.78	22.78	8.17	12.44	6.91
MSCI EAFE Small Cap ND	5.91	29.30	29.30	9.26	18.50	9.48
MSCI Europe ND	7.88	25.23	25.23	9.89	13.36	7.28
MSCI Japan ND	2.29	27.16	27.16	5.63	7.65	4.24
MSCI EM ND	1.83	-2.60	-2.60	-2.06	14.79	11.17
DJ World Real Estate	-0.77	2.85	2.85	7.00	15.68	8.04
DJ US Select REIT Index	-1.09	1.22	1.22	9.04	16.36	8.22
DJ-UBS US Commodity Index	-1.05	-9.52	-9.52	-8.11	1.51	0.87
ML 3-month T-Bill	0.02	0.07	0.07	0.10	0.12	1.68
BC US Gov 1-3Y Bonds	0.07	0.37	0.37	0.81	1.25	2.67
BC US Gov/Corp Bonds	-0.03	-2.35	-2.35	3.63	4.40	4.52
BC US Aggregate Bond	-0.14	-2.02	-2.02	3.26	4.44	4.55
BC US Gov Long Bonds	-2.97	-12.48	-12.48	5.47	2.42	5.94
BC US Corp Long Bonds	1.90	-5.68	-5.68	7.11	10.29	6.37
BC US High Yield Bonds	3.58	7.44	7.44	9.32	18.93	8.62
BC TIPS	-2.00	-8.60	-8.60	3.55	5.63	4.85



# Market Commentary - 4th Quarter 2013

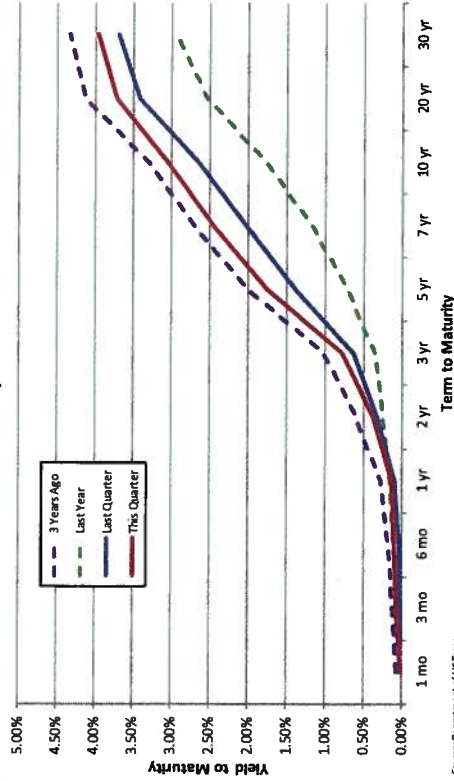


## Market Commentary

- The U.S. stock market rose on improving U.S. economic data, steady growth in corporate earnings, and the Federal Reserve's decision to modestly reduce ( "taper" ) its securities purchases from \$85 billion per month to \$75 billion.
- Developed international equity markets posted solid returns on central bank stimulus and a steady recovery in economic growth, while emerging markets struggled in the second half of the quarter as economic data disappointed.
- In addition to tapering its securities purchases, the Fed confirmed its commitment to keep short-term interest rates "exceptionally low" until either the unemployment rate falls to about 6.5% or the inflation rate exceeds 2.5% a year.
- As the quarter ended, mutual fund investors decreased their holdings in bonds and increased their holdings in stocks. For the third consecutive quarter, bond funds had net outflows (\$58.2 billion in the 4th Quarter), while stock funds had net inflows of \$52.7 billion. Total money market mutual fund assets increased by \$24.8 billion to \$2.719 trillion.
- The unemployment rate fell from 7.2% to 6.7%, as total employment increased by 515,000 jobs.
- The price of oil decreased from \$102 per barrel to \$98 during the quarter, a decrease of 3.9%.
- For the three months ending December 31, 2013, annualized seasonally adjusted CPI – U was 1.1%. Rising prices for rental housing drove the increase.

# Market Commentary - 4th Quarter 2013

U.S. Treasury Yield Curve



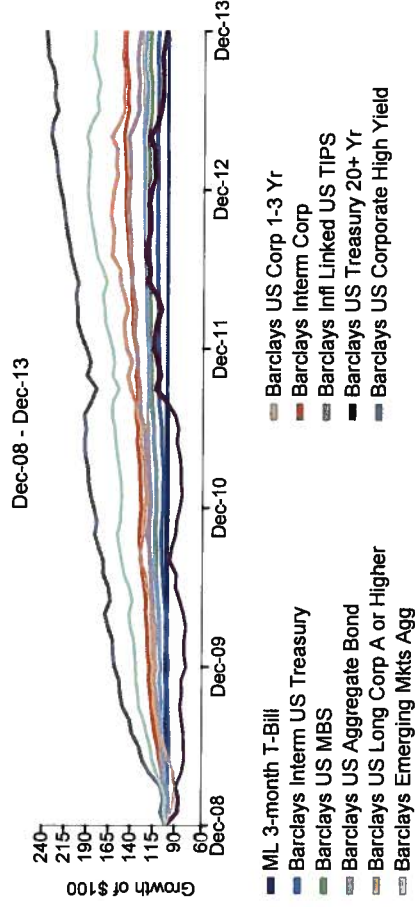
Source: Department of US Treasury

	Qtr	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
ML 3-month T-Bill	0.02	0.07	0.07	0.10	0.12	1.68
Barclays US Corp 1-3 Yr	0.59	1.71	1.71	2.58	5.27	3.89
Barclays Intern US Treasury	-0.47	-1.34	-1.34	2.26	2.11	3.73
Barclays Intern Corp	0.82	0.08	0.08	4.75	8.09	5.01
Barclays US MBS	-0.42	-1.41	-1.41	2.42	3.69	4.61
Barclays Infl Linked US TIPS	-2.00	-8.61	-8.61	3.55	5.63	4.85
Barclays US Aggregate Bond	-0.14	-2.02	-2.02	3.26	4.44	4.55
Barclays US Treasury 20+ Yr	-3.23	-13.88	-13.88	6.01	0.48	6.07
Barclays US Long Corp A or Higher	1.10	-6.85	-6.85	6.45	8.48	5.92
Barclays US Corporate High Yield	3.58	7.44	7.44	9.32	18.93	8.62
Barclays Emerging Mkts Agg	1.17	-4.12	-4.12	6.55	12.87	8.54

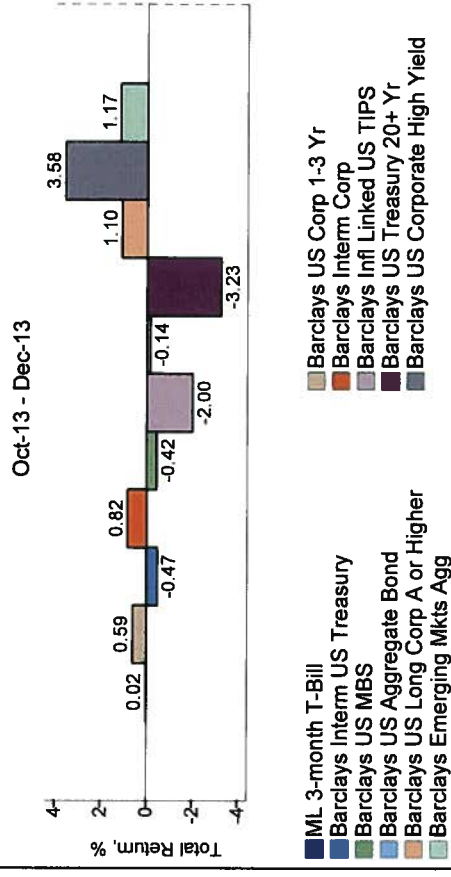
## US Bond Market

- The broad fixed income market fell 0.14% in the 4th quarter, as the negative impact from a 0.14% rise in interest rates more than offset the coupon return of 0.79%.
- The short end of the yield curve remained unchanged as the Fed maintained its near-zero interest rate policy.
- Interest rates moved decidedly higher for 5- to 30-year Treasury bonds.
- High-yield bonds were the best performing sector this quarter, up 3.58%, as investors favored bonds with higher yields.
- Long-term corporate bonds were up 1.10%, as tightening spreads slightly offset the negative impact from rising yields on the long end of the curve.
- Long-term government bonds were the worst performing sector this quarter, down 3.23%, as investors moved out of safe-haven assets.
- The 3-month T-Bill returned 0.02% in the fourth quarter, the same return as in the third quarter.

US Fixed Income - Five Years



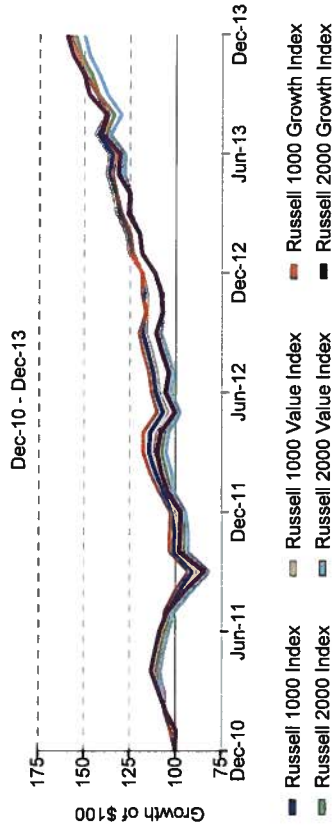
US Fixed Income - Quarter



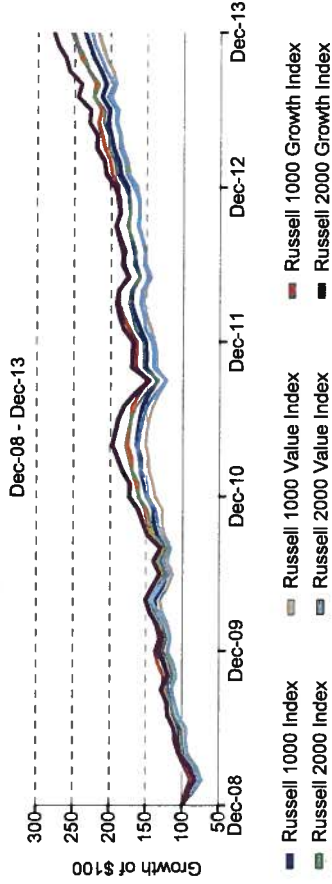


# Market Commentary - 4th Quarter 2013

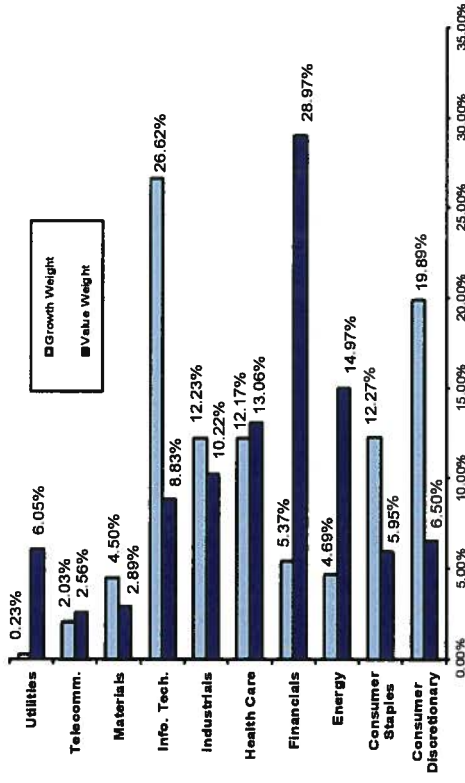
Russell Indices - Three Years



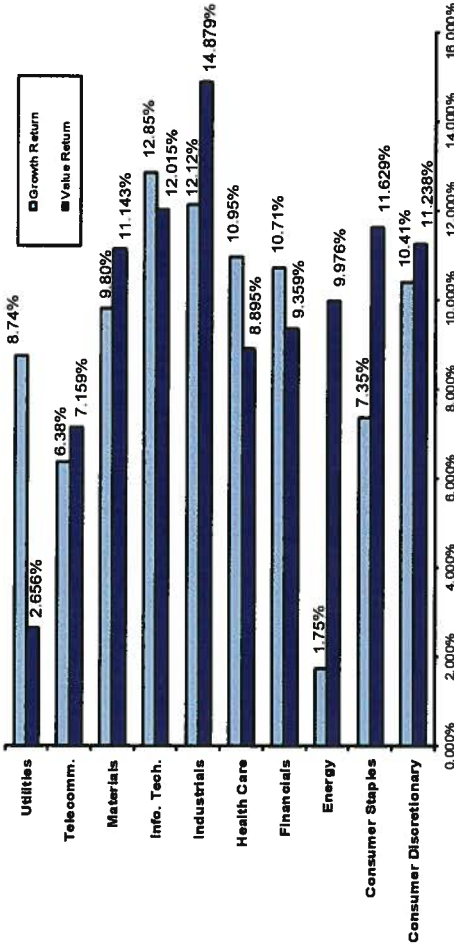
Russell Indices - Five Years



Russell 1000 Index Sector Weights



Russell 1000 Index Sector Quarterly Returns



Source: Russell Investments

## US Stock Market

- Most major domestic equity indices posted a gain for the quarter. The large-cap Russell 1000 Growth Index had the best return, up 10.44%.
- In terms of capitalization, large-cap stocks outperformed small-cap stocks.
- In comparing styles, growth outperformed value in the large-cap area of the market, while value beat growth in the small-cap area.
- REITs fell 1.09%, as higher interest rates reduced demand for dividend-paying stocks. The worst performing sectors were health care and self-storage.
- Industrials were the best performing sector, up 13.34%, on optimism about U.S. economic growth.
- Utilities were the worst performing sector, up 2.88%, as investors generally moved out of lower-risk assets.

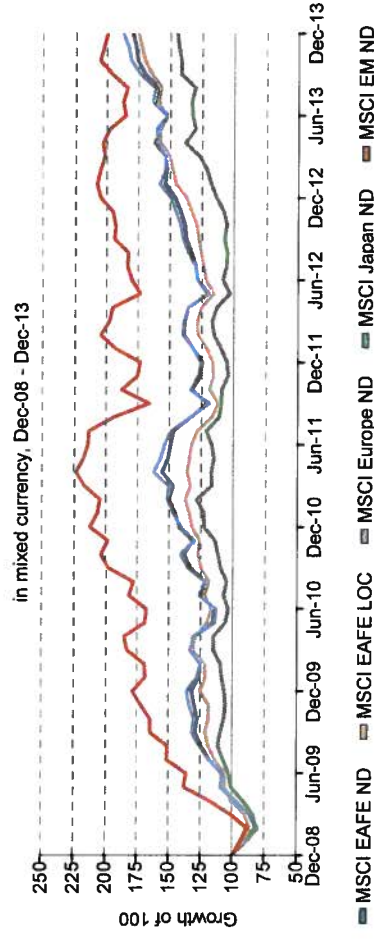
# Market Commentary - 4th Quarter 2013

## Currency Exchange Rates

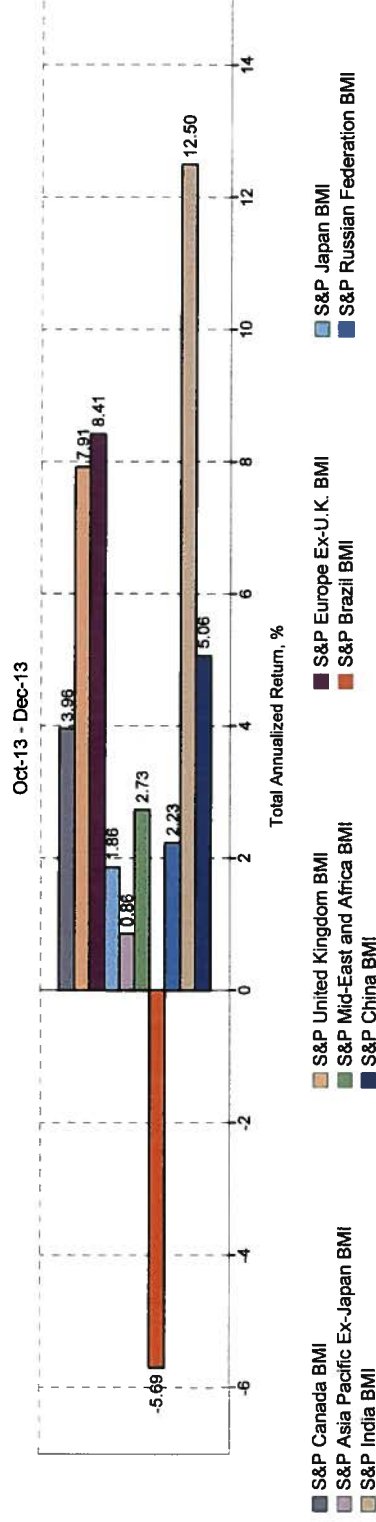
	Units per US Dollar			% Change
	This Quarter	Last Quarter		
Brazil Reals	2.36	2.22		6.23%
Canadian Dollar	1.06	1.03		3.38%
China Yuan Renminbi	6.05	6.12		-1.10%
Euro	0.73	0.74		-1.74%
India Rupees	61.86	62.65		-1.27%
Japan Yen	105.28	98.29		7.10%
Mexico Pesos	13.10	13.16		-0.44%
Russia Rubles	32.88	32.35		1.63%
United Kingdom Pounds	0.60	0.62		-2.37%

Source: [www.xe.com](http://www.xe.com)

## International - Five Years



## Regional Performance - Quarter



## International Markets

- The dollar was down against the euro and pound, but up strongly against the yen.
- For the quarter, the EAFE Index was up 5.71%, and Emerging Markets were up 1.83%. Local currency returns for the EAFE Index and Emerging Markets were 6.36% and 2.96%, respectively.
- Among the major international regions, Indian stocks had the highest return, up 12.50%, as the new central bank chief raised investor confidence with measures to control inflation and support growth.
- Stocks in Brazil had the lowest return, down 5.69%, as a result of weak economic growth, lower commodity prices, and deteriorating fiscal conditions.
- Small-cap stocks, up 5.9%, outperformed large-cap stocks.

# **Index Definitions and Modern Portfolio Theory 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.

**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.

**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.

# Ohio Retirement Study Council

## MODERN PORTFOLIO THEORY DEFINITIONS

**Alpha** – risk-adjusted measure of an investment manager's skill. It measures the difference between a portfolio's actual return and the results one would expect from an average portfolio with the same level of market risk, as measured by beta.

**Beta** – measures a portfolio's sensitivity to changes in the market. Here the market is the benchmark selected for the study. A portfolio's Beta is computed by regressing the portfolio excess returns over the excess returns of the benchmark.

**Down-Market Capture Ratio** – measures what portion of the market performance (benchmark) was captured by the manager over a period where the benchmark posted a negative return.

**Information Ratio** – measure of return per unit of risk. It measures a portfolio's risk-adjusted return by subtracting the *benchmark return* from the portfolio's return, divided by the standard deviation of the excess return (tracking error).

**R-Squared** – calculates how well the variability of returns of a portfolio is explained by movements in the benchmark.

**Returns-Based Style Analysis** – method used to examine the performance of a manager in relation to a number of benchmarks. Style analysis does not show the actual holdings of the portfolio. The return behavior of an account is measured and attributed to any number of style benchmarks.

**Sharpe Ratio** – measure of return per unit of risk. It measures a portfolio's risk-adjusted return by subtracting the *risk-free rate* of return from the portfolio's return, divided by the portfolio's standard deviation of returns.

**Standard Deviation** – measure of total risk. It measures the variability of a portfolio's returns around the portfolio's expected return.

**Tracking Error** – measures the standard deviation of the portfolio's excess return over the benchmark. It indicates the extent to which period-to-period returns vary about the average return of the entire period.

**Up-Market Capture Ratio** – measures what portion of the market performance (benchmark) was captured by the manager over a period where the benchmark posted a positive return.

# Asset Class Comparison

## Ending 12/31/13

	Comparison of Actual Asset Allocation						
	Global ex-US			Public/Private			
	US Equity	Equity	Fixed Income	Real Estate	Alternatives	Cash	Others
PERS DB	21.3	22.2	20.5	10.3	18.1	3.9	3.8
PERS HC	23.8	24.9	30.4	5.8	8.6	2.7	3.8
STRS	31.3	24.5	19.5	9.3	10.8	4.8	0.0
OP&F	26.7	25.4	27.0	9.4	5.4	0.7	5.3
SERS	26.1	25.9	15.2	10.4	21.1	1.4	0.0
HPRS	37.8	19.7	19.4	4.3	17.9	0.9	0.0
<b>IF Public DB Median</b>	<b>35.0</b>	<b>15.0</b>	<b>27.0</b>	<b>8.6</b>	<b>9.6</b>	<b>1.0</b>	

	Comparison of Target Asset Allocation						
	Global ex-US			Public/Private			
	US Equity	Equity	Fixed Income	Real Estate	Alternatives	Cash	Others
PERS DB	22.0	22.0	24.5	10.0	17.5	0.0	4.0
PERS HC	23.5	24.6	33.5	6.0	8.4	0.0	4.0
STRS	33.0	25.0	18.0	10.0	13.0	1.0	0.0
OP&F	31.6	21.7	31.5	10.0	5.3	0.0	0.0
SERS	22.5	22.5	19.0	10.0	25.0	1.0	0.0
HPRS	35.0	20.0	22.5	5.0	17.5	0.0	0.0
<b>IF Public DB Median</b>	<b>35.0</b>	<b>15.0</b>	<b>27.0</b>	<b>8.6</b>	<b>9.6</b>	<b>1.0</b>	

	Investor Force All Public Defined Benefit Asset Allocation						
	Global ex-US			Public/Private			
	US Equity	Equity	Fixed Income	Real Estate	Alternatives	Cash	Others
5th Percentile	56.4	27.0	66.0	20.1	26.4	8.4	
25th Percentile	44.5	19.2	36.7	12.3	14.2	2.1	
<b>Median</b>	<b>35.0</b>	<b>15.0</b>	<b>27.0</b>	<b>8.6</b>	<b>9.6</b>	<b>1.0</b>	
75th Percentile	25.5	11.0	18.5	5.2	5.3	0.4	
95th Percentile	13.3	6.3	7.4	2.7	1.5	0.0	

# Systems Total Fund Performance

Ending December 31, 2013

	6 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	Rank
<b>Public Employees Retirement System (DB)</b>	<b>9.8%</b>	<b>14.7%</b>	<b>9.8%</b>	<b>12.4%</b>	<b>7.3%</b>	<b>53</b>
PERS (DB) Total Fund Benchmark	9.6%	14.2%	9.3%	12.1%	7.0%	57
Over/Under	0.2%	0.5%	0.5%	0.3%	0.3%	40
<b>Public Employees Retirement System (HC)</b>	<b>8.4%</b>	<b>11.5%</b>	<b>8.2%</b>	<b>12.4%</b>	<b>--</b>	<b>84</b>
PERS (HC) Total Fund Benchmark	8.1%	10.7%	7.7%	11.8%	--	88
Over/Under	0.3%	0.8%	0.5%	0.6%	--	4
<b>State Teachers Retirement System</b>	<b>10.3%</b>	<b>17.6%</b>	<b>10.8%</b>	<b>13.1%</b>	<b>7.9%</b>	<b>43</b>
STRS Total Fund Benchmark	10.5%	18.1%	10.7%	13.1%	7.5%	38
Over/Under	-0.2%	-0.5%	0.1%	0.0%	0.4%	12
<b>Ohio Police &amp; Fire</b>	<b>10.8%</b>	<b>16.0%</b>	<b>11.0%</b>	<b>13.8%</b>	<b>8.1%</b>	<b>33</b>
OPF Total Fund Benchmark	9.5%	14.6%	10.5%	12.9%	7.4%	59
Over/Under	1.3%	1.4%	0.5%	0.9%	0.7%	20
<b>School Employees Retirement System</b>	<b>11.0%</b>	<b>16.9%</b>	<b>10.1%</b>	<b>11.8%</b>	<b>7.0%</b>	<b>28</b>
SERS Total Fund Benchmark	9.5%	15.3%	9.4%	11.3%	6.9%	59
Over/Under	1.5%	1.6%	0.7%	0.5%	0.1%	48
<b>Highway Patrol Retirement System</b>	<b>11.5%</b>	<b>19.1%</b>	<b>8.9%</b>	<b>12.6%</b>	<b>6.8%</b>	<b>15</b>
HPRS Total Fund Benchmark	10.5%	16.8%	10.1%	12.9%	7.6%	37
Over/Under	1.0%	2.3%	-1.2%	-0.3%	-0.8%	10

All total fund returns are reported gross of fees.

All returns are for periods ending 12/31/2013. Returns for periods longer than one year are annualized. Rankings are derived from placement in the InvestorForce All Public Defined Benefit Universe.

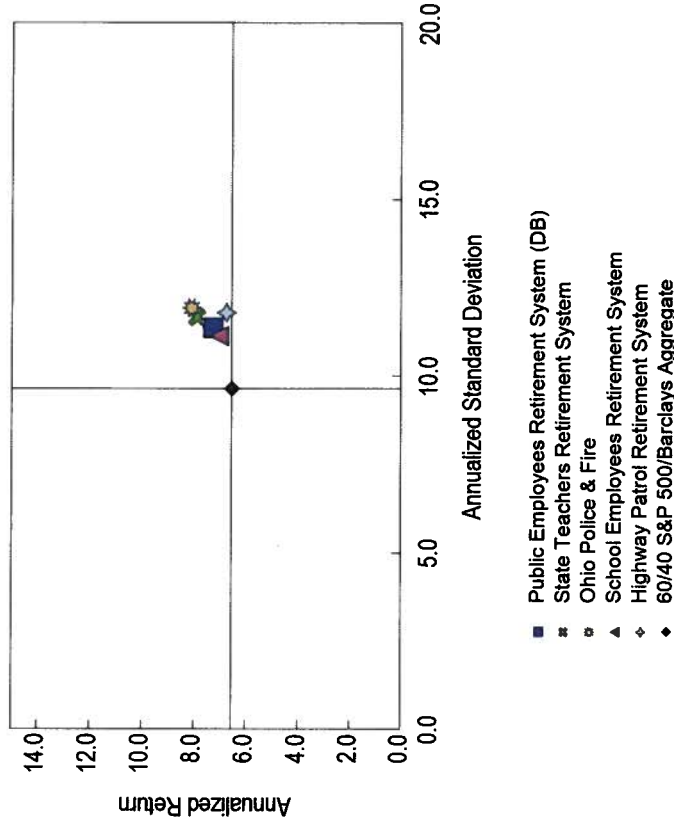
# Systems Total Plans

## Risk Analysis - Last 10 Years

**Statistics Summary**  
10 Years Ending December 31, 2013

	Annualized Return	Annualized Standard Deviation	Sharpe Ratio	Information Ratio
Public Employees Retirement System (DB)	7.27%	11.37%	0.50	0.29
PERS (DB) Total Fund Benchmark	7.01%	11.41%	0.48	-
State Teachers Retirement System	7.90%	11.67%	0.54	0.53
STRS Total Fund Benchmark	7.51%	11.69%	0.51	-
Ohio Police & Fire	8.09%	11.93%	0.55	0.83
OPF Total Fund Benchmark	7.37%	11.68%	0.50	-
School Employees Retirement System	7.04%	11.13%	0.49	0.09
SERS Total Fund Benchmark	6.87%	10.16%	0.52	-
Highway Patrol Retirement System	6.75%	11.80%	0.44	-0.49
HPRS Total Fund Benchmark	7.59%	10.85%	0.56	-

**Annualized Return vs. Annualized Standard Deviation**  
10 Years Ending December 31, 2013



On an absolute basis, the HPRS and SERS Plans outperformed all other Plans in the ORSC for the two quarters ending December 31, 2013. HPRS returned 11.5%, followed by SERS 11.0%. On a relative basis, the SERS Plan outperformed all other Plans in the ORSC, beating its benchmark of 9.5% by 1.5% for the two quarters ending December 31, 2013.

The tables above display the annualized ten-year risk statistics for the Plans. The Ohio Police and Fire Plan generated the highest risk-adjusted annualized returns over the ten-year period (as measured by the Sharpe Ratio), followed by STRS, PERS DB, SERS and HPRS. HPRS and OP&F exhibited marginally higher risk (volatility) while SERS had the lowest risk among all plans. While the Sharpe Ratio provides a good 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. Additionally, the Information Ratio measures risk relative to a Plan's benchmark. A higher information ratio indicates that a Plan is getting better returns than its respective benchmark at a similar level of risk. The OP&F Plan had the highest information ratio, followed by STRS, PERS DB, SERS and HPRS.

## Systems Domestic Equity

Ending December 31, 2013

	6 Mo	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	10 Yrs	Rank
<b>ORSC Domestic Equity</b>										
PERS(DB) Domestic Equity	17.6%	60	33.9%	57	16.4%	42	18.8%	64	7.8%	78
<i>Russell 3000</i>	<u>17.1%</u>	65	<u>33.6%</u>	59	<u>16.2%</u>	45	<u>18.7%</u>	66	<u>7.9%</u>	77
Over/Under	0.5%		0.3%		0.2%		0.1%		-0.1%	
PERS(HC) Domestic Equity	17.6%	60	33.9%	57	16.4%	42	18.8%	64	-	-
<i>Russell 3000</i>	<u>17.1%</u>	65	<u>33.6%</u>	59	<u>16.2%</u>	45	<u>18.7%</u>	66	<u>7.9%</u>	77
Over/Under	0.5%		0.3%		0.2%		0.1%			
STRS Domestic Equity	16.7%	70	32.1%	72	15.7%	55	18.4%	69	7.6%	82
<i>STRS Domestic Equity Benchmark</i>	<u>17.1%</u>	65	<u>33.6%</u>	59	<u>16.2%</u>	45	<u>18.7%</u>	66	<u>7.9%</u>	77
Over/Under	-0.4%		-1.5%		-0.5%		-0.3%		-0.3%	
OP&F Domestic Equity	16.2%	78	30.7%	81	15.2%	64	20.0%	53	8.5%	65
<i>Wilshire 5000</i>	<u>16.7%</u>	69	<u>33.1%</u>	64	<u>16.0%</u>	52	<u>18.6%</u>	67	<u>8.0%</u>	75
Over/Under	-0.5%		-2.4%		-0.8%		1.4%		0.5%	
SERS Domestic Equity	19.0%	45	35.8%	45	16.8%	37	19.7%	56	7.9%	76
<i>Russell 3000</i>	<u>17.1%</u>	65	<u>33.6%</u>	59	<u>16.2%</u>	45	<u>18.7%</u>	66	<u>7.9%</u>	77
Over/Under	1.9%		2.2%		0.6%		1.0%		0.0%	
HPRS Domestic Equity	17.4%	62	35.6%	46	15.9%	53	20.2%	51	8.6%	63
<i>HPRS Domestic Equity Benchmark</i>	<u>17.1%</u>	65	<u>33.6%</u>	59	<u>16.4%</u>	43	<u>19.3%</u>	60	<u>8.3%</u>	69
Over/Under	0.3%		2.0%		-0.5%		0.9%		0.3%	

All domestic equity returns are reported gross of fees.

All returns are for periods ending 12/31/2013. Returns for periods longer than one year are annualized. Differences may exist due to rounding.

Domestic equity returns were positive for the two quarters ending December 31, 2013. SERS had the best absolute and relative domestic equity returns for the six month period, with a return of 19.0%. Over the trailing year, SERS led performance on an absolute basis and a relative basis. Over the five-year and ten-year periods, OP&F generated the highest relative return.

The domestic equity segments of the Plans are ranked in the InvestorForce US Equity Universe. This universe includes all actively managed domestic equity portfolios.



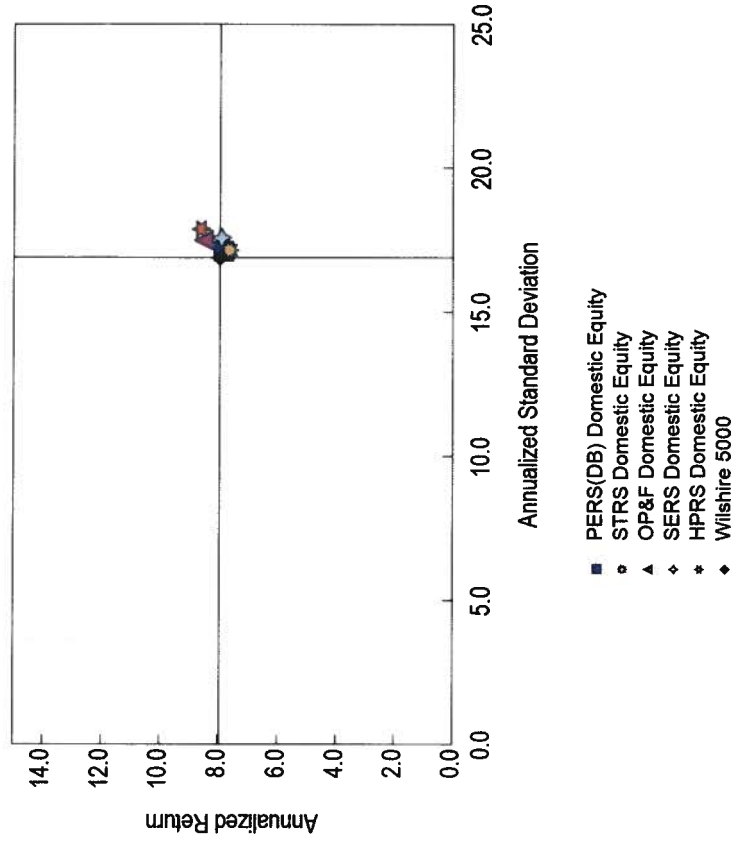
## Statistics Summary

10 Years Ending December 31, 2013

	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Information Ratio
PERS(DB) Domestic Equity	7.84%	17.13%	0.37	-0.09
Russell 3000	7.89%	17.00%	0.37	-
PERS(HC) Domestic Equity	-	-	-	-
Russell 3000	7.89%	17.00%	0.37	-
STRS Domestic Equity	7.64%	17.16%	0.35	-0.29
STRS Domestic Equity Benchmark	7.88%	17.00%	0.37	-
OP&F Domestic Equity	8.53%	17.50%	0.40	0.33
Wilshire 5000	7.97%	16.89%	0.38	-
SERS Domestic Equity	7.91%	17.59%	0.36	0.02
Russell 3000	7.89%	17.00%	0.37	-
HPRS Domestic Equity	8.61%	17.89%	0.39	0.21
HPRS Domestic Equity Benchmark	8.27%	17.30%	0.39	-

Annualized Return vs. Annualized Standard Deviation

10 Years Ending December 31, 2013



The analysis above represents a risk/return of the domestic equity portfolios for all of the plans. OP&F and HPRS experienced the highest risk-adjusted equity results over the annualized ten-year period (as measured by the Sharpe Ratio), followed by PERS DB, SERS and STRS. Please note that information ratios in the above tables are specific to the Plans' current policies, and indicate that OP&F, HPRS and SERS are adding value relative to the risk in their equity portfolios, while PERS DB and STRS have negative information ratios, indicating that these portfolios are not being rewarded for the risk taken in the portfolios, relative to the benchmarks.

\*Benchmark shown in the above risk-reward chart may not be specific to the Plan's current policy.

# Systems Fixed Income

Ending December 31, 2013

	6 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs
PERS Combined (DB+HC) Total Fixed Income	2.6%	1.2%	5.8%	7.3%	5.5%
PERS Total Fixed Income Benchmark	-0.1%	-6.3%	1.7%	4.0%	4.5%
Over/Under	2.7%	7.5%	4.1%	3.3%	1.0%

	6 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs
STRS Fixed Income	1.0%	-1.0%	4.1%	7.3%	5.4%
Barclays U.S. Universal	1.0%	-1.3%	3.8%	5.4%	4.9%
Over/Under	0.0%	0.3%	0.3%	1.9%	0.5%

	6 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs
OP&F Fixed Income	2.4%	-1.0%	7.5%	10.8%	7.2%
Barclays Aggregate	0.4%	-2.0%	3.3%	4.4%	4.5%
Over/Under	2.0%	1.0%	4.2%	6.4%	2.7%

	6 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs
SERS Global Fixed	1.4%	-0.4%	5.1%	8.9%	5.8%
Barclays Aggregate	0.4%	-2.0%	3.3%	4.4%	4.5%
Over/Under	1.0%	1.6%	1.8%	4.5%	1.3%

	6 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs
HPRS Global Fixed Income	1.2%	-0.8%	4.3%	6.8%	5.4%
Barclays Aggregate	0.4%	-2.0%	3.3%	4.4%	4.5%
Over/Under	0.8%	1.2%	1.0%	2.4%	0.9%



All fixed income returns are reported gross of fees.

All returns are for periods ending 12/31/2013. Returns for periods longer than one year are annualized.

Please note that PERS DB and PERS HC provide a fixed income return for their combined plans. For two quarters ending December 31, 2013, PERS DB and PERS HC had the highest absolute fixed income return, which was 2.6%, and was followed by the combined OP&F fixed income return of 2.4%. On a relative basis, PERS DB and PERS HC had the best fixed income return, outperforming its benchmark by 2.7%, followed by OP&F fixed income return, which outperformed its benchmark by 2.0%.

## Statistics Summary

10 Years Ending December 31, 2013

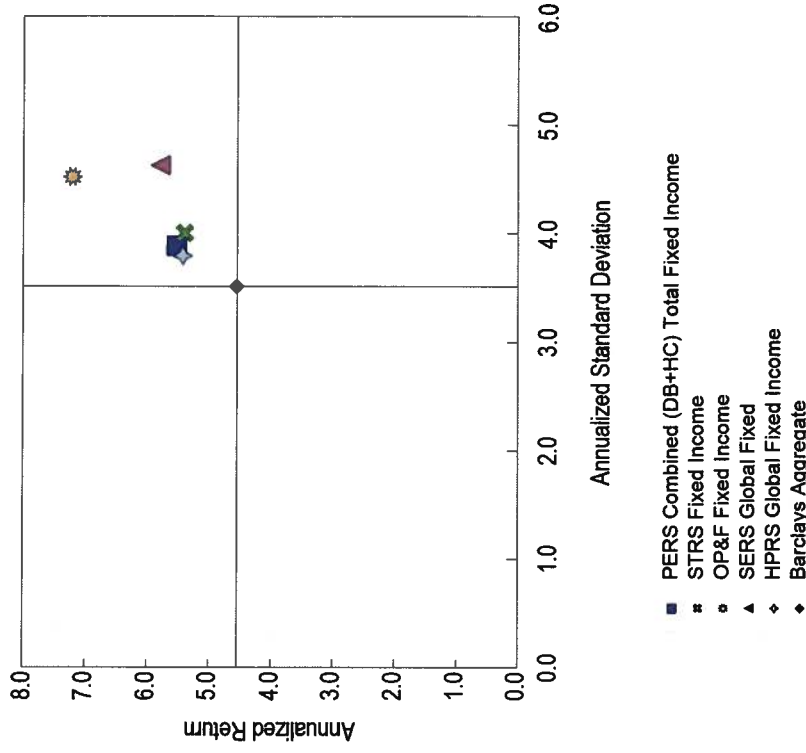
	Annualized Return	Annualized Standard Deviation	Sharpe Ratio	Information Ratio
PERS Combined (DB+HC) Total Fixed Income	5.52%	3.89%	1.02	0.31
<b>PERS Total Fixed Income Benchmark</b>	<b>4.47%</b>	<b>5.69%</b>	<b>0.51</b>	<b>-</b>
STRS Fixed Income	5.39%	4.01%	0.96	0.27
Barclays U.S. Universal	4.85%	3.35%	0.98	-
OP&F Fixed Income	7.20%	4.52%	1.25	0.72
<b>Barclays Aggregate</b>	<b>4.55%</b>	<b>3.51%</b>	<b>0.85</b>	<b>-</b>
SERS Global Fixed	5.80%	4.63%	0.91	0.34
<b>Barclays Aggregate</b>	<b>4.55%</b>	<b>3.51%</b>	<b>0.85</b>	<b>-</b>
HPRS Global Fixed Income	5.42%	3.80%	1.02	0.37
<b>Barclays Aggregate</b>	<b>4.55%</b>	<b>3.51%</b>	<b>0.85</b>	<b>-</b>

\*Please note PERS Total Fixed Income Benchmark is a composite of the current Custom Total Fixed Income Benchmark (2010-2013) and the prior Total DB Total Fixed Income Benchmark.

The analysis above represents the risk return comparison of the fixed income portfolios for all of the Plans. OP&F experienced the highest risk-adjusted fixed income results over the annualized ten-year period (as measured by the Sharpe Ratio), followed by PERS DB, HPRS, STRS and SERS. Please note that information ratios in the above tables are specific to the Plans' current policies, and indicate that all Plans are performing well on a risk adjusted basis compared to their benchmarks.

\*Benchmark shown in chart above may not be specific to the Plan's current policy.  
 Benchmarks shown in statistics summary are specific to the Plan's current policy.

Annualized Return vs. Annualized Standard Deviation  
 10 Years Ending December 31, 2013



- PERS Combined (DB+HC) Total Fixed Income
- \* STRS Fixed Income
- OP&F Fixed Income
- ▲ SERS Global Fixed
- ◆ HPRS Global Fixed Income
- ◆ Barclays Aggregate

# Systems Real Estate

Ending December 31, 2013

	6 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>PERS(DB) Real Estate</b>					
PERS(DB) Private RE	7.7%	15.4%	13.8%	4.1%	7.9%
PERS Private Real Estate Benchmark Lag	<u>7.4%</u>	<u>12.8%</u>	<u>13.3%</u>	<u>3.7%</u>	<u>8.3%</u>
Over/Under	0.3%	2.6%	0.5%	0.4%	-0.4%
<b>PERS(HC) Real Estate</b>					
PERS (HC) REIT Benchmark	<b>-4.1%</b>	<b>1.4%</b>	<b>9.2%</b>	<b>16.9%</b>	<b>-</b>
Over/Under	<u>-4.1%</u>	<u>1.3%</u>	<u>8.9%</u>	<u>16.4%</u>	<u>-</u>
	0.0%	0.1%	0.3%	0.5%	
<b>OP&amp;F Real Estate</b>					
OPF Real Estate Benchmark	<b>8.4%</b>	<b>15.1%</b>	<b>15.4%</b>	<b>0.2%</b>	<b>8.5%</b>
Over/Under	<u>7.1%</u>	<u>12.0%</u>	<u>13.2%</u>	<u>-0.2%</u>	<u>6.1%</u>
	1.3%	3.1%	2.2%	0.4%	2.4%
<b>STRS Real Estate</b>					
STRS RE Blended Benchmark	<b>5.4%</b>	<b>10.7%</b>	<b>15.3%</b>	<b>5.5%</b>	<b>12.3%</b>
Over/Under	<u>3.8%</u>	<u>9.7%</u>	<u>11.7%</u>	<u>7.9%</u>	<u>9.0%</u>
	1.6%	1.0%	3.6%	-2.4%	3.3%
<b>SERS Real Estate</b>					
SERS Total Real Estate Benchmark	<b>7.4%</b>	<b>12.0%</b>	<b>12.0%</b>	<b>0.3%</b>	<b>5.8%</b>
Over/Under	<u>5.5%</u>	<u>11.0%</u>	<u>12.7%</u>	<u>6.1%</u>	<u>8.9%</u>
	1.9%	1.0%	-0.7%	-5.8%	-3.1%
<b>HPRS Real Estate</b>					
NCREIF Property Index	<b>4.7%</b>	<b>12.4%</b>	<b>4.9%</b>	<b>1.2%</b>	<b>2.0%</b>
Over/Under	<u>5.2%</u>	<u>11.0%</u>	<u>11.9%</u>	<u>5.7%</u>	<u>8.6%</u>
	-0.5%	1.4%	-7.0%	-4.5%	-6.6%

All real estate returns are reported gross of fees.

