Ohio PERS
Investment Plan 2012

OPERS

Defined Benefit Fund	Health Care Fund	Defined Contribution Fund

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Report from the CIO

The following report outlines the 2012 investment management plans for OPERS Defined Benefit, Health Care, and Defined Contribution Funds. This report also summarizes initiatives and processes as well as performance and risk expectations.

Fund Strategies

The Defined Benefit and Health Care Funds will continue transitioning toward their strategic asset allocations approved by the OPERS Retirement Board in 2009, 2011, and 2012. Staff plans to complete these transitions before the end of 2012. The Defined Contribution Fund continues to utilize mostly passive management. However, during the first quarter of 2011, OPERS started to offer self-directed brokerage accounts to make active management available to Defined Contribution Fund plan participants.

For planning purposes, the following table outlines the projected base case returns with ranges for both Defined Benefit and Health Care Funds. The base case return expectations are higher than in 2011 for both Defined Benefit and Health Care Funds largely due to projected higher returns for the Fixed Income sub-asset classes such as Core Fixed, Global High Yield, and Treasury Inflation Protected Securities (TIPS). The return ranges are wider than in 2011 due to continuing uncertainty surrounding Europe's sovereign debt crisis.

	Base Case Return	Return Range	Active Return	Tracking Error	Information Ratio
Defined Benefit Fund	- - - - - - %	- - - - - -	- - - - - %	- - - - -	
2012	7.47	-5.53 to 20.47	0.42	1.05	0.40
2011	6.68	-4.52 to 17.88	0.40	1.00	0.40
Health Care Fund					
2012	6.91	-6.19 to 20.01	0.36	0.90	0.40
2011	5.85	-3.26 to 14.94	0.36	0.90	0.40

The active returns shown above incorporate an information ratio of 0.40. This ratio measures the active return per unit of tracking error (active risk), which is a risk-adjusted return metric.

The expected returns for the Defined Contribution Funds, including the Core Funds and Target Date Funds, should be similar to the underlying benchmark returns since these Funds continue to utilize mostly passive management.

Additional details regarding the fund strategies are included later in this Annual Investment Plan.

Asset Class Strategies

The OPERS Retirement Board approved the strategic asset allocation change in the Defined Benefit and Health Care Funds at its January 2012 meeting. The Defined Benefit and Health Care Fund's Public Equity allocations will decrease by 5% and both Funds' Hedge Funds and Fixed Income allocations will increase by 3% and 2%, respectively.

The Public Equity allocation in the Defined Benefit and Health Care Funds will target the market-based global weighting between U.S. Equity and Non-U.S. Equity. The portfolio mandates that

Staff expects to fund in 2012 include, externally managed Non-U.S. Developed Markets small cap portfolios, externally managed Non-U.S. Emerging Markets small cap portfolios, internally managed Non-U.S. index portfolios, internally managed tilted index portfolio(s), and U.S. Equity 130/30 portfolios.

With regard to the Fixed Income allocation in the Defined Benefit Fund, Staff plans to reduce the allocation to the Core Fixed sub-asset class while funding the Emerging Markets Debt, Global High Yield and Floating Rate Debt sub-asset classes. In the Health Care Fund's Fixed Income asset class, Staff plans to reduce the Core Fixed allocation and to introduce the Global High Yield and Floating Rate Debt sub-asset classes. A new Internal Credit portfolio will be added and funds will be transferred from the Public Equity asset class into the Global High Yield and Emerging Markets Debt sub-asset classes for both Defined Benefit and Health Care Funds as a part of the asset allocation changes approved by the OPERS Retirement Board at the January 2012 meeting.

Within the Alternatives asset class, Private Equity commitments will emphasize the selection of high quality general partners focused on opportunistic strategies. In Real Estate, Staff intends to sell stabilized Core properties and invest opportunistically in both debt and equity of Distressed Real Estate. In the Hedge Funds sub-asset class, Staff will hire additional single strategy hedge funds. The transfer of the Securitized Debt portfolio from the Opportunistic sub-asset class to the Fixed Income asset class reduces the Core Fixed allocation by the same amount.

The Tactical Asset Allocation Committee will continue to determine active overweights and underweights to various asset classes. The Fund Management Committee will continue to monitor overall fund asset allocation and exposures.

Initiatives

Each year the Investment Division undertakes significant initiatives to enhance the capabilities and performance of the Funds. The completed 2011 strategic initiatives, the continuation of 2011 initiatives, and the new 2012 strategic initiatives are highlighted below.

Completed 2011 Strategic Initiatives

- Added capabilities to internal trading
  - U.S. options trading
  - Non-U.S. Equity trading
  - Currency trading
  - U.S. Equity external manager trading (mid cap, small cap and emerging managers)
- Nine new internally managed portfolios were implemented in the Public Equity asset class and the Opportunistic sub-asset class
  - U.S. index portfolios (large cap, mid cap and small cap)
  - U.S. enhanced quant portfolios (mid cap and small cap)
  - U.S. active portfolios (mid cap and options-based large cap)
  - Non-U.S. Developed Markets large cap index portfolio
  - Securitized Debt portfolio
- Transitioned the Long Bond portfolio into the Internal Core portfolio
- Committed $4 billion to the Private Equity sub-asset class
- Completed five external public manager searches (U.S. mid cap, U.S. small cap, emerging managers, Non-U.S. Developed Markets large cap and Emerging Markets large cap)

Continuation of 2011 Initiatives

- Transition toward the strategic asset allocation targets for the Defined Benefit and Health Care Funds
- Continue transitioning the Public Equity allocation to a market-based global weighting between U.S. Equity and Non-U.S. Equity
- Further enhance the risk management monitoring and analytics systems for the Defined Benefit and Health Care Funds
- Complete the execution of new standardized Investment Management Agreements (IMAs) with external managers
- Expand operational and trading capabilities to internally manage additional U.S. and Non-U.S. Equity mandates
- Restructure the Fixed Income asset class by carving out 5% from Defined Benefit Fund's Core Fixed and 3% from Health Care Fund's Core Fixed to fund Floating Rate Debt (1% for both Funds), Global High Yield (1% for both Funds), Securitized Debt (1% for both Funds) and Emerging Markets Debt (2% for Defined Benefit Fund) sub-asset classes
- Increase the proportion of active management in the U.S. and Non-U.S. Equity sub-asset classes
- Fund externally managed active Non-U.S. Developed Markets small cap, Emerging Markets small cap, Global High Yield, Emerging Markets Debt, Floating Rate Debt and Hedge Funds mandates
- Internally manage a portion of the securities lending cash collateral portfolios utilizing four liquidity-based buckets

New 2012 Strategic Initiatives

- Implement an internally managed tilted index portfolio(s) to complement the existing capitalization-based index portfolios
- Implement a series of internally managed Non-U.S. Equity index portfolios that include Developed Markets small cap, Emerging Markets large cap and Emerging Markets small cap portfolios
- Implement an additional 2% Fixed Income allocation as part of the new strategic asset allocation approved by the OPERS Retirement Board at its January 2012 meeting: (1) implement a new Internal Credit portfolio (0.5% and 1% for the Defined Benefit and Health Care Funds, respectively); (2) expand the Global High Yield sub-asset class (0.5% and 1% for the Defined Benefit and Health Care Funds, respectively); and (3) expand the Emerging Markets Debt sub-asset class (1% for the Defined Benefit Fund)
- Increase the Hedge Funds sub-asset class allocation by 3% as part of the new strategic asset allocation, approved by the OPERS Retirement Board at its January 2012 meeting, through the hiring of direct hedge funds identified with the assistance of OPERS' Due Diligence Consultant
- Improve the risk-adjusted return in the Real Estate sub-asset class through a series of new investments and portfolio sales
- Expand internal currency trading

Resources

The Investment Division Staff is comprised of 60 budgeted positions with six positions currently vacant. Detailed Staff biographies are provided in the Appendix.

The Investment Division submitted an estimated compensation and operating budget of $19.56 million for 2012, representing a 4.7% increase over 2011. The budget includes the Finance Department's estimate of the 2012 incentive compensation payout, based on prior year budgets. The budget incorporates the Division's effort to maintain internal investment management, where appropriate, due to its material cost savings.

Staff estimates the total cost to manage the OPERS asset base at 54.5 basis points or $397.59 million, which is 26.4% higher than the previous year. This cost increase reflects many factors, including a shift in asset mix to Alternatives asset class, more active management and a higher degree of external management. The cost assumes a long-term growth trend in the fund's asset base, whereas an unanticipated bear market would reduce the cost.

Summary

Calendar year 2011 was a very productive period for the OPERS Investment Staff. Staff successfully implemented internal and operational initiatives, and continued to generate alpha, or active return throughout the year. The OPERS Retirement Board approved the strategic asset allocation changes in 2009, 2011 and 2012, and Staff expects to complete these transitions toward the new strategic asset allocation before the end of 2012.

With the strategic guidance of the OPERS Retirement Board, the OPERS Investment team is prepared to meet the investment challenges in 2012 as we strive to succeed in an uncertain investment environment.

Respectfully,

John C. Lane, Chief Investment Officer
January 17, 2012

FUND STRATEGIES

Defined Benefit Fund

Expected Asset Growth – Defined Benefit Fund

The table below summarizes Staff's estimate (base case) of market values and ranges for the Defined Benefit Fund at December 31, 2012. Pessimistic and optimistic cases are also provided for comparison purposes.

	Defined Benefit Fund 2012 Expected Asset Growth Estimated Market Values, Returns and Cash Flows		
	Pessimistic Case	Base Case	Optimistic Case
12/31/11 Market Value ($ billions)	$61.30	$61.30	$61.30
Expected Total Return	-5.53%	7.47%	20.47%
Expected Investment Gain ($ billions)	-$3.39	$4.58	$12.55
Expected Cash Flow ($ billions)	-$3.50	-$3.50	-$3.50
12/31/12 Market Value ($ billions)	$54.41	$62.38	$70.35

The anticipated market value of $61.3 billion for December 31, 2011 is derived by a smoothing projection from the actual market value as of November 30, 2011.

Asset Allocation – Defined Benefit Fund

The 2012 target asset allocation and ranges for the Defined Benefit Fund reflect an estimate by Staff of the expected progress to be made toward the strategic asset allocation targets. Also included are asset allocations for a comparable peer group as of June 2011.

Asset Class	12/31/2011 Estimated	12/31/2012 Target	Range	Peer Group*
Public Equity	**53.70%**	**46.00%**	**40% to 60%**	**52.48%**
U.S. Equity	29.10%	21.40%	Mkt. Wgt.±5%	30.80%
Non-U.S. Equity	24.60%	24.60%	Mkt. Wgt.±5%	21.68%
Fixed Income	**25.00%**	**27.00%**	**15% to 32%**	**27.26%**
Core Fixed	17.90%	13.34%	9% to 17%	23.10%
Internal Credit	0.00%	0.50%	0% to 1%	
Emerging Market Debt	0.10%	3.00%	0% to 5%	0.98%
Floating Rate Debt	0.00%	0.66%	0% to 2%	
Securitized Debt	0.00%	1.00%	0% to 2%	
High Yield	5.00%	5.00%	2% to 8%	0.74%
Global High Yield	0.00%	1.50%	0% to 2%	
Liquidity	2.00%	2.00%	0% to 4%	2.44%
Alternatives	**21.30%**	**27.00%**	**8% to 30%**	**17.14%**
Private Equity	8.80%	10.00%	0% to 14%	8.91%
Real Estate	9.70%	10.00%	0% to 14%	7.24%
Hedge Funds	1.20%	6.00%	0% to 9%	0.99%
Opportunistic	1.60%	1.00%	0% to 3%	
Other				**3.12%**
Total Defined Benefit Fund	**100.00%**	**100.00%**		**100.00%**

*The asset allocations are derived from the organizations in the Peer Group Comparison section on page 29.

	Schedule of Expected Performance and Volatility					
	Average Allocation (%)	Active Return Performance Objectives (bps)	Active Return Performance Contribution (bps)	Target Tracking Error (bps)	Tracking Error Range (bps)	Target Information Ratio
U.S. Equity	**24.4%**	20	5	50	0 - 100	0.40
Non-U.S. Equity	**24.6%**	60	15	150	0 - 300	0.40
Fixed Income	**27.0%**	20	5	50	0 - 200	0.40
Alternatives	**24.0%**	69	17	NA	NA	NA
Total DB Fund	**100.0%**	**NA**	**42**	**105**	**0-300****	**0.40**

** The tracking error range for the Defined Benefit Fund is based on Public Markets assets.

The above table shows an anticipated active management contribution of 42 basis points to the Defined Benefit Fund's return. The estimated tracking error of 105 basis points indicates a 68% probability that the active return will be in a range of -63 basis points to +147 basis points. This interval is calculated by subtracting the tracking error from, and adding the tracking error to, the expected active return. The expected active management contribution to the Defined Benefit Fund performance for 2011 was 40 basis points.

Return and Risk – Defined Benefit Fund

The performance objective of the Defined Benefit Fund is to earn a long-term rate of return that exceeds the return of the Defined Benefit Fund policy benchmark within an appropriately constrained risk framework. The following table shows expected returns and ranges for 2012. These are the index, or market, returns expected from each asset class, without regard to outperformance or underperformance relative to the benchmarks.

The return estimates in the table below were derived from the asset class return expectations developed by the OPERS Retirement Board's retained Investment Advisors, NEPC and Hewitt EnnisKnupp. The single-point estimate return of 7.47% is comprised of an expected return of 7.05% from the policy mix and an additional contribution of 0.42% from active management, net of fees.

In the following table, Staff divides return and risk into three components.

Policy: The return and risk derived from the policy asset allocation and the long-term return and risk forecast of the underlying asset classes

Tactical: The return and risk introduced by deviations from the policy asset mix

Active: The return and risk introduced by active management (security selection)

2012 Policy Return Assumptions			
Asset Classes	**Pessimistic**	**Base**	**Optimistic**
Public Equity	**-10.15%**	**8.45%**	**27.05%**
U.S. Equity	-11.40%	7.40%	26.20%
Non-U.S. Equity	-12.23%	8.87%	29.97%
Fixed Income	**-1.50%**	**4.50%**	**10.50%**
Core Fixed	-4.22%	3.18%	10.58%
Internal Credit	-2.50%	4.50%	11.50%
Emerging Market Debt	-7.75%	6.25%	20.25%
Floating Rate Debt	-1.50%	5.00%	11.50%
Securitized Debt	-6.00%	7.00%	20.00%
High Yield	-6.00%	7.00%	20.00%
Global High Yield	-6.25%	7.25%	20.75%
Liquidity	0.00%	1.25%	2.00%
Alternatives	**-9.00%**	**7.72%**	**22.72%**
Private Equity	-18.25%	9.75%	37.75%
Real Estate	-9.00%	6.00%	21.00%
Hedge Funds	-4.75%	7.25%	19.25%
Opportunistic	-4.75%	7.25%	19.25%
Policy Return	**-5.25%**	**7.05%**	**19.35%**

2012 Total Return Assumptions			
Sources of Return	**Pessimistic**	**Base**	**Optimistic**
Policy	-5.25%	7.05%	19.35%
Tactical	-0.50%	0.00%	0.50%
Active	-0.63%	0.42%	1.47%
Total Return	**-5.53%**	**7.47%**	**20.47%**

2012 Total Risk and Risk for Return Assumptions			
Sources of Risk	**Variability Risk**	**Information Ratio**	**Sharpe Ratio**
Policy	12.30%		0.47
Tactical	0.50%		
Active	1.05%	0.40	
Total Risk	**13.00%**		**0.48**

Health Care Fund

Expected Asset Growth – Health Care Fund

The table below summarizes Staff's estimate (base case) of market values and ranges for the Health Care Fund at December 31, 2012. Pessimistic and optimistic cases are also provided for comparison purposes.

	Health Care Fund 2012 Expected Asset Growth Estimated Market Values, Returns and Cash Flows		
	Pessimistic Case	Base Case	Optimistic Case
12/31/11 Market Value ($ billions)	$11.92	$11.92	$11.92
Expected Total Return	-6.19%	6.91%	20.01%
Expected Investment Gain ($ billions)	-$0.74	$0.82	$2.39
Expected Cash Flow ($ billions)	-$1.30	-$1.30	-$1.30
12/31/12 Market Value ($ billions)	$9.88	$11.44	$13.01

The anticipated market value of $11.92 billion for December 31, 2011 is derived by a smoothing projection from the actual market value as of November 30, 2011.

Asset Allocation – Health Care Fund

The 2012 target asset allocation and ranges for the Health Care Fund reflect an estimate by Staff of the expected progress to be made toward the strategic asset allocation targets, which are shown below.

Asset Class	12/31/2011 Estimated	12/31/12 Target	Range
Public Equity	**56.00%**	**50.20%**	**44% to 66%**
U.S. Equity	28.70%	22.90%	Mkt. Wgt.±5%
Non-U.S. Equity	27.30%	27.30%	Mkt. Wgt.±5%
Fixed Income	**34.00%**	**36.00%**	**24% to 44%**
Core Fixed	21.50%	18.84%	13% to 24%
Internal Credit	0.00%	1.00%	0% to 2%
Emerging Market Debt	5.00%	5.00%	1% to 9%
Floating Rate Debt	0.00%	0.66%	0% to 2%
Securitized Debt	0.00%	1.00%	0% to 2%
TIPS	3.50%	3.50%	2% to 5%
High Yield	2.00%	2.00%	0% to 4%
Global High Yield	0.00%	2.00%	0% to 4%
Liquidity	2.00%	2.00%	0% to 4%
Alternatives	**10.00%**	**13.80%**	**2% to 14%**
Private Equity	0.40%	0.40%	0% to 2%
REIT	6.00%	6.00%	2% to 10%
Hedge Funds	0.90%	5.40%	0% to 8%
Opportunistic	1.70%	1.00%	0% to 3%
Commodities	1.00%	1.00%	0% to 2%
Total Health Care Fund	**100.00%**	**100.00%**	

There is no peer universe of public pension plans with separate health care funds.