All returns are for periods ending 12/31/2013. 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 December 31, 2013, OP&F had the highest returns, gaining 8.4% and PERS DB 7.7% had the second highest performance. PERS DB returned 15.4% over the trailing year, outperforming all other plans. PERS HC and STRS had the highest absolute performance over a five-year period, returning 16.9% and 5.5%, respectively. Please note that PERS HC real estate is composed entirely of REITs, which are equity securities.

## International Equity

Ending December 31, 2013

	6 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs	Rank
<b>PERS(DB) International Equity</b>						
PERS Total International Equity Benchmark	14.5%	15.6%	5.8%	13.3%	7.9%	69
Over/Under	<u>14.3%</u>	<u>12.9%</u>	<u>4.5%</u>	<u>12.4%</u>	<u>7.4%</u>	72
	0.2%	2.7%	1.3%	0.9%	0.5%	
<b>PERS(HC) International Equity</b>						
PERS Total International Equity Benchmark	14.5%	15.6%	5.8%	13.3%	--	69
Over/Under	<u>14.3%</u>	<u>12.9%</u>	<u>4.5%</u>	<u>12.4%</u>	<u>7.4%</u>	72
	0.2%	2.7%	1.3%	0.9%		
<b>STRS International Equity</b>						
STRS International Blended Benchmark	14.6%	19.2%	6.8%	13.8%	8.9%	66
Over/Under	<u>14.2%</u>	<u>17.6%</u>	<u>6.1%</u>	<u>12.8%</u>	<u>8.1%</u>	68
	0.4%	1.6%	0.7%	1.0%	0.8%	
<b>OP&amp;F International Equity</b>						
OPF International Benchmark	17.4%	21.0%	8.4%	15.4%	9.1%	65
Over/Under	<u>15.6%</u>	<u>15.8%</u>	<u>5.3%</u>	<u>12.9%</u>	<u>7.6%</u>	69
	1.8%	5.2%	3.1%	2.5%	1.5%	
<b>SERS International Equity</b>						
SERS Intl Equity Benchmark	14.4%	17.3%	6.7%	14.4%	9.0%	68
Over/Under	<u>14.1%</u>	<u>17.2%</u>	<u>6.1%</u>	<u>13.0%</u>	<u>8.0%</u>	68
	0.3%	0.1%	0.6%	1.4%	1.0%	
<b>HPRS International Equity</b>						
HPRS International Benchmark	16.5%	19.1%	6.3%	12.0%	7.2%	66
Over/Under	<u>15.5%</u>	<u>15.8%</u>	<u>5.6%</u>	<u>13.3%</u>	<u>7.5%</u>	69
	1.0%	3.3%	0.7%	-1.3%	-0.3%	

All international equity returns are reported gross of fees.

All returns are for periods ending 12/31/2013. Returns for periods longer than one year are annualized. Differences may exist due to rounding.

On an absolute basis, as of December 31, 2013, OP&F 17.4% had the highest absolute return for the two quarters for international equity, OP&F also had the highest relative performance gaining 1.8% against its benchmark. Over the one-year period, OP&F's 21.0% led the group with the best absolute performance. HPRS had the highest relative performance exceeding their benchmark by 3.3% over the trailing year. Over the three-year period, OP&F at 8.4% had the highest absolute returns and the highest relative performance. Over the trailing ten-year period, OP&F also had the highest absolute returns of 9.1% and the highest relative returns of 1.5% for the period.



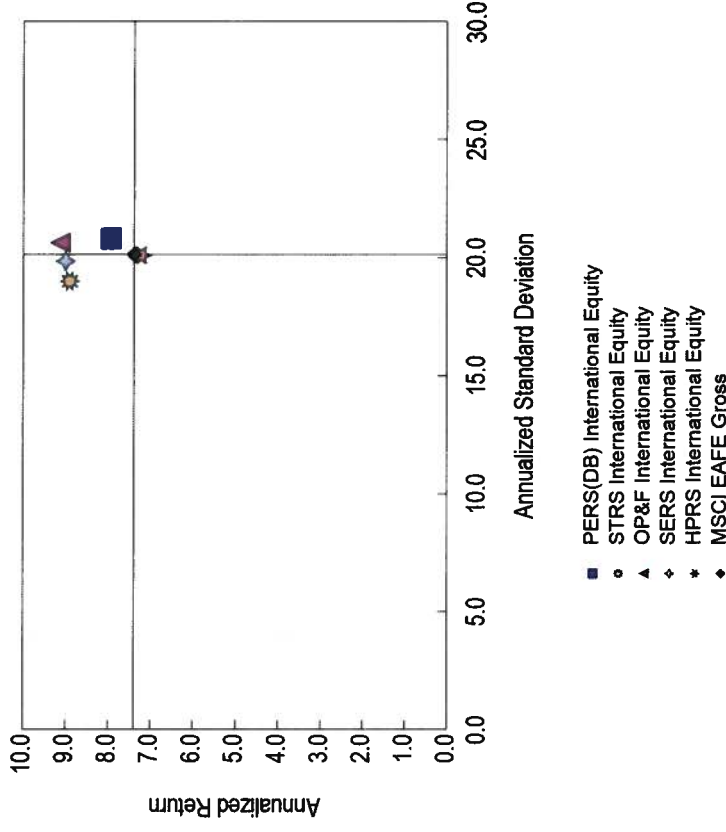
**Statistics Summary**  
10 Years Ending December 31, 2013

	Annualized Return	Annualized Standard Deviation	Sharpe Ratio	Information Ratio
PERS(DB) International Equity	7.94%	20.80%	0.31	0.63
PERS Total International Equity Benchmark	7.38%	20.79%	0.28	-
STRS International Equity	8.91%	18.99%	0.39	0.81
STRS International Blended Benchmark	8.11%	18.99%	0.34	-
OP&F International Equity	9.13%	20.62%	0.37	0.82
OPF International Benchmark	7.63%	20.72%	0.29	-
SERS International Equity	9.00%	19.84%	0.38	0.54
SERS Intl Equity Benchmark	7.98%	18.85%	0.34	-
HPRS International Equity	7.22%	20.09%	0.28	-0.12
HPRS International Benchmark	7.54%	20.64%	0.29	-

The analysis above represents a risk/return comparison of the international equity portfolios for all of the plans for the past ten year period. Over this period, STRS had the highest risk-adjusted returns, followed by SERS, OP&F, PERS DB and HPRS as measured by their Sharpe Ratios.

Additionally, the Information Ratio measures risk relative to a Plan's benchmark. A higher information ratio indicates that a Plan is getting better returns than its respective benchmark at a similar level of risk. The OP&F Plan had the highest information ratio, followed by STRS, PERS DB, SERS and HPRS. The negative information ratio of the HPRS Plan's international equities indicates underperformance versus its benchmark.

Annualized Return vs. Annualized Standard Deviation  
10 Years Ending December 31, 2013



\*Benchmark shown in chart above may not be specific to the Plan's current policy.  
Benchmarks shown in statistics summary are specific to the Plan's current policy.

# Systems Alternatives

Ending December 31, 2013

	6 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>PERS(DB) Alternatives</b>					
PERS(DB) Private Equity	8.5%	16.3%	16.9%	12.0%	14.9%
PERS Private Equity Benchmark (QTR LAG)	<u>9.3%</u>	<u>22.8%</u>	<u>19.2%</u>	<u>13.3%</u>	<u>11.1%</u>
Over/Under	-0.8%	-6.5%	-2.3%	-1.3%	3.8%
PERS(DB) Hedge Funds	5.4%	9.6%	4.3%	10.6%	-
PERS (DB) Hedge Fund Benchmark	<u>3.5%</u>	<u>7.0%</u>	<u>7.0%</u>	<u>6.7%</u>	-
Over/Under	1.9%	2.6%	-2.7%	3.9%	-
PERS(DB) Opportunistic	1.0%	-3.1%	1.9%	-	-
PERS Opportunistic Benchmark	<u>1.2%</u>	<u>-1.3%</u>	<u>3.0%</u>	-	-
Over/Under	-0.2%	-1.8%	-1.1%	-	-
<b>PERS(HC) Alternatives</b>					
PERS(HC) Private Equity	7.8%	17.0%	12.0%	-2.2%	-
PERS Private Equity Benchmark (QTR LAG)	<u>9.3%</u>	<u>22.8%</u>	<u>19.2%</u>	<u>13.3%</u>	<u>11.1%</u>
Over/Under	-1.5%	-5.8%	-7.2%	-15.5%	-
PERS(HC) Hedge Funds	5.4%	9.6%	4.4%	13.2%	-
PERS (HC) Hedge Benchmark	<u>3.5%</u>	<u>7.0%</u>	<u>7.0%</u>	<u>12.3%</u>	-
Over/Under	1.9%	2.6%	-2.6%	0.9%	-
PERS(HC) Commodities	4.8%	-0.7%	0.3%	-	-
Goldman Sachs GSCI Total	<u>4.4%</u>	<u>-1.2%</u>	<u>-0.8%</u>	<u>3.9%</u>	<u>0.7%</u>
Over/Under	0.4%	0.5%	1.1%	-	-
PERS(HC) Opportunistic	1.0%	-3.1%	1.9%	-	-
PERS Opportunistic Benchmark	<u>1.2%</u>	<u>-1.3%</u>	<u>3.0%</u>	-	-
Over/Under	-0.2%	-1.8%	-1.1%	-	-
<b>STRS Alternatives</b>					
STRS Private Equity	9.6%	20.0%	15.9%	10.3%	12.6%
STRS Private Equity Benchmark	<u>17.7%</u>	<u>34.9%</u>	<u>18.6%</u>	<u>21.6%</u>	<u>10.8%</u>
Over/Under	-8.1%	-14.9%	-2.7%	-11.3%	1.8%
STRS Hedge Funds	-0.6%	11.4%	5.0%	6.8%	9.1%
HFRI Fund of Funds Composite Index	<u>5.4%</u>	<u>9.0%</u>	<u>2.5%</u>	<u>4.9%</u>	<u>3.4%</u>
Over/Under	-6.0%	2.4%	2.5%	1.9%	5.7%
STRS Opportunistic	2.3%	11.7%	9.1%	-	-
STRS Opportunistic Benchmark	<u>16.5%</u>	<u>32.3%</u>	<u>15.1%</u>	-	-
Over/Under	-14.2%	-20.6%	-6.0%	-	-

	6 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>OP&amp;F Alternatives</b>					
OP&F Private Equity	7.1%	11.5%	12.9%	7.4%	11.4%
OPF Private Equity Benchmark	<u>10.6%</u>	<u>24.6%</u>	<u>20.0%</u>	<u>13.8%</u>	<u>11.9%</u>
Over/Under	-3.5%	-13.1%	-7.1%	-6.4%	-0.5%
Timber	-0.9%	3.4%	-	-	-
OPF Timber Benchmark	<u>2.7%</u>	<u>7.0%</u>	-	-	-
Over/Under	-3.6%	-	-	-	-

	6 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>SERS Alternatives</b>					
SERS Private Equity	10.3%	17.3%	14.8%	8.2%	9.6%
SERS PE Benchmark	<u>10.7%</u>	<u>22.3%</u>	<u>19.3%</u>	<u>13.0%</u>	<u>10.6%</u>
Over/Under	-0.4%	-5.0%	-4.5%	-4.8%	-1.0%
SERS Hedge Funds	5.6%	9.8%	5.4%	8.7%	-
SERS Hedge Fund Benchmark	<u>5.9%</u>	<u>9.4%</u>	<u>2.7%</u>	<u>6.7%</u>	-
Over/Under	-0.3%	0.4%	2.7%	2.0%	-

	6 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>HPRS Alternatives</b>					
HPRS Private Equity	8.5%	12.9%	2.2%	4.3%	-
HPRS Private Equity Benchmark	<u>11.0%</u>	<u>25.6%</u>	<u>20.1%</u>	<u>14.2%</u>	-
Over/Under	-2.5%	-12.7%	-17.9%	-9.9%	-
HPRS Hedge Funds	4.5%	9.5%	3.5%	7.9%	-
HFRF Fund of Funds Composite Index	<u>5.4%</u>	<u>9.0%</u>	<u>2.5%</u>	<u>4.9%</u>	<u>3.4%</u>
Over/Under	-0.9%	0.5%	1.0%	3.0%	-

Returns for all alternatives portfolios are shown net of fees.

### Private Equity

SERS (+10.3) had the highest private equity return for the six months ending December 31, 2013 on an absolute basis, followed by STRS (+9.6%). The PERS DB and HPRS private equity was third best with a six month absolute return of (+8.5%), followed by PERS HC (+7.8) and OP&F (+7.1).

### Hedge Funds

SERS (+5.6%) had the highest hedge fund return for the six months ending December 31, 2013, followed by PERS (HC) and PERS (DB), which both returned (+5.4%), HPRS (+4.5%) and STRS (-0.6%).



# Cash

## Ending December 31, 2013

	6 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>PERS(DB) Cash</b>					
91 Day T-Bills	0.1%	0.2%	0.2%	0.5%	2.0%
Over/Under	0.0%	0.0%	0.1%	0.1%	1.6%
<b>PERS(HC) Cash</b>					
91 Day T-Bills	0.1%	0.2%	0.2%	0.4%	—
Over/Under	0.0%	0.0%	0.1%	0.1%	1.6%
<b>STRS Liquidity Reserves</b>					
91 Day T-Bills	0.1%	0.1%	0.1%	0.4%	1.9%
Over/Under	0.0%	0.0%	0.1%	0.1%	1.6%
<b>OP&amp;F Cash</b>					
91 Day T-Bills	0.0%	0.1%	0.2%	0.3%	1.8%
Over/Under	0.0%	0.0%	0.1%	0.1%	1.6%
<b>SERS Cash</b>					
SERS Short-Term Benchmark	0.0%	0.1%	0.2%	0.3%	2.1%
Over/Under	0.0%	0.1%	0.2%	0.2%	0.6%
<b>HPRS Cash</b>					
91 Day T-Bills	0.0%	0.0%	0.0%	0.1%	2.1%
Over/Under	0.0%	0.0%	-0.1%	0.0%	1.6%
					0.5%

## Fee Comparison for Plan Segments

	Asset Class Fee Comparison (annualized fees shown in basis points)						
	Domestic Equity	International Equity	Fixed Income	Real estate	Alternatives	Private Equity	Hedge Funds
PERS DB & HC	11.2	35.4	15.5	72.3	29.2	47.3	277.1
STRS	10.4	20.1	8.3	53.8	91		
OP&F	37	36	44	219	31		
SERS	45.2	44.5	23.5	104.3		88.6	162.2
HPRS	38	74	37	133	99	92	109

\*Annualized basis point fees are estimates and are relative to asset allocation as of 12/31/2013.

\*Private Equity are based on actual \$/average committed capital.

\*SERS does not aggregate Net of fees and Gross of fee performance of their "alternative" classes, therefore each is reported separately.

\*PERS Alternatives include Risk Parity & GTAA.

\*PERS management fees for Risk Parity and GTAA are less than 1 year.

Public Employees Retirement System (DB)  
(PERS DB)

# Public Employees Retirement System (DB)

Actuarial Rate: 8.0%

Ending December 31, 2013

	6 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>Public Employees Retirement System (DB)</b>					
PERS (DB) Total Fund Benchmark	9.8%	14.7%	9.8%	12.4%	7.3%
Over/Under	9.6%	14.2%	9.3%	12.1%	7.0%
	0.2%	0.5%	0.5%	0.3%	0.3%
<b>PERS(DB) Domestic Equity</b>					
Russell 3000	17.6%	33.9%	16.4%	18.8%	7.8%
Over/Under	17.1%	33.6%	16.2%	18.7%	7.9%
	0.5%	0.3%	0.2%	0.1%	-0.1%
<b>PERS(DB) International Equity</b>					
PERS Total International Equity Benchmark	14.5%	15.6%	5.8%	13.3%	7.9%
Over/Under	14.3%	12.9%	4.5%	12.4%	7.4%
	0.2%	2.7%	1.3%	0.9%	0.5%
<b>PERS(DB) Fixed</b>					
<b>PERS(DB) Core Fixed</b>					
PERS Custom Core Fixed Benchmark	0.9%	-1.0%	3.8%	6.0%	5.0%
Over/Under	0.6%	-1.9%	3.3%	-	-
	0.3%	0.9%	0.5%	-	-
<b>PERS(DB) High Yield</b>					
Barclays High Yield	5.8%	7.9%	9.5%	-	-
Over/Under	5.9%	7.4%	9.3%	18.9%	8.6%
	-0.1%	0.5%	0.2%	-	-
<b>PERS(DB) EMD</b>					
PERS Emerging Market Debt Benchmark	0.4%	-6.4%	-	-	-
Over/Under	-0.1%	-7.8%	3.9%	-	-
	0.5%	1.4%	-	-	-
<b>PERS(DB) Floating Rate Debt</b>					
PERS Floating Rate Debt Benchmark	3.6%	6.7%	-	-	-
Over/Under	3.2%	6.2%	-	-	-
	0.4%	0.5%	-	-	-
<b>PERS(DB) TIPS</b>					
Barclays US TIPS	-1.3%	-	-	-	-
Over/Under	-1.3%	-8.6%	3.5%	5.6%	4.9%
	0.0%	-	-	-	-
<b>PERS(DB) Real Estate</b>					
<b>PERS(DB) Private RE</b>					
PERS Private Real Estate Benchmark Log	7.7%	15.4%	13.8%	4.1%	7.9%
Over/Under	7.4%	12.8%	13.3%	3.7%	8.3%
	0.3%	2.6%	0.5%	0.4%	-0.4%

# Public Employees Retirement System (DB)

Actuarial Rate: 8.0%

Ending December 31, 2013

	6 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>PERS(DB) Alternatives</b>					
PERS(DB) Hedge Funds	5.4%	9.6%	4.3%	10.6%	-
PERS (DB) Hedge Fund Benchmark	<u>3.5%</u>	<u>7.0%</u>	<u>7.0%</u>	<u>6.7%</u>	-
Over/Under	1.9%	2.6%	-2.7%	3.9%	-
PERS(DB) Private Equity	8.5%	16.3%	16.9%	12.0%	14.9%
PERS Private Equity Benchmark (QTR LAG)	<u>9.3%</u>	<u>22.8%</u>	<u>19.2%</u>	<u>13.3%</u>	<u>11.1%</u>
Over/Under	-0.8%	-6.5%	-2.3%	-1.3%	3.8%
PERS(DB) Commodities	4.8%	-	-	-	-
Goldman Sachs GSCI Total	<u>4.4%</u>	<u>-1.2%</u>	<u>-0.8%</u>	<u>3.9%</u>	<u>0.7%</u>
Over/Under	0.4%	-	-	-	-
PERS(DB) Opportunistic	1.0%	-3.1%	1.9%	-	-
PERS Opportunistic Benchmark	<u>1.2%</u>	<u>-1.3%</u>	<u>3.0%</u>	-	-
Over/Under	-0.2%	-1.8%	-1.1%	-	-
<b>PERS(DB) Risk Parity</b>					
PERS(DB) Risk Parity	7.0%	-	-	-	-
PERS Risk Parity Benchmark	<u>5.8%</u>	-	-	-	-
Over/Under	1.2%	-	-	-	-
<b>PERS(DB) GTAA</b>					
PERS(DB) GTAA	6.6%	-	-	-	-
PERS GTAA Benchmark	<u>10.2%</u>	-	-	-	-
Over/Under	-3.6%	-	-	-	-
PERS(DB) Cash	0.1%	0.2%	0.2%	0.5%	2.0%
91 Day T-Bills	<u>0.0%</u>	<u>0.0%</u>	<u>0.1%</u>	<u>0.1%</u>	<u>1.6%</u>
Over/Under	0.1%	0.2%	0.1%	0.4%	0.4%
PERS(DB) Rebalancing	-2.2%	-0.5%	-	-	-
PERS Rebalancing Benchmark	<u>0.0%</u>	<u>0.1%</u>	-	-	-
Over/Under	-2.2%	-0.6%	-	-	-

# Public Employees Retirement System (DB)

## Asset Allocation by Segment

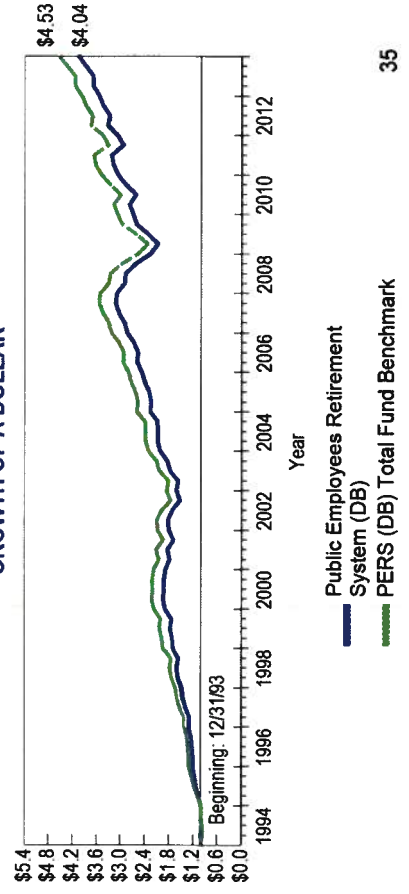
As Of December 31, 2013

	Total Market Value	% of Portfolio	US Equity	Non-US Equity	US Fixed Income	Non-US Fixed Income	Alternatives	Real Estate	Cash	Other
PERS(DB) Domestic Equity	\$15,905,654,619	21.3%	\$15,905,654,619							
PERS(DB) International Equity	\$16,595,514,708	22.2%		\$16,595,514,708						
PERS(DB) Fixed										
PERS(DB) Core Fixed	\$6,554,047,974	8.8%	\$6,554,047,974							
PERS(DB) High Yield	\$3,626,933,207	4.9%	\$3,626,933,207							
PERS(DB) EMD	\$1,984,881,645	2.7%			\$1,984,881,645					
PERS(DB) Securitized Debt	\$733,329,493	1.0%	\$733,329,493							
PERS(DB) Global High Yield	\$1,107,711,426	1.5%			\$591,263,304	\$1,107,711,426				
PERS(DB) Floating Rate Debt	\$591,263,304	0.8%			\$703,479,665					
PERS(DB) TIPS	\$703,479,665	0.9%								
PERS(DB) Real Estate										
PERS(DB) Private RE	\$7,663,107,365	10.3%					\$7,663,107,365			
PERS(DB) Alternatives										
PERS(DB) Hedge Funds	\$4,400,981,841	5.9%				\$4,400,981,841				
PERS(DB) Private Equity	\$8,157,918,661	10.9%				\$8,157,918,661				
PERS(DB) Commodities	\$712,381,077	1.0%				\$712,381,077				
PERS(DB) Opportunistic	\$213,773,480	0.3%				\$213,773,480				
PERS(DB) Risk Parity										
PERS(DB) Risk Parity	\$1,324,475,631	1.8%							\$1,324,475,631	
PERS(DB) GTAA										
PERS(DB) GTAA	\$1,511,189,106	2.0%							\$1,511,189,106	
PERS(DB) Cash	\$2,134,989,478	2.9%						\$2,134,989,478		
PERS(DB) Rebalancing	\$766,924,892	1.0%						\$766,924,892		
<b>Total</b>	<b>\$74,688,557,572</b>	<b>100.0%</b>	<b>\$15,905,654,619</b>	<b>\$16,595,514,708</b>	<b>\$12,209,053,643</b>	<b>\$3,092,593,071</b>	<b>\$13,485,055,099</b>	<b>\$7,663,107,365</b>	<b>\$2,901,914,370</b>	<b>\$2,835,664,737</b>

PERS(DB)

	Actual	Target	Difference
US Equity	21.3	22.0	-0.7
Intl Equity	22.2	22.0	0.2
Alternatives	18.1	17.5	0.6
Risk Parity	1.8	2.0	-0.2
GTAA	2.0	2.0	0.0
<b>Total Equity</b>	<b>65.4</b>	<b>65.5</b>	<b>-0.1</b>
Fixed Income	20.5	24.5	-4.0
Real Estate	10.3	10.0	0.3
Short Term Investments	3.9	0.0	3.9
<b>Total Debt</b>	<b>34.6</b>	<b>34.5</b>	<b>0.1</b>
	<b>100.0</b>	<b>100.0</b>	<b>-0.0</b>

## GROWTH OF A DOLLAR

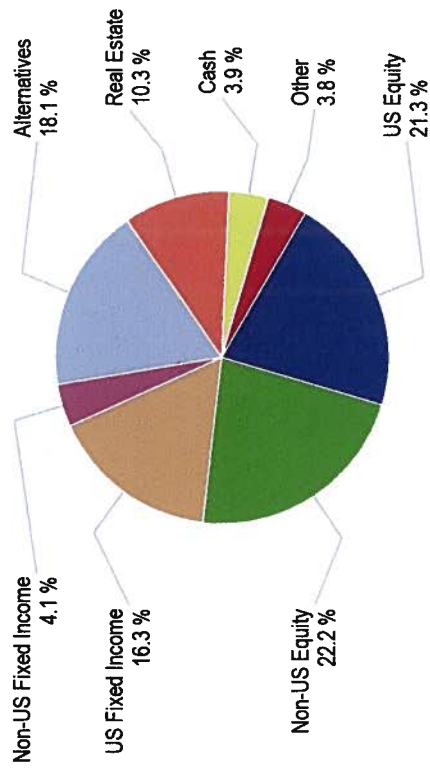


\*Totals may not add up to 100% due to rounding

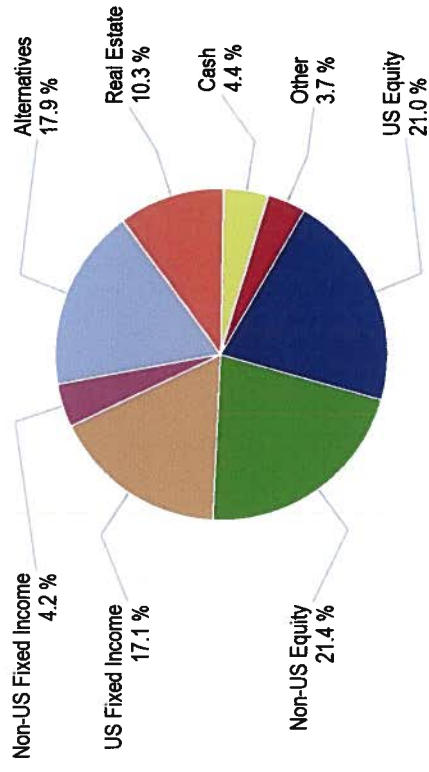


# Public Employees Retirement System (DB) Asset Allocation

**Current Allocation**  
December 31, 2013



**Previous Allocation**  
June 30, 2013







# Public Employees Retirement System (DB) 10 Year Risk Statistics

## RISK RETURN STATISTICS

January 01, 2004 Through December 31, 2013

Public Employees Retirement System (DB)    PERS (DB) Total Fund Benchmark

### RETURN SUMMARY STATISTICS

Number of Periods	40	40
Maximum Return	12.34	13.12
Minimum Return	-13.81	-13.86
Annualized Return	7.27	7.01
Total Return	101.70	96.93
Annualized Excess Return Over Risk Free	5.71	5.45
Annualized Excess Return	0.26	0.00

### RISK SUMMARY STATISTICS

Beta	0.99	1.00
Upside Deviation	6.15	6.39
Downside Deviation	9.14	9.36

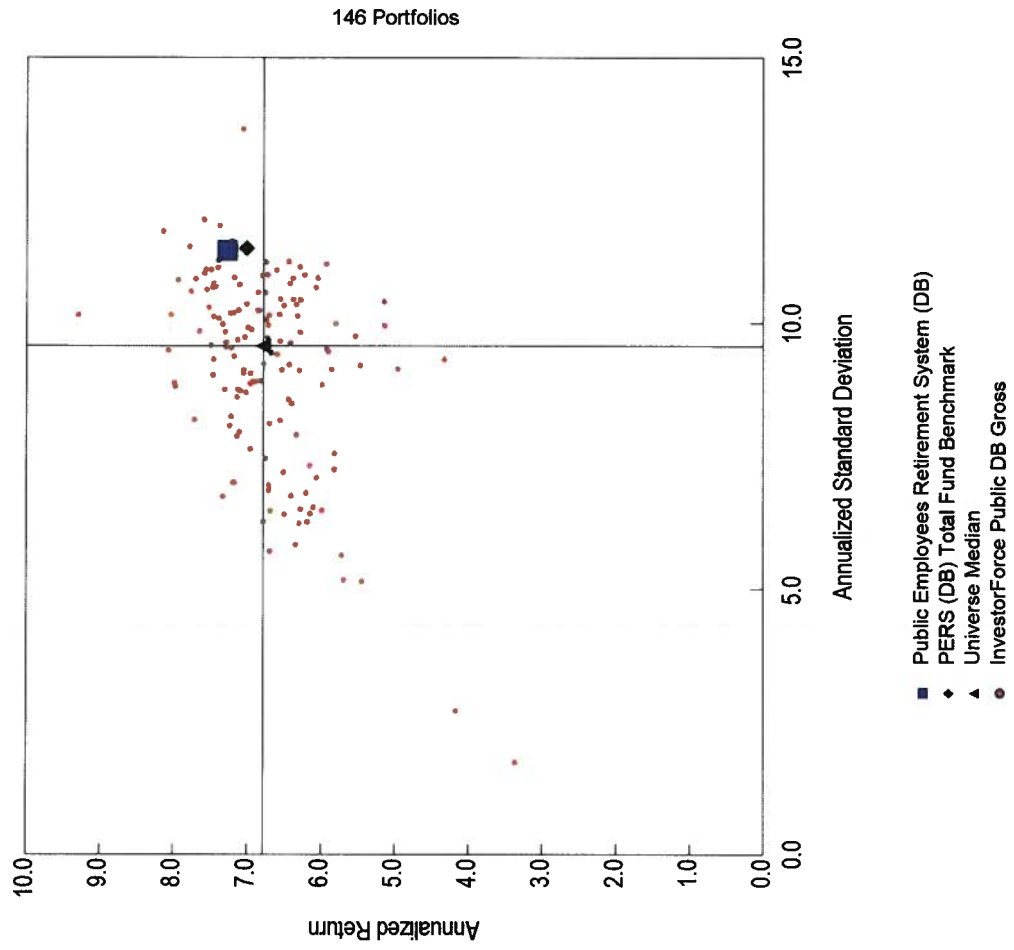
### RISK/RETURN SUMMARY STATISTICS

Annualized Standard Deviation	11.37	11.41
Alpha	0.07	0.00
Sharpe Ratio	0.50	0.48
Excess Return Over Market / Risk	0.02	0.00
Tracking Error	0.89	0.00
Information Ratio	0.29	--

### CORRELATION STATISTICS

R-Squared	0.99	1.00
Correlation	1.00	1.00

Annualized Return vs. Annualized Standard Deviation  
10 Years Ending December 31, 2013



Quarter Ending 12/31/2013

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Jul-13	Sep-13	22.3	Russell 3000
			10.0	Custom Core Fixed Income Benchmark
			3.0	Emerging Market Debt
			5.0	Barclays Capital High Yield
			2.0	91-Day Treasury Bill
			21.7	Custom Non-US Equity Benchmark*
			10.0	Russell 3000 + 3% (1 Qtr arrears)
			10.0	Net NFI-ODCE +85 bps (Quarter lag)
			6.0	3 mo. LIBOR + 4% bps (2 mo. lag)
			0.5	Opportunistic
			1.0	Credit Suisse Leveraged Loan Index
			1.0	Barclays CMBS ERISA Eligible + 2%
			1.5	Barclays Global High Yield
			1.0	Barclays Capital U.S. Tips
			1.0	S&P GS Commodity Total Return
			2.0	Custom Risk Parity Benchmark
			2.0	Custom GTAA Benchmark
	Oct-13	Dec-13	22.0	Russell 3000
			10.0	Custom Core Fixed Income Benchmark
			3.0	Emerging Market Debt
			5.0	Barclays Capital High Yield
			2.0	91-Day Treasury Bill
			22.0	Custom Non-US Equity Benchmark*
			10.0	Russell 3000 + 3% (1 Qtr arrears)
			10.0	NCREIF Property (Quarter lag)
			6.0	3 mo. LIBOR + 4% bps (2 mo. lag)
			0.5	Opportunistic
			1.0	Credit Suisse Leveraged Loan Index
			1.0	Barclays CMBS ERISA Eligible + 2%
			1.5	Barclays Global High Yield
			1.0	Barclays Capital U.S. Tips
			1.0	S&P GS Commodity Total Return
			2.0	Custom Risk Parity Benchmark
			2.0	Custom GTAA Benchmark

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)				

In February 2012 of 2012, the PERS Plans moved to monthly re-weighting the Policy Benchmarks. Shown above are the benchmarks at the end of each quarter.  
 \*56.5% MSCI World Index ex U.S., 31% MSCI Emerging Markets, 10% MSCI World Index ex U.S. Small Cap, and 2.5% MSCI Emerging Markets Small Cap.

## Public Employees Retirement System Defined Benefit Plan Quarter Ending 12/31/2013

Label	Month of	Percent	Description
Policy Index (cont.)	Jan-13	22.9	Russell 3000
		13.0	Custom Core Fixed Income Benchmark
		3.0	Emerging Market Debt
		5.0	Barclays Capital High Yield
		2.0	91-Day Treasury Bill
		24.0	Custom Non-US Equity Benchmark*
		10.0	Russell 3000 + 3% (1 Qtr arrears)
		10.0	Net NFI-ODCE +85 bps (Quarter lag)
		5.3	3 mo. LIBOR + 4% bps (2 mo. lag)
		0.8	Opportunistic
		1.0	Credit Suisse Leveraged Loan Index
		1.0	Barclays CMBS ERISA Eligible + 2%
		1.5	Barclays Global High Yield
		0.5	Barclays Capital U.S. Investment Grade
Policy Index (cont.)	Feb-13	22.8	Russell 3000
		12.5	Custom Core Fixed Income Benchmark
		3.0	Emerging Market Debt
		5.0	Barclays Capital High Yield
		2.0	91-Day Treasury Bill
		24.0	Custom Non-US Equity Benchmark*
		10.0	Russell 3000 + 3% (1 Qtr arrears)
		10.0	Net NFI-ODCE +85 bps (Quarter lag)
		5.3	3 mo. LIBOR + 4% bps (2 mo. lag)
		0.8	Opportunistic
		1.0	Credit Suisse Leveraged Loan Index
		1.5	Barclays CMBS ERISA Eligible + 2%
		0.5	Barclays Capital U.S. Tips
		0.1	S&P GS Commodity Total Return
0.5	Barclays Capital U.S. Investment Grade		

Label	Month of	Percent	Description
Policy Index (cont.)	Mar-13	21.6	Russell 3000
		11.5	Custom Core Fixed Income Benchmark
		3.0	Emerging Market Debt
		5.0	Barclays Capital High Yield
		2.0	91-Day Treasury Bill
		24.0	Custom Non-US Equity Benchmark*
		10.0	Russell 3000 + 3% (1 Qtr arrears)
		10.0	Net NFI-ODCE +85 bps (Quarter lag)
		5.3	3 mo. LIBOR + 4% bps (2 mo. lag)
		0.5	Opportunistic
		1.0	Credit Suisse Leveraged Loan Index
		1.0	Barclays CMBS ERISA Eligible + 2%
		1.5	Barclays Global High Yield
		1.0	Barclays Capital U.S. Tips
0.6	S&P GS Commodity Total Return		
2.0	Custom Risk Parity Benchmark		
Policy Index (cont.)	Apr-13	21.8	Russell 3000
		10.0	Custom Core Fixed Income Benchmark
		3.0	Emerging Market Debt
		5.0	Barclays Capital High Yield
		2.0	91-Day Treasury Bill
		22.2	Custom Non-US Equity Benchmark*
		10.0	Russell 3000 + 3% (1 Qtr arrears)
		10.0	Net NFI-ODCE +85 bps (Quarter lag)
		6.0	3 mo. LIBOR + 4% bps (2 mo. lag)
		0.5	Opportunistic
		1.0	Credit Suisse Leveraged Loan Index
		1.0	Barclays CMBS ERISA Eligible + 2%
		1.5	Barclays Global High Yield
		1.0	Barclays Capital U.S. Tips
1.0	S&P GS Commodity Total Return		
2.0	Custom Risk Parity Benchmark		
2.0	Custom GTAA Benchmark		

**Public Employees Retirement System**  
**Defined Benefit Plan**  
**Quarter Ending 12/31/2013**

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Dec-11	Mar-12	28.6	Russell 3000
			16.9	Barclays Capital U.S. Aggregate
			1.0	Emerging Market Debt
			5.0	Barclays Capital High Yield
			2.0	91-Day Treasury Bill
			24.5	MSCI AC World Ex-US (Net)
			8.9	Russell 3000 + 3% (1 Qtr arrears)
			10.0	NCREIF Property (Quarter lag)
			2.1	3 mo. LIBOR + 4% bps (2 mo. lag)
			1.0	Securitized Debt
	Mar-12	Jun-12	28.9	Russell 3000
			16.9	Barclays Capital U.S. Aggregate
			0.1	Emerging Market Debt
			5.0	Barclays Capital High Yield
		2.0	91-Day Treasury Bill	
		24.6	MSCI AC World Ex-US (Net)	
		9.3	Russell 3000 + 3% (1 Qtr arrears)	
		10.0	NCREIF Property (Quarter lag)	
		2.2	3 mo. LIBOR + 4% bps (2 mo. lag)	
		1.0	Securitized Debt	

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Jul-12	Sep-12	24.9	Russell 3000
			13.9	Barclays Capital U.S. Aggregate
			3.0	Emerging Market Debt
			5.0	Barclays Capital High Yield
			2.0	91-Day Treasury Bill
			24.0	Custom Non-US Equity Benchmark*
			9.9	Russell 3000 + 3% (1 Qtr arrears)
			10.0	NCREIF Property (Quarter lag)
			3.5	3 mo. LIBOR + 4% bps (2 mo. lag)
			0.7	Opportunistic
			0.5	Barclays US Corp Investment Grade
			0.1	Credit Suisse Leveraged Loan Index
	1.0	Barclays CMBS ERISA Eligible + 2%		
	1.5	Barclays Global High Yield		
	Oct-12	Dec-12	23.6	Russell 3000
			13.3	Barclays Capital U.S. Aggregate
			3.0	Emerging Market Debt
			5.0	Barclays Capital High Yield
2.0			91-Day Treasury Bill	
24.0			Custom Non-US Equity Benchmark*	
10.0	Russell 3000 + 3% (1 Qtr arrears)			
10.0	NCREIF Property (Quarter lag)			
4.7	3 mo. LIBOR + 4% bps (2 mo. lag)			
0.7	Opportunistic			
0.5	Barclays US Corp Investment Grade			
0.7	Credit Suisse Leveraged Loan Index			
1.0	Barclays CMBS ERISA Eligible + 2%			
1.5	Barclays Global High Yield			

**Public Employees Retirement System**  
**Defined Benefit Plan**  
**Quarter Ending 12/31/2013**

Label	Quarter Start	Quarter 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	Wishire 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)
Apr-10	Jun-10	8.0	Russell 3000 + 3% (1 Qtr arrears)	
0.6	NCREIF Property (Quarter Lag)			
0.6	3 mo. LIBOR + 4% bps (2 mo. lag)			
Policy Index (cont.)	Apr-10	Jun-10	39.6	Russell 3000
			12.6	Barclays Capital U.S. Aggregate
			9.0	Barclays Capital Long Gov/Credit
			1.6	Barclays Capital High Yield
			2.0	91-Day Treasury Bill
			22.0	MSCI AC World Ex-US (Net)
			4.3	Russell 3000 + 3% (1 Qtr arrears)
			7.9	NCREIF Property (Quarter lag)
			1.0	3 mo. LIBOR + 4% bps (2 mo. lag)

Label	Quarter Start	Quarter End	Percent	Description			
Policy Index (cont.)	Jul-10	Sep-10	36.3	Russell 3000			
			11.5	Barclays Capital U.S. Aggregate			
			9.0	Barclays Capital Long Gov/Credit			
			2.5	Barclays Capital High Yield			
			2.0	91-Day Treasury Bill			
			23.5	MSCI AC World Ex-US (Net)			
			5.1	Russell 3000 + 3% (1 Qtr arrears)			
			9.0	NCREIF Property (Quarter lag)			
			1.1	3 mo. LIBOR + 4% bps (2 mo. lag)			
			Policy Index (cont.)	Oct-10	Dec-11	29.5	Russell 3000
						12.4	Barclays Capital U.S. Aggregate
						5.6	Barclays Capital Long Gov/Credit
						5.0	Barclays Capital High Yield
						2.0	91-Day Treasury Bill
						24.6	MSCI AC World Ex-US (Net)
7.9	Russell 3000 + 3% (1 Qtr arrears)						
9.6	NCREIF Property (Quarter lag)						
3.4	3 mo. LIBOR + 4% bps (2 mo. lag)						