	Schedule of Expected Performance and Volatility					
	Average (%)	Active Return Performance (bps)	Active Return Performance (bps)	Target Tracking (bps)	Tracking Error (bps)	Target Ratio
U.S. Equity	**25.3%**	20	5	50	0 - 100	0.40
Non-U.S. Equity	**27.3%**	60	17	150	0 - 300	0.40
Fixed Income	**36.0%**	20	7	50	0 - 200	0.40
Alternatives	**11.4%**	62	7	NA	NA	NA
Total HC Fund	**100.0%**	**NA**	**36**	**90**	**0 - 300***	**0.40**

* The tracking error range for the Health Care Fund is based on Public Markets assets.

The above table shows an anticipated active management contribution of 36 basis points to the Health Care Fund's return. The estimated tracking error of 90 basis points indicates a 68% probability that the active return will be in a range of -54 basis points to +126 basis points. This interval is calculated by subtracting the tracking error from, and adding the tracking error to, the expected active return. The expected active management contribution to the Health Care Fund performance of 36 basis points is unchanged from the 2011 target.

Return and Risk – Health Care Fund

The performance objective of the Health Care Fund is to earn a long-term rate of return that exceeds the return of the Health Care Fund policy benchmark within an appropriately constrained risk framework. The investment objective of the Health Care Fund is to provide discretionary health care benefits for eligible members and preserve capital. The following table shows expected returns and ranges for 2012. These are the index, or market, returns expected from each asset class, without regard to outperformance or underperformance relative to the benchmarks.

The return estimates in the table below were derived from the asset class return expectations developed by the OPERS Retirement Board's retained Investment Advisors, NEPC and Hewitt EnnisKnupp. The single-point estimate return of 6.91% is comprised of an expected return of 6.55% from the policy mix and an additional contribution of 0.36% from active management, net of fees.

2012 Policy Return Assumptions			
Asset Classes	Pessimistic	Base	Optimistic
Public Equity	**-10.15%**	**8.45%**	**27.05%**
U.S. Equity	-11.40%	7.40%	26.20%
Non-U.S. Equity	-12.23%	8.87%	29.97%
Fixed Income	**-1.54%**	**3.96%**	**9.46%**
Core Fixed	-4.22%	3.18%	10.58%
Internal Credit	-2.50%	4.50%	11.50%
Emerging Market Debt	-7.75%	6.25%	20.25%
Floating Rate Debt	-1.50%	5.00%	11.50%
Securitized Debt	-6.00%	7.00%	20.00%
TIPS	-5.75%	1.75%	9.25%
High Yield	-6.00%	7.00%	20.00%
Global High Yield	-6.25%	7.25%	20.75%
Liquidity	0.00%	1.25%	2.00%
Alternatives	**-7.25%**	**7.25%**	**21.75%**
Private Equity	-18.25%	9.75%	37.75%
REIT	-14.50%	7.50%	29.50%
Hedge Funds	-4.75%	7.25%	19.25%
Opportunistic	-4.75%	7.25%	19.25%
Commodities	-13.25%	4.75%	22.75%
Policy Return	**-5.85%**	**6.55%**	**18.95%**

2012 Total Return Assumptions			
Sources of Return	Pessimistic	Base	Optimistic
Policy	-5.85%	6.55%	18.95%
Tactical	-0.50%	0.00%	0.50%
Active	-0.54%	0.36%	1.26%
Total Return	**-6.19%**	**6.91%**	**20.01%**

2012 Total Risk and Risk Attribution Assumptions			
Sources of Risk	Variability Risk	Information Ratio	Sharpe Ratio
Policy	12.40%		0.43
Tactical	0.50%		
Active	0.90%	0.40	
Total Risk	**13.10%**		**0.43**

Defined Contribution Fund

Expected Asset Growth – Defined Contribution Fund

Since its inception January 2, 2003, the Defined Contribution Fund assets have grown to $529.2 million. Asset grew $45.9 million for the year through November 30, 2011. Future growth of the Defined Contribution Fund assets is expected to be equal to, or slightly above, historical averages due to the addition of nearly 2,000 new participants each year.

The following table shows the distribution of assets across the various OPERS investment options within the Defined Contribution Fund as of November 30, 2011.

Defined Contribution Fund Assets Total for 2012			
OPERS Investment Options	Assets Under Management ($ millions)	Estimated Annual Fees ($ millions)	Estimated Annual Fees (bps)
Core Funds			
OPERS Stable Value Fund	$46.2	$0.06	18
OPERS Bond Index Fund	$28.8	$0.03	4
OPERS Stock Index Fund	$44.1	$0.05	3
OPERS Large Cap Index Fund	$34.6	$0.04	5
OPERS Small Cap Index Fund	$30.9	$0.04	8
OPERS Non-U.S. Stock Index Fund	$29.8	$0.04	10
Target Date Funds			
OPERS Target Payout Fund	$9.9	$0.02	9
OPERS Target 2015 Fund	$19.9	$0.03	7
OPERS Target 2020 Fund	$32.5	$0.04	7
OPERS Target 2025 Fund	$41.9	$0.05	7
OPERS Target 2030 Fund	$50.5	$0.06	7
OPERS Target 2035 Fund	$54.2	$0.06	8
OPERS Target 2040 Fund	$55.3	$0.06	8
OPERS Target 2045 Fund	$34.9	$0.04	8
OPERS Target 2050 Fund	$14.2	$0.02	8
OPERS Target 2055 Fund	$0.5	$0.01	8
Self-Directed Brokerage Account	$1.0	NA	NA
Total	**$529.2**	**$0.65**	12

Asset Allocation – Defined Contribution Fund

The OPERS Target Date Funds were introduced on October 1, 2008 to complement the Core Funds. Target asset allocations and ranges for the Target Date Funds can be found in the Defined Contribution Fund Policy. A Target Date Fund with a payout date in the distant future will allocate more of its investments to equities and other higher risk/higher reward asset classes to enhance the opportunity to accumulate capital. As Target Date Funds move toward their target payout dates, allocations to such assets are reduced to better preserve accumulated capital.

The Core and Target Date Funds utilize mostly passive management with the exception of the Stable Value Fund. Asset allocations for several of the Target Date Funds include Treasury

Inflation Protected Securities (TIPS) and Long Duration Bonds to improve risk-adjusted return expectations and enhance diversification.

Moving the Core and Target Date Funds to primarily passive management provides less active risk and lower fees. However, complete transition to passive management constrains the Defined Contribution Fund plan participants who want to have active investment options. Therefore, during the first quarter of 2011, OPERS began offering the Self-Directed Brokerage Account in an effort to broaden the amount of active management available to these plan participants.

The Self-Directed Brokerage Account includes the following parameters:

- Only designated mutual funds can be purchased;
- No more than 50% of the participant's account value is allowed to be invested through the Self-Directed Brokerage Account, though the Self-Directed Brokerage Account will not be rebalanced should its balance grow to exceed 50% of plan participant's account value;
- Account minimum balance of $5,000 is required to open a Self-Directed Brokerage Account; and
- The annual cost of the Self-Directed Brokerage Account is borne by the brokerage account holder.

Return, Risk and Benchmark – Defined Contribution Fund

NEPC provided the return and risk forecasts for the Core and Target Date Funds, listed in the table below, based on their capital markets modeling assumptions. Those assumptions reflect forward looking total returns, fundamental data, and valuation levels. Staff attempts to mitigate tactical risk by rebalancing the Target Date Funds on a quarterly basis when the allocations are outside their respective policy ranges. The returns listed below are neither predictions of, nor guarantees for, future performance.

Schedule of 2012 Return and Risk Forecasts			
	Benchmark	Return (%)	Risk (%)
Core Funds			
OPERS Stable Value Fund	Custom SV*	2.10%	3.70%
OPERS Bond Index Fund	Barclays Aggregate	2.88%	7.00%
OPERS Stock Index Fund	Russell 3000	7.40%	18.80%
OPERS Large Cap Index Fund	Russell 1000	7.25%	18.00%
OPERS Small Cap Index Fund	Russell 2000	7.50%	22.00%
OPERS Non-U.S. Stock Index Fund	MSCI ACWI -ex US	8.60%	20.80%
Target Date Funds			
OPERS Target Payout Fund	Custom Payout**	4.40%	7.30%
OPERS Target 2015 Fund	Custom 2015**	5.20%	9.10%
OPERS Target 2020 Fund	Custom 2020**	6.20%	11.90%
OPERS Target 2025 Fund	Custom 2025**	7.00%	14.30%
OPERS Target 2030 Fund	Custom 2030**	7.30%	15.50%
OPERS Target 2035 Fund	Custom 2035**	7.40%	15.80%
OPERS Target 2040 Fund	Custom 2040**	7.50%	16.20%
OPERS Target 2045 Fund	Custom 2045**	7.60%	16.70%
OPERS Target 2050 Fund	Custom 2050**	7.60%	16.70%
OPERS Target 2055 Fund	Custom 2055**	7.60%	16.70%

* The Custom Stable Value Index is comprised of the following weights: 5% Merrill Lynch 3-Month Treasury Bills Index; 45% Barclays 1-5 Year Government/Corporate Bond Index; 35% Barclays Intermediate Government/Corporate Index; and 15% Barclays Aggregate Index. This custom index will be smoothed over the three-year period.