## Public Employees Retirement System Defined Benefit Plan Quarter Ending 12/31/2013

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

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



## Public Employees Retirement System Defined Benefit Plan Quarter Ending 12/31/2013

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

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

**Public Employees Retirement System**  
**Defined Benefit Plan**  
**Quarter Ending 12/31/2013**

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

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

**Public Employees Retirement System**  
**Defined Benefit Plan**  
**Quarter Ending 12/31/2013**

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Sep-99	Mar-02	36.1	SB Broad Inv Grade
			35.0	Standard & Poors 500
	Mar-02	Mar-02	16.9	MSCI World Ex-US (Net)
			6.6	NCREIF
			2.2	NAREIT
			2.2	Gilberto-Levy Mortgage
			1.0	BC Bellweather 3Mth T-Bill
			34.3	S&P 1500
			31.8	SB Broad Inv Grade
	18.9	MSCI World Ex-US (Net)		
	Jun-02	Sep-02	5.7	NCREIF
			3.0	Russell 3000
			2.3	BC Bellweather 3Mth T-Bill
1.9			NAREIT	
1.9			Gilberto-Levy Mortgage	
0.2			Standard & Poors 500	
Mar-03	Dec-04	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	
Mar-03	Dec-04	1.9	Gilberto-Levy Mortgage	
		1.5	BC Bellweather 3Mth T-Bill	
		0.2	Standard & Poors 500	
		46.0	Russell 3000	
		23.0	Barclays Universal	

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

**Public Employees Retirement System**  
**Defined Benefit Plan**  
**Quarter Ending 12/31/2013**

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Mar-94	Jun-95	68.0	SB Broad Inv Grade
			17.0	Standard & Poors 500
			8.0	91-Day Treasury Bill
			7.0	NCREIF
	Sep-95	Dec-95	59.0	SB Broad Inv Grade
			26.0	Standard & Poors 500
			8.0	NCREIF
			6.0	91-Day Treasury Bill
			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	

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

# Public Employees Retirement System (HC) (PERS HC)

# Public Employees Retirement System (HC)

Actuarial Rate: 6.7%

Ending December 31, 2013

	6 Mo	1 Yr	3 Yrs	5 Yrs	7 Yrs
<b>Public Employees Retirement System (HC)</b>					
<i>PERS (HC) Total Fund Benchmark</i>					
Over/Under	<u>8.4%</u>	<u>11.5%</u>	<u>8.2%</u>	<u>12.4%</u>	<u>5.2%</u>
	<u>8.1%</u>	<u>10.7%</u>	<u>7.7%</u>	<u>11.8%</u>	<u>5.2%</u>
	0.3%	0.8%	0.5%	0.6%	0.0%
PERS(HC) Domestic Equity	17.6%	33.9%	16.4%	18.8%	6.5%
Russell 3000	<u>17.1%</u>	<u>33.6%</u>	<u>16.2%</u>	<u>18.7%</u>	<u>6.5%</u>
Over/Under	0.5%	0.3%	0.2%	0.1%	0.0%
PERS(HC) International Equity	14.5%	15.6%	5.8%	13.3%	2.4%
PERS Total International Equity Benchmark	<u>14.3%</u>	<u>12.9%</u>	-	-	-
Over/Under	0.2%	2.7%			
<b>PERS(HC) Fixed</b>					
PERS(HC) Core Fixed	0.9%	-1.0%	3.8%	5.9%	4.6%
Barclays Aggregate	<u>0.4%</u>	<u>-2.0%</u>	<u>3.3%</u>	<u>4.4%</u>	<u>4.9%</u>
Over/Under	0.5%	1.0%	0.5%	1.5%	-0.3%
PERS(HC) TIPS	-1.3%	-8.5%	3.6%	-	-
Barclays US TIPS	<u>-1.3%</u>	<u>-8.6%</u>	<u>3.5%</u>	<u>5.6%</u>	<u>5.3%</u>
Over/Under	0.0%	0.1%	0.1%		
PERS(HC) High Yield	5.8%	7.9%	9.5%	-	-
Barclays High Yield	<u>5.9%</u>	<u>7.4%</u>	<u>9.3%</u>	<u>18.9%</u>	<u>8.7%</u>
Over/Under	-0.1%	0.5%	0.2%		
PERS(HC) EMD	0.4%	-6.4%	4.4%	-	-
PERS Emerging Market Debt Benchmark	<u>-0.1%</u>	<u>-7.8%</u>	<u>3.9%</u>	-	-
Over/Under	0.5%	1.4%	0.5%		
PERS (HC) Floating Rate Debt	3.6%	6.7%	-	-	-
PERS Floating Rate Debt Benchmark	<u>3.2%</u>	<u>6.2%</u>	-	-	-
Over/Under	0.4%	0.5%			
<b>PERS(HC) Real Estate</b>					
PERS(HC) REITs	-4.1%	1.4%	9.2%	16.9%	1.0%
PERS (HC) REIT Benchmark	<u>-4.1%</u>	<u>1.3%</u>	<u>8.9%</u>	<u>16.4%</u>	<u>0.8%</u>
Over/Under	0.0%	0.1%	0.3%	0.5%	0.2%



# Public Employees Retirement System (HC)

Actuarial Rate: 6.7%

Ending December 31, 2013

	6 Mo	1 Yr	3 Yrs	5 Yrs	7 Yrs
<b>PERS(HC) Alternatives</b>					
PERS(HC) Private Equity	7.8%	17.0%	12.0%	-2.2%	-
PERS Private Equity Benchmark (QTR LAG)	9.3%	22.8%	19.2%	13.3%	8.9%
Over/Under	-1.5%	-5.8%	-7.2%	-15.5%	-
PERS(HC) Hedge Funds	5.4%	9.6%	4.4%	13.2%	-
PERS (HC) Hedge Benchmark	3.5%	7.0%	7.0%	12.3%	-
Over/Under	1.9%	2.6%	-2.6%	0.9%	-
PERS(HC) Commodities	4.8%	-0.7%	0.3%	-	-
Goldman Sachs GSCI Total	4.4%	-1.2%	-0.8%	3.9%	-2.2%
Over/Under	0.4%	0.5%	1.1%	-	-
PERS(HC) Opportunistic	1.0%	-3.1%	1.9%	-	-
PERS Opportunistic Benchmark	1.2%	-1.3%	3.0%	-	-
Over/Under	-0.2%	-1.8%	-1.1%	-	-
<b>PERS(HC) Risk Parity</b>					
PERS (HC) Risk Parity	7.0%	-	-	-	-
PERS Risk Parity Benchmark	5.8%	-	-	-	-
Over/Under	1.2%	-	-	-	-
<b>PERS(HC) GTAA</b>					
PERS (HC) GTAA	6.6%	-	-	-	-
PERS GTAA Benchmark	10.2%	-	-	-	-
Over/Under	-3.6%	-	-	-	-
PERS(HC) Cash	0.1%	0.2%	0.2%	0.4%	1.4%
91 Day T-Bills	0.0%	0.0%	0.1%	0.1%	0.9%
Over/Under	0.1%	0.2%	0.1%	0.3%	0.5%
PERS(HC) Rebalancing	1.6%	9.7%	-	-	-
PERS Rebalancing Benchmark	0.0%	0.1%	-	-	-
Over/Under	1.6%	9.6%	-	-	-

# Public Employees Retirement System (HC)

## Asset Allocation by Segment

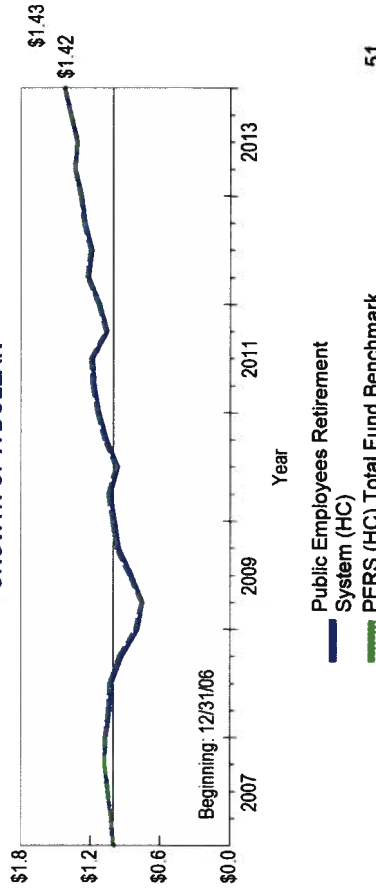
As Of December 31, 2013

	Total Market Value	% of Portfolio	US Equity	Non-US Equity	US Fixed Income	Non-US Fixed Income	Alternatives	Real Estate	Cash	Other
PERS(HC) Domestic Equity	\$3,104,632,766	23.8%	\$3,104,632,766							
PERS(HC) International Equity	\$3,244,675,109	24.9%		\$3,244,675,109						
PERS(HC) Fixed										
PERS(HC) Core Fixed	\$2,131,480,543	16.4%			\$2,131,480,543					
PERS(HC) TIPS	\$430,938,558	3.3%			\$430,938,558					
PERS(HC) High Yield	\$261,587,710	2.0%			\$261,587,710					
PERS(HC) EMD	\$615,528,336	4.7%				\$615,528,336				
PERS(HC) Securitized Debt	\$130,912,093	1.0%			\$130,912,093					
PERS(HC) Global High Yield	\$262,059,278	2.0%				\$262,059,278				
PERS (HC) Floating Rate Debt	\$126,692,664	1.0%			\$126,692,664					
PERS(HC) Real Estate										
PERS(HC) REITs	\$758,085,684	5.8%					\$758,085,684			
PERS(HC) Alternatives										
PERS(HC) Private Equity	\$110,263,979	0.8%				\$110,263,979				
PERS(HC) Hedge Funds	\$706,619,437	5.4%				\$706,619,437				
PERS(HC) Commodities	\$259,483,107	2.0%				\$259,483,107				
PERS(HC) Opportunistic	\$39,094,793	0.3%				\$39,094,793				
PERS(HC) Risk Parity										
PERS (HC) Risk Parity	\$244,563,405	1.9%							\$244,563,405	
PERS(HC) GTAA										
PERS (HC) GTAA	\$247,528,881	1.9%							\$247,528,881	
PERS(HC) Cash	\$299,542,310	2.3%						\$299,542,310		
PERS(HC) Rebalancing	\$50,602,377	0.4%						\$50,602,377		
<b>Total</b>	<b>\$13,024,291,030</b>	<b>100.0%</b>	<b>\$3,104,632,766</b>	<b>\$3,244,675,109</b>	<b>\$3,081,611,568</b>	<b>\$877,587,614</b>	<b>\$1,115,461,316</b>	<b>\$758,085,684</b>	<b>\$350,144,687</b>	<b>\$492,092,286</b>

PERS(HC)

	Actual	Target	Difference
US Equity	23.8	23.5	0.3
Intl Equity	24.9	24.6	0.3
REITs	5.8	6.0	-0.2
Alternatives	8.6	8.4	0.2
Risk Parity	1.9	2.0	-0.1
GTAA	1.9	2.0	-0.1
<b>Total Equity</b>	<b>66.9</b>	<b>66.5</b>	<b>0.4</b>
Fixed Income	30.4	33.5	-3.1
Short Term Investments	2.7	0.0	2.7
<b>Total Debt</b>	<b>33.1</b>	<b>33.5</b>	<b>-0.4</b>
	<b>100.0</b>	<b>100.0</b>	<b>0.0</b>

## GROWTH OF A DOLLAR

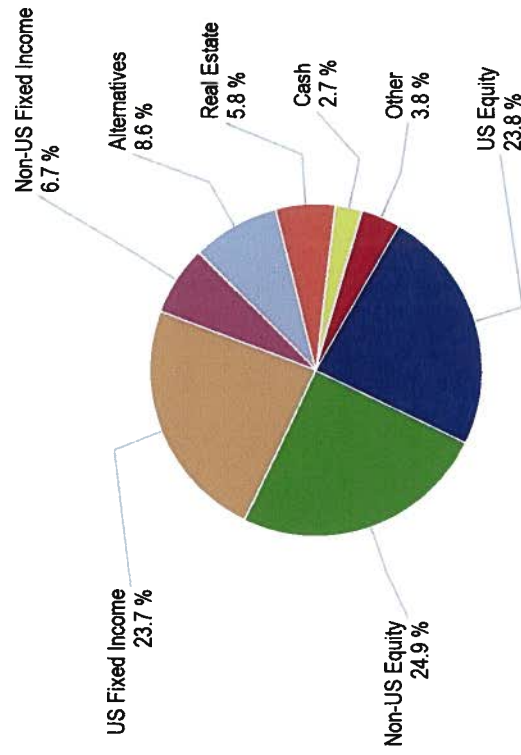


\*Totals may not add up to 100% due to rounding.

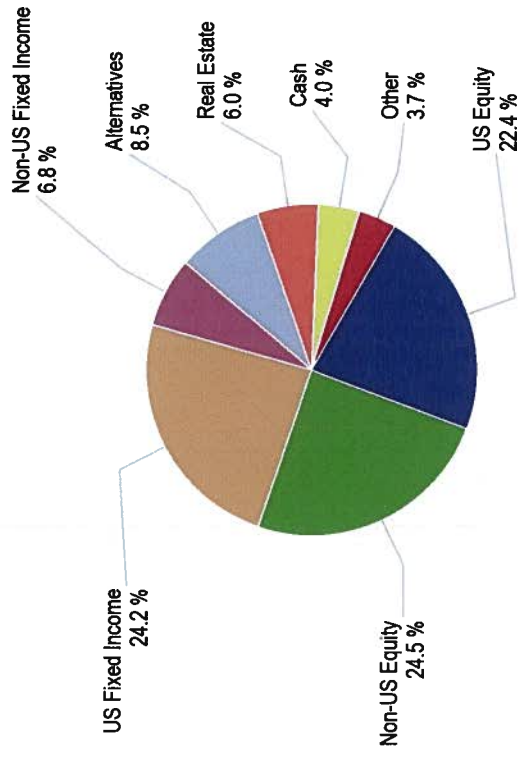
# Public Employees Retirement System (HC)

## Asset Allocation

Current Allocation  
December 31, 2013

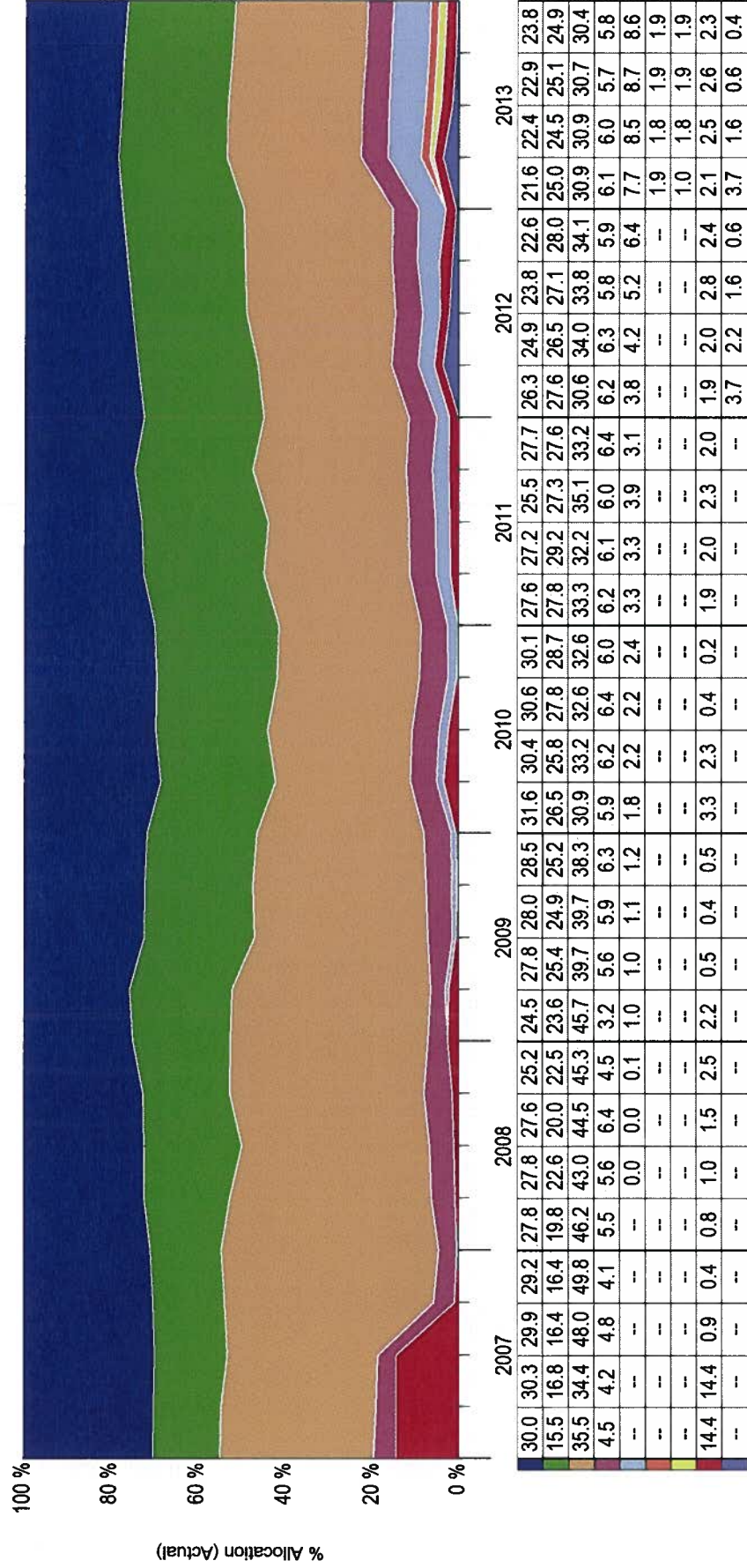


Previous Allocation  
June 30, 2013



# Public Employees Retirement System (HC) Asset Allocation

Asset Allocation History  
7 Years Ending December 31, 2013



- PERS(HC) Domestic Equity
- PERS(HC) International Equity
- PERS(HC) Fixed
- PERS(HC) Cash
- PERS(HC) Risk Parity
- PERS(HC) GTAA
- PERS(HC) Real Estate
- PERS(HC) Alternatives
- PERS(HC) Rebalancing



# Public Employees Retirement System (HC) 7 Year Risk Statistics

## RISK RETURN STATISTICS

January 01, 2007 Through December 31, 2013

Public Employees Retirement System (HC)  
PERS (HC) Total Fund Benchmark

### RETURN SUMMARY STATISTICS

Number of Periods	28	28
Maximum Return	12.96	13.93
Minimum Return	-14.68	-14.49
Annualized Return	5.16	5.19
Total Return	42.22	42.51
Annualized Excess Return Over Risk Free	4.28	4.31
Annualized Excess Return	-0.03	0.00

### RISK SUMMARY STATISTICS

Beta	1.00	1.00
Upside Deviation	7.01	7.33
Downside Deviation	9.25	9.47

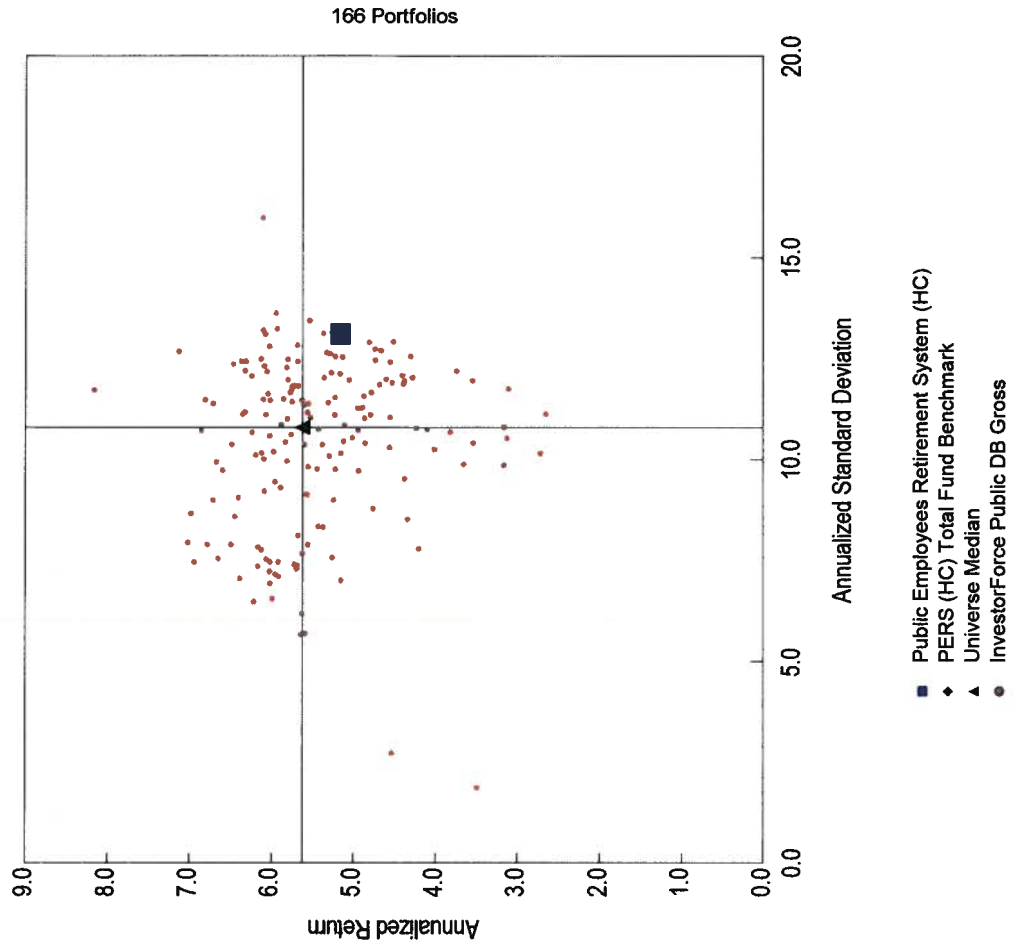
### RISK/RETURN SUMMARY STATISTICS

Annualized Standard Deviation	13.11	13.12
Alpha	0.00	0.00
Sharpe Ratio	0.33	0.33
Excess Return Over Market / Risk	0.00	0.00
Tracking Error	0.93	0.00
Information Ratio	-0.03	--

### CORRELATION STATISTICS

R-Squared	0.99	1.00
Correlation	1.00	1.00

Annualized Return vs. Annualized Standard Deviation  
7 Years Ending December 31, 2013



# Public Employees Retirement System

## Health Care Plan

### Quarter Ending 12/31/2013

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Oct-13	Dec-13	23.5	Russell 3000
			17.0	Barclays Capital U.S. Aggregate
			5.0	Emerging Market Debt
			2.0	Barclays Capital High Yield
			2.0	91-Day Treasury Bill
			24.6	Custom Non-US Equity Benchmark*
			0.5	Russell 3000 + 3% (1 Qtr arrears)
			6.0	DJ Wilshire Resi Full Cap
			5.4	3 mo. LIBOR + 4% bps (2 mo. lag)
			0.5	Opportunistic
			1.0	Barclays US Corp Investment Grade
			1.0	Barclays CMBS ERISA Eligible + 2%
			2.0	Barclays Global High Yield
			3.5	Barclays Capital U.S. TIPS
			2.0	S&P GS Commodity Total Return
			2.0	Custom Risk Parity Benchmark
			2.0	Custom GTAA Benchmark

Label	Quarter Start	Quarter End	Percent	Description

In February 2012 of 2012, the PERS Plans moved to monthly re-weighting the Policy Benchmarks. Shown above are the benchmarks at the end of each quarter.  
 \*56.5% MSCI World Index ex U.S., 31% MSCI Emerging Markets, 10% MSCI World Index ex U.S. Small Cap, and 2.5% MSCI Emerging Markets Small Cap.



# Public Employees Retirement System

## Health Care Plan

### Quarter Ending 12/31/2013

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Oct-12	Dec-12	24.6	Russell 3000
			18.8	Barclays Capital U.S. Aggregate
			5.0	Emerging Market Debt
			2.0	Barclays Capital High Yield
			2.0	91-Day Treasury Bill
			27.0	Custom Non-US Equity Benchmark*
			0.5	Russell 3000 + 3% (1 Qtr arrears)
			6.0	DJ Wilshire Resi Full Cap
			4.2	3 mo. LIBOR + 4% bps (2 mo. lag)
			0.7	Opportunistic
			1.0	Barclays US Corp Investment Grade
			1.0	Credit Suisse Leveraged Loan Index
			0.7	Barclays CMBS ERISA Eligible + 2%
			2.0	Barclays Global High Yield
			3.5	Barclays Capital U.S. TIPS
			1.0	S&P GS Commodity Total Return
	Jan-13	Mar-13	23.3	Russell 3000
			17.5	Barclays Capital U.S. Aggregate
			5.0	Emerging Market Debt
			2.0	Barclays Capital High Yield
			2.0	91-Day Treasury Bill
			27.0	Custom Non-US Equity Benchmark*
			0.5	Russell 3000 + 3% (1 Qtr arrears)
			6.0	DJ Wilshire Resi Full Cap
			4.7	3 mo. LIBOR + 4% bps (2 mo. lag)
			0.5	Opportunistic
			1.0	Barclays US Corp Investment Grade
			1.0	Barclays CMBS ERISA Eligible + 2%
			2.0	Barclays Global High Yield
			3.5	Barclays Capital U.S. TIPS
			2.0	S&P GS Commodity Total Return
			2.0	Custom Risk Parity Benchmark

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Apr-13	Jun-13	23.2	Russell 3000
			17.0	Barclays Capital U.S. Aggregate
			5.0	Emerging Market Debt
			2.0	Barclays Capital High Yield
			2.0	91-Day Treasury Bill
			24.9	Custom Non-US Equity Benchmark*
			0.5	Russell 3000 + 3% (1 Qtr arrears)
			6.0	DJ Wilshire Resi Full Cap
			5.4	3 mo. LIBOR + 4% bps (2 mo. lag)
			0.5	Opportunistic
			1.0	Barclays US Corp Investment Grade
			1.0	Barclays CMBS ERISA Eligible + 2%
			2.0	Barclays Global High Yield
			3.5	Barclays Capital U.S. TIPS
			2.0	S&P GS Commodity Total Return
			2.0	Custom Risk Parity Benchmark
			2.0	Custom GTAA Benchmark
	Jul-13	Sep-13	23.9	Russell 3000
			17.0	Barclays Capital U.S. Aggregate
			5.0	Emerging Market Debt
			2.0	Barclays Capital High Yield
			2.0	91-Day Treasury Bill
			24.2	Custom Non-US Equity Benchmark*
			0.5	Russell 3000 + 3% (1 Qtr arrears)
			6.0	DJ Wilshire Resi Full Cap
			5.4	3 mo. LIBOR + 4% bps (2 mo. lag)
			0.5	Opportunistic
			1.0	Barclays US Corp Investment Grade
			1.0	Barclays CMBS ERISA Eligible + 2%
			2.0	Barclays Global High Yield
			3.5	Barclays Capital U.S. TIPS
			2.0	S&P GS Commodity Total Return
			2.0	Custom Risk Parity Benchmark
			2.0	Custom GTAA Benchmark

In February 2012 of 2012, the PERS Plans moved to monthly re-weighting the Policy Benchmarks. Shown above are the benchmarks at the end of each quarter.  
 \*56.5% MSCI World Index ex U.S., 31% MSCI Emerging Markets, 10% MSCI World Index ex U.S. Small Cap, and 2.5% MSCI Emerging Markets Small Cap.

# Public Employees Retirement System

## Health Care Plan

### Quarter Ending 12/31/2013

Label	Quarter Start	Quarter End	Percent	Description		
Policy Index	-	Dec-11	28.8	Russell 3000		
			21.5	Barclays Capital U.S. Aggregate		
			3.5	Barclays Capital U.S. TIPS		
			2.0	Barclays High Yield		
			2.0	91-Day Treasury Bill		
			5.0	Custom Emerging Markets Debt		
			27.3	MSCI ACWI Ex-US (Net)		
			0.3	Custom Private Equity		
			6.0	DJ Wilshire Resi Full Cap		
			2.0	LIBOR + 400 bps (2 mo. lag)		
			1.6	S&P GS Commodity Total Return		
			Dec-12	Mar-12	29.5	Russell 3000
					20.5	Barclays Capital U.S. Aggregate
					3.5	Barclays Capital U.S. TIPS
					2.0	Barclays High Yield
2.0	91-Day Treasury Bill					
5.0	Custom Emerging Markets Debt					
27.1	MSCI ACWI Ex-US (Net)					
0.5	Custom Private Equity					
6.0	DJ Wilshire Resi Full Cap					
1.9	LIBOR + 400 bps (2 mo. lag)					
1.0	S&P GS Commodity Total Return					
1.0	Securitized Debt					

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Mar-12	Jun-12	26.2	Russell 3000
			20.2	Barclays Capital U.S. Aggregate
			3.5	Barclays Capital U.S. TIPS
			2.0	Barclays High Yield
			2.0	91-Day Treasury Bill
			5.0	Custom Emerging Markets Debt
			27.1	Custom Non-US Equity Benchmark*
			0.5	Russell 3000 + 3% (1 Qtr arrears)
			6.0	DJ Wilshire Resi Full Cap
			3.2	LIBOR + 400 bps (2 mo. lag)
			1.0	S&P GS Commodity Total Return
			1.0	Securitized Debt
			1.0	Barclays US Corp Investment Grade
			1.3	Barclays Global High Yield
			Jul-12	Sep-12
19.4	Barclays Capital U.S. Aggregate			
5.0	Emerging Market Debt			
2.0	Barclays Capital High Yield			
2.0	91-Day Treasury Bill			
27.0	Custom Non-US Equity Benchmark*			
0.5	Russell 3000 + 3% (1 Qtr arrears)			
6.0	DJ Wilshire Resi Full Cap			
3.2	3 mo. LIBOR + 4% bps (2 mo. lag)			
0.7	Opportunistic			
1.0	Barclays US Corp Investment Grade			
1.0	Credit Suisse Leveraged Loan Index			
0.1	Barclays CMBS ERISA Eligible + 2%			
2.0	Barclays Global High Yield			
3.5	Barclays Capital U.S. TIPS			
1.0	S&P GS Commodity Total Return			

# Public Employees Retirement System

## Health Care Plan

### Quarter Ending 12/31/2013

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Dec-08	Mar-09	29.0	Russell 3000
			10.3	Barclays Universal
			20.2	Barclays U.S. TIPS
	Mar-09	Dec-09	11.5	Barclays 1-3 Yr Gov't
			23.0	MSCI ACWI Ex-US (Net)
			6.0	Wilshire Resi Full Cap
	Jan-10	Mar-10	28.4	Russell 3000
			10.0	Barclays Universal
			20.0	Barclays U.S. TIPS
	Mar-09	Dec-09	10.0	Barclays 1-3 Yr Gov't
			24.5	MSCI ACWI Ex-US (Net)
			6.0	Wilshire Resi Full Cap
	Jan-10	Mar-10	0.1	Russell 3000 + 3% (1 Qtr arrears)
1.0			BC Bellweather 3 Mth T-Bill	
30.3			Russell 3000	
Jan-10	Mar-10	17.6	Barclays Capital U.S. Aggregate	
		13.3	Barclays Capital U.S. TIPS	
		0.5	Barclays High Yield	
Jan-10	Mar-10	2.0	91-Day Treasury Bill	
		3.1	Custom Emerging Markets Debt	
		25.0	MSCI ACWI Ex-US (Net)	
Jan-10	Mar-10	0.1	Custom Private Equity	
		6.0	DJ Wilshire Resi Full Cap	
		1.1	LIBOR + 400 bps (2 mo. lag)	
Jan-10	Mar-10	1.0	S&P GS Commodity Total Return	

Label	Quarter Start	Quarter 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
	Apr-10	Jun-10	0.6	Barclays High Yield
			2.0	91-Day Treasury Bill
			5.0	Custom Emerging Markets Debt
	Apr-10	Jun-10	26.0	MSCI ACWI Ex-US (Net)
			0.1	Custom Private Equity
			6.0	DJ Wilshire Resi Full Cap
	Apr-10	Jun-10	1.0	LIBOR + 400 bps (2 mo. lag)
			1.0	S&P GS Commodity Total Return
	Jul-10	Sep-10	31.0	Russell 3000
20.5			Barclays Capital U.S. Aggregate	
5.5			Barclays Capital U.S. TIPS	
Jul-10	Sep-10	1.0	Barclays High Yield	
		2.0	91-Day Treasury Bill	
		5.0	Custom Emerging Markets Debt	
Jul-10	Sep-10	26.7	MSCI ACWI Ex-US (Net)	
		0.2	Custom Private Equity	
		6.0	DJ Wilshire Resi Full Cap	
Jul-10	Sep-10	1.2	LIBOR + 400 bps (2 mo. lag)	
		1.0	S&P GS Commodity Total Return	

# Public Employees Retirement System

## Health Care Plan

### Quarter Ending 12/31/2013

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

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Dec-06	Dec-07	30.0	Russell 3000
			15.0	Barclays Universal
			15.0	MSCI ACWI Ex-US (Net)
			5.0	Wilshire Resi Full Cap
			20.0	Barclays US Tips
			15.0	Barclays 1-3 Yr Gov't
Policy Index	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
Policy Index	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
Policy Index	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

# State Teachers Retirement System (STRS)

# State Teachers Retirement System

Actuarial Rate: 7.75%

Ending December 31, 2013

	6 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>State Teachers Retirement System</b>					
STRS Total Fund Benchmark	10.3%	17.6%	10.8%	13.1%	7.9%
Over/Under	10.5%	18.1%	10.7%	13.1%	7.5%
	-0.2%	-0.5%	0.1%	0.0%	0.4%
STRS Domestic Equity	16.7%	32.1%	15.7%	18.4%	7.6%
STRS Domestic Equity Benchmark	17.1%	33.6%	16.2%	18.7%	7.9%
Over/Under	-0.4%	-1.5%	-0.5%	-0.3%	-0.3%
STRS Fixed Income	1.0%	-1.0%	4.1%	7.3%	5.4%
Barclays U.S. Universal	1.0%	-1.3%	3.8%	5.4%	4.9%
Over/Under	0.0%	0.3%	0.3%	1.9%	0.5%
STRS International Equity	14.6%	19.2%	6.8%	13.8%	8.9%
STRS International Blended Benchmark	14.2%	17.6%	6.1%	12.8%	8.1%
Over/Under	0.4%	1.6%	0.7%	1.0%	0.8%
<b>STRS Real Estate</b>	5.4%	10.7%	15.3%	5.5%	12.3%
STRS RE Blended Benchmark	3.8%	9.7%	11.7%	7.9%	9.0%
Over/Under	1.6%	1.0%	3.6%	-2.4%	3.3%
<b>STRS Alternatives</b>					
STRS Private Equity	9.6%	20.0%	15.9%	10.3%	12.6%
STRS Private Equity Benchmark	17.7%	34.9%	18.6%	21.6%	10.8%
Over/Under	-8.1%	-14.9%	-2.7%	-11.3%	1.8%
STRS Hedge Funds	-0.6%	11.4%	5.0%	6.8%	9.1%
HFR1 Fund of Funds Composite Index	5.4%	9.0%	2.5%	4.9%	3.4%
Over/Under	-6.0%	2.4%	2.5%	1.9%	5.7%
STRS Opportunistic	2.3%	11.7%	9.1%	-	-
STRS Opportunistic Benchmark	16.5%	32.3%	15.1%	-	-
Over/Under	-14.2%	-20.6%	-6.0%		
STRS Liquidity Reserves	0.1%	0.1%	0.1%	0.4%	1.9%
91 Day T-Bills	0.0%	0.0%	0.1%	0.1%	1.6%
Over/Under	0.1%	0.1%	0.0%	0.3%	0.3%



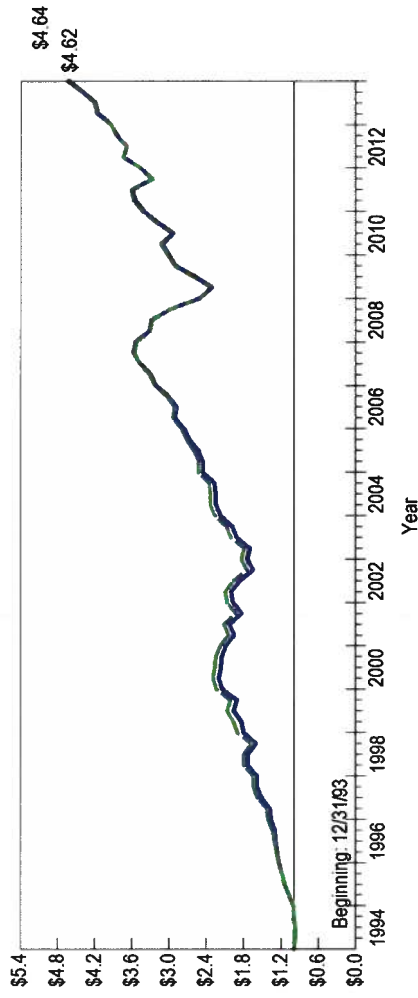
# State Teachers Retirement System

## Asset Allocation by Segment

As Of December 31, 2013

	Total Market Value	% of Portfolio	US Equity	Non-US Equity	US Fixed Income	Alternatives	Real Estate	Cash
STRS Domestic Equity	\$22,620,005,593	31.3%	\$22,620,005,593					
STRS Fixed Income	\$14,084,026,201	19.5%			\$14,084,026,201			
STRS International Equity	\$17,703,525,430	24.5%		\$17,703,525,430				
STRS Real Estate								
STRS Real Estate	\$6,699,396,574	9.3%				\$6,699,396,574		
STRS Alternatives								
STRS Private Equity	\$4,403,049,367	6.1%				\$4,403,049,367		
STRS Hedge Funds								
STRS Opportunistic	\$3,388,950,692	4.7%				\$3,388,950,692		
STRS Liquidity Reserves	\$3,446,307,278	4.8%					\$3,446,307,278	
<b>Total</b>	<b>\$72,345,261,134</b>	<b>100.0%</b>	<b>\$22,620,005,593</b>	<b>\$17,703,525,430</b>	<b>\$14,084,026,201</b>	<b>\$7,792,000,059</b>	<b>\$6,699,396,574</b>	<b>\$3,446,307,278</b>

## GROWTH OF A DOLLAR



STRS

	Actual	Target	Difference
US Equity	31.3	33.0	-1.7
Intl Equity	24.5	25.0	-0.5
Alternatives	10.8	13.0	-2.2
<b>Total Equity</b>	<b>66.5</b>	<b>71.0</b>	<b>-4.5</b>
Fixed Income	19.5	18.0	1.5
Real Estate	9.3	10.0	-0.7
Short Term Investments	4.8	1.0	3.8
<b>Total Debt</b>	<b>33.5</b>	<b>29.0</b>	<b>4.5</b>
	<b>100.0</b>	<b>100.0</b>	<b>0.0</b>

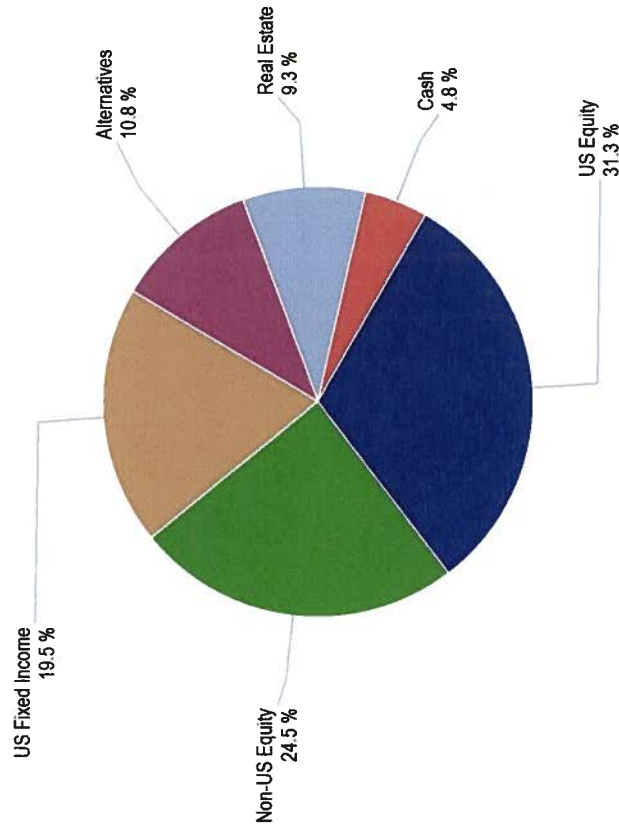
\*Totals may not add up to 100% due to rounding.

State Teachers Retirement System  
STRS Total Fund Benchmark

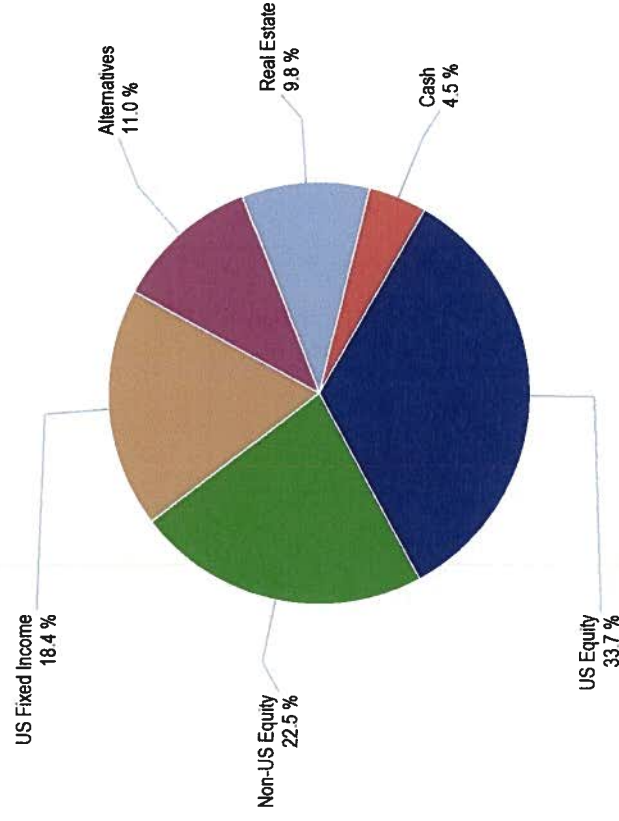
# State Teachers Retirement System

## Asset Allocation

**Current Allocation**  
December 31, 2013



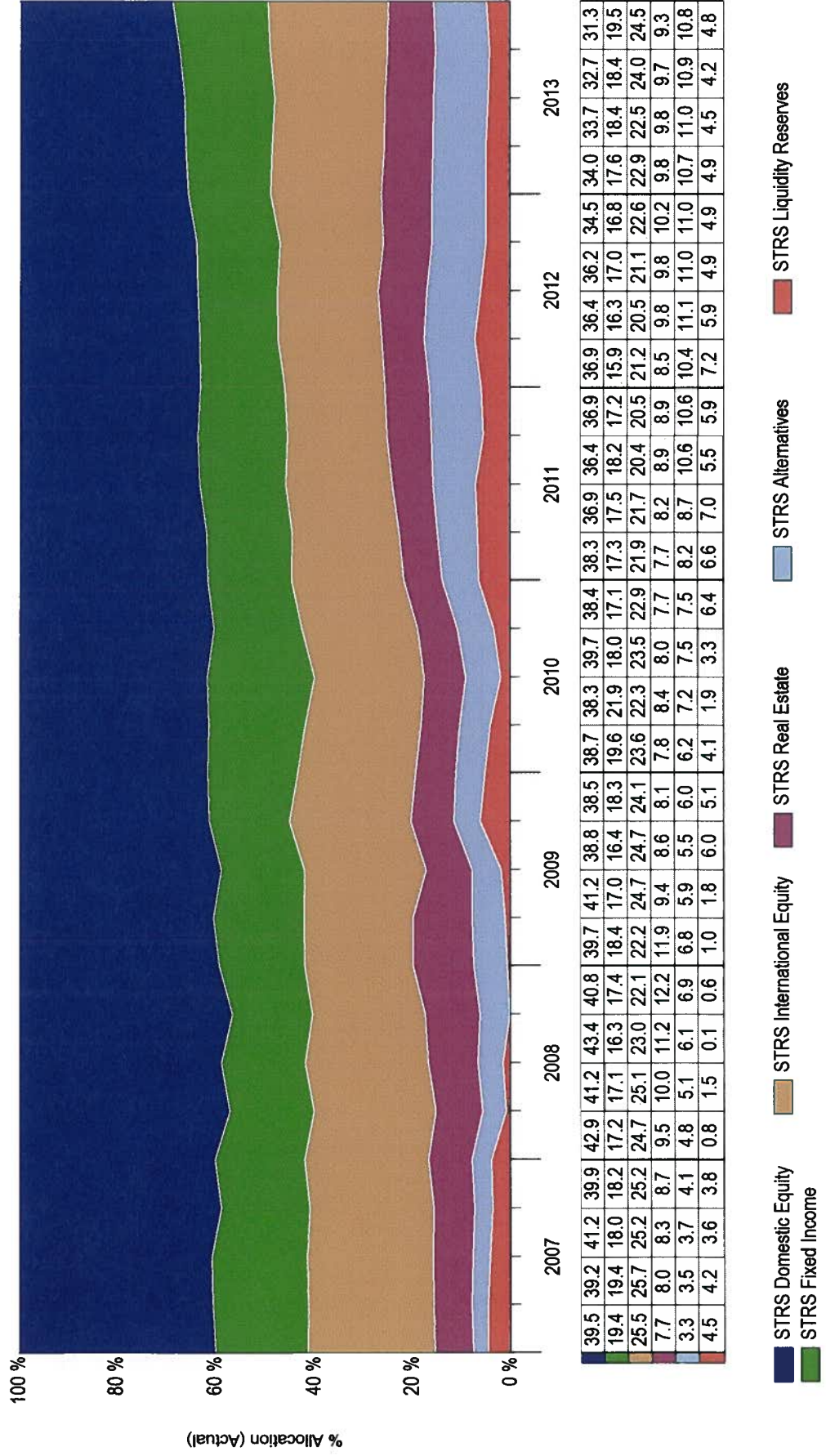
**Previous Allocation**  
June 30, 2013



# State Teachers Retirement System

## Asset Allocation

Asset Allocation History  
7 Years Ending December 31, 2013



# State Teachers Retirement System 10 Year Risk Statistics

## RISK RETURN STATISTICS January 01, 2004 Through December 31, 2013

	State Teachers Retirement System	STRS Total Fund Benchmark
<b>RETURN SUMMARY STATISTICS</b>		
Number of Periods	40	40
Maximum Return	12.29	12.72
Minimum Return	-15.96	-15.95
Annualized Return	7.90	7.51
Total Return	113.88	106.24
Annualized Excess Return Over Risk Free	6.34	5.95
Annualized Excess Return	0.39	0.00

## RISK SUMMARY STATISTICS

Beta	1.00	1.00
Upside Deviation	5.90	5.86
Downside Deviation	9.94	9.96

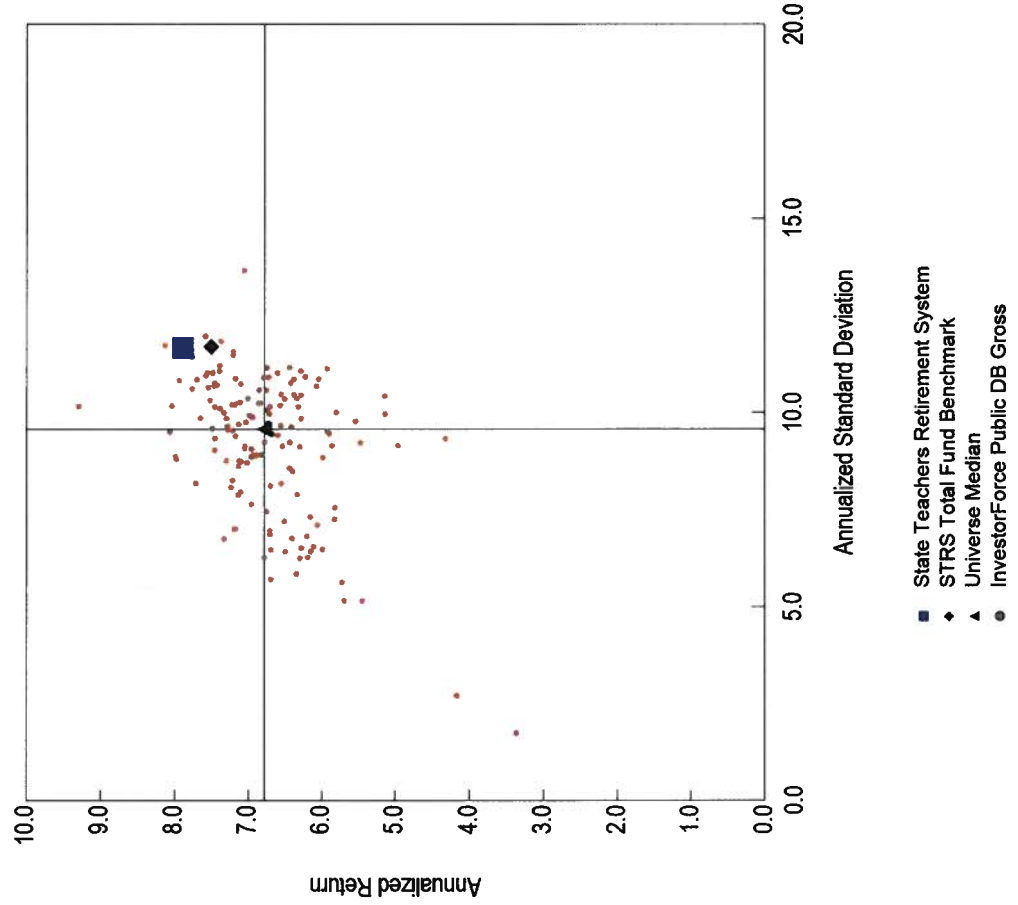
## RISK/RETURN SUMMARY STATISTICS

Annualized Standard Deviation	11.67	11.69
Alpha	0.10	0.00
Sharpe Ratio	0.54	0.51
Excess Return Over Market / Risk	0.03	0.00
Tracking Error	0.73	0.00
Information Ratio	0.53	--

## CORRELATION STATISTICS

R-Squared	1.00	1.00
Correlation	1.00	1.00

Annualized Return vs. Annualized Standard Deviation  
10 Years Ending December 31, 2013



146 Portfolios

# State Teachers Retirement System

## Quarter Ending 12/31/2013

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Jun-09	Jun-10	39.0	Russell 3000
			20.0	Barclays Universal
			18.4	MSCI World Ex-US 50% hedged (net)
			10.0	Real Estate Blended Benchmark
			4.6	MSCI Em Mkts Free (Gross)
	Jul-10	Jun-11	7.0	Alt. Investment Actual Return
			1.0	91-Day Treasury Bill
			39.0	Russell 3000
			19.0	Barclays Universal
			18.4	MSCI World Ex-US 50% hedged (net)
	Sep-11	Jun-12	10.0	Real Estate Blended Benchmark
			4.6	MSCI Em Mkts Free (Gross)
			8.0	Alt. Investment Actual Return*
			1.0	91-Day Treasury Bill
			39.0	Russell 3000
Sep-12	Dec-12	18.0	Barclays Universal	
		18.4	MSCI World Ex-US 50% hedged (net)	
		10.0	Real Estate Blended Benchmark	
		4.6	MSCI Em Mkts Free (Gross)	
		9.0	Alt. Investment Actual Return*	
			1.0	91-Day Treasury Bill

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Jan-13	Jun-13	36.0	Russell 3000
			18.0	Barclays Universal
			19.2	MSCI World Ex-US 50% hedged (net)
			10.0	Real Estate Blended Benchmark
			4.8	MSCI Em Mkts Free (Gross)
	Jul-13	Dec-13	11.0	Alt. Investment Actual Return*
			1.0	91-Day Treasury Bill
			33.0	Russell 3000
			18.0	Barclays Universal
			20.0	MSCI World Ex-US 50% hedged (net)
			10.0	Real Estate Blended Benchmark
			5.0	MSCI Em Mkts Free (Gross)
			13.0	Alt. Investment Actual Return*
			1.0	91-Day Treasury Bill

\*For calculating the Total Fund Blended Benchmark, the actual Alternative Investment asset class return is used. The Alternative Investment Blended Benchmark is used for the asset class relative performance and is in two parts by policy: Private Equity is currently the Russell 3000 Index plus 100 bps and Opportunistic/Diversified is the Russell 3000 Index minus 100 bps. The Alternative Investment Blended Benchmark is based on the policy weights of Private Equity and Opportunistic/Diversified during the respective periods.



# State Teachers Retirement System

Quarter Ending 12/31/2013

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Sep-02	Dec-02	45.0	S&P 1500
			23.0	Barclays Universal
			15.0	MSCI EAFE 50% Hedged
			9.0	Real Estate Blended Benchmark
			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	Real Estate Blended Benchmark
			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 (net)	
		9.0	Real Estate Blended Benchmark	
		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 (net)	
		9.0	Real Estate Blended Benchmark	
		5.0	MSCI Em Mkts Free (Gross)	
		3.0	Alt. Investment Actual Return	
		0.0	91-Day Treasury Bill	

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Sep-06	Jun-07	42.0	Russell 3000
			20.5	Barclays Universal
			20.0	MSCI World Ex-US 50% hedged (net)
			9.5	Real Estate Blended Benchmark
			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 (net)
			10.0	Real Estate Blended Benchmark
			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 (net)	
		9.5	Real Estate Blended Benchmark	
		5.0	MSCI Em Mkts Free (Gross)	
		3.5	Alt. Investment Actual Return	
		0.0	91-Day Treasury Bill	
Apr-09	Jun-09	40.0	Russell 3000	
		20.0	Barclays Universal	
		19.2	MSCI World Ex-US 50% hedged (net)	
		10.0	Real Estate Blended Benchmark	
		4.8	MSCI Em Mkts Free (Gross)	
		6.0	Alt. Investment Actual Return	
		0.0	91-Day Treasury Bill	



# State Teachers Retirement System

Quarter Ending 12/31/2013

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Mar-94	Dec-94	40.0	Standard & Poors 500
			45.0	Barclays Govt./Corp.
			9.0	Real Estate Blended Benchmark
			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	Real Estate Blended Benchmark
			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			Real Estate Blended Benchmark	
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	Real Estate Blended Benchmark	
		6.0	MSCI EAFE (Net)	
		4.0	MSCI Em Mkts Free (Gross)	
		2.0	91-Day Treasury Bill	

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (Cont.)	Sep-97	Dec-97	45.0	Standard & Poors 500
			24.0	BC Aggregate
			12.0	MSCI EAFE (Net)
			9.0	Real Estate Blended Benchmark
			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	Real Estate Blended Benchmark
			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	Real Estate Blended Benchmark	
		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	Real Estate Blended Benchmark	
		5.0	MSCI Em Mkts Free (Gross)	
		1.0	91-Day Treasury Bill	

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

# Ohio Police & Fire

## Actuarial Rate: 8.25%

Ending December 31, 2013

	6 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>Ohio Police &amp; Fire</b>	<b>10.8%</b>	<b>16.0%</b>	<b>11.0%</b>	<b>13.8%</b>	<b>8.1%</b>
OPF Total Fund Benchmark	9.5%	14.6%	10.5%	12.3%	7.4%
Over/Under	1.3%	1.4%	0.5%	0.9%	0.7%
OP&F Domestic Equity	16.2%	30.7%	15.2%	20.0%	8.5%
Wilshire 5000	16.7%	33.1%	16.0%	18.6%	8.0%
Over/Under	-0.5%	-2.4%	-0.8%	1.4%	0.5%
OP&F International Equity	17.4%	21.0%	8.4%	15.4%	9.1%
OPF International Benchmark	15.6%	15.8%	5.3%	12.9%	7.8%
Over/Under	1.8%	5.2%	3.1%	2.5%	1.5%
<b>OP&amp;F Fixed Income</b>	<b>2.4%</b>	<b>-1.0%</b>	<b>7.5%</b>	<b>10.8%</b>	<b>7.2%</b>
Barclays Aggregate	0.4%	-2.0%	3.3%	4.4%	4.5%
Over/Under	2.0%	1.0%	4.2%	6.4%	2.7%
OP&F Core Fixed	0.7%	-1.0%	3.8%	6.5%	5.1%
Barclays Aggregate	0.4%	-2.0%	3.3%	4.4%	4.5%
Over/Under	0.3%	1.0%	0.5%	2.1%	0.6%
OP&F Mortgages	6.2%	6.7%	5.7%	6.5%	5.5%
OP&F High Yield	5.2%	6.1%	9.2%	17.1%	8.5%
OPF High Yield Benchmark	5.9%	7.5%	9.2%	18.1%	8.3%
Over/Under	-0.7%	-1.4%	0.0%	-1.0%	0.2%
Global Inflation Protected Securities	0.4%	-10.6%	11.7%	12.0%	8.6%
OPF GIPS Benchmark	-2.3%	-13.1%	7.1%	7.2%	5.9%
Over/Under	2.7%	2.5%	4.6%	4.8%	2.7%

# Ohio Police & Fire

## Actuarial Rate: 8.25%

Ending December 31, 2013

	6 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>OP&amp;F Real Estate</b>	<b>8.4%</b>	<b>15.1%</b>	<b>15.4%</b>	<b>0.2%</b>	<b>8.5%</b>
OPF Real Estate Benchmark	<u>7.1%</u>	<u>12.0%</u>	<u>13.2%</u>	<u>-0.2%</u>	<u>6.1%</u>
Over/Under	1.3%	3.1%	2.2%	0.4%	2.4%
<b>OP&amp;F Alternatives</b>					
OP&F Private Equity	7.1%	11.5%	12.9%	7.4%	11.4%
OPF Private Equity Benchmark	<u>10.6%</u>	<u>24.6%</u>	<u>20.0%</u>	<u>13.8%</u>	<u>11.9%</u>
Over/Under	-3.5%	-13.1%	-7.1%	-6.4%	-0.5%
Timber	-0.9%	3.4%	-	-	-
OPF Timber Benchmark	<u>2.7%</u>	<u>7.0%</u>	-	-	-
Over/Under	-3.6%	-3.6%			
OP&F Cash	0.0%	0.1%	0.2%	0.3%	1.8%
91 Day T-Bills	<u>0.0%</u>	<u>0.0%</u>	<u>0.1%</u>	<u>0.1%</u>	<u>1.6%</u>
Over/Under	0.0%	0.1%	0.1%	0.2%	0.2%

# Ohio Police & Fire

## Asset Allocation by Segment

As Of December 31, 2013

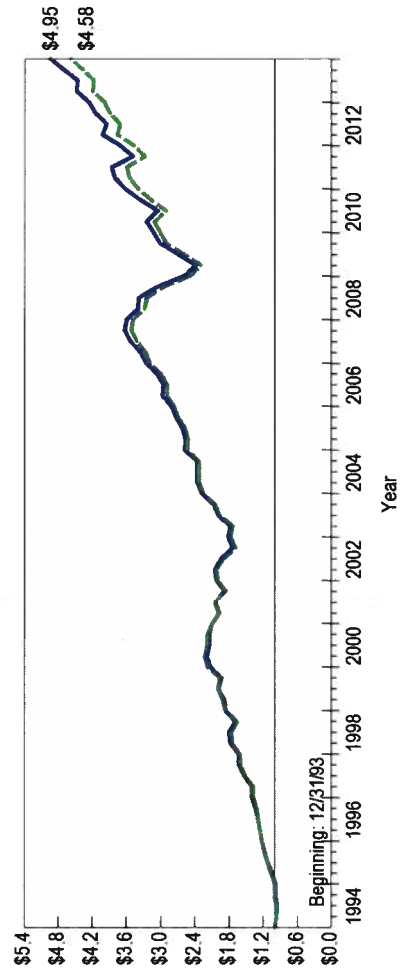
	Total Market Value	% of Portfolio	US Equity	Non-US Equity	US Fixed Income	Non-US Fixed Income	Alternatives	Real Estate	Cash	Other
OP&F Domestic Equity	\$3,723,633,194	26.7%	\$3,723,633,194							
OP&F International Equity	\$3,543,525,195	25.4%		\$3,543,525,195						
OP&F Fixed Income					\$1,145,971,913					
OP&F Core Fixed	\$1,145,971,913	8.2%			\$36,981,557					
OP&F Mortgages	\$36,981,557	0.3%			\$1,708,421,204					
OP&F High Yield	\$1,708,421,204	12.3%				\$873,474,567				
Global Inflation Protected Securities	\$873,474,567	6.3%								
OP&F Real Estate							\$1,314,680,899			
OP&F Real Estate	\$1,314,680,899	9.4%								
OP&F Alternatives							\$598,697,550			
OP&F Private Equity	\$598,697,550	4.3%								
Timber	\$129,032,007	0.9%					\$129,032,007			
MLPs	\$755,203,546	5.4%							\$755,203,546	
OP&F Cash	\$97,083,280	0.7%						\$97,083,280		
<b>Total</b>	<b>\$13,926,704,912</b>	<b>100.0%</b>	<b>\$3,723,633,194</b>	<b>\$3,543,525,195</b>	<b>\$2,891,374,674</b>	<b>\$873,474,567</b>	<b>\$727,729,557</b>	<b>\$1,314,680,899</b>	<b>\$97,083,280</b>	<b>\$755,203,546</b>

## OP&F

	Actual	Target	Difference
US Equity	26.7	31.6	-4.9
Intl Equity	25.4	21.7	3.7
Alternatives	5.2	5.3	-0.0
<b>Total Equity</b>	<b>57.4</b>	<b>58.6</b>	<b>-1.1</b>
Fixed Income	27.0	31.5	-4.4
Real Estate	9.4	10.0	-0.6
Short Term Investments	6.1	0.0	6.1
<b>Total Debt</b>	<b>42.6</b>	<b>41.5</b>	<b>1.1</b>
	<b>100.0</b>	<b>100.0</b>	<b>0.0</b>

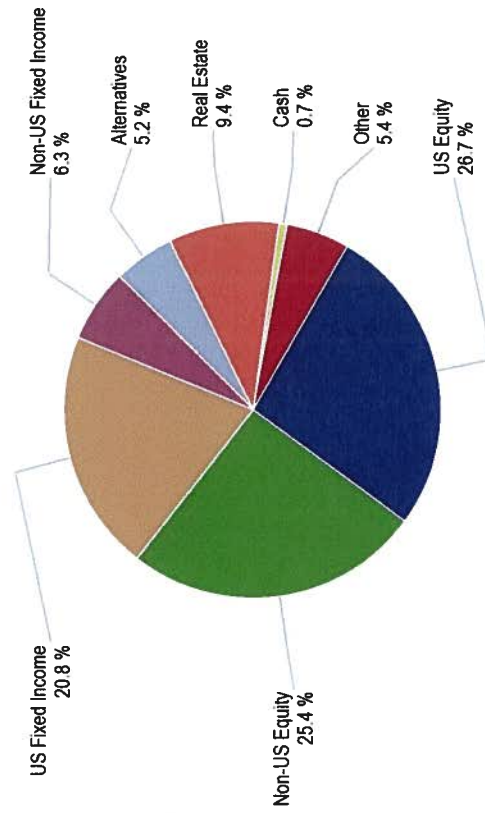
\*Totals may not add up to 100% due to rounding.

## GROWTH OF A DOLLAR

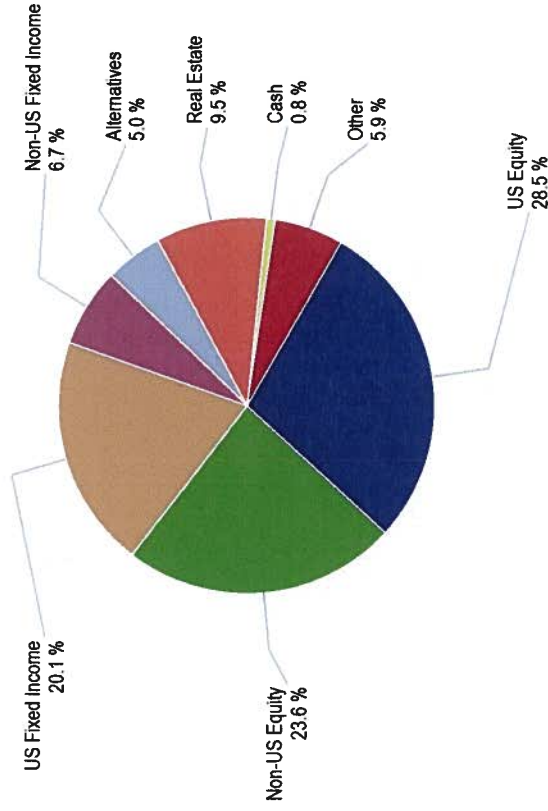


# Ohio Police & Fire Asset Allocation

**Current Allocation  
December 31, 2013**



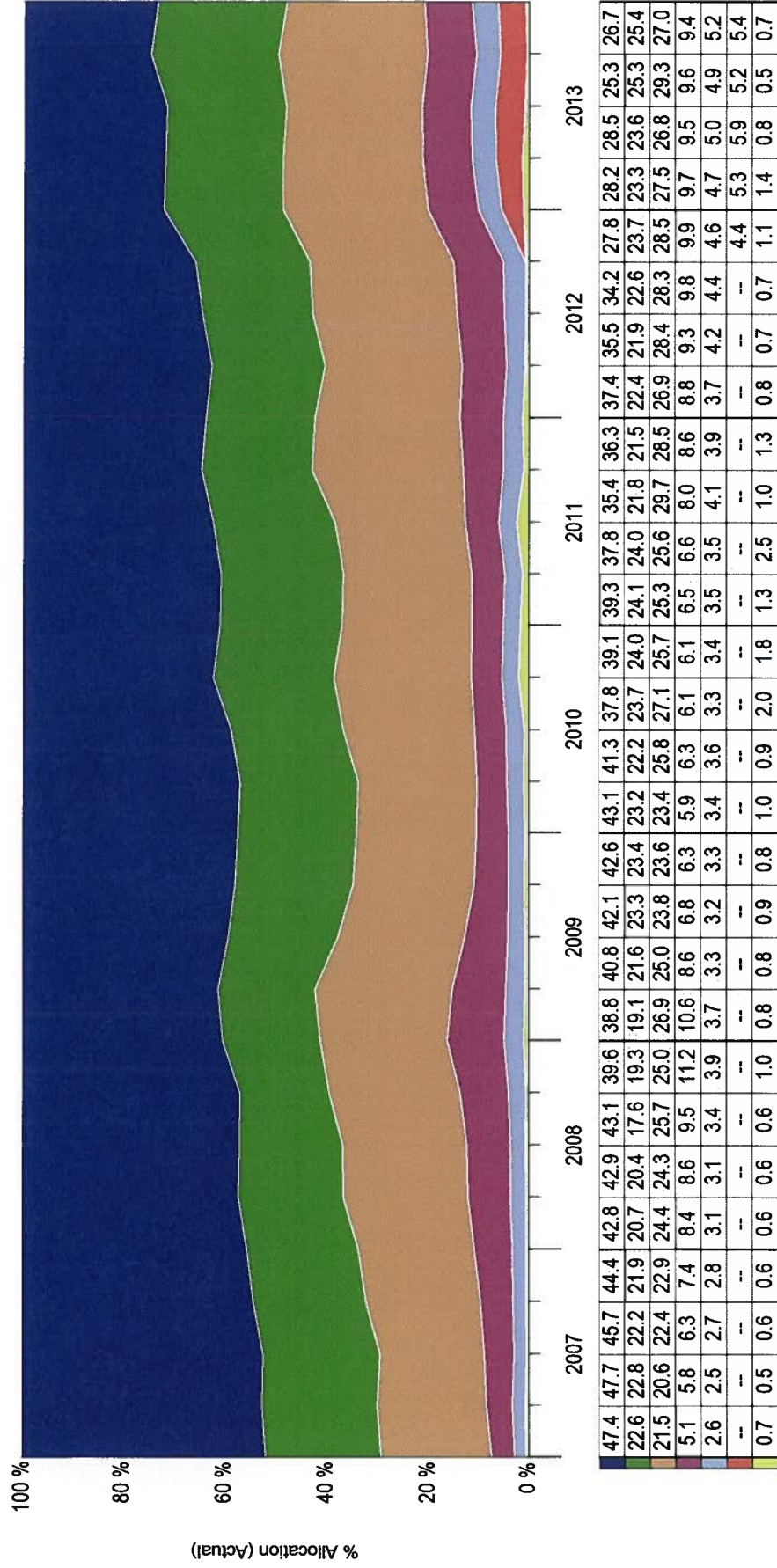
**Previous Allocation  
June 30, 2013**





# Ohio Police & Fire Asset Allocation

Asset Allocation History  
7 Years Ending December 31, 2013



# Ohio Police & Fire 10 Year Risk Statistics

## RISK RETURN STATISTICS January 01, 2004 Through December 31, 2013

Ohio Police & Fire  
OPF Total Fund  
Benchmark

RETURN SUMMARY STATISTICS	Ohio Police & Fire	OPF Total Fund Benchmark
Number of Periods	40	40
Maximum Return	13.00	12.98
Minimum Return	-15.45	-15.69
Annualized Return	8.09	7.36
Total Return	117.72	103.50
Annualized Excess Return Over Risk Free	6.53	5.80
Annualized Excess Return	0.73	0.00

## RISK SUMMARY STATISTICS

Beta	1.02	1.00
Upside Deviation	6.27	6.27
Downside Deviation	10.00	9.87

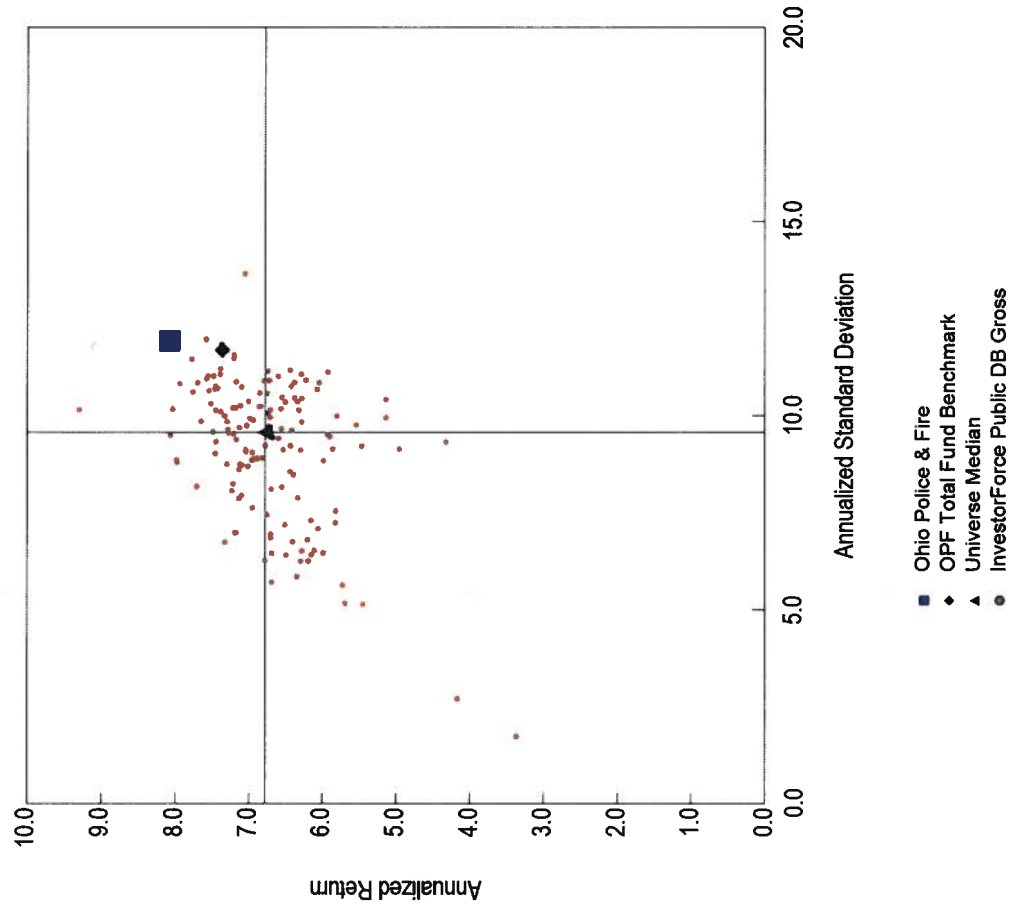
## RISK/RETURN SUMMARY STATISTICS

Annualized Standard Deviation	11.93	11.68
Alpha	0.14	0.00
Sharpe Ratio	0.55	0.50
Excess Return Over Market / Risk	0.06	0.00
Tracking Error	0.87	0.00
Information Ratio	0.84	--

## CORRELATION STATISTICS

R-Squared	1.00	1.00
Correlation	1.00	1.00

Annualized Return vs. Annualized Standard Deviation  
10 Years Ending December 31, 2013



# Police & Fire Pension Fund

## Quarter Ending 12/31/2013

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (Cont)	Jan-12	Jun-12	15.0	CS Developed Countries HY
			6.5	Bridgewater Custom GIPS
			10.0	NCREIF ODCE NOF 1 Mo Lag
			4.0	Wilshire 5000+3% Qtr. Lagged
			1.0	CPI + 5%
	Jul-12	Sep-12	21.7	OP&F MSCI ex-US I/S Free IMI
			10.0	Barclays Aggregate
			31.9	Wilshire 5000
			15.0	CS Developed Countries HY
			10.0	NCREIF ODCE NOF 1 Mo Lag
	Oct-12	Dec-13	21.7	OP&F MSCI ex-US I/S Free IMI
			15.0	CS Developed Countries HY
			10.0	NCREIF ODCE NOF 1 Mo Lag
			1.3	CPI + 5%
			6.5	Bridgewater Custom GIPS
Jan-13	Mar-13	31.6	Wilshire 5000	
		4.0	Wilshire 5000+3% Qtr. Lagged	
		10.0	Barclays Aggregate	
		21.7	OP&F MSCI ex-US I/S Free IMI	
		15.0	CS Developed Countries HY	

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (Cont)	Jan-13	Mar-13	10.0	Barclays Aggregate
			4.0	Wilshire 5000+3% Qtr. Lagged
			31.6	Wilshire 5000
			6.5	Bridgewater Custom GIPS
			1.3	CPI + 5%
	Apr-13	Jun-13	21.7	OP&F MSCI ex-US I/S Free IMI
			15.0	CS Developed Countries HY
			10.0	NCREIF ODCE NOF 1 Mo Lag
			10.0	NCREIF ODCE NOF 1 Mo Lag
			1.3	CPI + 5%
	Jul-13	Sep-13	6.5	Bridgewater Custom GIPS
			31.6	Wilshire 5000
			4.0	Wilshire 5000+3% Qtr. Lagged
			10.0	Barclays Aggregate
			21.7	OP&F MSCI ex-US I/S Free IMI

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

# Police & Fire Pension Fund

## Quarter Ending 12/31/2013

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Jan-09	Mar-09	3.0	Wilshire 5000+3% Qtr. Lagged
			6.0	CS Developed Countries HY
			11.0	BC Aggregate
			22.0	MSCI ACWI X US (N)
			43.0	Wilshire 5000
			6.0	Bridgewater Custom GIPS
	Apr-09	Jun-09	9.0	NCREIF ODCE NOF 1 Mo Lag
			6.0	Bridgewater Custom GIPS
			42.0	Wilshire 5000
			22.0	MSCI ACWI X US (N)
			11.0	BC Aggregate
			6.0	CS Developed Countries HY
			4.0	Wilshire 5000+3% Qtr. Lagged
			9.0	NCREIF ODCE NOF 1 Mo Lag
	Jul-09	Sep-09	40.0	Wilshire 5000
			23.0	MSCI ACWI X US (N)
		10.0	BC Aggregate	
		7.0	CS Developed Countries HY	
		6.0	Bridgewater Custom GIPS	
		4.0	Wilshire 5000+3% Qtr. Lagged	
Oct-09	Jun-10	10.0	NCREIF ODCE NOF 1 Mo Lag	
		39.0	Wilshire 5000	
		24.0	MSCI ACWI X US (N)	
		10.0	BC Aggregate	
		7.0	CS Developed Countries HY	
		6.0	Bridgewater Custom GIPS	
		4.0	Wilshire 5000+3% Qtr. Lagged	
		10.0	NCREIF ODCE NOF 1 Mo Lag	

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Jul-10	Dec-10	4.0	Wilshire 5000+3% Qtr. Lagged
			6.5	Bridgewater Custom GIPS
			9.7	CS Developed Countries HY
			10.0	BC Aggregate
			23.0	MSCI ACWI X US (N)
			36.9	Wilshire 5000
			10.0	NCREIF ODCE NOF 1 Mo Lag
	Jan-11	Jun-11	4.0	Wilshire 5000+3% Qtr. Lagged
			6.5	Bridgewater Custom GIPS
			11.4	CS Developed Countries HY
9.8			BC Aggregate	
22.3			MSCI ACWI X US (N)	
		36.0	Wilshire 5000	
		10.0	NCREIF ODCE NOF 1 Mo Lag	
Jul-11	Dec-11	36.0	Wilshire 5000	
		9.5	BC Aggregate	
		12.0	CS Developed Countries HY	
		6.5	Bridgewater Custom GIPS	
		4.0	Wilshire 5000+3% Qtr. Lagged	
		10.0	NCREIF ODCE NOF 1 Mo Lag	
		22.0	OP&F MSCI ex-US I/S Free IMI	

# Police & Fire Pension Fund

## Quarter Ending 12/31/2013

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Apr-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%
	Oct-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%
	Apr-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%	
Jul-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+3% Qtr. Lagged	

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Apr-02	Sep-04	17.0	MSCI EAFE Index (N)
			5.0	CS Developed Countries HY
			3.0	MSCI EM Index (G)
			1.0	Wilshire 5000+5% Lagged
			18.0	BC Aggregate
			48.0	Wilshire 5000
			8.0	NCREIF ODCE NOF 1 Mo Lag
	Oct-04	Dec-04	100.0	OPF TF Policy
	Jan-05	Dec-06	46.0	Wilshire 5000
			5.0	CS Developed Countries HY
			20.0	MSCI ACWI X US (N)
			3.0	Wilshire 5000+5% Lagged
			18.0	BC Aggregate
			8.0	NCREIF ODCE NOF 1 Mo Lag
	Jan-07	Sep-08	46.0	Wilshire 5000
			5.0	CS Developed Countries HY
			20.0	MSCI ACWI X US (N)
		3.0	Wilshire 5000+3% Qtr. Lagged	
		18.0	BC Aggregate	
		8.0	NCREIF ODCE NOF 1 Mo Lag	
Oct-08	Dec-08	12.0	BC Aggregate	
		21.0	MSCI ACWI X US (N)	
		45.0	Wilshire 5000	
		3.0	Wilshire 5000+3% Qtr. Lagged	
		6.0	Bridgewater Custom GIPS	
		5.0	CS Developed Countries HY	
		8.0	NCREIF ODCE NOF 1 Mo Lag	

# School Employees Retirement System (SERS)



# School Employees Retirement System

Actuarial Rate: 7.75%

Ending December 31, 2013

	6 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>School Employees Retirement System</b>					
SERS Total Fund Benchmark	11.0%	16.9%	10.1%	11.8%	7.0%
Over/Under	9.5%	15.3%	9.4%	11.3%	6.9%
	1.5%	1.6%	0.7%	0.5%	0.1%
SERS Domestic Equity	19.0%	35.8%	16.8%	19.7%	7.9%
Russell 3000	17.1%	33.6%	16.2%	18.7%	7.9%
Over/Under	1.9%	2.2%	0.6%	1.0%	0.0%
SERS International Equity	14.4%	17.3%	6.7%	14.4%	9.0%
SERS Intl Equity Benchmark	14.1%	17.2%	6.1%	13.0%	8.0%
Over/Under	0.3%	0.1%	0.6%	1.4%	1.0%
SERS Global Fixed	1.4%	-0.4%	5.1%	8.9%	5.8%
Barclays Aggregate	0.4%	-2.0%	3.3%	4.4%	4.5%
Over/Under	1.0%	1.6%	1.8%	4.5%	1.3%
<b>SERS Real Estate</b>					
SERS Real Estate	7.4%	12.0%	12.0%	0.3%	5.8%
SERS Total Real Estate Benchmark	5.5%	11.0%	12.7%	6.1%	8.9%
Over/Under	1.9%	1.0%	-0.7%	-5.8%	-3.1%
<b>SERS Alternatives</b>					
SERS Private Equity	10.3%	17.3%	14.8%	8.2%	9.6%
SERS PE Benchmark	10.7%	22.3%	19.3%	13.0%	10.6%
Over/Under	-0.4%	-5.0%	-4.5%	-4.8%	-1.0%
SERS Hedge Funds	5.6%	9.8%	5.4%	8.7%	-
SERS Hedge Fund Benchmark	5.9%	9.4%	2.7%	6.7%	-
Over/Under	-0.3%	0.4%	2.7%	2.0%	-
SERS Opportunistic	6.8%	-	-	-	-
SERS Opportunistic Benchmark	9.5%	15.3%	-	-	-
Over/Under	-2.7%	-	-	-	-
SERS Cash	0.0%	0.1%	0.2%	0.3%	2.1%
SERS Short-Term Benchmark	0.0%	0.0%	0.0%	0.1%	1.5%
Over/Under	0.0%	0.1%	0.2%	0.2%	0.6%

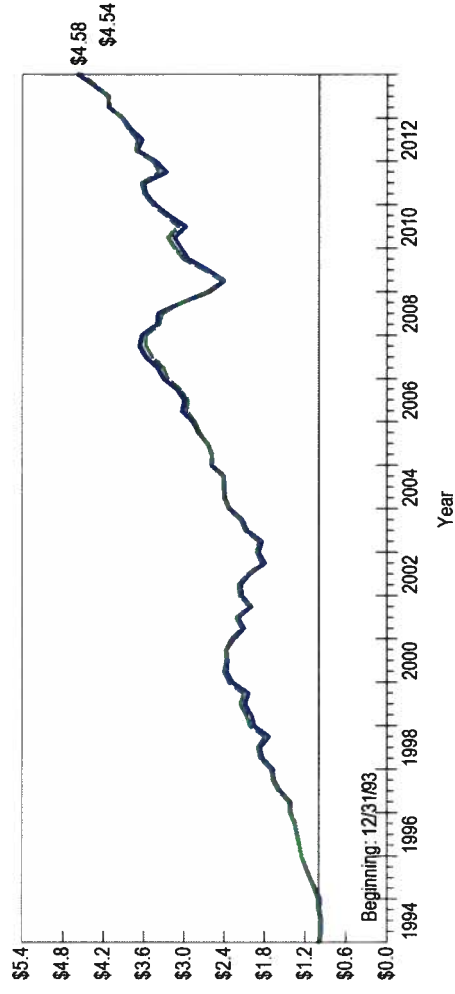
# School Employees Retirement System

## Asset Allocation by Segment

As Of December 31, 2013

	Total Market Value	% of Portfolio	US Equity	Non-US Equity	US Fixed Income	Alternatives	Real Estate	Cash
SERS Domestic Equity	\$3,180,306,785	26.1%	\$3,180,306,785					
SERS International Equity	\$3,147,714,276	25.8%		\$3,147,714,276				
SERS Global Fixed	\$1,852,365,205	15.2%			\$1,852,365,205			
<b>SERS Real Estate</b>								
SERS Real Estate	\$1,268,407,417	10.4%					\$1,268,407,417	
<b>SERS Alternatives</b>								
SERS Private Equity	\$1,086,105,682	8.9%				\$1,086,105,682		
SERS Hedge Funds	\$1,453,139,614	11.9%				\$1,453,139,614		
SERS Opportunistic	\$24,149,287	0.2%				\$24,149,287		
SERS Cash	\$166,882,855	1.4%						\$166,882,855
<b>Total</b>	<b>\$12,179,071,121</b>	<b>100.0%</b>	<b>\$3,180,306,785</b>	<b>\$3,147,714,276</b>	<b>\$1,852,365,205</b>	<b>\$2,563,394,583</b>	<b>\$1,268,407,417</b>	<b>\$166,882,855</b>

## GROWTH OF A DOLLAR



	Actual	Target	Difference
SERS			
US Equity	26.1	22.5	3.6
Intl Equity	25.9	22.5	3.4
Alternatives	21.1	25.0	-4.0
<b>Total Equity</b>	<b>73.0</b>	<b>70.0</b>	<b>3.0</b>
Fixed Income	15.2	19.0	-3.8
Real Estate	10.4	10.0	0.4
Short Term Investments	1.4	1.0	0.4
<b>Total Debt</b>	<b>27.0</b>	<b>30.0</b>	<b>-3.0</b>
	<b>100.0</b>	<b>100.0</b>	<b>0.0</b>

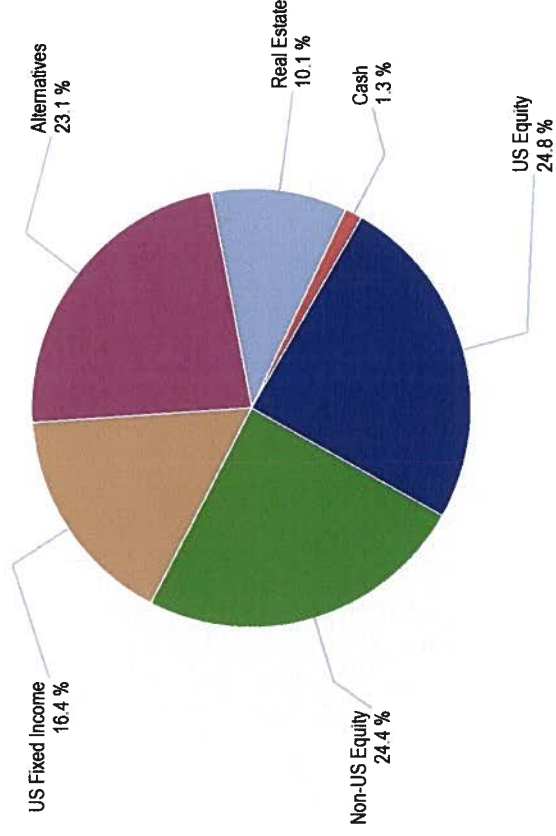
\*Totals may not add up to 100% due to rounding.