** The custom indices for the Target Date Funds are based on the benchmark weights of the respective OPERS Target Date Funds allocations.

ASSET CLASS STRATEGIES

Tactical Outlook

The following tactical outlook provides a background and context for the asset class strategies for both the Defined Benefit and Health Care Funds.

The following are overviews of the two components of the tactical outlook: the capital markets observations and the asset class outlook. Investment Advisors, retained by the OPERS Retirement Board, NEPC and Hewitt EnnisKnupp, provided these outlooks for 2012.

Capital Markets Observations

- Subdued economic growth continues to put downward pressure on inflation
- Worldwide recovery, though unlikely, could spark inflation
  - A stronger global economic recovery would increase capacity utilization and demand, possibly driving up inflation
- Uncertainty around ultimate fate of the euro prolongs volatility and macro-driven markets
  - Limited political will worldwide to recognize losses emanating from bad debts
  - Official U.S. recession (two negative quarters) is unlikely due to potential fiscal and monetary intervention
- Despite poor growth prospects, risky assets have some upside
  - Corporate balance sheets are strong and valuations are modestly attractive
  - Central bank stimulus (seems unlikely to create jobs) can drive the stock market
  - Credit markets have more attractive risk-adjusted return expectations than equities – should protect better in a downturn and have better risk adjusted returns in a rally
- Global economic leadership expected from emerging markets
  - Higher relative investment performance expected as part of this transition
  - These are still export-oriented economies but the share of personal consumption as a portion of GDP is expected to increase
- Recognize that current global deleveraging is a multi-year event
  - Expect many themes to be repeated and reinforced for several years
  - Ongoing commitment and patience required to capture returns

U.S. Equity Outlook

- Low interest rates and relatively attractive valuations are supportive of a higher equity risk premium
  - Equity return assumptions increased modestly from the 2011 forecast to the 2012 forecast
  - While equity valuations (P/E Ratio) are relatively attractive, mean reversion of corporate profits places downward pressure on earnings, limiting upside
- Monetary and fiscal response in the U.S. has led to much more benign equity market drawdown than the Great Depression or Japan's lost decades
  - Process of recovering capital in risky assets such as equities took more than 15 years (U.S. – 1925-1945) or is still undetermined (Japan – 1990-present)
- While policy tools are limited, monetary authorities have shown ability to raise prices of risky assets
  - S&P 500 has increased in price dramatically in response to central bank policy (QE1, QE2 and Operation Twist)

- While 2011 marked a year when large cap beat small caps, the environment still bodes well for large caps.
    - From a fundamental perspective, large cap earnings continue to be strong relative to small cap and valuations are attractive
    - From a quality perspective, large caps tend to have less risk associated with them and should be valued in this uncertain macro environment
    - From a macro GDP perspective, large caps have more exposure to higher growth emerging economies; this is particularly true for growth companies
    - Flows will be a key driver to unlocking value in large caps; the Fed has done their part to encourage investors to invest in equities, as earnings yields are higher than 10-year Treasuries
    - One bright light for small caps versus large caps is that restructuring activity, in light of high levels of cash on the balance sheets, could result in a boost to returns; this would primarily benefit value strategies
    - The possibility of another quantitative easing would create another tough environment for active managers who are fundamentally-based, as the injection of money would breathe new life to companies otherwise hanging on by a thread
    - Active strategies with the ability to conviction-weight ideas are best poised when stock correlations abate

Non-U.S. Equity Outlook

- Low growth environment with potential for more austerity programs extends heighted uncertainty and volatility
- Attractive Developed Markets valuation offset partially by potential for margin compression
    - Given poor performance in recent years Developed Markets return expectations are now higher than U.S. Equity return expectations
- Partial hedging of Developed Markets currencies may be attractive given volatility of Developed Markets currencies
- Emerging markets continue to present high risk-adjusted returns for long-term investors as they will be the drivers of global growth
    - Investors generally remain underweight Emerging Markets
    - Tremendous production is expected to materialize over the next 5-7 years
        - Per capita GDP expected to increase by approximately $2,300 by 2016
        - Additional production expected to be close to half of 2011 U.S. GDP
- Continued conviction in high growth prospects translates into emerging equities having a significantly higher return expectation than U.S. large cap and international developed stocks

Fixed Income Outlook

- Within the Fixed Income asset class, news related to the situation in Europe will likely continue to drive global risk appetites and the demand for Treasuries as a safe haven. Interest rates are at secular low levels, with the Fed likely to remain on hold through 2012. Regulatory changes such as Dodd-Frank in the U.S. and Basel III bank regulations have already affected Fixed Income markets and the banking sector, and will continue as the deadlines for compliance approach
- Yields have been on a 30-year secular decline
    - This has created a strong tailwind for fixed income performance
- However, low current treasury yields and flatter yield curve limit return expectations

- Risky assets in general appear more attractive, however, credit offers the best pricing opportunity
- Signals such as low default forecasts, low capital expenditures and high cash levels support the continued attractiveness of corporate credit relative to other sectors such as Treasuries or Agency MBS
  - Investment grade credit spreads are close to two standard deviations above long–term averages
  - High Yield and Emerging Markets Debt is very attractive as well

Private Equity Outlook

- We continue to have a cautiously optimistic view for Private Equity in 2012. Total fundraising in 2012 is expected to be consistent with 2011, which is viewed as a positive development as a significant amount of capital, raised between 2006 and 2008, still needs to be invested
- Signs continue to point to an extended slow or no growth economic period within the U.S. and European economies which will negatively impact Private Equity investment activity during the second half of the year
- From a lending perspective, current market conditions are good, but not great. Purchase prices have increased and managers are very selective in making new investments. Large corporations still seem to dominate the deal market as they put cash to work. If market conditions remain the same in 2012, we expect this market to remain competitive. If market conditions worsen and the threat of another recession increases we expect the larger end of the market to slow dramatically and deal volume to decrease across the board
- We believe 2012 will be very active for buyout firms as new activity in the pipelines is driven by the current capital overhang and backlog of private companies in need of funding, however, we believe pricing will continue to increase as the competition for new investments increases
- With the improved exit market, venture capitalists are able to distribute capital and demonstrate strong returns so, stronger institutional interest in committing to venture capital funds is expected in 2012
- Overall, we believe there are pockets of attractive investment strategies within all sectors of Private Equity and we recommend clients continue to invest in all sectors over multiple vintage years in order to avoid overexposure to any one strategy or economic cycle

Real Estate Outlook

- We expect Real Estate returns to be moderate in 2012, given the sector's robust pricing rebound over the past 1.5 years, with anticipated returns ranging from 7 – 10 % for Core Real Estate, which is in line with the sector's long-term average
- During 2012, a stronger and more consistent economic recovery is forecasted, and needed, to support continued healthy positive returns in the Real Estate market. We expect measured improvements in fundamentals (e.g. net absorption of space and occupancies) for all main property types in 2012; with occupancy gains eventually leading to improvement in rental rates and net operating income growth, which is important to support current valuations
- While new supply as a percentage of existing stock is at an all-time low and is expected to stay low in 2012, we expect development activity to return first in the apartment sector, where debt financing is most available and very inexpensive
- Transaction volume is still well below the boom years of the market, with sentiment on economic growth playing a big role in investor behavior but, improvement is expected in

2012, especially in the non-Core space where holders of troubled assets are now more able, and willing, to address these issues

- The current low interest rate environment continues to support price recovery and this is expected to persist as the U.S. government has indicated it will support a low interest rate environment until sustained economic growth is evident
- Capital flows from investors in the commercial real estate sector in 2012 are expected to build on the momentum of 2011, but will likely move farther out on the risk spectrum in search of returns