# School Employees Retirement System

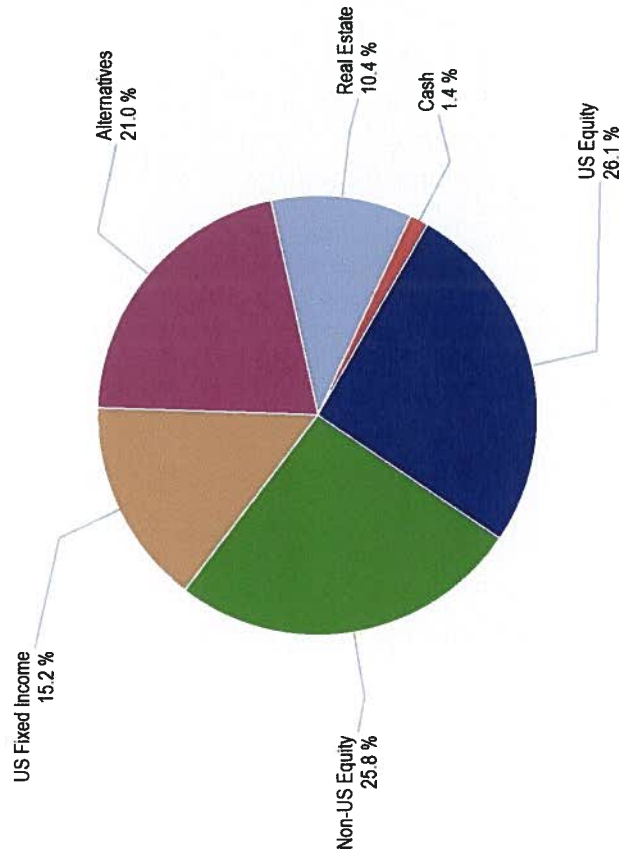
## Asset Allocation

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Previous Allocation  
June 30, 2013



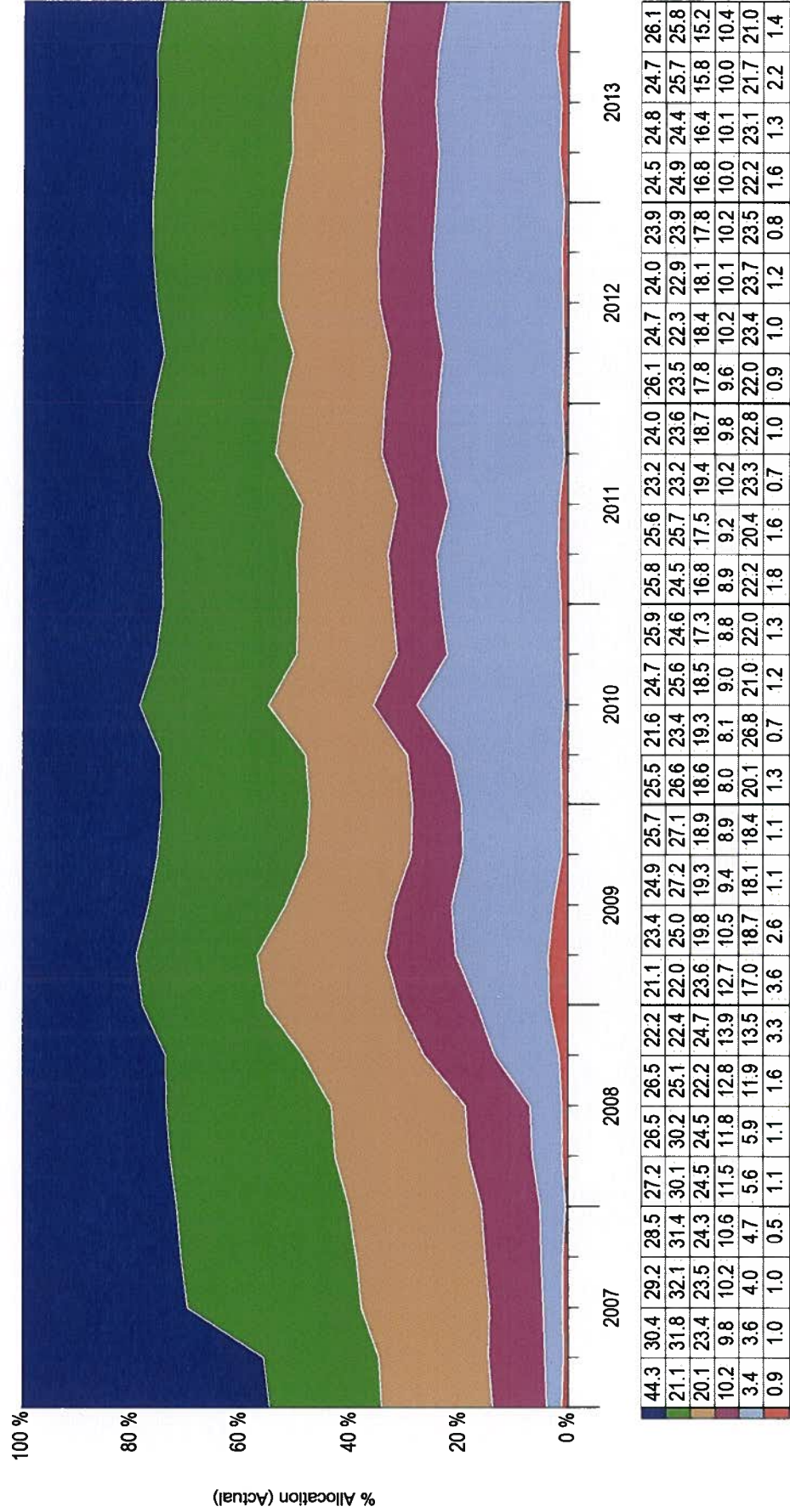
Current Allocation  
December 31, 2013



# School Employees Retirement System

## Asset Allocation

Asset Allocation History  
7 Years Ending December 31, 2013



# School Employees Retirement System

## 10 Year Risk Statistics

### RISK RETURN STATISTICS

January 01, 2004 Through December 31, 2013

	School Employees Retirement System	SERS Total Fund Benchmark
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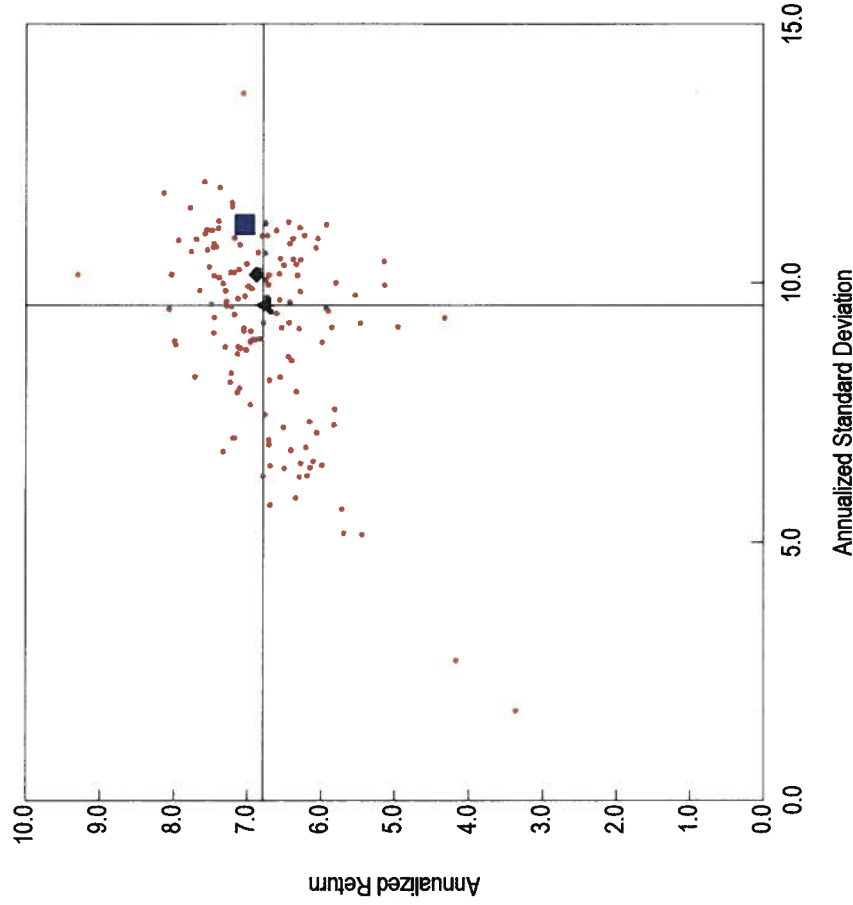
RETURN SUMMARY STATISTICS	
Number of Periods	40
Maximum Return	11.81
Minimum Return	-13.65
Annualized Return	7.04
Total Return	94.41
Annualized Excess Return Over Risk Free	5.48
Annualized Excess Return	0.17

RISK SUMMARY STATISTICS	
Beta	1.08
Upside Deviation	5.36
Downside Deviation	9.36

RISK/RETURN SUMMARY STATISTICS	
Annualized Standard Deviation	11.13
Alpha	-0.09
Sharpe Ratio	0.49
Excess Return Over Market / Risk	0.01
Tracking Error	1.82
Information Ratio	0.09

CORRELATION STATISTICS	
R-Squared	0.98
Correlation	0.99

Annualized Return vs. Annualized Standard Deviation  
10 Years Ending December 31, 2013



146 Portfolios

- School Employees Retirement System
- ◆ SERS Total Fund Benchmark
- ▲ Universe Median
- InvestorForce Public DB Gross



# School Employees Retirement System

Quarter Ending 12/31/2013

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Mar-07*	Dec-07	30.0	Russell 3000
			24.0	BC Aggregate
			30.0	MSCI ACWI ex US (Developed - 50% Hdg)
			10.0	80% NCREIF (arrears), 20% NAREIT
			5.0	S&P 500 (1Qtr arrears) + 3%
	1.0	Citigroup 30 Day T-Bill		
	Dec-07	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		
	Jul-10	Jun-13	22.5	Russell 3000
			22.5	MSCI ACWI ex US (Developed - 50% Hdg)
19.0			Barclays Capital U.S. Aggregate Bond	
10.0			NCREIF Property Index (one quarter in arrears)	
10.0			S&P 500 (1Qtr arrears) + 3%	
15.0	HFRI Fund of Funds Composite			
1.0	Citigroup 30 Day T-Bill			
Jul-13	Dec-13	22.5	Russell 3000	
		22.5	MSCI ACWI ex US 50% hedged-NET	
		19.0	Barclays Capital U.S. Aggregate Bond	
		10.0	NCREIF Property Index (one quarter in arrears)	
		10.0	S&P 500 (1Qtr arrears) + 3%	
15.0	HFRI Fund-of-Funds Composite + 1%			
1.0	Citigroup 30 Day T-Bill			

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

SERS custom policy index is shown above.



# School Employees Retirement System

Quarter Ending 12/31/2013

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Mar-94	Sep-94	45.0	Standard & Poors 500
			28.0	ML Domestic Master Bond Idx
			10.0	MSCI EAFE (Net)
			10.0	NCREIF Classic Pty 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 Pty 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 Pty 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 Pty 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 Pty Idx (1 Qtr arrear)	
		1.0	Citigroup 30 Day T-Bill	
		1.0	S&P 500 + 5%	

Label	Quarter Start	Quarter End	Percent	Description
Policy Index (cont.)	Sep-97	Jun-99	45.0	Russell 3000
			28.0	BC Aggregate
			14.5	MSCI EAFE 50% Hedged
			0.5	MSCI Em Mkts Free
			10.0	NCREIF
			1.0	Citigroup 30 Day T-Bill
			1.0	S&P 500 +5%
	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	

# Highway Patrol Retirement System (HPRS)

# Highway Patrol Retirement System

Actuarial Rate: 8.0%

Ending December 31, 2013

	6 Mo	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>Highway Patrol Retirement System</b>	<b>11.5%</b>	<b>19.1%</b>	<b>8.9%</b>	<b>12.6%</b>	<b>6.8%</b>
HPRS Total Fund Benchmark	<u>10.5%</u>	<u>16.8%</u>	<u>10.1%</u>	<u>12.9%</u>	<u>7.6%</u>
Over/Under	1.0%	2.3%	-1.2%	-0.3%	-0.8%
HPRS Domestic Equity	17.4%	35.6%	15.9%	20.2%	8.6%
HPRS Domestic Equity Benchmark	<u>17.1%</u>	<u>33.6%</u>	<u>16.4%</u>	<u>19.3%</u>	<u>8.3%</u>
Over/Under	0.3%	2.0%	-0.5%	0.9%	0.3%
HPRS International Equity	16.5%	19.1%	6.3%	12.0%	7.2%
HPRS International Benchmark	<u>15.5%</u>	<u>15.8%</u>	<u>5.6%</u>	<u>13.3%</u>	<u>7.5%</u>
Over/Under	1.0%	3.3%	0.7%	-1.3%	-0.3%
HPRS Global Fixed Income	1.2%	-0.8%	4.3%	6.8%	5.4%
Barclays Aggregate	<u>0.4%</u>	<u>-2.0%</u>	<u>3.3%</u>	<u>4.4%</u>	<u>4.5%</u>
Over/Under	0.8%	1.2%	1.0%	2.4%	0.9%
<b>HPRS Real Estate</b>	<b>4.7%</b>	<b>12.4%</b>	<b>4.9%</b>	<b>1.2%</b>	<b>2.0%</b>
NCREIF Property Index	<u>5.2%</u>	<u>11.0%</u>	<u>11.9%</u>	<u>5.7%</u>	<u>8.6%</u>
Over/Under	-0.5%	1.4%	-7.0%	-4.5%	-6.6%
<b>HPRS Alternatives</b>					
HPRS Private Equity	8.5%	12.9%	2.2%	4.3%	-
HPRS Private Equity Benchmark	<u>11.0%</u>	<u>25.6%</u>	<u>20.1%</u>	<u>14.2%</u>	-
Over/Under	-2.5%	-12.7%	-17.9%	-9.9%	
HPRS Hedge Funds	4.5%	9.5%	3.5%	7.9%	-
HFRF Fund of Funds Composite Index	<u>5.4%</u>	<u>9.0%</u>	<u>2.5%</u>	<u>4.9%</u>	<u>3.4%</u>
Over/Under	-0.9%	0.5%	1.0%	3.0%	
HPRS Cash	0.0%	0.0%	0.0%	0.1%	2.1%
91 Day T-Bills	<u>0.0%</u>	<u>0.0%</u>	<u>0.1%</u>	<u>0.1%</u>	<u>1.6%</u>
Over/Under	0.0%	0.0%	-0.1%	0.0%	0.5%

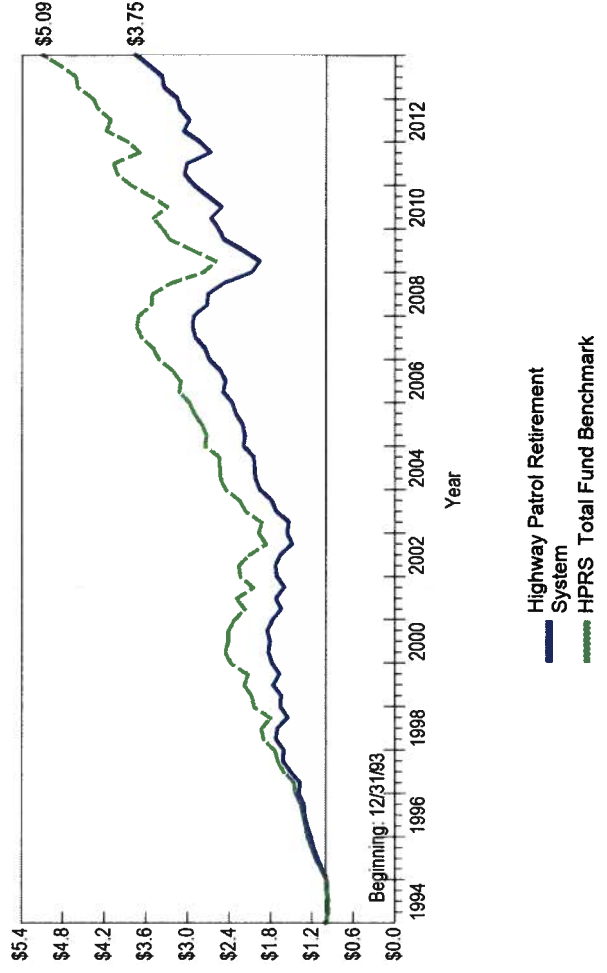
# Highway Patrol Retirement System

## Asset Allocation by Segment

As Of December 31, 2013

	Total Market Value	% of Portfolio	US Equity	Non-US Equity	US Fixed Income	Alternatives	Real Estate	Cash
HPRS Domestic Equity	\$306,099,454	37.8%	\$306,099,454					
HPRS International Equity	\$159,229,370	19.7%		\$159,229,370				
HPRS Global Fixed Income	\$157,287,686	19.4%			\$157,287,686			
<b>HPRS Real Estate</b>								
HPRS Real Estate	\$34,887,147	4.3%				\$34,887,147		
<b>HPRS Alternatives</b>								
HPRS Private Equity	\$79,226,800	9.8%				\$79,226,800		
HPRS Hedge Funds	\$66,165,561	8.2%				\$66,165,561		
HPRS Cash	\$7,340,493	0.9%					\$7,340,493	
<b>Total</b>	<b>\$810,236,511</b>	<b>100.0%</b>	<b>\$306,099,454</b>	<b>\$159,229,370</b>	<b>\$157,287,686</b>	<b>\$145,392,361</b>	<b>\$34,887,147</b>	<b>\$7,340,493</b>

GROWTH OF A DOLLAR



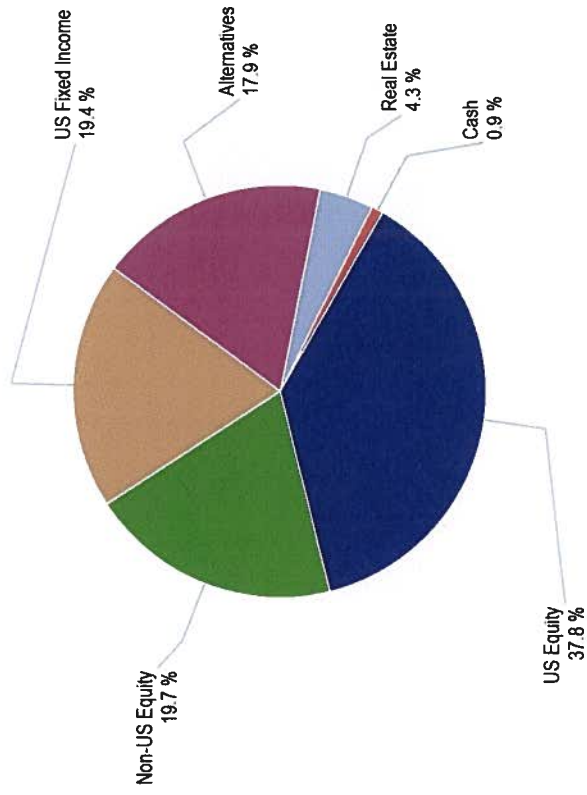
	Actual	Target	Difference
US Equity	37.8	35.0	2.8
Intl Equity	19.7	20.0	-0.4
Alternatives	17.9	17.5	0.4
<b>Total Equity</b>	<b>75.4</b>	<b>72.5</b>	<b>2.9</b>
Fixed Income	19.4	22.5	-3.1
Real Estate	4.3	5.0	-0.7
Short Term Investments	0.9	0.0	0.9
<b>Total Debt</b>	<b>24.6</b>	<b>27.5</b>	<b>-2.9</b>
	<b>100.0</b>	<b>100.0</b>	<b>0.0</b>

\*Totals may not add up to 100% due to rounding.

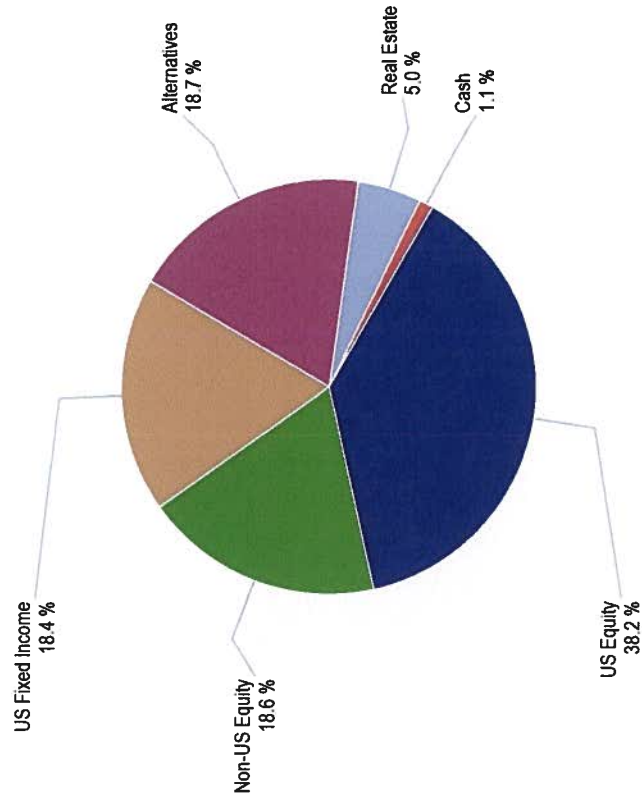
# Highway Patrol Retirement System

## Asset Allocation

Current Allocation  
December 31, 2013



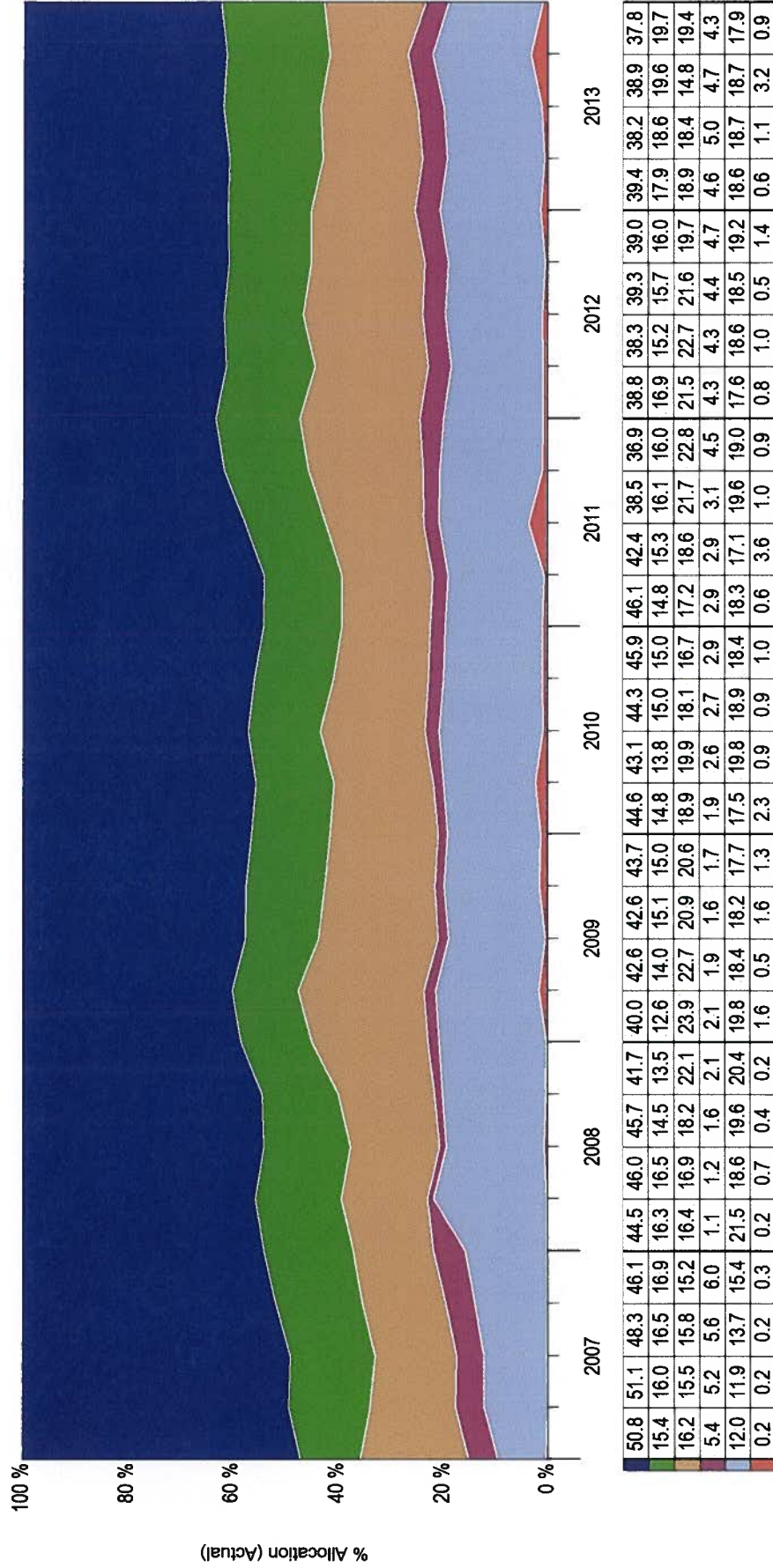
Previous Allocation  
June 30, 2013



# Highway Patrol Retirement System

## Asset Allocation

Asset Allocation History  
7 Years Ending December 31, 2013



- HPRS Domestic Equity
- HPRS International Equity
- HPRS Global Fixed Income
- HPRS Real Estate
- HPRS Alternatives
- HPRS Cash



# Highway Patrol Retirement System

## 10 Year Risk Statistics

### RISK RETURN STATISTICS

January 01, 2004 Through December 31, 2013

	Highway Patrol Retirement System	HPRS Total Fund Benchmark
Number of Periods	40	40
Maximum Return	12.56	12.45
Minimum Return	-16.16	-14.32
Annualized Return	6.75	7.59
Total Return	92.21	107.81
Annualized Excess Return Over Risk Free	5.19	6.03
Annualized Excess Return	-0.84	0.00

### RETURN SUMMARY STATISTICS

Number of Periods	40	40
Maximum Return	12.56	12.45
Minimum Return	-16.16	-14.32
Annualized Return	6.75	7.59
Total Return	92.21	107.81
Annualized Excess Return Over Risk Free	5.19	6.03
Annualized Excess Return	-0.84	0.00

### RISK SUMMARY STATISTICS

Beta	1.08	1.00
Upside Deviation	6.25	6.02
Downside Deviation	9.94	8.99

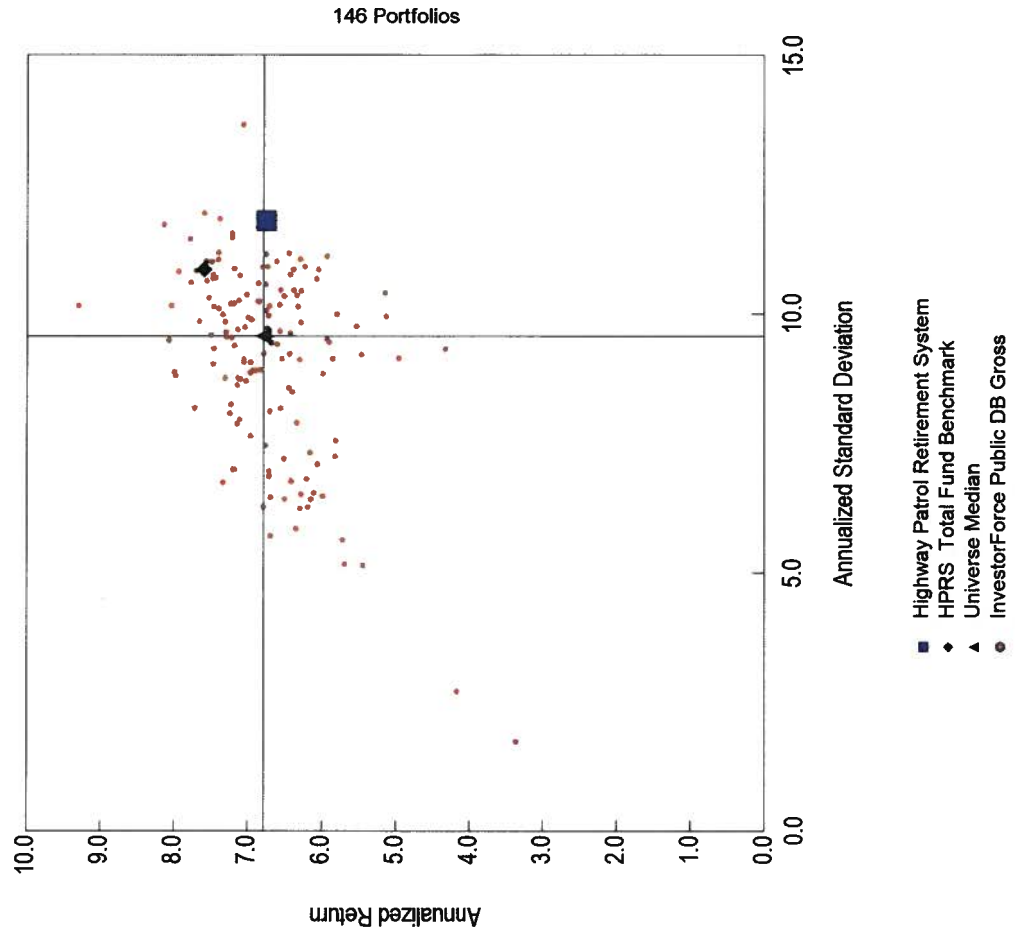
### RISK/RETURN SUMMARY STATISTICS

Annualized Standard Deviation	11.80	10.85
Alpha	-0.33	0.00
Sharpe Ratio	0.44	0.56
Excess Return Over Market / Risk	-0.07	0.00
Tracking Error	1.71	0.00
Information Ratio	-0.49	--

### CORRELATION STATISTICS

R-Squared	0.98	1.00
Correlation	0.99	1.00

Annualized Return vs. Annualized Standard Deviation  
10 Years Ending December 31, 2013



## Highway Patrol Retirement System Quarter Ending 12/31/2013

Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Mar-94	Dec-95	50.0	BC Aggregate
			50.0	Standard & Poors 500
	Mar-96	Dec-97	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	

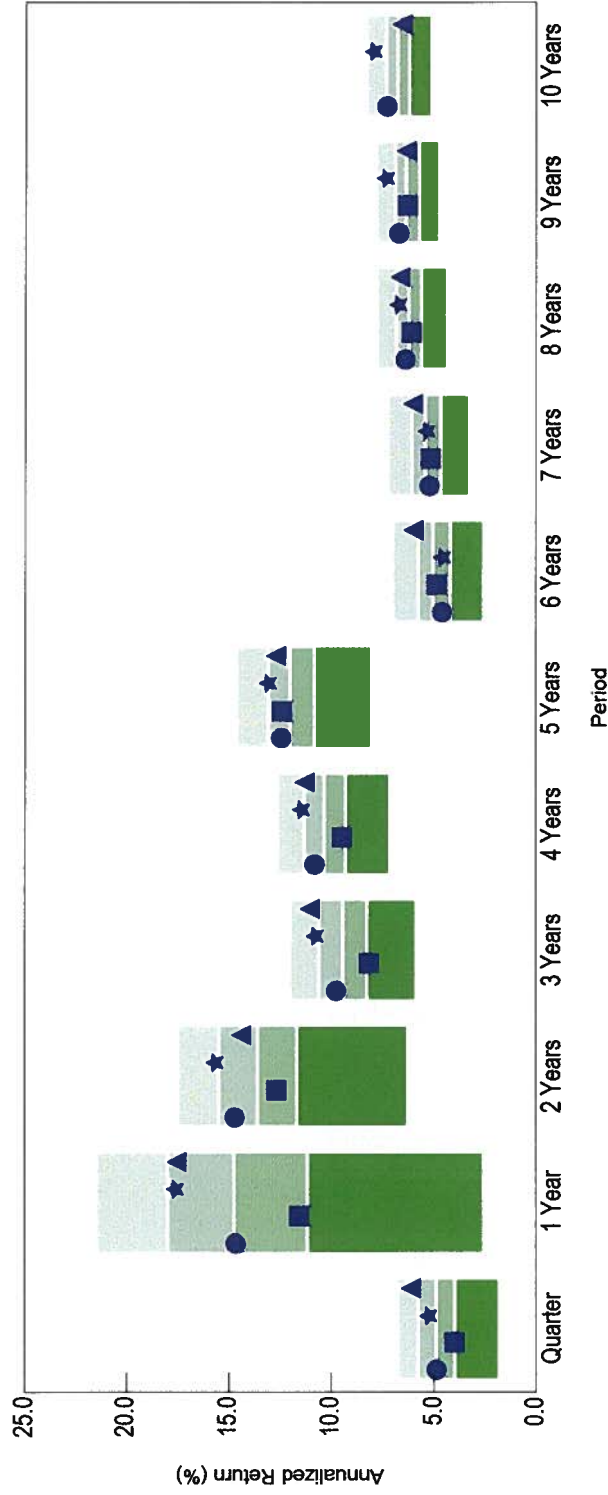
Label	Quarter Start	Quarter End	Percent	Description
Policy Index	Mar-07	Jun-07	32.0	Standard & Poors 500
			18.0	Russell 2500
			15.0	MSCI ACWI ex US
			5.0	NCREIF
			10.0	CPI + 5%
			5.0	HFRI Fund of Funds
			15.0	BC Aggregate
	Sep-07	Jun-10	30.0	Standard & Poors 500
			15.0	Russell 2500
			20.0	BC Aggregate
			15.0	MSCI ACWI ex US
			5.0	NCREIF
			10.0	CPI + 5%
			5.0	HFRI Fund of Funds
	Sep-10	Jun-11	30.0	Standard & Poors 500
			15.0	Russell 2500
			20.0	BC Aggregate
			15.0	MSCI ACWI ex US
			5.0	NCREIF
			10.0	Wilshire 5000 +3% (one qtr. In arrears)
		5.0	HFRI Fund of Funds	
Jul-11	Dec-13	35.0	Russell 3000	
		22.5	BC Aggregate	
		20.0	MSCI ACWI ex US	
		5.0	NCREIF	
		5.0	Wilshire 5000 +3% (one qtr. In arrears)	
		12.5	HFRI Fund of Funds	

HPRS' custom policy index is shown above.

## Performance Comparisons

**Total Plans**  
**InvestorForce All Defined Benefit Fund Universe**

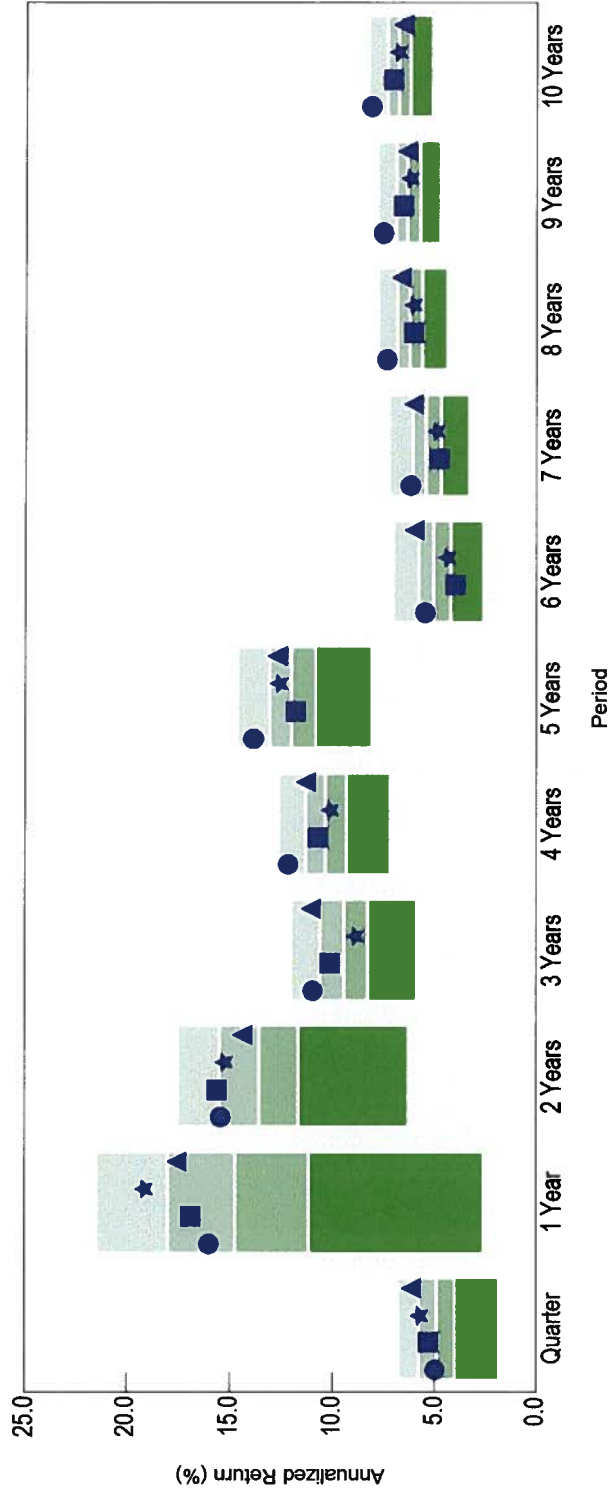
InvestorForce All DB Gross Accounts  
 Ending December 31, 2013



	Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
<b>Return (Rank)</b>	6.8	21.5	17.5	12.0	12.6	14.7	7.1	7.3	7.8	7.8	8.3
<b>5th Percentile</b>	5.8	18.0	15.5	10.6	11.3	13.1	5.8	6.1	6.8	6.9	7.3
<b>25th Percentile</b>	4.9	14.7	13.6	9.4	10.3	12.0	5.1	5.4	6.3	6.4	6.8
<b>Median</b>	4.0	11.2	11.7	8.3	9.3	10.8	4.2	4.7	5.6	5.7	6.2
<b>75th Percentile</b>	1.8	2.6	6.3	5.9	7.2	8.1	2.6	3.3	4.4	4.7	5.1
<b>95th Percentile</b>	865	848	817	783	761	740	723	688	655	619	583
<b># of Portfolios</b>	4.9 (51)	14.7 (51)	14.7 (34)	9.8 (43)	10.8 (37)	12.4 (41)	4.6 (65)	5.2 (60)	6.4 (45)	6.7 (35)	7.3 (28)
● <b>Public Employees Retirement System (DB)</b>	4.0 (76)	11.5 (73)	12.7 (63)	8.2 (78)	9.5 (72)	12.4 (43)	4.9 (56)	5.2 (62)	6.1 (58)	6.3 (54)	-- (-)
■ <b>Public Employees Retirement System (HC)</b>	5.3 (38)	17.6 (29)	15.7 (22)	10.8 (20)	11.5 (22)	13.1 (26)	4.6 (65)	5.3 (55)	6.7 (32)	7.3 (12)	7.9 (10)
★ <b>State Teachers Retirement System</b>	6.2 (15)	17.6 (29)	14.4 (39)	11.1 (14)	11.3 (25)	12.7 (35)	6.0 (19)	6.0 (29)	6.6 (35)	6.3 (52)	6.5 (61)
▲ <b>60/40 S&amp;P 500/Barclays Aggregate</b>											

**Total Plans**  
**InvestorForce All Defined Benefit Fund Universe**

InvestorForce All DB Gross Accounts  
 Ending December 31, 2013

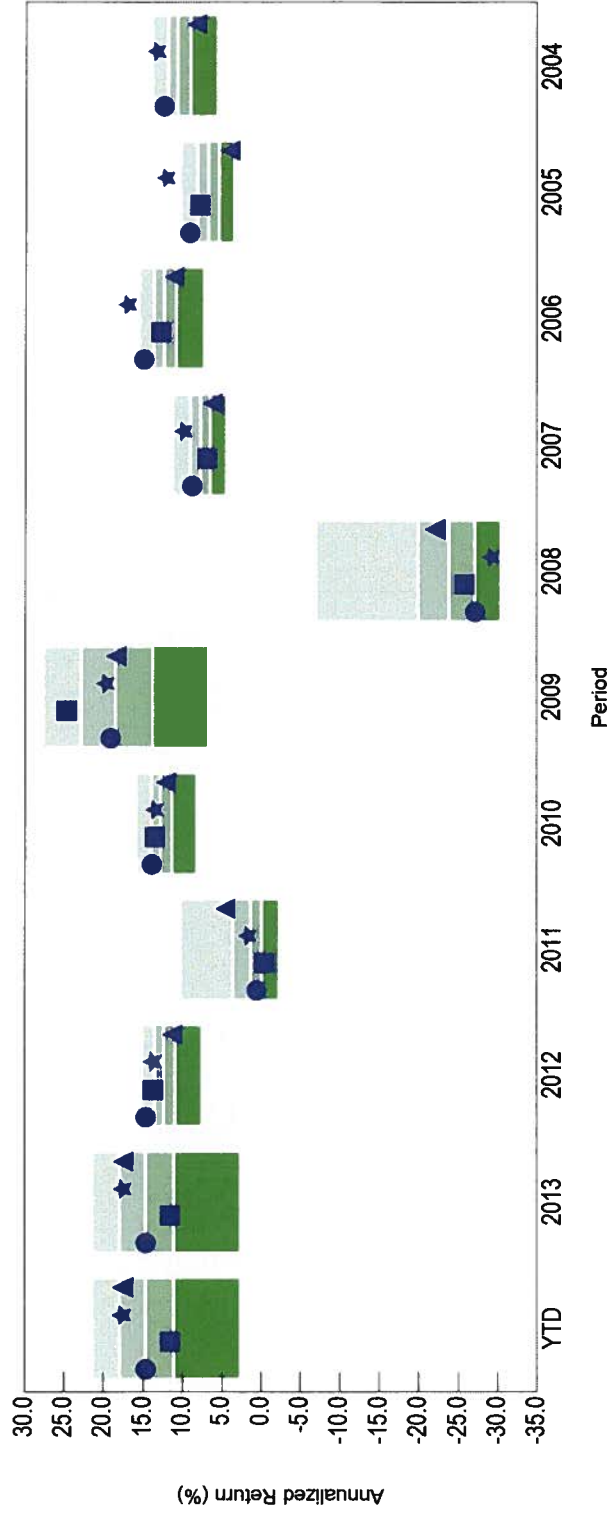


Return (Rank)	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
5th Percentile	2.6	6.3	5.9	7.2	8.1	2.6	3.3	4.4	4.7	5.1
25th Percentile	6.3	11.7	8.3	9.3	10.8	4.2	4.7	5.6	5.7	6.2
Median	11.7	13.6	9.4	10.3	12.0	5.1	5.4	6.3	6.4	6.8
75th Percentile	14.7	15.5	10.6	11.3	13.1	5.8	6.1	6.8	6.9	7.3
95th Percentile	21.5	17.5	12.0	12.6	14.7	7.1	7.3	7.8	7.8	8.3
# of Portfolios	848	817	783	761	740	688	655	619	583	563