Hedge Funds Outlook

- Hedge Funds performance expectations for 2012 vary depending on strategy type, but generally we expect favorable risk-adjusted returns relative to broad, long-only Public Equity and Fixed Income markets
- We expect Fund of Hedge Funds (FoHFs) flows to continue to slow as institutional investors, and public funds in particular, have been transitioning more toward direct mandates
- Institutional appetite for Hedge Funds has been strong and the outlook for in-flows is positive with institutional investors continuing to develop new or expand existing programs
- Increasing regulatory requirements and scrutiny of Hedge Funds are expected to continue to escalate such as:
  - The March 2012 deadline looms for managers yet to register with the SEC
  - Hedge Funds managing at least $150 million must file additional information under the Dodd-Frank legislation
  - The systems and planning requirements of the Volcker Rule take effect in July 2012 for full compliance by July 2014
  - The European Union’s restriction on naked short sales and uncovered CDS positions on sovereign debt take effect in November 2012
- By Hedge Funds strategy, our outlook is as follows:
  - The current environment is ideal for global macro funds with the ability to trade tactically and perform well when markets exhibit stress
  - Equity hedge managers should benefit from stock-picking and tactical positioning as correlations ease and volatility remains elevated, but are largely dependent on the direction of equity markets
  - Event-driven and credit managers will put more capital in the long and short strategies as opportunities have risen across spread sectors and within capital structures, and merger activity will likely increase
  - Multi-strategy managers are well-suited for this environment to strategically allocate capital across favored assets and geographies
  - FoHFs generally are assuming a defensive posture by taking risk and directionality off the table and are exploring Non-U.S. opportunities, particularly in Asia

Public Equity

The Defined Benefit and Health Care Fund's Public Equity allocations will decrease by 5% due to the new strategic allocation recommendation in Defined Benefit and Health Care Funds approved by the OPERS Retirement Board at its January 2012 meeting. This transition is projected to be completed by December 2012 as Staff continues to source and fund the Hedge Funds managers throughout the year.

The Public Equity allocation is transitioning to a global weighting between U.S. Equity and Non-U.S. Equity based on the MSCI All Country World Index – Investable Market Index (MSCI ACWI-IMI). The current Non-U.S. Equity allocation is below the global index target weight but the transition to the target is expected to be completed by the end of the first quarter of 2012. The target weights will be reset on a quarterly basis.

The allocations in the Non-U.S. Equity asset class are also transitioning to align asset exposures with the new custom strategic benchmark (custom benchmark) approved by the OPERS Retirement Board in July 2011. The custom benchmark now includes an allocation to the Emerging Markets small cap segment (4%) and an explicit allocation to Developed Markets small cap securities (10%). The custom benchmark is composed of 55% MSCI World Index–ex U.S. Standard Index; 10% MSCI World Index–ex U.S. Small Cap Index; 31 % MSCI Emerging Markets Standard Index; and 4% MSCI Emerging Markets Small Cap Index. This structure reflects a strategic overweight to Emerging Markets compared to the Emerging Markets allocation of MSCI All Country World Index–ex U.S. Investable Markets Index (MSCI ACWI–ex U.S. IMI). Staff plans to complete the transition to the custom benchmark during the first quarter of 2012. Further portfolio fundings, re-allocations, and additional external manager searches will complete this transition.

The following table shows the benchmarks and performance objectives for the Public Equity asset class. The benchmark for the U.S. Equity asset class is the Russell 3000 Index with an alpha target of 20 basis points, net of fees. The tracking error target is 50 basis points with a range of 0 to 100 basis points. The performance objective and target tracking error for Non-U.S. Equity has been increased to 60 basis points from 54 basis points in 2011 and to 150 basis points from 135 basis points in 2011, respectively. This reflects the transition toward a higher level of active management.

Public Equity Expected Performance and Tracking Error				
	Benchmark	Performance Objectives (net of fees) (bps)	Target Tracking Error (bps)	Target Information Ratio
U.S. Equity	*Russell 3000*	20	50	0.40
Non-U.S. Equity	*Custom Benchmark*	60	150	0.40

Staff completed the initial funding of the internally managed Non-U.S. Equity index portfolio of the Developed Markets large cap securities in the fourth quarter of 2011, with additional funding anticipated in 2012. Staff will continue the implementation of three additional Internal Non-U.S. index portfolios (Developed Markets small cap, Emerging Markets large cap and Emerging Markets small cap) during the first quarter of 2012. These new Internal Non-U.S. index portfolios will provide greater rebalancing flexibility, expanded strategic and tactical asset allocation capabilities, cost savings, and additional market insights. It further enhances internal capabilities in conducting

Non-U.S. Equity portfolio management trading and settlement. In addition, this will enable Staff to manage Non-U.S. Equity exposure similar to that of U.S. Equity. Currently, Internal U.S. Equity Index Portfolios are managed against multiple indices, using U.S. Equity index futures and executing transition management activities.

A new tilted index investment strategy, expected to be pursued in 2012, seeks to weight securities based on fundamental factors (such as sales and cash flow) or risk factors (such as volatility) as opposed to traditional indices, which are based upon market capitalization. The strategy, referred to as alternatively weighted indexing, is a systematic, rules-based approach for gaining cost-effective exposure to active management styles. It is implemented through the existing index management process leveraging the team's expertise in index management, rules-based investing approaches, and quantitative modeling techniques. Staff expects this strategy to outperform its respective capitalization weighted indices over a market cycle of three to five years.

Fixed Income

In order to complete the asset allocation recommendation approved by the OPERS Retirement Board at its July 2011 meeting, Staff will restructure the Fixed Income allocation. The Defined Benefit and Health Care Funds' Core Fixed allocation will be decreased by 5% and 3%, respectively, to fund the Floating Rate Debt (1% for both Funds), Global High Yield (1% for both Funds), Securitized Debt (1% for both Funds), and Emerging Markets Debt (2% for Defined Benefit Fund) sub-asset classes.

The OPERS Retirement Board approved the additional 2% Fixed Income allocation at its January 2012 meeting as part of the new strategic asset allocation. This will result in the funding of the new Internal Credit portfolio (0.5% and 1% for Defined Benefit and Health Care Funds, respectively), Global High Yield (0.5% and 1% for Defined Benefit and Health Care Funds, respectively), and Emerging Markets Debt (1% for Defined Benefit Fund) sub-asset classes.

The allocations in the Internal Core Fixed portfolio will be transitioned to align the asset exposures with the new custom strategic benchmark (custom benchmark) approved by the OPERS Retirement Board in July 2011. Depending on market conditions, the performance benchmark will be transitioned to a custom benchmark using the Barclays Capital Aggregate Index weightings with a maximum allocation to Treasuries and government-related issues of 25%, along with corresponding pro-rata increases to the corporate and securitized bonds. The difference between the two benchmarks is the custom benchmark holds a higher proportion of corporate and securitized bonds than government-related bonds.

The Securitized Debt allocation provides exposure to high yielding securitized fixed income securities, which is scheduled to be transferred from the Opportunistic sub-asset class effective January 1, 2012. The performance benchmark is the Commercial Mortgage-Backed Securities (CMBS) component of the Barclays U.S. Aggregate Index plus 200 basis points.

The Floating Rate Debt portfolio provides exposure to non-investment grade first lien securitized loans. The average duration of the loan portfolio will be approximately 45 days as the pricing of these loans is tied to the one-to-three month London Interbank Offered Rate (LIBOR). This externally managed portfolio will be funded over a two-year period.

The following table shows the benchmarks and performance objectives for the Fixed Income asset class.

	Fixed Income Expected Performance and Tracking Error			
	Benchmark	Performance Objectives (net of fees) (bps)	Target Tracking Error (bps)	Target Information Ratio
Core Fixed	*Barclays Aggregate/Custom Benchmark*	30	75	0.40
Internal Credit	*Barclays U.S. Corporate Credit*	30	75	0.40
Emerging Market Debt	*Custom Benchmark**	140	350	0.40
Floating Rate Debt	*Credit Suisse Leveraged Loan Index*	200	500	0.40
Securitized Debt	*Barclays CMBS + 2%*	200	500	0.40
TIPS	*Barclays TIPS*	30	75	0.40
High Yield	*Barclays U.S. High Yield*	95	237	0.40
Global High Yield	*Barclays Global High Yield*	100	250	0.40
Liquidity	*Merrill Lynch 3-Month T-Bill Index*	10	25	0.40

* 50/50 mix of the JP Morgan EM Bond Index Global & the JP Morgan Government Bond Index-Emerging Markets Global Diversified

Securities Lending

In the securities lending program, Staff utilizes multiple lending agents to maximize lending revenue. Staff strives to hire agents who provide competitive fee splits, while providing adequate risk controls and expertise in the asset class being loaned. There is a bias toward lending assets in an auction environment so borrowers are providing maximum revenue in a competitive environment on a regular basis. In 2012, Staff will continue lending the Treasury and Agency assets in-house. This effort has increased revenues from Treasury lending. The collateral from the securities lending program is managed internally. The combination of lending revenue and investment income comprise the total securities lending performance.

Cash Management

The cash portfolios are managed with a low-to-moderate risk profile that results in principal preservation, while exceeding the performance of the respective benchmarks. The benchmark for the OPERS Short Term Investment Funds (STIF) is the Merrill Lynch 3-month Treasury Bill Index. The benchmark for the Securities Lending STIF is the Fed Funds Open Rate. Staff is currently considering new portfolio guidelines and a new structure for the cash portfolios that would allow greater focus on the management of liquidity in the cash portfolios. The general structure will incorporate new liquidity buckets that will be unitized for purchase by the individual cash portfolios.