- Ohio Police & Fire
- School Employees Retirement System
- ★ Highway Patrol Retirement System
- ▲ 60/40 S&P 500/Barclays Aggregate

InvestorForce All Defined Benefit Fund Universe - Calendar Year Performance

InvestorForce All DB Gross Accounts  
Ending December 31, 2013



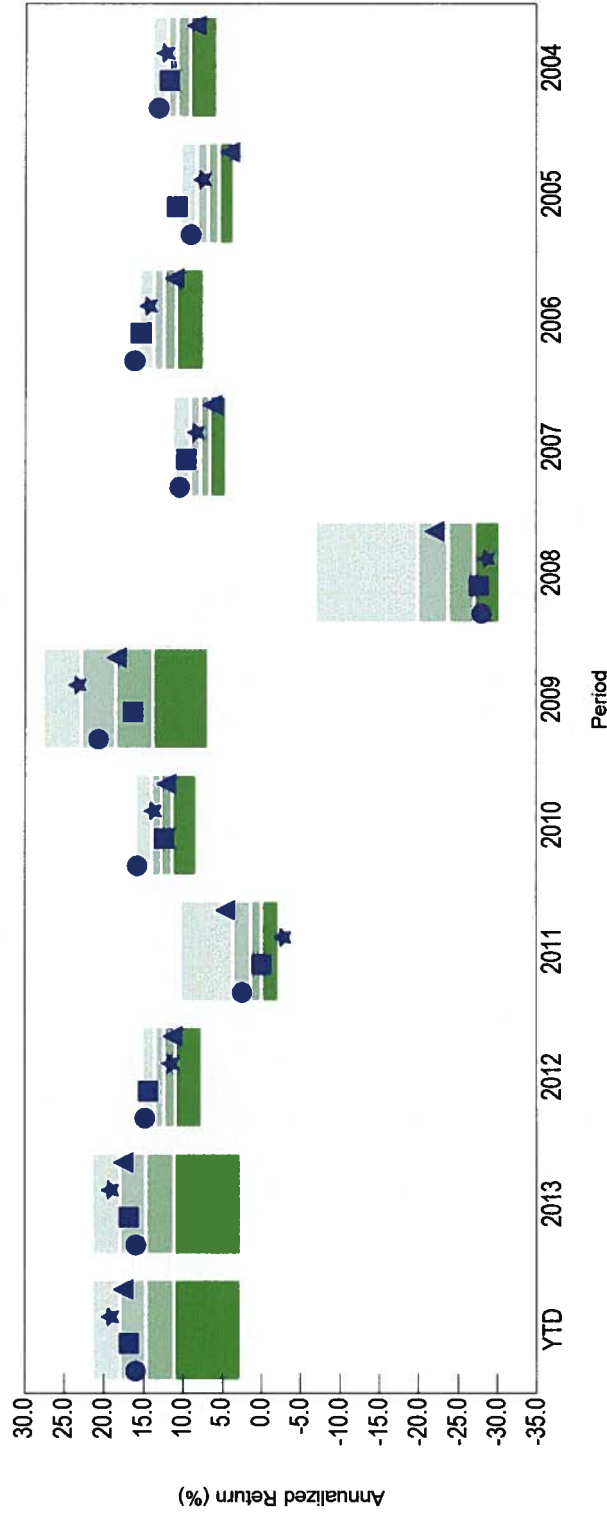
Return (Rank)

	YTD	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
5th Percentile	21.5	21.5	15.1	10.3	16.0	27.7	-6.9	11.4	15.7	10.4	14.1
25th Percentile	18.0	18.0	13.6	3.7	14.0	22.9	-19.9	9.1	13.7	8.2	12.0
Median	14.7	14.7	12.4	1.4	12.8	18.6	-23.8	7.8	12.5	6.9	10.7
75th Percentile	11.2	11.2	11.0	0.0	11.4	13.9	-27.1	6.6	10.9	5.5	9.1
95th Percentile	2.6	2.6	7.6	-2.3	8.2	6.7	-30.4	4.4	7.3	3.5	5.6
# of Portfolios	848	848	814	758	730	718	702	679	617	593	551
Public Employees Retirement System (DB)	14.7 (51)	14.7 (51)	14.8 (8)	0.6 (65)	14.0 (25)	19.1 (48)	-27.1 (76)	8.9 (29)	15.0 (9)	9.2 (12)	12.5 (16)
Public Employees Retirement System (HC)	11.5 (73)	11.5 (73)	13.8 (21)	-0.4 (81)	13.5 (38)	24.8 (15)	-25.8 (67)	6.9 (71)	12.7 (46)	8.0 (28)	-- (--)
State Teachers Retirement System	17.6 (29)	17.6 (29)	13.8 (22)	1.6 (48)	13.5 (38)	19.7 (44)	-29.2 (90)	10.0 (15)	17.0 (1)	12.2 (2)	13.4 (10)
60/40 S&P 500/Barclays Aggregate	17.6 (29)	17.6 (29)	11.3 (71)	4.7 (20)	12.1 (65)	18.4 (52)	-22.1 (37)	6.2 (80)	11.1 (73)	4.0 (92)	8.3 (81)



**Total Plans**  
**InvestorForce All Defined Benefit Fund Universe - Calendar Year Performance**

InvestorForce All DB Gross Accounts  
 Ending December 31, 2013



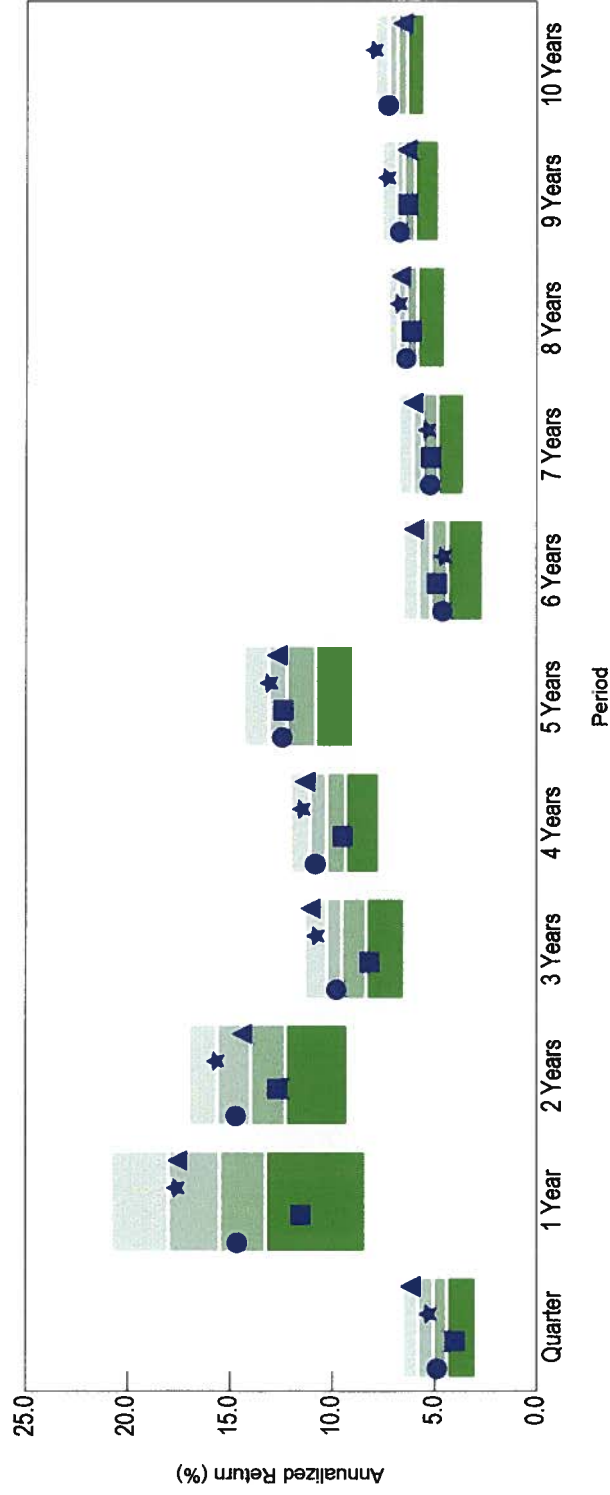
Return (Rank)

Year	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	# of Portfolios
YTD	21.5	18.0	14.7	11.2	2.6	848
2013	21.5	18.0	14.7	11.2	2.6	848
2012	15.1	13.6	12.4	11.0	7.6	814
2011	10.3	3.7	1.4	0.0	-2.3	758
2010	16.0	14.0	12.8	11.4	8.2	730
2009	27.7	22.9	18.6	13.9	6.7	718
2008	-6.9	-19.9	-23.8	-27.1	-30.4	702
2007	11.4	9.1	7.8	6.6	4.4	679
2006	15.7	13.7	12.5	10.9	7.3	617
2005	10.4	8.2	6.9	5.5	3.5	593
2004	14.1	12.0	10.7	9.1	5.6	551

- Ohio Police & Fire
- School Employees Retirement System
- ★ Highway Patrol Retirement System
- ▲ 60/40 S&P 500/Barclays Aggregate

**Total Plans**  
**InvestorForce All Public Defined Benefit Fund Universe**

**InvestorForce Public DB Gross Accounts**  
**Ending December 31, 2013**

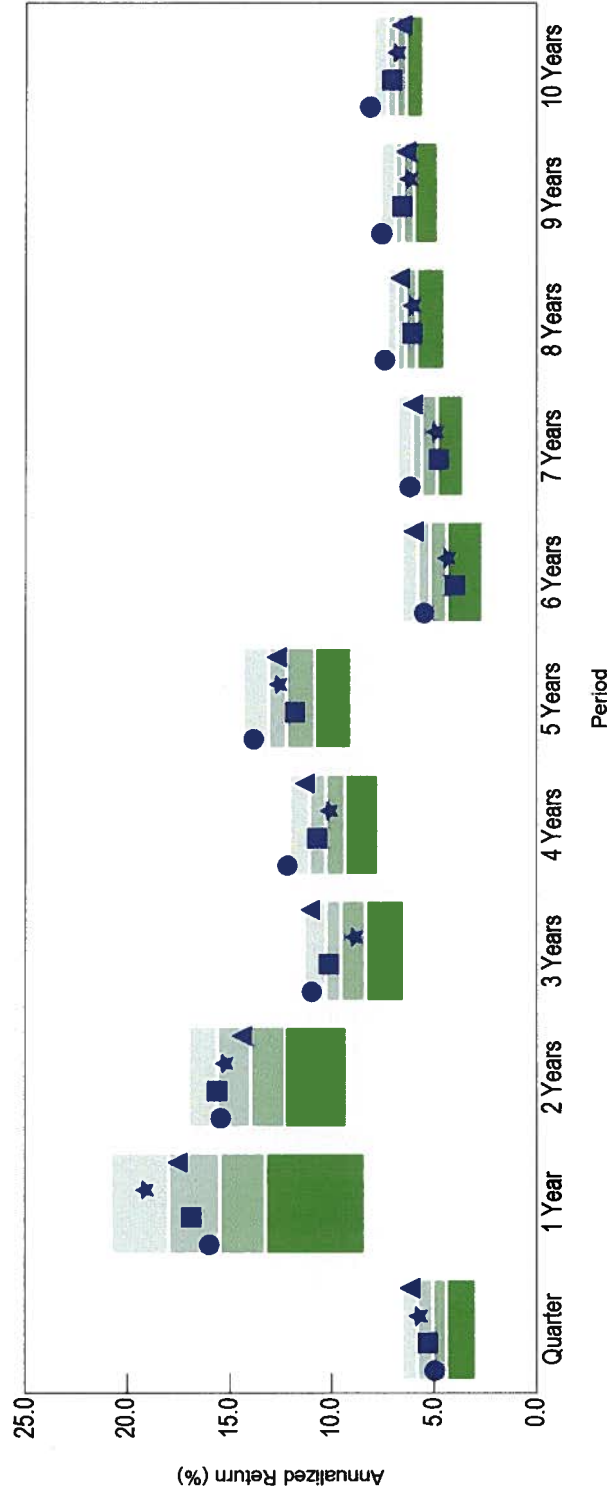


	Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
<b>5th Percentile</b>	6.6	20.8	17.0	11.4	12.1	14.4	6.5	6.8	7.3	7.6	8.0
<b>25th Percentile</b>	5.8	18.0	15.6	10.3	11.1	13.1	5.8	6.1	6.8	6.9	7.2
<b>Median</b>	5.0	15.5	14.0	9.5	10.3	12.2	5.2	5.6	6.4	6.5	6.8
<b>75th Percentile</b>	4.4	13.3	12.3	8.4	9.4	10.8	4.4	4.8	5.8	6.0	6.3
<b>95th Percentile</b>	3.0	8.4	9.2	6.4	7.7	9.0	2.6	3.5	4.4	4.8	5.5
<b># of Portfolios</b>	212	212	205	185	178	174	170	160	156	148	144
<b>Public Employees Retirement System (DB)</b>	4.9 (57)	14.7 (60)	14.7 (37)	9.8 (40)	10.8 (32)	12.4 (49)	4.6 (70)	5.2 (65)	6.4 (50)	6.7 (35)	7.3 (24)
<b>Public Employees Retirement System (HC)</b>	4.0 (85)	11.5 (86)	12.7 (68)	8.2 (82)	9.5 (72)	12.4 (49)	4.9 (61)	5.2 (67)	6.1 (67)	6.3 (59)	-- (-)
<b>State Teachers Retirement System</b>	5.3 (42)	17.6 (30)	15.7 (25)	10.8 (14)	11.5 (15)	13.1 (27)	4.6 (60)	5.3 (60)	6.7 (32)	7.3 (9)	7.9 (7)
<b>60/40 S&amp;P 500/Barclays Aggregate</b>	6.2 (15)	17.6 (31)	14.4 (43)	11.1 (8)	11.3 (19)	12.7 (39)	6.0 (15)	6.0 (28)	6.6 (35)	6.3 (55)	6.5 (64)

# Total Plans

## InvestorForce All Public Defined Benefit Fund Universe

InvestorForce Public DB Gross Accounts  
Ending December 31, 2013

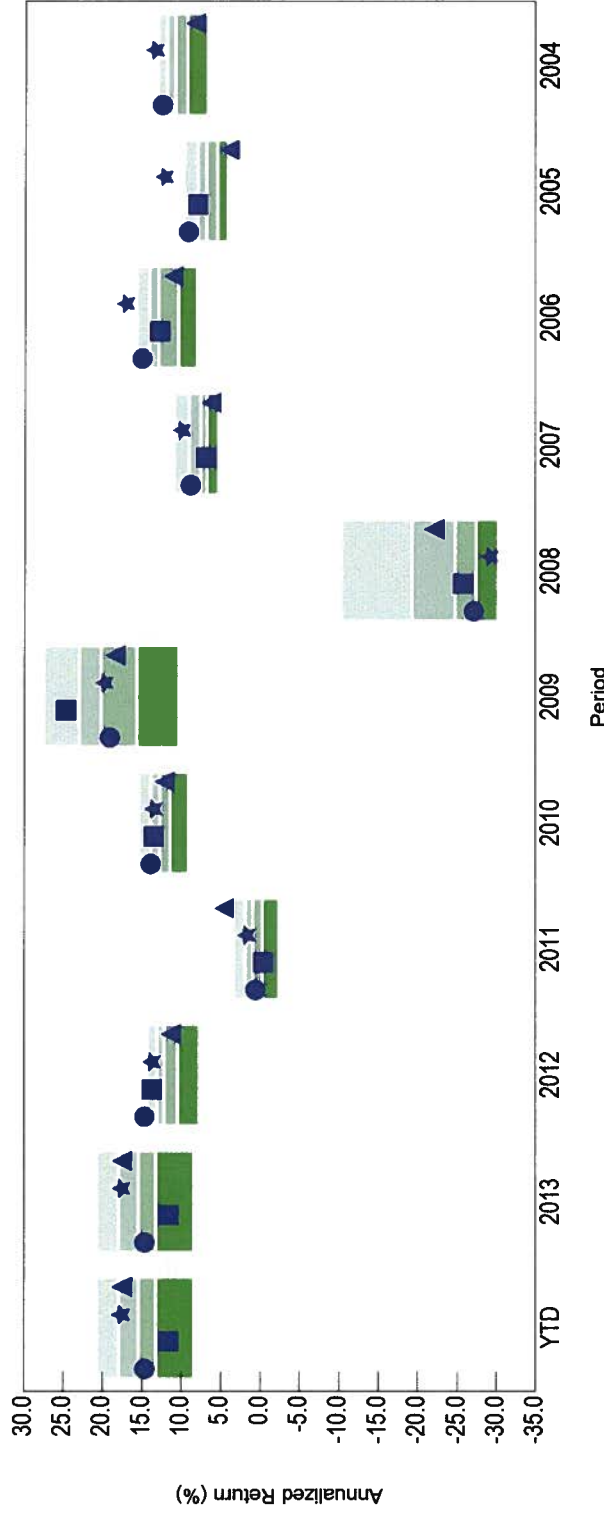


### Return (Rank)

	Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
5th Percentile	6.6	20.8	17.0	11.4	12.1	14.4	6.5	6.8	7.3	7.6	8.0
25th Percentile	5.8	18.0	15.6	10.3	11.1	13.1	5.8	6.1	6.8	6.9	7.2
Median	5.0	15.5	14.0	9.5	10.3	12.2	5.2	5.6	6.4	6.5	6.8
75th Percentile	4.4	13.3	12.3	8.4	9.4	10.8	4.4	4.8	5.8	6.0	6.3
95th Percentile	3.0	8.4	9.2	6.4	7.7	9.0	2.6	3.5	4.4	4.8	5.5
# of Portfolios	212	212	205	185	178	174	170	160	156	148	144
Ohio Police & Fire	5.0 (53)	16.0 (47)	15.4 (28)	11.0 (8)	12.2 (5)	13.8 (12)	5.5 (43)	6.2 (18)	7.4 (5)	7.5 (6)	8.1 (3)
School Employees Retirement System	5.3 (42)	16.9 (39)	15.6 (25)	10.1 (31)	10.7 (39)	11.8 (58)	4.0 (84)	4.7 (80)	6.0 (69)	6.5 (47)	7.0 (41)
Highway Patrol Retirement System	5.7 (28)	19.1 (17)	15.2 (31)	8.9 (63)	10.1 (56)	12.6 (41)	4.3 (77)	4.9 (75)	6.0 (69)	6.2 (63)	6.8 (54)
60/40 S&P 500/Barclays Aggregate	6.2 (15)	17.6 (31)	14.4 (43)	11.1 (8)	11.3 (19)	12.7 (39)	6.0 (15)	6.0 (28)	6.6 (35)	6.3 (55)	6.5 (64)

InvestorForce All Public Defined Benefit Fund Universe - Calendar Year Performance

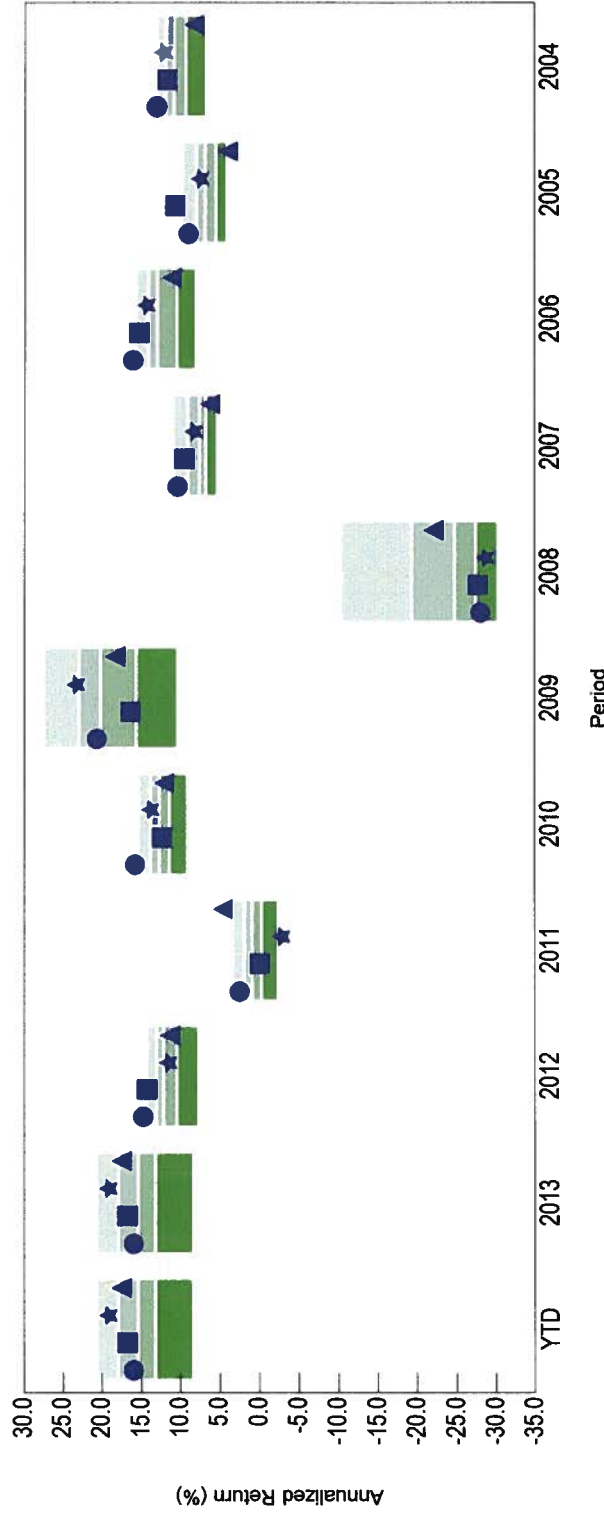
InvestorForce Public DB Gross Accounts  
Ending December 31, 2013



	YTD	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
<b>Return (Rank)</b>	20.8 (60)	20.8 (60)	14.3 (2)	3.4 (62)	15.5 (24)	27.6 (56)	-10.2 (70)	11.1 (27)	15.8 (15)	9.9 (8)	13.2 (12)
5th Percentile	18.0	18.0	13.1	1.9	13.9	23.0	-19.2	9.1	14.2	8.1	12.0
25th Percentile	15.5	15.5	12.2	0.9	12.8	20.3	-24.7	7.7	13.0	6.9	10.9
Median	13.3	13.3	10.5	-0.3	11.5	15.7	-27.4	6.8	10.5	5.5	9.4
75th Percentile	8.4	8.4	7.7	-2.4	9.2	10.4	-30.2	5.4	8.0	4.2	6.8
95th Percentile	2.12	2.12	1.92	1.62	1.54	1.52	1.49	1.46	1.36	1.31	1.25
<b># of Portfolios</b>	14.7 (60)	14.7 (60)	14.8 (2)	0.6 (62)	14.0 (24)	19.1 (56)	27.1 (70)	8.9 (27)	15.0 (15)	9.2 (8)	12.5 (12)
Public Employees Retirement System (DB)	11.5 (86)	11.5 (86)	13.8 (13)	-0.4 (80)	13.5 (38)	24.8 (18)	-25.8 (62)	6.9 (73)	12.7 (53)	8.0 (26)	- (-)
Public Employees Retirement System (HC)	17.6 (30)	17.6 (30)	13.8 (14)	1.6 (32)	13.5 (38)	19.7 (53)	-29.2 (88)	10.0 (17)	17.0 (1)	12.2 (1)	13.4 (4)
State Teachers Retirement System	17.6 (31)	17.6 (31)	11.3 (69)	4.7 (2)	12.1 (64)	18.4 (62)	-22.1 (36)	6.2 (86)	11.1 (72)	4.0 (97)	8.3 (83)
60/40 S&P 500/Barclays Aggregate											

**Total Plans**  
**InvestorForce All Public Defined Benefit Fund Universe - Calendar Year Performance**

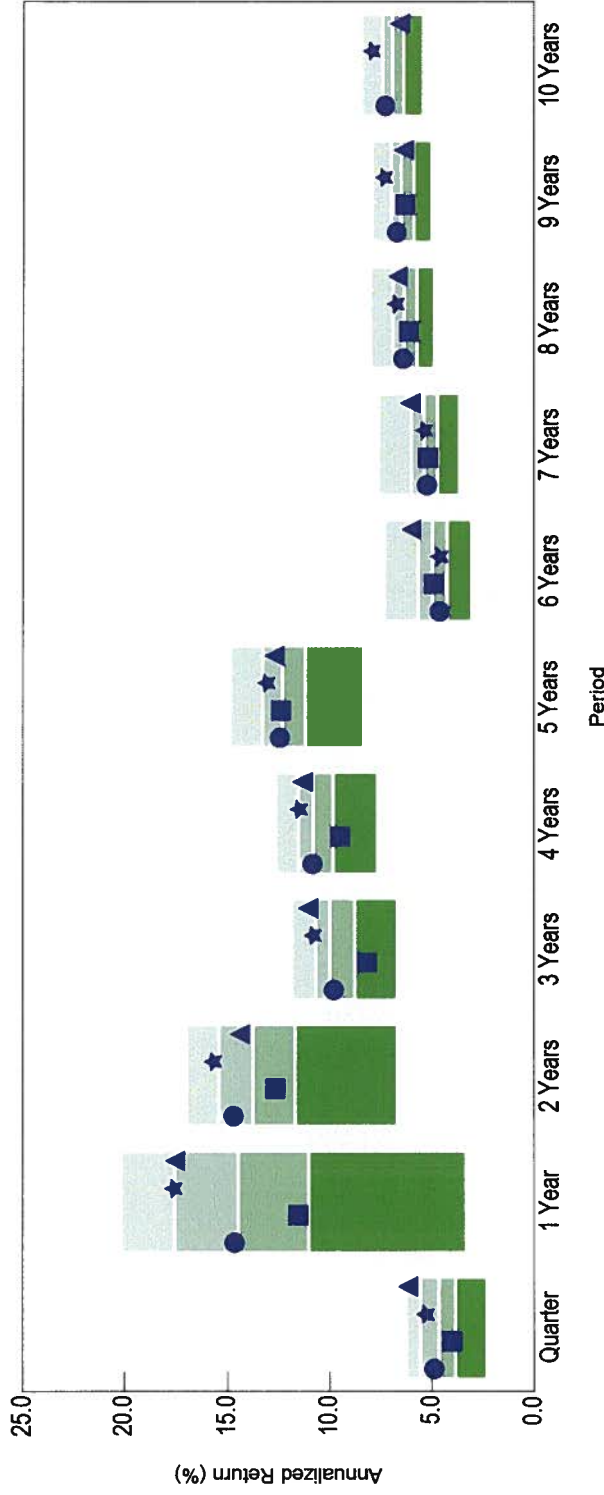
InvestorForce Public DB Gross Accounts  
 Ending December 31, 2013



	YTD	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
<b>5th Percentile</b>	20.8	20.8	14.3	3.4	15.5	27.6	-10.2	11.1	15.8	9.9	13.2
<b>25th Percentile</b>	18.0	18.0	13.1	1.9	13.9	23.0	-19.2	9.1	14.2	8.1	12.0
<b>Median</b>	15.5	15.5	12.2	0.9	12.8	20.3	-24.7	7.7	13.0	6.9	10.9
<b>75th Percentile</b>	13.3	13.3	10.5	-0.3	11.5	15.7	-27.4	6.8	10.5	5.5	9.4
<b>95th Percentile</b>	8.4	8.4	7.7	-2.4	9.2	10.4	-30.2	5.4	8.0	4.2	6.8
<b># of Portfolios</b>	212	212	192	162	154	152	149	146	136	131	125
<b>Ohio Police &amp; Fire</b>	16.0 (47)	16.0 (47)	14.9 (2)	2.5 (11)	15.9 (5)	20.7 (42)	-28.1 (82)	10.5 (11)	16.1 (3)	9.1 (8)	13.1 (6)
<b>School Employees Retirement System</b>	16.9 (39)	16.9 (39)	14.4 (5)	-0.1 (72)	12.4 (57)	16.4 (72)	-27.7 (78)	9.6 (19)	15.4 (11)	10.8 (3)	11.7 (34)
<b>Highway Patrol Retirement System</b>	19.1 (17)	19.1 (17)	11.5 (67)	-2.9 (99)	13.8 (28)	23.2 (25)	-28.8 (87)	8.3 (37)	14.3 (22)	7.4 (42)	12.2 (22)
<b>60/40 S&amp;P 500/Barclays Aggregate</b>	17.6 (31)	17.6 (31)	11.3 (69)	4.7 (2)	12.1 (64)	18.4 (62)	-22.1 (36)	6.2 (86)	11.1 (72)	4.0 (97)	8.3 (83)

**Total Plans**  
**InvestorForce All Defined Benefit Fund > \$1 Billion Universe**

InvestorForce All DB > \$1B Gross Accounts  
 Ending December 31, 2013



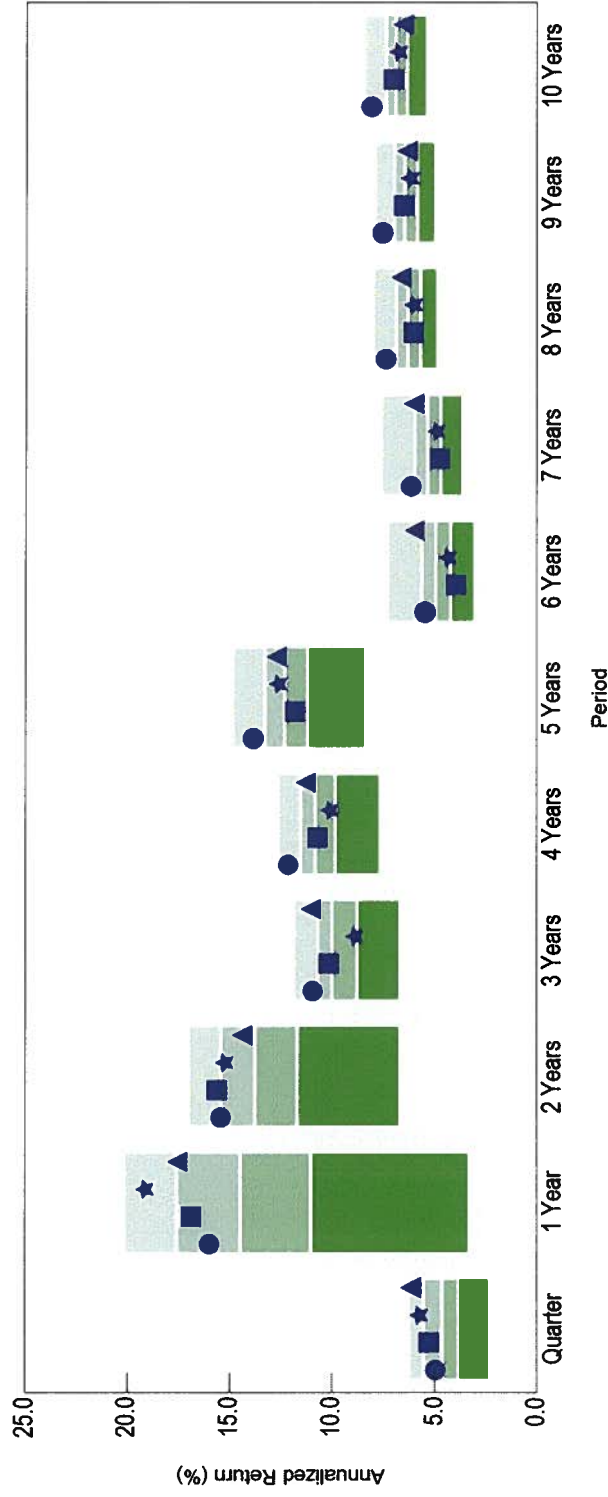
Return (Rank)	Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
5th Percentile	6.3	20.2	17.0	11.9	12.7	14.9	7.4	7.7	8.1	8.0	8.5
25th Percentile	5.6	17.6	15.4	10.7	11.5	13.3	5.7	6.0	6.9	7.0	7.4
Median	4.7	14.5	13.8	10.0	10.8	12.3	5.0	5.4	6.3	6.5	6.9
75th Percentile	3.9	11.0	11.7	8.8	9.8	11.2	4.2	4.7	5.7	5.9	6.4
95th Percentile	2.3	3.3	6.7	6.7	7.7	8.4	3.0	3.6	4.9	5.0	5.4
# of Portfolios	154	154	151	150	148	148	146	139	138	134	130
Public Employees Retirement System (DB)	4.9 (47)	14.7 (47)	14.7 (37)	9.8 (57)	10.8 (49)	12.4 (49)	4.6 (65)	5.2 (60)	6.4 (49)	6.7 (37)	7.3 (33)
Public Employees Retirement System (HC)	4.0 (71)	11.5 (72)	12.7 (66)	8.2 (84)	9.5 (81)	12.4 (50)	4.9 (57)	5.2 (62)	6.1 (61)	6.3 (58)	-- (-)
State Teachers Retirement System	5.3 (32)	17.6 (25)	15.7 (24)	10.8 (22)	11.5 (29)	13.1 (32)	4.6 (66)	5.3 (55)	6.7 (32)	7.3 (16)	7.9 (15)
60/40 S&P 500/Barclays Aggregate	6.2 (8)	17.6 (26)	14.4 (41)	11.1 (13)	11.3 (35)	12.7 (43)	6.0 (17)	6.0 (25)	6.6 (33)	6.3 (56)	6.5 (66)



# Total Plans

## InvestorForce All Defined Benefit Fund > \$1 Billion Universe

InvestorForce All DB > \$1B Gross Accounts  
Ending December 31, 2013

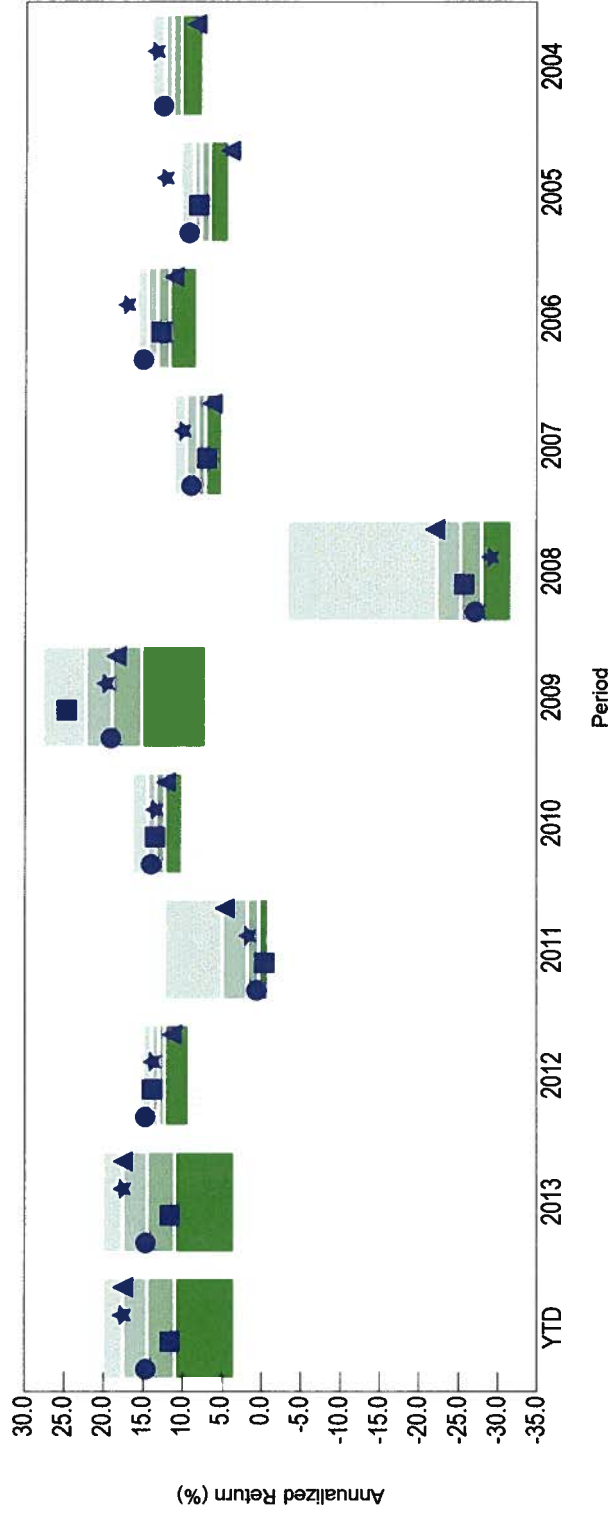


### Return (Rank)

5th Percentile	6.3	17.0	11.9	12.7	14.9	7.4	7.7	8.1	8.0	8.5
25th Percentile	5.6	15.4	10.7	11.5	13.3	5.7	6.0	6.9	7.0	7.4
Median	4.7	14.5	10.0	10.8	12.3	5.0	5.4	6.3	6.5	6.9
75th Percentile	3.9	11.0	8.8	9.8	11.2	4.2	4.7	5.7	5.9	6.4
95th Percentile	2.3	3.3	6.7	7.7	8.4	3.0	3.6	4.9	5.0	5.4
# of Portfolios	154	151	150	148	148	146	139	138	134	130
Ohio Police & Fire	5.0 (43)	16.0 (37)	11.0 (14)	12.2 (10)	13.8 (19)	5.5 (32)	6.2 (20)	7.4 (14)	7.5 (14)	8.1 (11)
School Employees Retirement System	5.3 (32)	16.9 (30)	10.1 (48)	10.7 (55)	11.8 (63)	4.0 (82)	4.7 (75)	6.0 (63)	6.5 (49)	7.0 (47)
Highway Patrol Retirement System	5.7 (21)	19.1 (12)	8.9 (74)	10.1 (70)	12.6 (46)	4.3 (74)	4.9 (72)	6.0 (65)	6.2 (61)	6.8 (57)
60/40 S&P 500/Barclays Aggregate	6.2 (8)	17.6 (26)	11.1 (13)	11.3 (35)	12.7 (43)	6.0 (17)	6.0 (25)	6.6 (33)	6.3 (56)	6.5 (66)

InvestorForce All Defined Benefit Fund > \$1 Billion Universe - Calendar Year Returns

InvestorForce All DB > \$1B Gross Accounts  
Ending December 31, 2013

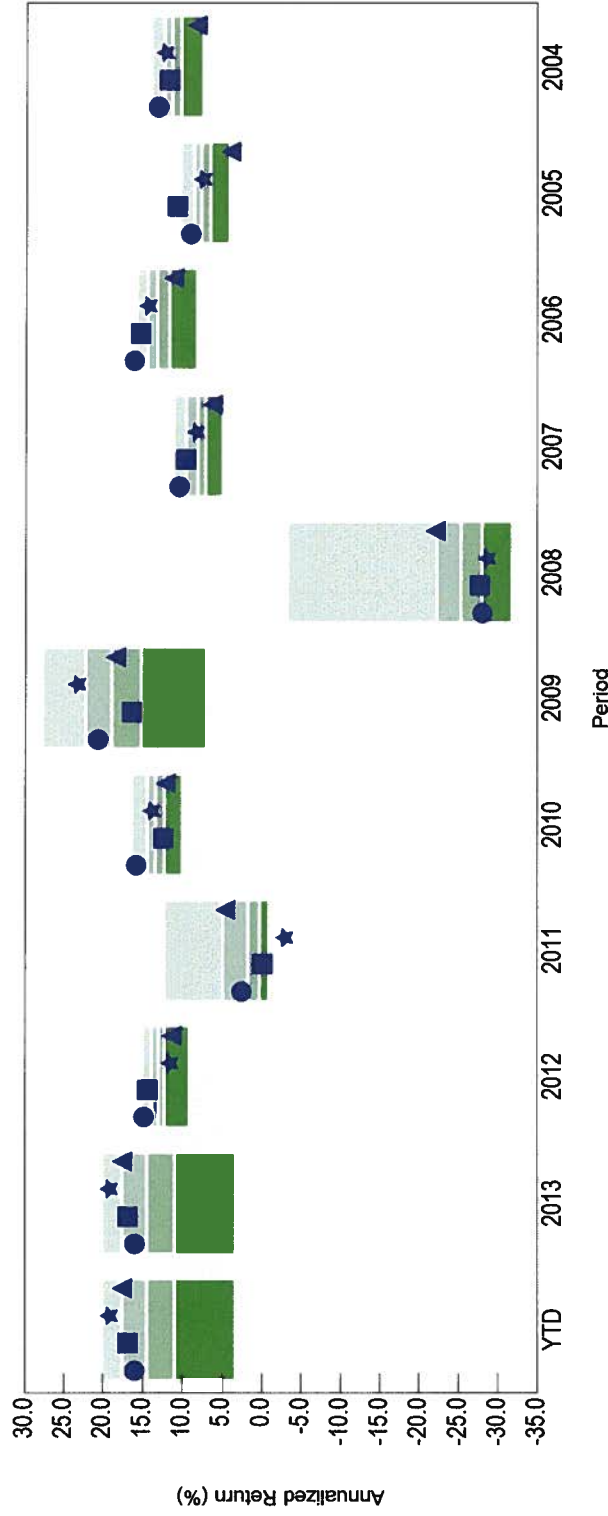


Return (Rank)