Alternatives

The Alternatives asset class is composed of Private Equity, Real Estate, Hedge Funds, Opportunistic, REITs, and Commodities investment strategies. The Defined Benefit and Health Care Funds invest differently in the Alternatives asset class to meet their unique investment objectives. The Defined Contribution Fund does not have an allocation to Alternatives.

The following table summarizes the benchmark, performance objectives and tracking error for the various alternative investment strategies utilized within the Fund.

	Alternatives Expected Performance and Tracking Error			
	Benchmark	Performance Objectives (net of fees) (bps)	Target Tracking Error (bps)	Target Information Ratio
Private Equity	*Russell 3000 + 3%*	100	NA	NA
Real Estate	*NCREIF Property Index*	50	NA	NA
Hedge Funds	*LIBOR + 4%**	50	NA	NA
Opportunistic	*Custom Benchmark***	200	NA	NA
REITs	*DJ U.S. Select RESI*	80	200	0.40
Commodities	*SPGSCITR*	0	NA	NA

* With a minimum return of 7%
** Market cap weighted average of underlying investments

Private Equity

After two highly productive years in which OPERS committed more than $6 billion to Private Equity, Staff will continue to build toward the 10% target allocation. Staff intends to add value by emphasizing the selection of high quality general partners focused on opportunistic strategies, who strongly align their interests with those of their investors. Prolonged global economic uncertainty, combined with regulatory changes over the past year have confirmed and accelerated Staff's initiatives of building a well-diversified secondary program, which is largely in place and off to a strong start. Staff expects to initiate a more formal focus on Asian emerging market opportunities, while continuing to de-emphasize large buyout funds, which typically target lower return opportunities in developed markets. The build-out of a co-investment program is in its early stages and will become an important initiative during the coming year. We anticipate the program's commitment pace will be lower than in recent years because of the reduced focus on secondary funds. However, Staff intends to continue capitalizing on OPERS' relative strength within the limited partner community, driven by the circumstances of other investors that are forced to reduce their exposure to the asset class, by seeking to improve economic and governance terms in the partnership agreements of selected funds.

Real Estate

Staff will continue to reduce Core Real Estate properties with corresponding increases to opportunistic and distressed Real Estate equity and debt.

The Private Market Real Estate program consists of two components, a stable (beta) portfolio and a high-return (alpha) portfolio. The beta portfolio is comprised of stable, positive cash-flowing core properties and is no less than 65% of the Private Market Real Estate portfolio. The high-return (alpha) portfolio consists of both U.S. and non-U.S. Real Estate investments, such as non-core development, redevelopment, or repositioning of all property types.

The Health Care Fund's exposure to Real Estate is obtained through investments in publicly traded Real Estate Investment Trusts (REITs).

Hedge Funds

The OPERS Retirement Board has approved an additional 3% Hedge Funds sub-asset class allocation at its January 2012 meeting as part of the new strategic asset allocation for the Defined Benefit and Health Care Funds. The Hedge Funds allocation will continue to grow throughout the year with the objective of meeting its full allocation by the end of 2012. Based on the existing asset allocation targets, OPERS allocation to Hedge Funds is expected to increase from approximately $950 million at the end of 2011, up to $4.3 billion by 2012. This increase will be achieved through the hiring of direct hedge funds identified with the assistance of OPERS' Due Diligence Consultant.

Opportunistic

The Opportunistic sub-asset class is intended to permit investments in assets or strategies not presently contemplated in the respective Defined Benefit or Health Care Funds. In this regard, assets or strategies used in the Opportunistic sub-asset class must have the potential to be mainstreamed into OPERS investment program over time, or be opportunistic based on either valuation or circumstance. Strategies are developed based on their individual merit and circumstances and are assessed as to their scalability and feasibility for a potentially larger allocation. The maximum size for any single benchmarked strategy is 0.5% of the total fund. The Opportunistic allocation contains the Emerging Markets currency portfolio and the Securitized Debt portfolio as of December 31, 2011. Effective January 1, 2012, the Securitized Debt portfolio will be transitioned to the Fixed Income asset class with an allocation of 1% for each of the Defined Benefit and Health Care Funds.

Commodities

Currently, the Health Care Fund holds exposure to Commodities, which fulfills the long-term strategic allocation of 1%. Commodities have also been used tactically in the Defined Benefit Fund in the past. In 2011, the use of enhanced commodity index strategies was approved for both Health Care and Defined Benefit Funds.

POLICIES, COMMITTEES AND RESOURCES

OPERS Retirement Board Policies Governing Investment Activities

The following exhibit illustrates the structure and relationship of the policies within the total System and its three investment Funds.

OPERS FUNDS

FUND POLICIES

DEFINED BENEFIT FUND	HEALTH CARE FUND	DEFINED CONTRIBUTION FUND
Investment Objectives and Asset Allocation Policy	Investment Objectives and Asset Allocation Policy	Investment Objectives and Asset Allocation Policy

ASSET/SUB-ASSET CLASS POLICIES

Public Equity Policy	Cash Policy
Fixed Income Policy	Commodity Policy
Private Equity Policy	Hedge Funds Policy
Real Estate Policy	Opportunistic Fund Policy

INVESTMENT-WIDE POLICIES

Broker - Dealer Policy	Ohio-Qualified & Minority Manager Policy
Corporate Governance	Personal Trading Policy
Derivatives Policy	Proxy Voting Guidelines
External Investment Managers' Insurance Policy	Responsible Contractor Policy
Iran and Sudan Divestment Policy	Securities Lending Policy
Material Nonpublic Information Policy	Soft Dollar/Other Commission Arrangements Policy

Staff Committee Structure

The Chief Investment Officer (CIO) utilizes a variety of committees, working groups and meeting structures to govern the Investment Division's activities. This internal governance arrangement enhances collective inputs, retains institutional knowledge, provides documentation of the due diligence process and other processes, promotes transparency and accountability, and formalizes decision-making processes. These committees are designed to combine structure and flexibility to efficiently bring the appropriate decision makers together on a timely basis and maintain a controlled environment to minimize operational risk.

The following provides an outline of the Investment related committees.

Committee/Meeting	Purpose and Description	
Investment Committees - Approvals and Decisions		
Broker Review*	Monitor/Approve and Evaluate Brokers, Submit ORSC Reports	
Compliance*	Escalate and Resolve Compliance Issues	
Counterparty*	Set Counterparty Limits and Monitor Counterparty Exposures	
External Public Markets*	Review External Public Managers and Manager Searches	
Fund Management*	Implement Asset Allocation and Investment Strategies, Cash Forecasting, Fund and Portfolio Exposure Metrics, and Set Quarterly Fund Benchmarks During Transition	
Operational Risk*	Identify and Monitor Operational Risks	
Risk Steering	Risk Assessments and Prioritization	
Tactical Asset Allocation	Make Asset Allocation Decisions Using Derivatives	
Investment Meetings - General		
Defined Contribution Oversight	Coordinate with DC Team	
Private Equity	Review PE Opportunities for CIO Approval	
Real Estate	Review RE Opportunities for CIO Approval	
Eagle Conversion/IT	Coordinate with IT on System Changes and Upgrades	
Investment Meetings - Internal Portfolio Management and Administration		
Global Bonds	Sector Reviews/Outlooks, Portfolio Composition and Risk Management	
Index and Derivatives Portfolios	Review Markets, Strategies, and Internally Managed Index Portfolios	
Transition Management	Transition Assets Between Managers and Conduct Rebalancings	
Internal Equity Index	Strategy and Tactics	
Non-Investment Division Committees - Committees with Investment Staff Involvement		
Advisors Council*	Iran/Sudan Divestiture*	Management Council*
Corporate Governance*	Leadership Council*	Technology Council

* Committee has a charter and maintains minutes

The committees and working groups vary in both the frequency of meetings and the degree of structure and formality - some provide informal information sharing and some have formal written charters. The CIO, deputy CIO and the CIO-designated Chairperson provide leadership to the committees, working groups, and formal meetings. The CIO and deputy CIO are informed of all activities and committee activities.

Staffing

Recruiting and retaining the best and most talented Staff is a critical priority for the Investment Division. The following table shows the anticipated full staffing for 2012.

	Target Staffing for Year End 2012			
	Office of the CIO	Internal Funds	External Funds	Total Invest. Division
2011 Investment Plan Projected Staffing	7	37	16	60
Current Staffing	6	34	14	54
Vacant Positions - To be filled in 2012	1	4	1	6
Year End 2012 Target Staffing	**7**	**38**	**15**	**60**

	Status of New and Current Positions	
	Position	Vacant
Office of the CIO	Analyst Trainee	1
Internal Management	Fixed Income Analyst	1
Internal Management	Active Equity Investment Analyst	3
External Management	Portfolio Manager- Private Equity	1
Total		**6**

Staffing Costs

Assuming full staffing levels in 2012, the chart below details the estimated $11.29 million of salaries, benefits, and incentive compensation for the Investment Division. This represents approximately 1.55 basis points of cost unchanged from the 2011 projection.