	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
5th Percentile	20.2	15.1	12.4	16.4	27.8	-3.1	11.2	15.9	10.5	14.2
25th Percentile	17.6	14.0	4.9	14.5	22.3	-22.3	9.6	14.5	8.6	12.4
Median	14.5	13.0	1.7	13.5	19.0	-25.3	8.1	13.3	7.7	11.4
75th Percentile	11.0	12.3	0.3	12.3	15.3	-28.0	7.1	11.7	6.6	10.3
95th Percentile	3.3	9.1	-0.9	10.0	7.1	-31.8	5.0	8.2	4.1	7.5
# of Portfolios	154	137	136	133	135	130	127	101	100	94
Public Employees Retirement System (DB)	14.7 (47)	14.8 (9)	0.6 (69)	14.0 (33)	19.1 (49)	-27.1 (67)	8.9 (36)	15.0 (17)	9.2 (12)	12.5 (18)
Public Employees Retirement System (HC)	11.5 (72)	13.8 (28)	-0.4 (87)	13.5 (48)	24.8 (14)	-25.8 (58)	6.9 (82)	12.7 (63)	8.0 (43)	-- (-)
State Teachers Retirement System	17.6 (25)	13.8 (31)	1.6 (51)	13.5 (50)	19.7 (43)	-29.2 (85)	10.0 (19)	17.0 (1)	12.2 (2)	13.4 (12)
60/40 S&P 500/Barclays Aggregate	17.6 (26)	11.3 (86)	4.7 (27)	12.1 (78)	18.4 (55)	-22.1 (25)	6.2 (89)	11.1 (85)	4.0 (96)	8.3 (93)

InvestorForce All Defined Benefit Fund > \$1 Billion Universe - Calendar Year Returns

InvestorForce All DB > \$1B Gross Accounts  
Ending December 31, 2013

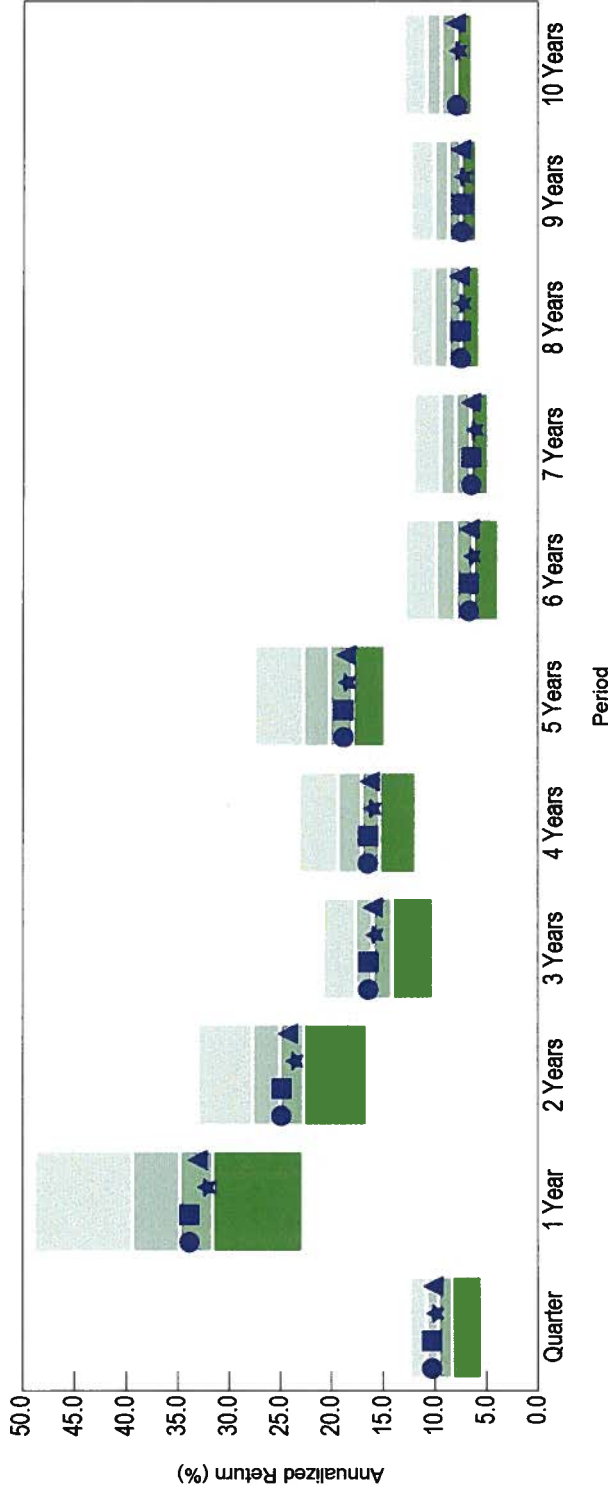


Return (Rank)

Period	Ohio Police & Fire	School Employees Retirement System	Highway Patrol Retirement System	60/40 S&P 500/Barclays Aggregate
YTD	154	154	154	154
2013	17.6 (26)	17.6 (26)	17.6 (26)	17.6 (26)
2012	11.3 (86)	11.3 (86)	11.5 (85)	11.3 (86)
2011	4.7 (27)	4.7 (27)	-2.9 (99)	4.7 (27)
2010	12.1 (78)	12.1 (78)	13.8 (36)	12.1 (78)
2009	18.4 (55)	18.4 (55)	23.2 (21)	18.4 (55)
2008	-22.1 (25)	-22.1 (25)	-28.8 (83)	-22.1 (25)
2007	6.2 (89)	6.2 (89)	8.3 (46)	6.2 (89)
2006	11.1 (85)	11.1 (85)	14.3 (30)	11.1 (85)
2005	4.0 (96)	4.0 (96)	7.4 (60)	4.0 (96)
2004	8.3 (93)	8.3 (93)	12.2 (32)	8.3 (93)
5th Percentile	16.0 (37)	16.0 (37)	16.0 (37)	16.0 (37)
25th Percentile	16.9 (30)	16.9 (30)	16.9 (30)	16.9 (30)
Median	19.1 (12)	19.1 (12)	19.1 (12)	19.1 (12)
75th Percentile	17.6 (26)	17.6 (26)	17.6 (26)	17.6 (26)
95th Percentile	3.3	3.3	3.3	3.3
# of Portfolios	154	154	154	154
2013	14.9 (8)	14.9 (8)	14.4 (13)	14.9 (8)
2012	20.7 (37)	20.7 (37)	16.4 (70)	20.7 (37)
2011	10.5 (12)	10.5 (12)	9.6 (25)	10.5 (12)
2010	8.2 (41)	8.2 (41)	7.1 (74)	8.2 (41)
2009	11.2 (21)	11.2 (21)	11.7 (46)	11.2 (21)
2008	130	130	101	130
2007	11.2	11.2	10.5	11.2
2006	14.5	14.5	10.5	14.5
2005	11.4	11.4	10.8 (5)	11.4
2004	12.4	12.4	9.1 (15)	12.4

**Total Domestic Equities**  
**InvestorForce All Domestic Equities Universe**

US Equity Accounts  
 Ending December 31, 2013



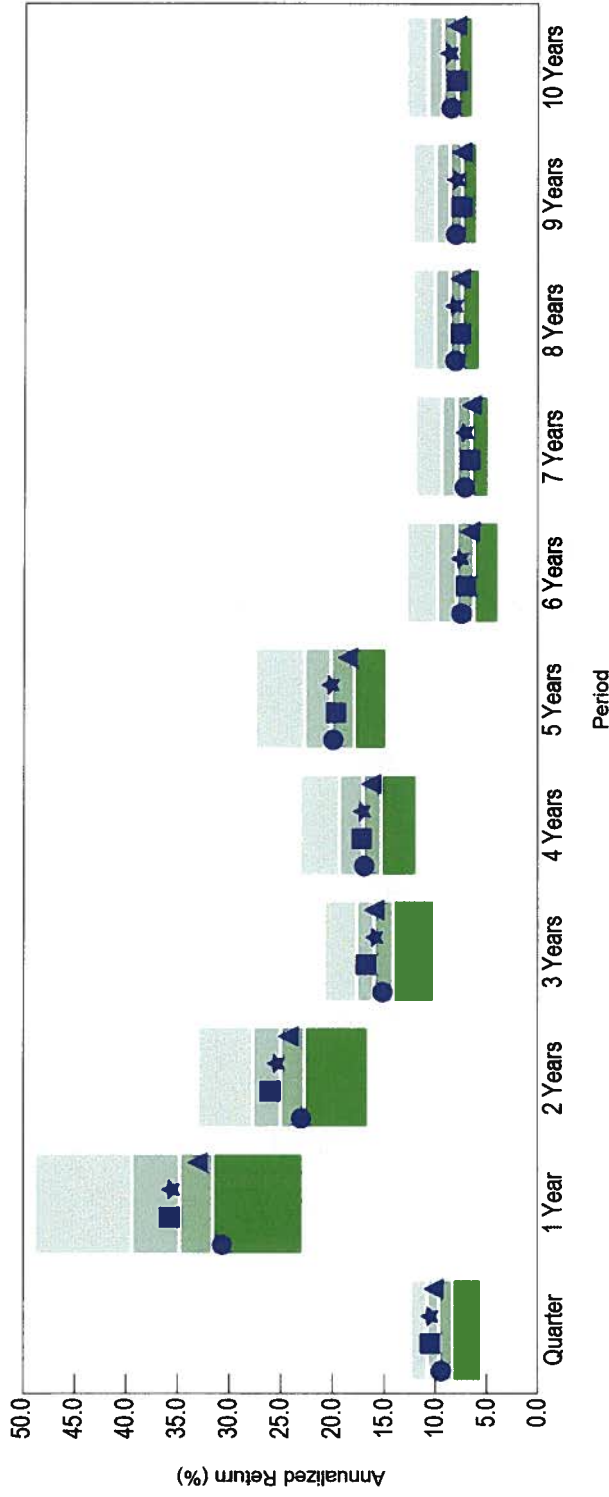
Return (Rank)

	Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
5th Percentile	12.5	48.9	33.1	20.9	23.3	27.6	12.9	12.1	12.4	12.3	13.1
25th Percentile	10.8	39.4	27.8	17.7	19.4	22.8	9.9	9.5	10.1	10.0	10.8
Median	9.7	34.8	25.1	16.0	17.1	20.2	8.0	8.0	8.7	8.7	9.4
75th Percentile	8.3	31.6	22.8	14.2	15.3	18.0	6.3	6.5	7.5	7.5	7.9
95th Percentile	5.5	22.8	16.5	10.1	11.8	14.8	3.8	4.8	5.7	6.0	6.4
# of Portfolios	2,763	2,705	2,590	2,492	2,412	2,316	2,206	2,078	1,939	1,792	1,642
● PERS(DB) Domestic Equity	10.2 (38)	33.9 (57)	24.9 (52)	16.4 (42)	16.5 (59)	18.8 (64)	6.7 (70)	6.5 (77)	7.5 (76)	7.4 (77)	7.8 (78)
■ PERS(HC) Domestic Equity	10.2 (38)	33.9 (57)	24.9 (52)	16.4 (42)	16.5 (59)	18.8 (64)	6.7 (70)	6.5 (77)	7.5 (76)	7.4 (77)	-- (-)
★ STRS Domestic Equity	9.9 (47)	32.1 (72)	23.6 (69)	15.7 (55)	16.0 (66)	18.4 (69)	6.3 (77)	6.0 (84)	7.2 (82)	7.2 (81)	7.6 (82)
▲ Wilshire 5000	10.1 (42)	33.1 (64)	24.3 (60)	16.0 (52)	16.3 (62)	18.6 (67)	6.6 (70)	6.5 (77)	7.6 (72)	7.5 (76)	8.0 (75)

# Total Domestic Equities

## InvestorForce All Domestic Equities Universe

US Equity Accounts  
Ending December 31, 2013

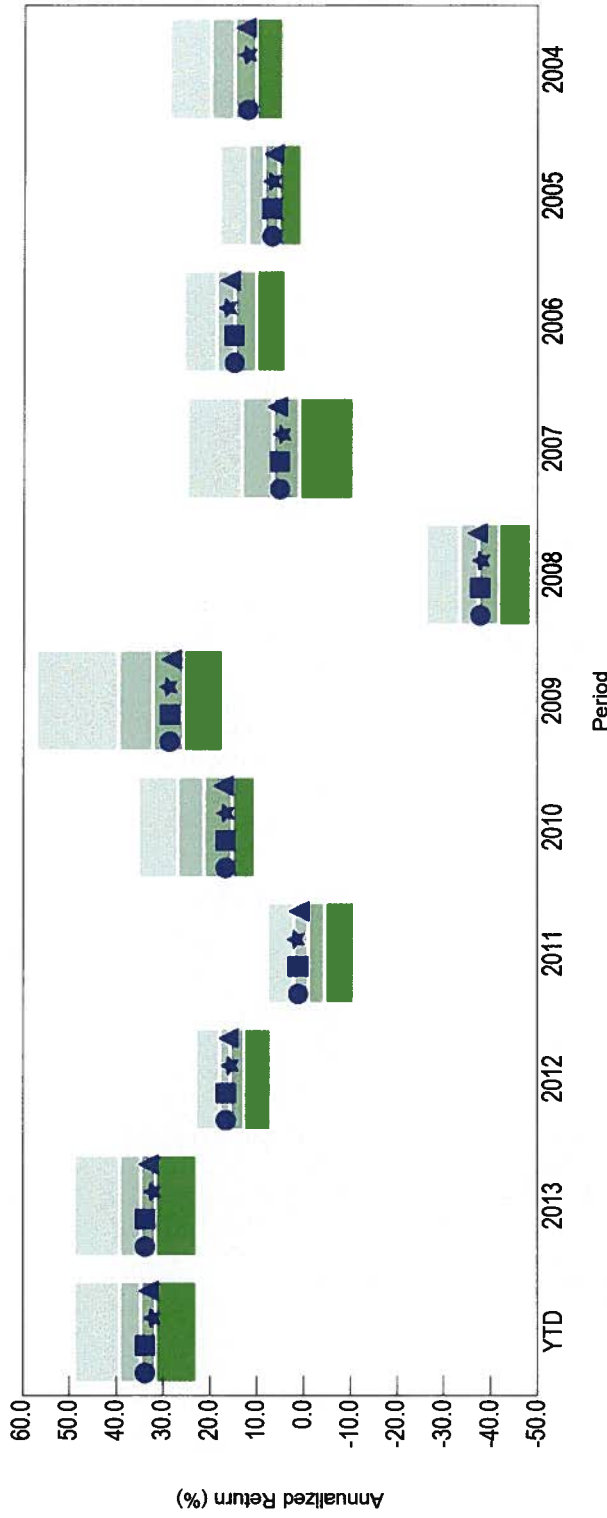


	Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
<b>Return (Rank)</b>	12.5 (48)	48.9 (81)	33.1 (74)	20.9 (64)	23.3 (52)	27.6 (53)	12.9 (58)	12.1 (65)	12.4 (62)	12.3 (63)	13.1 (65)
<b>5th Percentile</b>	10.8	39.4	27.8	17.7	19.4	22.8	9.9	9.5	10.1	10.0	10.8
<b>25th Percentile</b>	9.7	34.8	25.1	16.0	17.1	20.2	8.0	8.0	8.7	8.7	9.4
<b>Median</b>	8.3	31.6	22.8	14.2	15.3	18.0	6.3	6.5	7.5	7.5	7.9
<b>75th Percentile</b>	5.5	22.8	16.5	10.1	11.8	14.8	3.8	4.8	5.7	6.0	6.4
<b>95th Percentile</b>	2,763	2,705	2,590	2,492	2,412	2,316	2,206	2,078	1,939	1,792	1,642
<b># of Portfolios</b>	9.4 (56)	30.7 (81)	23.1 (74)	15.2 (64)	17.0 (52)	20.0 (53)	7.5 (58)	7.2 (65)	8.1 (62)	8.0 (63)	8.5 (65)
<b>OP&amp;F Domestic Equity</b>	10.5 (32)	35.8 (45)	26.1 (40)	16.8 (37)	17.2 (48)	19.7 (56)	7.1 (63)	6.6 (74)	7.6 (74)	7.5 (75)	7.9 (76)
<b>SERS Domestic Equity</b>	10.5 (34)	35.6 (46)	25.4 (47)	15.9 (53)	17.1 (50)	20.2 (51)	7.5 (57)	7.1 (66)	8.1 (61)	7.9 (65)	8.6 (63)
<b>HPRS Domestic Equity</b>	10.1 (42)	33.1 (64)	24.3 (60)	16.0 (52)	16.3 (62)	18.6 (67)	6.6 (67)	6.5 (77)	7.6 (72)	7.5 (76)	8.0 (75)
<b>Wilshire 5000</b>											

# Total Domestic Equities - Calendar Year Returns

## InvestorForce All Domestic Equities Universe

US Equity Accounts  
Ending December 31, 2013



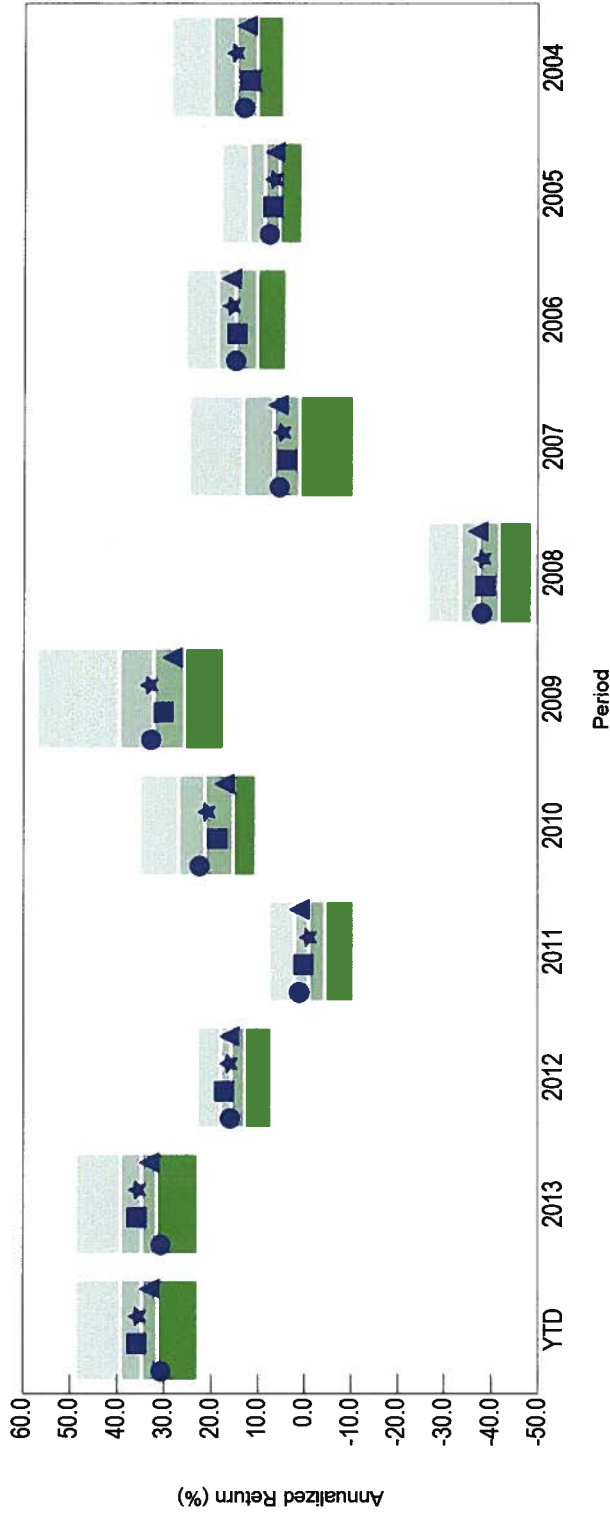
	YTD	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
<b>Return (Rank)</b>	48.9	48.9	23.0	7.7	35.4	57.2	-26.2	25.1	25.9	18.2	29.1
<b>5th Percentile</b>	39.4	39.4	18.0	2.1	27.0	39.6	-33.4	13.2	18.7	12.1	20.0
<b>25th Percentile</b>	34.8	34.8	15.7	-0.9	21.4	32.3	-37.3	6.7	14.9	8.6	14.9
<b>Median</b>	31.6	31.6	12.7	-4.4	15.4	25.8	-41.7	1.1	10.3	5.4	10.3
<b>75th Percentile</b>	22.8	22.8	6.9	-10.8	10.4	17.2	-48.7	-10.6	4.0	0.5	4.5
<b>95th Percentile</b>	2,705	2,705	2,433	2,168	2,135	2,191	1,661	1,794	1,824	1,782	1,741
<b># of Portfolios</b>	33.9 (57)	33.9 (57)	16.6 (38)	1.1 (34)	16.7 (68)	28.7 (63)	-37.8 (53)	5.1 (58)	14.9 (51)	6.8 (64)	12.0 (67)
<b>PERS(DB) Domestic Equity</b>	33.9 (57)	33.9 (57)	16.6 (38)	1.1 (34)	16.7 (68)	28.7 (63)	-37.8 (53)	5.1 (58)	14.9 (51)	6.8 (64)	— (-)
<b>PERS(HC) Domestic Equity</b>	32.1 (72)	32.1 (72)	15.6 (53)	1.5 (31)	16.6 (68)	28.8 (62)	-38.1 (54)	4.5 (61)	16.2 (42)	6.7 (66)	11.9 (67)
<b>STRS Domestic Equity</b>	33.1 (64)	33.1 (64)	16.1 (45)	1.0 (36)	17.2 (66)	28.3 (65)	-37.2 (50)	5.6 (56)	15.8 (44)	6.4 (68)	12.5 (63)
<b>Wishire 5000</b>											



# Total Domestic Equities - Calendar Year Returns

## InvestorForce All Domestic Equities Universe

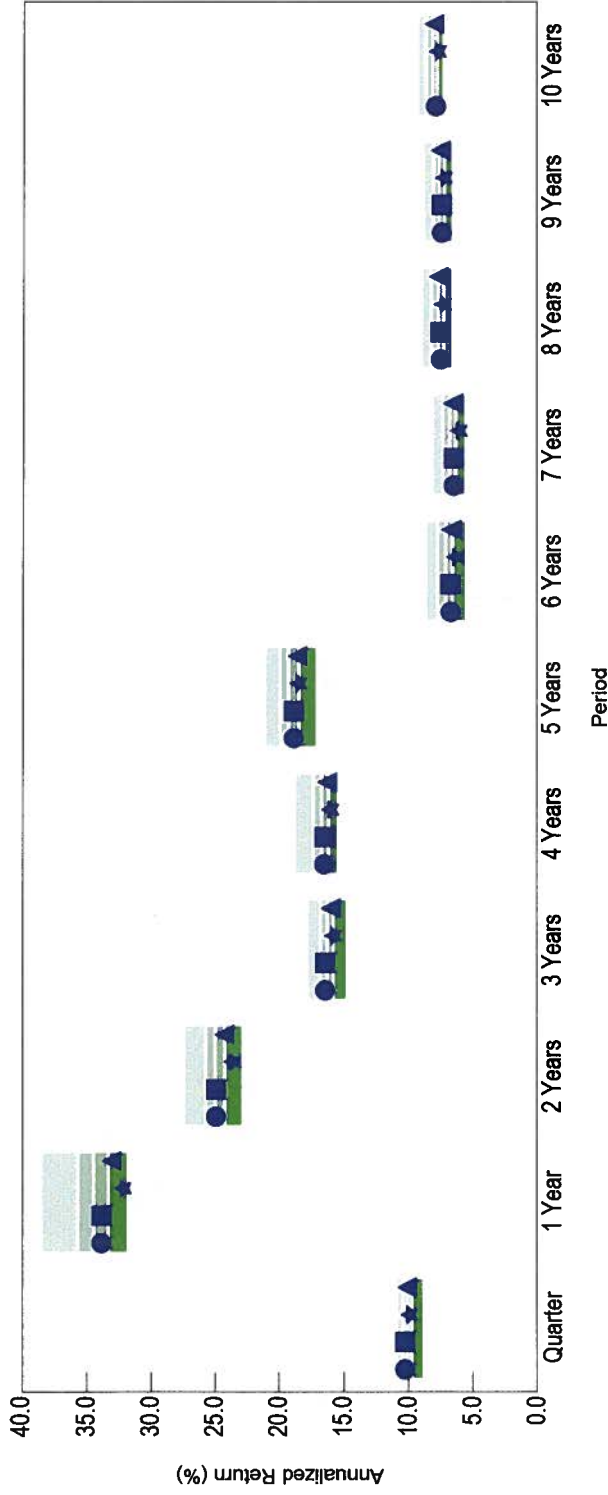
US Equity Accounts  
Ending December 31, 2013



	YTD	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
<b>Return (Rank)</b>	48.9 (81)	48.9 (81)	23.0 (49)	7.7 (36)	35.4 (47)	57.2 (49)	-26.2 (54)	25.1 (57)	25.9 (51)	18.2 (59)	29.1 (61)
<b>5th Percentile</b>	39.4 (45)	39.4 (45)	18.0 (33)	2.1 (42)	27.0 (60)	39.6 (58)	-33.4 (68)	13.2 (64)	18.7 (53)	12.1 (64)	20.0 (68)
<b>25th Percentile</b>	34.8 (46)	34.8 (46)	15.7 (46)	-0.9 (51)	21.4 (52)	32.3 (48)	-37.3 (65)	6.7 (60)	14.9 (44)	8.6 (67)	14.9 (68)
<b>Median</b>	31.6 (64)	31.6 (64)	12.7 (45)	-4.4 (36)	15.4 (52)	25.8 (66)	-41.7 (65)	1.1 (60)	10.3 (44)	5.4 (67)	10.3 (68)
<b>75th Percentile</b>	22.8 (64)	22.8 (64)	6.9 (45)	-10.8 (36)	10.4 (66)	17.2 (65)	-48.7 (65)	-10.6 (56)	4.0 (44)	0.5 (68)	4.5 (68)
<b>95th Percentile</b>	2,705 (64)	2,705 (64)	2,433 (45)	2,168 (36)	2,135 (66)	2,191 (65)	1,661 (65)	1,794 (56)	1,824 (44)	1,782 (68)	1,741 (68)
<b># of Portfolios</b>	30.7 (81)	30.7 (81)	15.9 (49)	0.9 (36)	22.4 (47)	32.8 (49)	-38.0 (54)	5.4 (57)	14.8 (51)	7.6 (59)	13.1 (61)
<b>OP&amp;F Domestic Equity</b>	35.8 (45)	35.8 (45)	17.1 (33)	0.1 (42)	18.7 (60)	30.1 (58)	-38.7 (68)	3.8 (64)	14.5 (53)	6.9 (64)	11.7 (68)
<b>SERS Domestic Equity</b>	35.6 (46)	35.6 (46)	16.0 (46)	-1.0 (51)	20.9 (52)	33.1 (48)	-38.3 (65)	4.7 (60)	15.6 (45)	6.5 (67)	14.7 (68)
<b>HPRS Domestic Equity</b>	33.1 (64)	33.1 (64)	16.1 (45)	1.0 (36)	17.2 (66)	28.3 (65)	-37.2 (65)	5.6 (56)	15.8 (44)	6.4 (68)	12.5 (68)
<b>Wishire 5000</b>											

**Total Domestic Equities**  
**InvestorForce All Public DB Domestic Equities Universe**

**InvestorForce Public DB US Eq Gross Accounts**  
**Ending December 31, 2013**

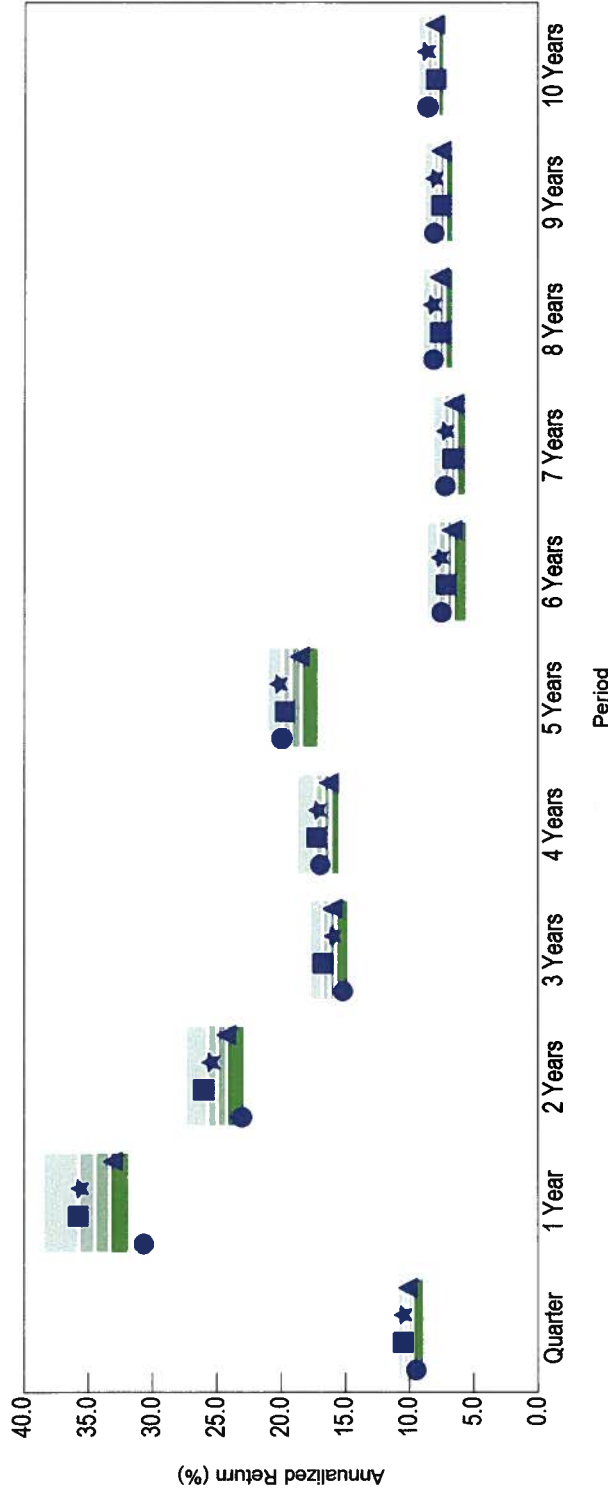


	Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
<b>Return (Rank)</b>											
5th Percentile	10.9	38.5	27.5	17.8	18.8	21.2	8.7	8.2	9.1	8.9	9.4
25th Percentile	10.4	35.7	25.7	16.8	17.4	19.9	7.7	7.3	8.2	8.1	8.6
Median	10.1	34.5	25.0	16.3	16.7	19.3	7.1	6.8	7.7	7.6	8.1
75th Percentile	9.8	33.3	24.3	15.8	16.2	18.5	6.6	6.3	7.2	7.2	7.8
95th Percentile	8.8	31.8	22.8	14.7	15.4	17.1	5.5	5.6	6.5	6.6	7.2
<b># of Portfolios</b>											
● PERS(DB) Domestic Equity	142	139	133	120	90	88	84	84	82	75	72
■ PERS(HC) Domestic Equity	10.2 (40)	33.9 (67)	24.9 (53)	16.4 (42)	16.5 (62)	18.8 (64)	6.7 (69)	6.5 (72)	7.5 (65)	7.4 (64)	7.8 (73)
★ STRS Domestic Equity	10.2 (40)	33.9 (67)	24.9 (53)	16.4 (42)	16.5 (62)	18.8 (64)	6.7 (69)	6.5 (72)	7.5 (65)	7.4 (64)	- (-)
▲ Wilshire 5000	9.9 (69)	32.1 (92)	23.6 (91)	15.7 (79)	16.0 (83)	18.4 (76)	6.3 (85)	6.0 (88)	7.2 (74)	7.2 (75)	7.6 (80)
	10.1 (48)	33.1 (80)	24.3 (76)	16.0 (68)	16.3 (72)	18.6 (69)	6.6 (72)	6.5 (69)	7.6 (65)	7.5 (62)	8.0 (60)

# Total Domestic Equities

## InvestorForce All Public DB Domestic Equities Universe

InvestorForce Public DB US Eq Gross Accounts  
Ending December 31, 2013



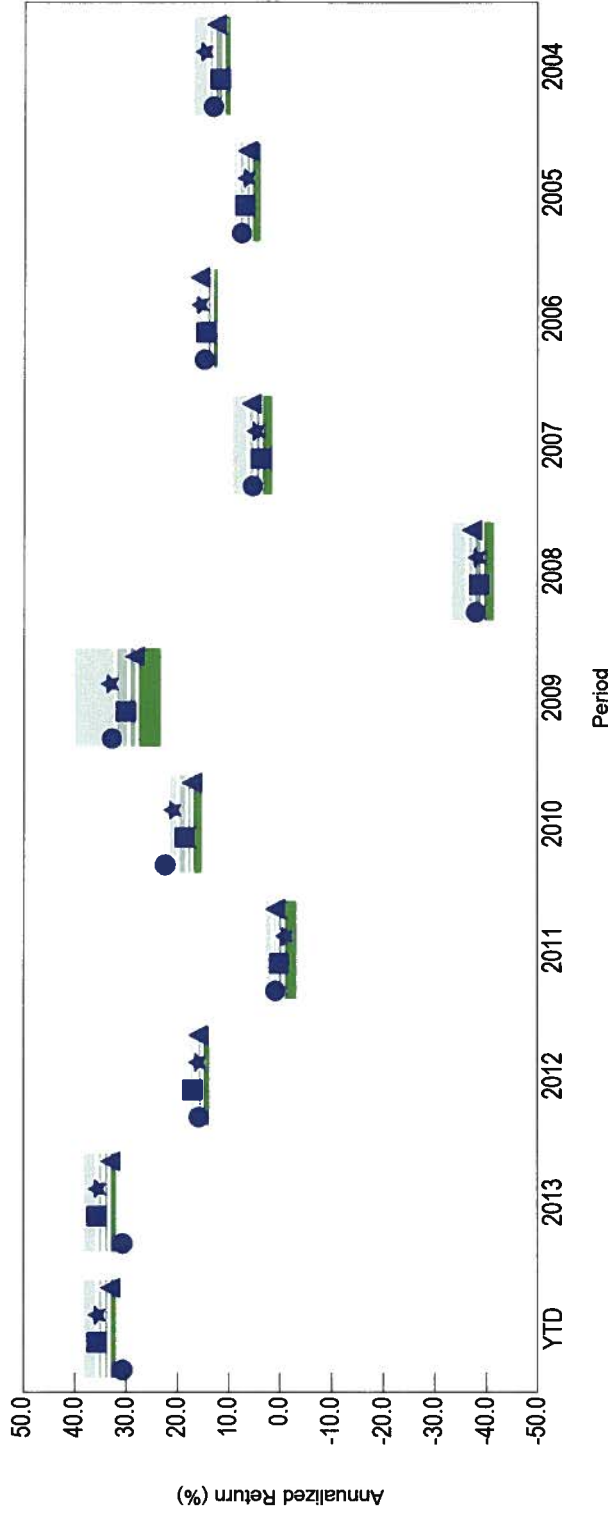
Return (Rank)	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
5th Percentile	38.5	27.5	17.8	18.8	21.2	8.7	8.2	9.1	8.9	9.4
25th Percentile	35.7	25.7	16.8	17.4	19.9	7.7	7.3	8.2	8.1	8.6
Median	34.5	25.0	16.3	16.7	19.3	7.1	6.8	7.7	7.6	8.1
75th Percentile	33.3	24.3	15.8	16.2	18.5	6.6	6.3	7.2	7.2	7.8
95th Percentile	31.8	22.8	14.7	15.4	17.1	5.5	5.6	6.5	6.6	7.2
# of Portfolios	139	133	120	90	88	84	84	82	75	72
OP&F Domestic Equity	9.4 (86)	23.1 (94)	15.2 (88)	17.0 (36)	20.0 (23)	7.5 (33)	7.2 (36)	8.1 (31)	8.0 (28)	8.5 (31)
SERS Domestic Equity	10.5 (20)	26.1 (18)	16.8 (29)	17.2 (29)	19.7 (34)	6.6 (64)	6.6 (64)	7.6 (59)	7.5 (62)	7.9 (64)
HPRS Domestic Equity	10.5 (23)	25.4 (30)	15.9 (74)	17.1 (31)	20.2 (21)	7.5 (32)	7.1 (37)	8.1 (30)	7.9 (36)	8.6 (27)
Wilshire 5000	10.1 (48)	33.1 (80)	16.0 (68)	16.3 (72)	18.6 (69)	6.6 (72)	6.5 (69)	7.6 (65)	7.5 (62)	8.0 (60)



# Total Domestic Equities - Calendar Year Returns

## InvestorForce All Public DB Domestic Equities Universe

InvestorForce Public DB US Eq Gross Accounts  
Ending December 31, 2013

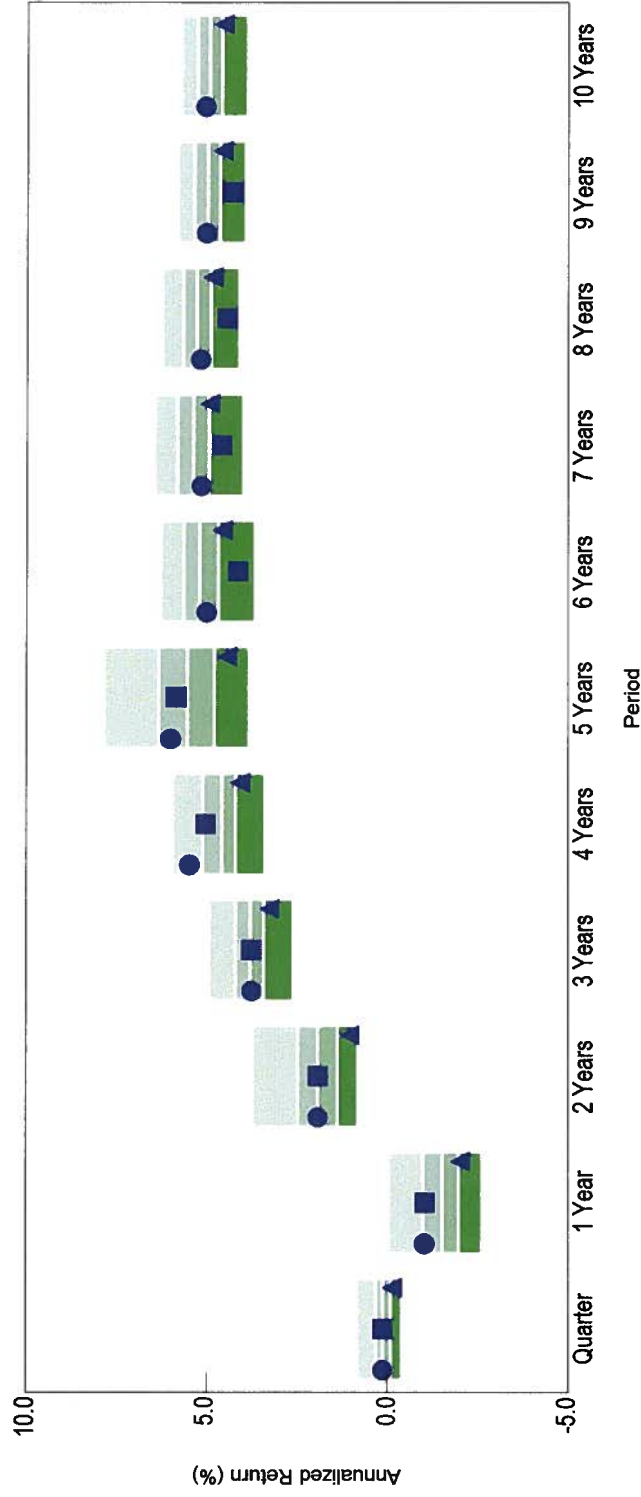


Return (Rank)

5th Percentile	38.5	35.7	34.5	33.3	31.8	139	30.7	35.8	35.6	33.1
25th Percentile	38.5	35.7	34.5	33.3	31.8	139	30.7	35.8	35.6	33.1
Median	38.5	35.7	34.5	33.3	31.8	139	30.7	35.8	35.6	33.1
75th Percentile	38.5	35.7	34.5	33.3	31.8	139	30.7	35.8	35.6	33.1
95th Percentile	38.5	35.7	34.5	33.3	31.8	139	30.7	35.8	35.6	33.1
# of Portfolios	139	139	139	139	139	139	139	139	139	139
OP&F Domestic Equity	30.7	35.8	35.6	33.1	33.1	88	32.8	30.1	33.1	28.3
SERS Domestic Equity	35.8	35.8	35.6	33.1	33.1	88	30.1	30.1	33.1	28.3
HPRS Domestic Equity	35.6	35.6	35.6	33.1	33.1	88	33.1	33.1	33.1	28.3
Wilshire 5000	33.1	33.1	33.1	33.1	33.1	88	28.3	28.3	28.3	28.3

**Fixed Income**  
**InvestorForce US Core Fixed Income Universe**

US Core (Gov/Corp/Mtg) Fixed Income Accounts  
 Ending December 31, 2013

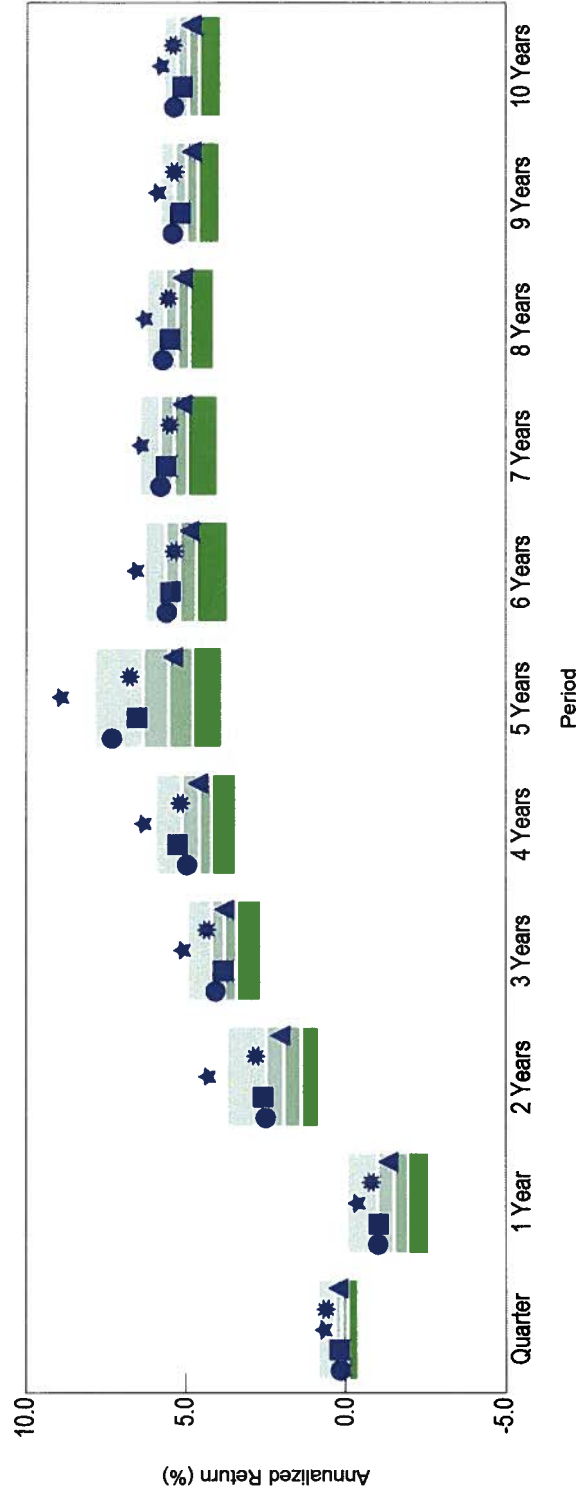


	Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
<b>Return (Rank)</b>											
5th Percentile	0.9	0.0	3.7	5.0	6.0	7.9	6.3	6.5	6.3	5.8	5.7
25th Percentile	0.3	-1.0	2.5	4.2	5.1	6.3	5.7	5.8	5.7	5.4	5.3
Median	0.1	-1.5	1.9	3.8	4.6	5.5	5.2	5.4	5.3	5.0	4.9
75th Percentile	-0.1	-2.0	1.4	3.4	4.2	4.8	4.7	5.0	4.9	4.7	4.6
95th Percentile	-0.4	-2.6	0.8	2.6	3.4	3.8	3.7	4.0	4.1	3.9	3.9
# of Portfolios	176	175	173	170	167	166	164	160	156	153	150
● PERS(DB) Core Fixed	0.1 (49)	-1.0 (27)	1.9 (51)	3.8 (53)	5.5 (12)	6.0 (35)	5.0 (62)	5.2 (67)	5.2 (61)	5.0 (49)	5.0 (41)
■ PERS(HC) Core Fixed	0.1 (49)	-1.0 (27)	1.9 (51)	3.8 (53)	5.0 (31)	5.9 (39)	4.1 (89)	4.6 (87)	4.4 (90)	4.3 (89)	- (-)
▲ Barclays Aggregate	-0.1 (81)	-2.0 (79)	1.0 (90)	3.3 (81)	4.1 (80)	4.4 (84)	4.6 (79)	4.9 (78)	4.8 (78)	4.6 (81)	4.5 (77)