	Estimated 2012 Total Compensation Costs ($ millions)			
	Internal Mgmt.	External Mgmt.	Total Invest. Division	2011 Projected Total
Salaries	4.75	2.73	7.48	7.71
Benefits	1.63	1.18	2.81	2.61
Incentive Compensation	0.67	0.33	1.00	1.00
Total Compensation	7.05	4.24	11.29	11.32
Average Assets ($ billions)	31.59	41.41	73.00	72.96
Compensation (Basis Points)	2.2	1.0	1.55	1.55

Operating Budget

The Investment Division's 2012 operating budget (excluding compensation) is $8.27 million. This operating budget reflects an increase of $0.91 million, or 12.4% percent, from the 2011 budget and, as a percentage of assets, is 1.13 basis points as compared to 1.01 basis points in 2011.

	Operating Budget less Total Compensation ($ millions)		
	Internal Mgmt.	External Mgmt.	Total Invest. Division
2011 Operating Budget	4.54	2.82	7.36
2012 Operating Budget	4.36	3.91	8.27
Percent Change	-3.9%	38.8%	12.4%
Percent of Total	52.8%	47.3%	144.4%
Average Assets ($ billions)	31.59	41.41	73.00
Operating Budget (Basis Points)	1.38	0.94	1.13

Management Cost

The expected annual external management fees by asset class for the Investment Division are in the table below. The estimate of fees is based on the projected average market value for the Defined Benefit and Health Care Funds, as shown by sub-asset class in the average assets column below.

	Estimate of External and Internal Management Costs Total for 2012					
	External Management			Internal Management		
	Average Assets ($ millions)	Annual Cost ($ millions)	Annual Cost (bps)	Average Assets ($ millions)	Annual Cost ($ millions)	Annual Cost (bps)
Public Equity	**19,326**	**70.8**	**36.7**	**16,865**	**6.4**	**3.8**
U.S. Equity	3,052	16.0	52.2	14,865	5.5	4.4
Non-U.S. Equity	16,274	54.8	33.7	2,000	0.9	2.1
Public Fixed Income	**7,222**	**27.5**	**38.1**	**13,539**	**4.7**	**3.5**
Core Fixed	105	0.4	35.0	10,940	4.0	3.6
Emerging Market Debt	2,423	10.7	44.0	0	NA	NA
Floating Rate Debt	241	1.1	45.0	0	NA	NA
Securitized Debt	0	NA	NA	730	0.3	2.1
TIPS	0	NA	NA	409	0.1	2.1
High Yield	3,300	10.8	32.6	0	NA	NA
Global High Yield	1,153	4.6	40.0	0	NA	NA
Liquidity	0	NA	NA	1,460	0.6	1.4
Alternatives	**14,866**	**275.4**	**185.3**	**1,183**	**0.3**	**2.5**
Private Equity	5,872	154.2	262.5	0	NA	NA
Real Estate	6,132	64.0	104.4	0	NA	NA
REITs	0	NA	NA	701	0.2	10.2
Hedge Funds	2,862	57.2	200.0	0	NA	NA
Opportunistic	0	NA	NA	365	0.0	1.4
Commodities	0	NA	NA	117	0.0	10.0
Total	**41,414**	**373.7**	**90.2**	**31,587**	**11.4**	**3.6**
Custody		**1.4**			**2.9**	
Total Fund	**41,414**	**375.1**	**90.6**	**31,587**	**14.3**	**4.5**

There is a significant cost advantage of internal management versus external management. Within U.S. Equity, the proportion of passive assets contributes to the lower internal management costs, reducing them by more than half over what they would be for active assets. Another source of cost savings is that it is less costly to manage assets internally (i.e. lower salaries and incentives, lower rent, less travel, no marketing costs, no stand-alone business expenses and no profit margin).

Total Costs

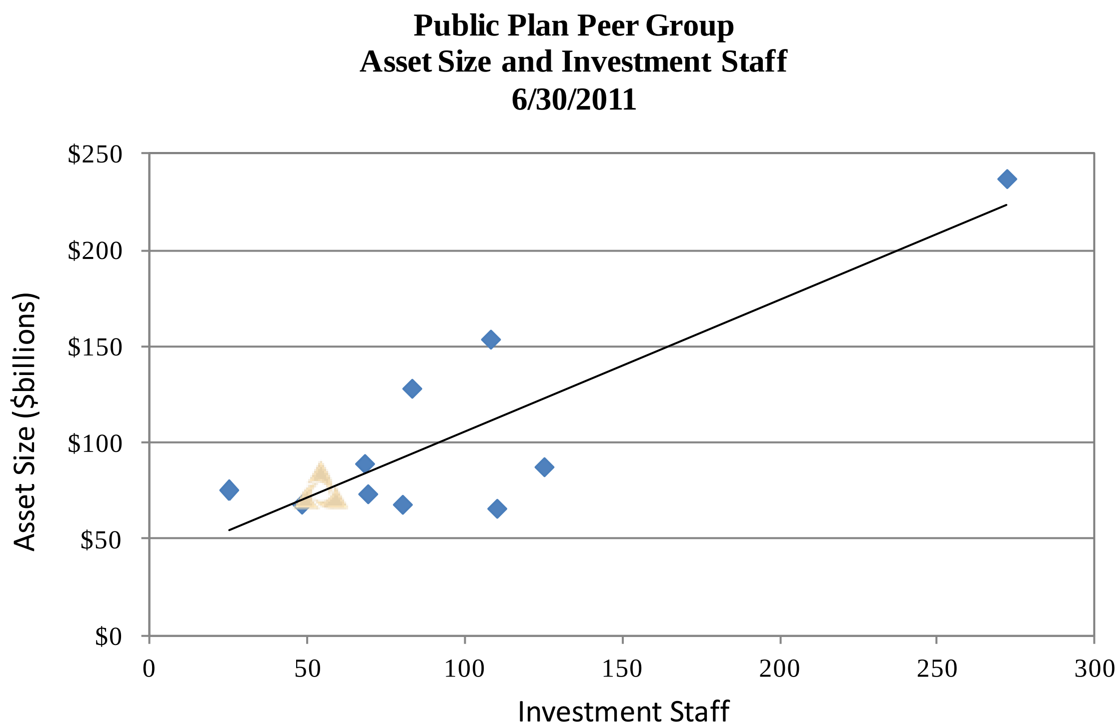
The total costs of the investment program in 2012 are projected to increase by approximately $84.01 million to $397.59 million, or 54.5 basis points of assets under management. This compares to 43.1 basis points as shown in the 2011 Annual Investment Plan. The increase reflects the growing allocations to externally managed areas such as Private Equity, Real Estate, Hedge Funds, and Non-U.S. Equity active managers.

	Estimated 2012 Total Costs ($ millions)			
	Internal Mgmt.	External Mgmt.	Total Invest. Division	% of Total
Total Compensation	7.05	4.24	11.29	**2.8%**
Operating Budget less Compensation	4.36	3.91	8.27	**2.1%**
Manager Fees		373.73	373.73	**94.0%**
Custody	2.90	1.40	4.30	**1.1%**
Total Costs	**14.31**	**383.28**	**397.59**	**100.0%**
Percent of Total	3.6%	96.4%		
Average 2012 Asset Size ($ billions)	31.59	41.41	73.00	
Costs in Basis Points	4.5	92.5	NA	
Costs in Basis Points to Total Fund	**2.0**	**52.5**	**54.5**	

In 2010 (the latest year for which figures are available), OPERS actual cost of 29.0 basis points was below the CEM benchmark cost of 35.9 basis points. CEM Benchmarking, Inc. is an independent firm that provides an assessment of pension plans and it evaluates OPERS investment program relative to the peer group of comparable size.

Peer Group Comparison

The following chart compares the OPERS asset size and Investment staff to its peer group as of June 30, 2011. The chart and table below indicate that the OPERS asset size per Investment staff is slightly above the average among public plan peer group. The focus of the management team continues to be on increasing productivity and improving results without significantly increasing staff size, except when new responsibilities, investment strategies, or sub-asset classes are added to the investment program.