**Fixed Income**  
**InvestorForce US Core Fixed Income Universe**

US Core (Gov/Corp/Mtg) Fixed Income Accounts  
Ending December 31, 2013

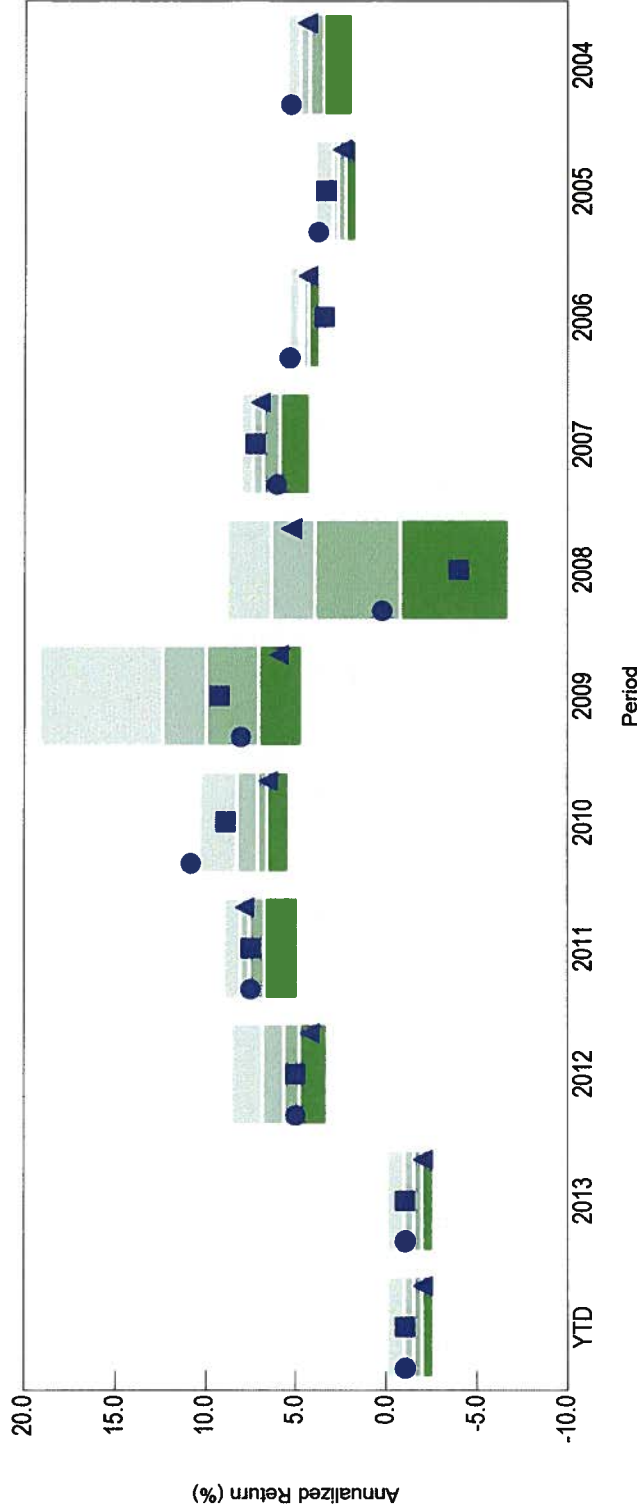


Return (Rank)	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	# of Portfolios
0.9 (47)	0.0 (27)	-1.0 (28)	-1.5 (10)	-2.0 (18)	-2.6 (45)	176
0.3 (41)	-1.0 (28)	-1.5 (10)	-2.0 (18)	-2.6 (45)	-2.6 (45)	175
0.1 (8)	-0.4 (10)	4.3 (3)	5.1 (4)	6.3 (4)	8.9 (3)	167
0.6 (9)	-0.8 (20)	2.8 (18)	4.3 (20)	5.2 (22)	6.8 (16)	166
0.2 (36)	-1.3 (42)	2.0 (45)	3.8 (51)	4.6 (49)	5.4 (53)	150

- STRS Fixed Income
- OP&F Core Fixed
- ★ SERS Global Fixed
- \* HPRS Global Fixed Income
- ▲ Barclays U.S. Universal

**Fixed Income**  
**InvestorForce US Core Fixed Income Universe - Calendar Year Returns**

US Core (Gov/Corp/Mtg) Fixed Income Accounts  
 Ending December 31, 2013

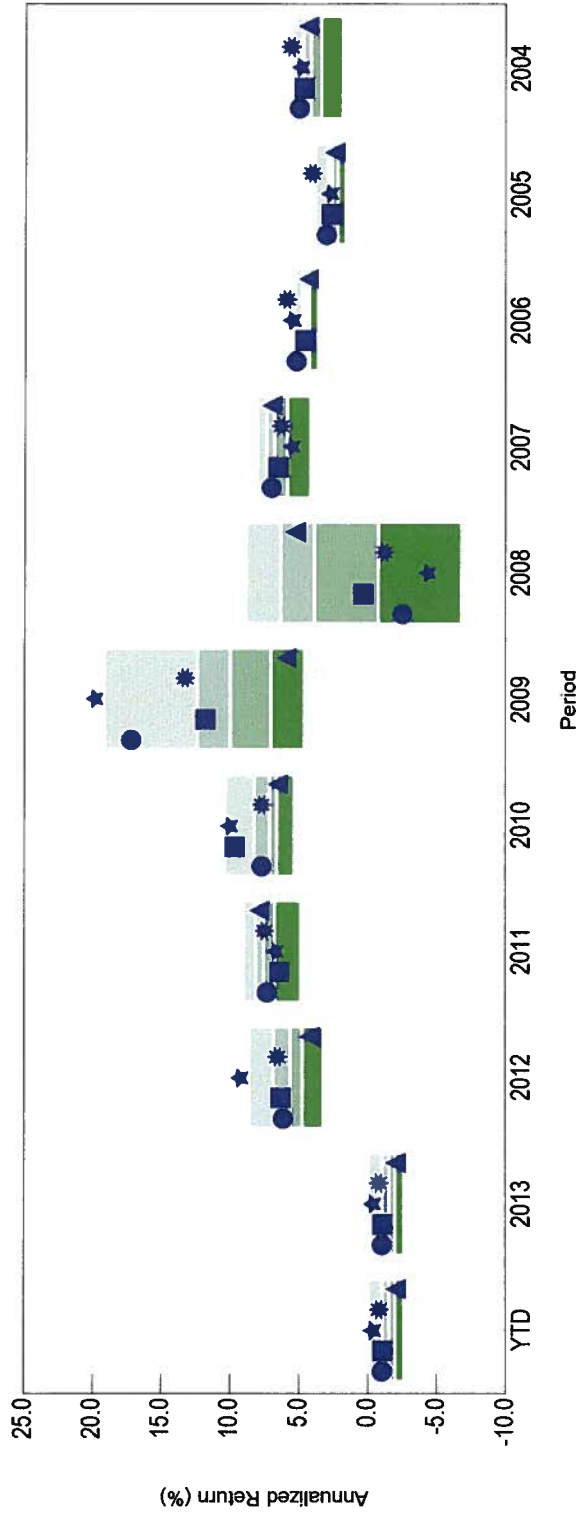


Period	Return (Rank)	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	# of Portfolios
YTD	0.0 (27)	-1.0	-1.5	-2.0	-2.6	175	175
2013	0.0 (27)	-1.0	-1.5	-2.0	-2.6	175	175
2012	8.6 (71)	6.9	5.6	4.8	3.2	168	168
2011	9.0 (53)	8.1	7.6	6.8	4.9	160	160
2010	10.4 (4)	8.3	7.2	6.6	5.4	155	155
2009	19.2 (68)	12.4	10.0	7.1	4.6	152	152
2008	8.9 (72)	6.4	4.0	-0.8	-6.8	183	183
2007	8.1 (73)	7.4	6.8	5.9	4.2	224	224
2006	5.4 (7)	4.8	4.6	4.3	3.7	252	252
2005	3.9 (6)	3.0	2.7	2.3	1.6	263	263
2004	5.5 (8)	4.8	4.2	3.4	1.9	266	266

**Fixed Income**

**InvestorForce US Core Fixed Income Universe - Calendar Year Returns**

US Core (Gov/Corp/Mtg) Fixed Income Accounts  
Ending December 31, 2013



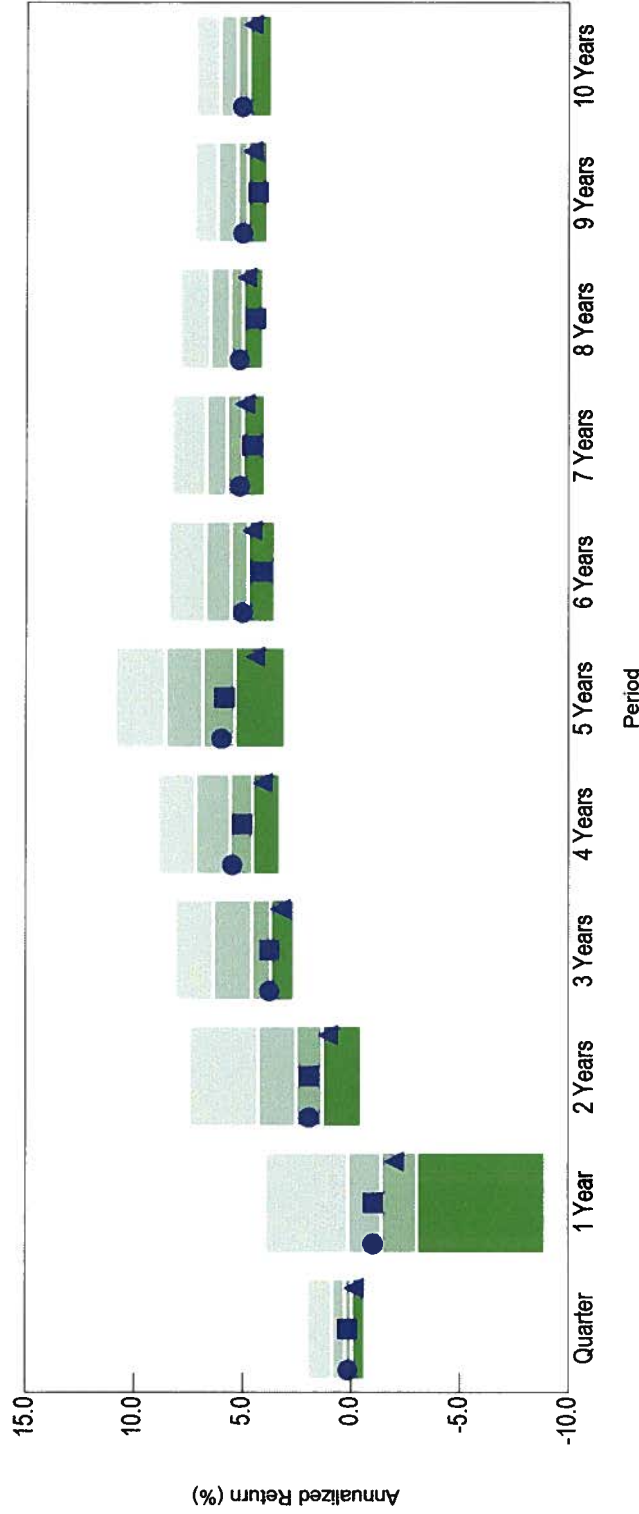
Return (Rank)

- 5th Percentile
- 25th Percentile
- ★ Median
- ▲ 75th Percentile
- ◆ 95th Percentile
- # of Portfolios
- STRS Fixed Income
- OP&F Core Fixed
- ★ SERS Global Fixed
- ◆ HPRS Global Fixed Income
- ▲ Barclays Aggregate

Fixed Income

InvestorForce All Defined Benefit US Core Fixed Income Universe

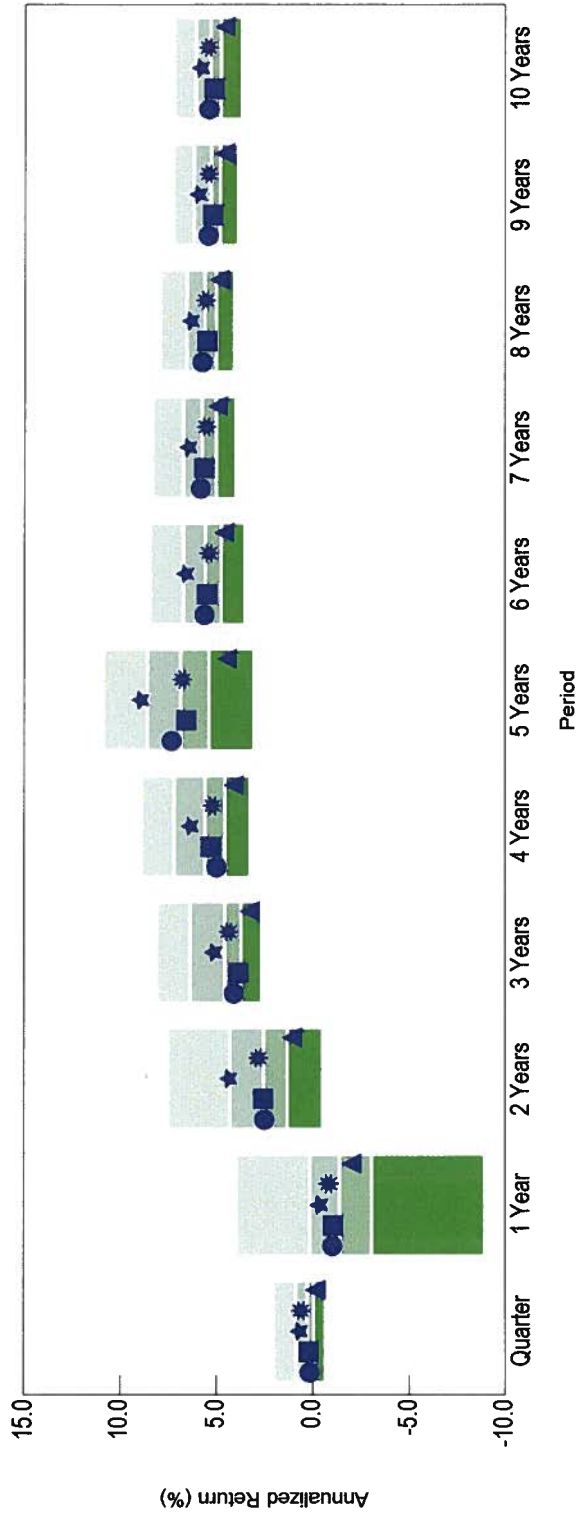
InvestorForce All DB US Fix Inc Gross Accounts  
Ending December 31, 2013



	Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
Return (Rank)	2.1 (40)	4.0 (482)	7.5 (465)	8.1 (439)	8.9 (349)	10.9 (341)	8.5 (323)	8.3 (303)	8.0 (286)	7.3 (260)	7.3 (245)
5th Percentile	0.9	0.1	4.3	6.4	7.2	8.6	6.7	6.7	6.5	6.2	6.1
25th Percentile	0.3	-1.4	2.6	4.6	5.6	6.9	5.6	5.8	5.6	5.3	5.3
Median	0.0	-3.0	1.3	3.7	4.5	5.4	4.8	5.0	5.0	4.8	4.8
75th Percentile	-0.7	-8.9	-0.5	2.6	3.3	3.0	3.5	4.0	4.1	3.9	3.7
95th Percentile	484	482	465	439	349	341	323	303	286	260	245
# of Portfolios	0.1 (61)	-1.0 (44)	1.9 (63)	3.8 (73)	5.5 (55)	6.0 (62)	5.0 (69)	5.2 (72)	5.2 (72)	5.0 (67)	5.0 (63)
● PERS(DB) Core Fixed	0.1 (61)	-1.0 (44)	1.9 (63)	3.8 (73)	5.0 (66)	5.9 (65)	4.1 (87)	4.6 (85)	4.4 (87)	4.3 (87)	- (-)
■ PERS(HC) Core Fixed	-0.1 (82)	-2.0 (67)	1.0 (82)	3.3 (88)	4.1 (86)	4.4 (86)	4.6 (80)	4.9 (80)	4.8 (80)	4.6 (82)	4.5 (81)
▲ Barclays Aggregate											

**Fixed Income**  
**InvestorForce All Defined Benefit US Core Fixed Income Universe**

InvestorForce All DB US Fix Inc Gross Accounts  
 Ending December 31, 2013

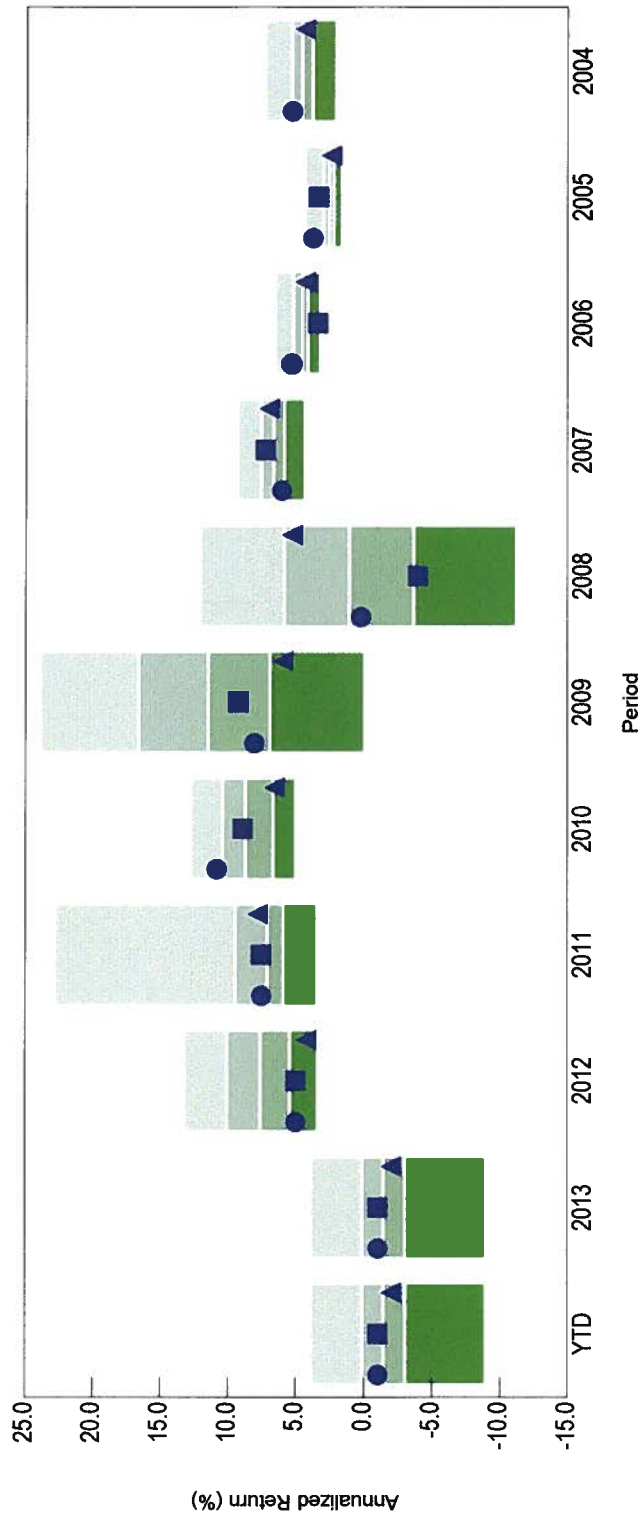


**Return (Rank)**

	Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
5th Percentile	2.1	4.0	7.5	8.1	8.9	10.9	8.5	8.3	8.0	7.3	7.3
25th Percentile	0.9	0.1	4.3	6.4	7.2	8.6	6.7	6.7	6.5	6.2	6.1
Median	0.3	-1.4	2.6	4.6	5.6	6.9	5.6	5.8	5.6	5.3	5.3
75th Percentile	0.0	-3.0	1.3	3.7	4.5	5.4	4.8	5.0	5.0	4.8	4.8
95th Percentile	-0.7	-8.9	-0.5	2.6	3.3	3.0	3.5	4.0	4.1	3.9	3.7
# of Portfolios	484	482	465	439	349	341	323	303	286	260	245
● STRS Fixed Income	0.1 (61)	-1.0 (43)	2.5 (52)	4.1 (66)	5.0 (67)	7.3 (42)	5.6 (49)	5.8 (47)	5.7 (47)	5.4 (48)	5.4 (47)
■ OP&F Core Fixed	0.2 (55)	-1.0 (44)	2.6 (50)	3.8 (72)	5.3 (61)	6.5 (55)	5.5 (55)	5.6 (56)	5.5 (57)	5.2 (58)	5.1 (57)
★ SERS Global Fixed	0.7 (32)	-0.4 (32)	4.3 (25)	5.1 (42)	6.3 (37)	8.9 (21)	6.6 (32)	6.4 (31)	6.3 (32)	5.9 (33)	5.8 (35)
* HPRS Global Fixed Income	0.6 (34)	-0.8 (39)	2.8 (47)	4.3 (58)	5.2 (64)	6.8 (51)	5.4 (59)	5.5 (62)	5.6 (55)	5.4 (49)	5.4 (45)
▲ Barclays Aggregate	-0.1 (82)	-2.0 (67)	1.0 (82)	3.3 (88)	4.1 (86)	4.4 (86)	4.6 (80)	4.9 (80)	4.8 (80)	4.6 (82)	4.5 (81)

**Fixed Income**  
**InvestorForce All Defined Benefit US Core Fixed Income Universe - Calendar Year Returns**

InvestorForce All DB US Fix Inc Gross Accounts  
 Ending December 31, 2013



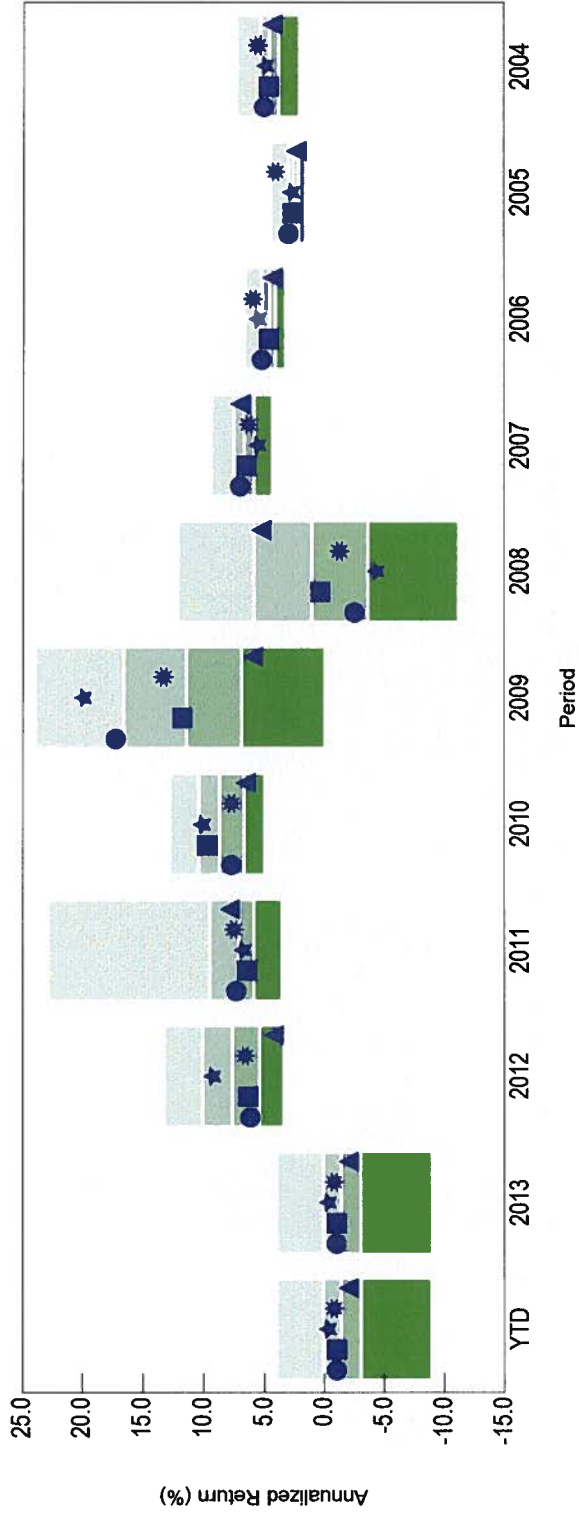
Period	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	# of Portfolios
YTD	4.0	4.0	4.0	4.0	4.0	482
2013	-8.9	-3.0	-1.4	0.1	4.0	482
2012	3.4	5.4	7.6	10.1	13.2	462
2011	3.5	5.9	7.1	9.5	22.9	419
2010	5.0	6.7	8.7	10.4	12.8	332
2009	0.0	-3.6	1.1	6.9	23.9	332
2008	-11.2	-3.6	1.1	5.9	12.1	318
2007	4.3	5.9	6.7	7.6	9.4	291
2006	3.3	4.2	4.6	5.3	6.6	277
2005	1.7	2.3	2.6	3.0	4.5	255
2004	2.1	3.8	4.6	5.4	7.4	242

● PERS(DB) Core Fixed  
 ■ PERS(HC) Core Fixed  
 ▲ Barclays Aggregate



**Fixed Income**  
**InvestorForce All Defined Benefit US Core Fixed Income Universe - Calendar Year Returns**

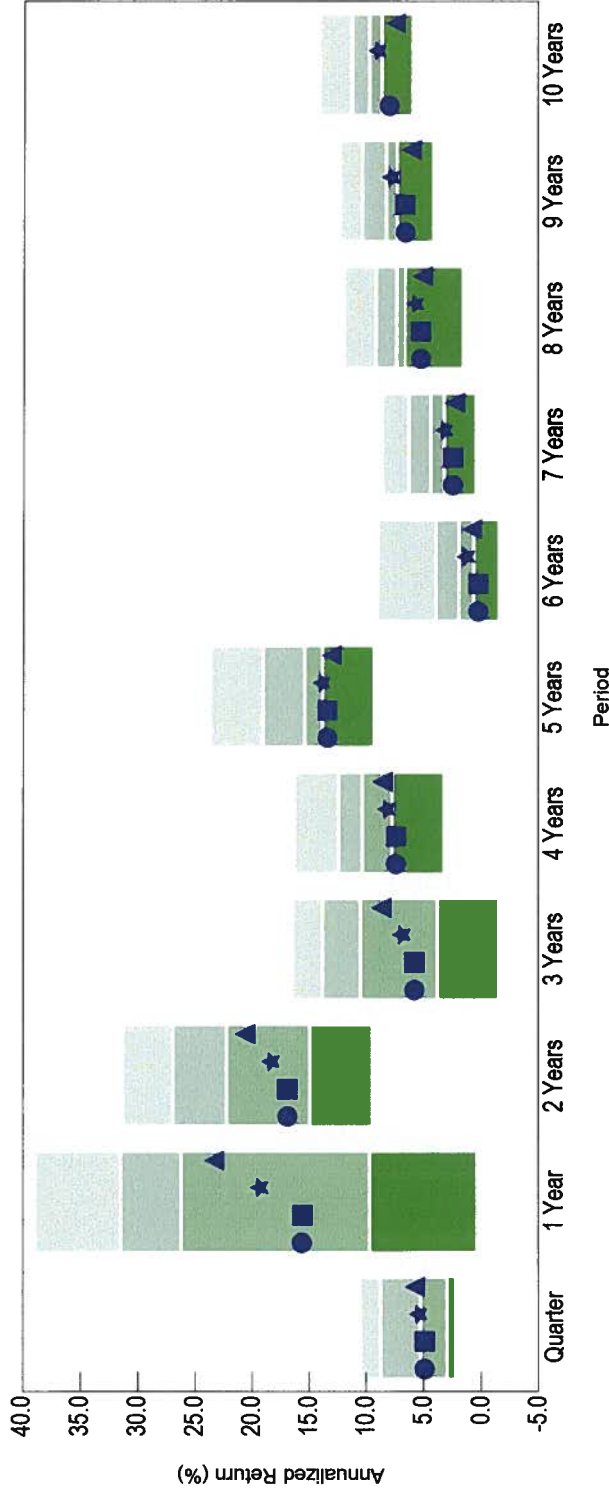
InvestorForce All DB US Fix Inc Gross Accounts  
 Ending December 31, 2013



Return (Rank)	YTD	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
5th Percentile	4.0	4.0	13.2	22.9	12.8	23.9	12.1	9.4	6.6	4.5	7.4
25th Percentile	0.1	0.1	10.1	9.5	10.4	16.6	5.9	7.6	5.3	3.0	5.4
Median	-1.4	-1.4	7.6	7.1	8.7	11.4	1.1	6.7	4.6	2.6	4.6
75th Percentile	-3.0	-3.0	5.4	5.9	6.7	6.9	-3.6	5.9	4.2	2.3	3.8
95th Percentile	-8.9	-8.9	3.4	3.5	5.0	0.0	-11.2	4.3	3.3	1.7	2.1
# of Portfolios	482	482	462	419	332	332	318	291	277	255	242
STRS Fixed Income	-1.0 (43)	-1.0 (43)	6.1 (68)	7.3 (47)	7.7 (62)	17.2 (23)	-2.5 (69)	7.0 (42)	5.2 (27)	3.0 (25)	5.0 (37)
OP&F Core Fixed	-1.0 (44)	-1.0 (44)	6.3 (66)	6.4 (63)	9.7 (34)	11.8 (49)	0.4 (53)	6.5 (56)	4.6 (50)	2.7 (45)	4.7 (48)
SERS Global Fixed	-0.4 (32)	-0.4 (32)	9.2 (34)	6.7 (56)	10.1 (29)	19.8 (14)	-4.4 (78)	5.5 (80)	5.5 (20)	2.7 (41)	4.9 (41)
HPRS Global Fixed Income	-0.8 (39)	-0.8 (39)	6.6 (64)	7.5 (45)	7.7 (62)	13.3 (41)	-1.2 (63)	6.3 (63)	5.9 (12)	4.1 (7)	5.6 (23)
Barclays Aggregate	-2.0 (67)	-2.0 (67)	4.2 (90)	7.8 (37)	6.5 (78)	5.9 (81)	5.2 (30)	7.0 (43)	4.3 (66)	2.4 (64)	4.3 (60)

**Total International Equities**  
**InvestorForce Global Developed ex-USA Equities Universe**

Global Developed xUS Equity Accounts  
 Ending December 31, 2013

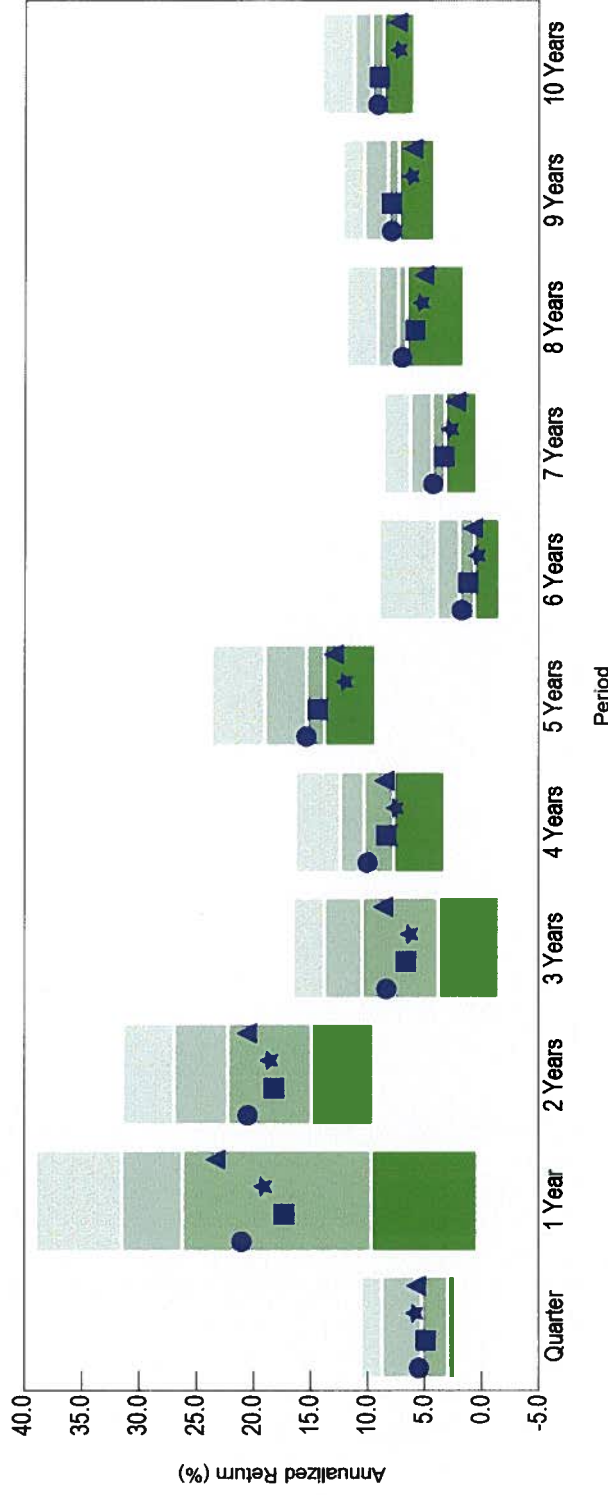


**Return (Rank)**

	Quarter	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years	10 Years
5th Percentile	10.5	39.0	31.4	16.5	16.3	23.7	9.0	8.6	11.9	12.3	14.2
25th Percentile	8.8	31.5	27.0	13.8	12.4	19.0	3.9	6.3	9.2	10.3	11.2
Median	5.3	26.2	22.2	10.5	10.3	15.4	2.0	4.4	7.4	8.2	9.7
75th Percentile	3.0	9.7	14.9	3.8	7.8	13.8	0.7	3.2	6.6	7.3	8.7
95th Percentile	2.3	0.4	9.5	-1.4	3.2	9.3	-1.5	0.5	1.6	4.1	5.9
# of Portfolios	61	59	59	59	57	57	54	50	49	43	42
● PERS(DB) International Equity	4.9 (52)	15.6 (69)	16.9 (70)	5.8 (69)	7.4 (79)	13.3 (79)	0.2 (81)	2.4 (83)	5.2 (85)	6.5 (83)	7.9 (85)
■ PERS(HC) International Equity	4.9 (52)	15.6 (69)	16.9 (70)	5.8 (69)	7.4 (79)	13.3 (79)	0.2 (81)	2.4 (83)	5.2 (85)	6.5 (83)	-- (-)
★ STRS International Equity	5.4 (48)	19.2 (66)	18.3 (68)	6.8 (68)	8.1 (72)	13.8 (76)	1.2 (66)	3.1 (78)	5.6 (83)	7.7 (83)	8.9 (65)
▲ MSCI/EAFE Gross	5.7 (47)	23.3 (62)	20.6 (56)	8.7 (62)	8.5 (68)	13.0 (82)	0.8 (73)	2.3 (84)	5.0 (85)	6.0 (91)	7.4 (90)

**Total International Equities**  
**InvestorForce Global Developed ex-USA Equities Universe**

Global Developed xUS Equity Accounts  
 Ending December 31, 2013



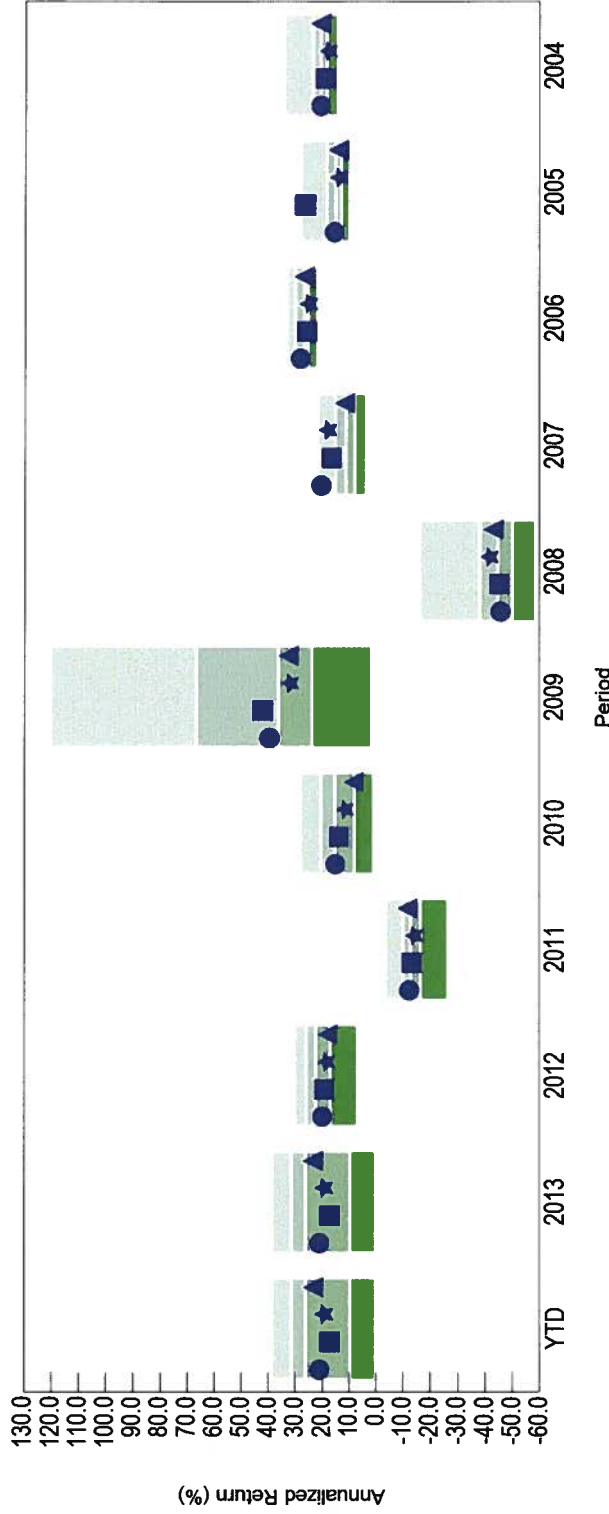
Return (Rank)

5th Percentile	10.5	39.0	31.4	16.5	16.3	23.7	9.0	8.6	11.9	12.3	14.2
25th Percentile	8.8	31.5	27.0	13.8	12.4	19.0	3.9	6.3	9.2	10.3	11.2
Median	5.3	26.2	22.2	10.5	10.3	15.4	2.0	4.4	7.4	8.2	9.7
75th Percentile	3.0	9.7	14.9	3.8	7.8	13.8	0.7	3.2	6.6	7.3	8.7
95th Percentile	2.3	0.4	9.5	-1.4	3.2	9.3	-1.5	0.5	1.6	4.1	5.9
# of Portfolios	61	59	59	59	57	57	54	50	49	43	42
OP&F International Equity	5.5 (48)	21.0 (65)	20.5 (58)	8.4 (63)	10.0 (53)	15.4 (51)	1.7 (61)	4.2 (52)	7.0 (63)	7.9 (59)	9.1 (59)
SERS International Equity	4.9 (52)	17.3 (68)	18.2 (68)	6.7 (68)	8.4 (70)	14.4 (70)	1.2 (66)	3.2 (75)	5.8 (82)	7.9 (59)	9.0 (61)
HPRS International Equity	5.8 (47)	19.1 (66)	18.6 (67)	6.3 (69)	7.5 (79)	12.0 (87)	0.3 (80)	2.7 (81)	5.2 (85)	6.1 (88)	7.2 (90)
MSCIEAFE Gross	5.7 (47)	23.3 (62)	20.6 (56)	8.7 (62)	8.5 (68)	13.0 (82)	0.8 (73)	2.3 (84)	5.0 (85)	6.0 (91)	7.4 (90)



**Total International Equities - Calendar Year Returns**  
**InvestorForce Global Developed ex-USA Equities Universe -**

Global Developed xUS Equity Accounts  
 Ending December 31, 2013



**Return (Rank)**

5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	# of Portfolios
39.0	31.5	26.2	9.7	0.4	59
21.0 (65)	17.3 (68)	19.1 (66)	23.3 (62)	23.3 (62)	59
OP&F International Equity	SERS International Equity	HPRS International Equity	MSCIEAFE Gross		

Period	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile	# of Portfolios
YTD	39.0	31.5	26.2	9.7	0.4	59
2013	39.0	31.5	26.2	9.7	0.4	59
2012	30.5	26.0	22.6	17.0	6.8	66
2011	-3.2	-9.9	-12.9	-16.3	-26.6	72
2010	28.4	20.7	15.5	8.0	0.9	72
2009	120.3	66.8	36.6	23.9	1.8	73
2008	-15.9	-38.0	-44.6	-49.9	-58.5	83
2007	22.0	15.4	11.3	8.0	3.9	89
2006	33.6	30.4	27.1	25.6	22.0	88
2005	28.4	18.4	15.1	13.2	10.0	94
2004	34.8	23.6	20.9	18.7	14.5	96