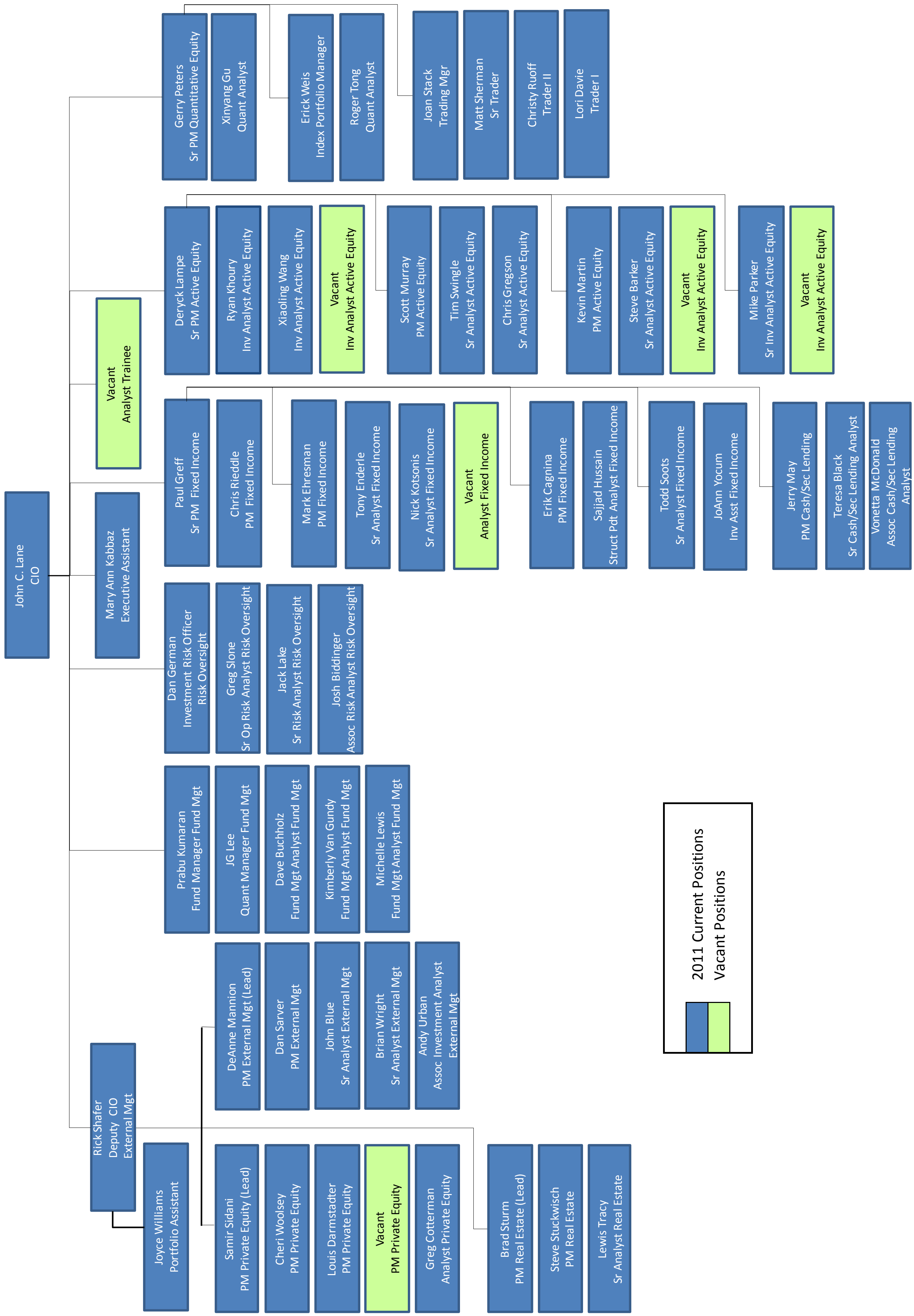
The following table lists the public pension peer group referenced in the chart.

Public Plan Peer Group (as of 6/30/2011)			
Peers	Asset Size ($ millions)	Investment Staff	Assset Size per Investment Staff ($ millions)
California Public Employees' Retirement System	$237,510	272	$873
California State Teachers' Retirement System	$154,071	108	$1,427
State Board of Administration of Florida	$128,533	83	$1,549
New York State Teachers' Retirement System	$89,428	68	$1,315
State of Wisconsin Investment Board	$87,780	125	$702
Ohio Public Employees Retirement System	**$78,294**	**54**	**$1,450**
North Carolina Retirement System	$74,942	25	$2,998
New Jersey Division of Investment	$73,731	69	$1,069
Employees Retirement System of Georgia	$68,324	48	$1,423
Washington State Investment Board	$68,239	80	$853
Ohio State Teachers Retirement System	$66,163	110	$601
Average	**$102,456**	**95**	**$1,296**

Appendix

2012 Investment Plan

Investment Organizational Structure



Name	Department/Title Education/Designation/License	Investment Experience OPERS	Investment Experience Total	Name	Department/Title Education/Designation/License	Investment Experience OPERS	Investment Experience Total
 Steven Barker	Active Equity Senior Investment Analyst MBA, The Ohio State University BS, The Ohio State University	12	12	 Joshua Biddinger	Risk Oversight Associate Risk Analyst MBA, Ashland University BS, Ashland University AAB, North Central State College CFA Level II Candidate	3	7
 Teresa Black	Fixed Income Senior Cash/Securities Lending Analyst BS, The Ohio StateUniversity	12	16	 John Blue	External Public Markets Senior Investment Analyst MBA, The Ohio State University BS, The Ohio State University CFA Charterholder CAIA Charterholder	18	20
 David Buchholz	Fund Management Fund Management Analyst BS, Wright State University Passed CFA Level III	3	6	 Erik Cagnina	Fixed Income Portfolio Manager MBA, Case Western Reserve BS, Miami (OH) University CFA Charterholder	6	17
 Greg Cotterman	Private Equity Investment Analyst BS, Franklin University BMus, Capital University CFA Level I Candidate	2	10	 Louis Darmstadter	Private Equity Portfolio Manager MBA, University of Chicago MA, University of Chicago BA, Tulane University CFA Charterholder	5	13
 Alan J. Davidson	Investment Compliance Fiduciary Compliance Investment Officer JD, Harvard Law School BA, The Pennsylvania State University Attorney	6	48	 Lorie Davie	Trading Trader I BA, Ashford University CP (Certified Paralegal) Series 63	1	1
 Pat Edgington	Investment Compliance Investment Reporting Manager BS, Miami (OH) University	12	33	 Mark Ehresman	Fixed Income Portfolio Manager MBA, Case Western Reserve BS, Miami (OH) University CFA Charterholder	10	10

Name	Department/Title Education/Designation/License	Investment Experience		Name	Department/Title Education/Designation/License	Investment Experience	
		OPERS	Total			OPERS	Total
 Tony Enderle	Fixed Income Senior Investment Analyst BS, Bowling Green State University CFA Charterholder	10	10	 Dan German	Risk Oversight Investment Risk Officer MBA, University of Pittsburgh BS, Allegheny College CFA Charterholder	4	13
 Paul Greff	Fixed Income Senior Portfolio Manager MBA, University of Detroit BA, Kalamazoo College CFA Charterholder	3	22	 Christopher Gregson	Active Equity Senior Investment Analyst BS, Indiana University BA, Indiana University CFA Charterholder	11	11
 Xinyang Gu	Index/Quantitative Quantitative Analyst MS, The Ohio State University BS, Southeast University, China	11	11	 Sajjad S. Hussain	Fixed Income Investment Analyst BA, Northwestern University CFA Charterholder	2	14
 Mary Ann Kabbaz	Office of the CIO Executive Assistant AS, Ohio Dominican University	12	12	 Ryan Khoury	Active Equity Investment Analyst BS, University of Minnesota, Twin Cities CFA Charterholder	2	13
 Nick Kotsonis	Fixed Income Senior Investment Analyst BS, Miami (OH) University CFA Charterholder	4	7	 Prabu Kumaran	Fund Management Fund Manager MBA, Asian Institute of Management B Eng (Mech), Anna University CFA Charterholder	3	14
 Jack Lake	Risk Oversight Senior Risk Analyst MBA, Case Western Reserve University BS, Marist College CFA Charterholder	4	18	 Deryck Lampe	Active Equity Senior Portfolio Manager MBA, University of Cincinnati MS, University of Cincinnati BS, Purdue University CFA Charterholder	5	19

Name	Department/Title Education/Designation/ License	Investment Experience OPERS	Total	Name	Department/Title Education/Designation/ License	Investment Experience OPERS	Total
 John C. Lane	Office of the CIO CIO MBA, LaSalle University BS, LaSalle University	2	31	 J.G. Lee	Fund Management Quant Manager PhD, The Ohio State University CFA Charterholder FRM Charterholder PRM Charterholder	10	15
 Michelle Lewis	Fund Management Fund Management Analyst MBA, University of Phoenix BA, Wright State University	1	1	 Kevin Martin	Active Equity Portfolio Manager MBA, University of Cincinnati BA, Thomas More College CPA Series 63	14	15
 Jerry May	Fixed Income Portfolio Manager MBA, Ashland University BA, Abilene Christian University CTP	8	20	 Vonetta McDonald	Fixed Income Associate Cash/Securities Lending Analyst BBA, Ohio University Series 63	1	1
 Scott Murray	Active Equity Portfolio Manager MBA, Washington University BA, University of Connecticut CFA Charterholder	7	21	 Michael T. Parker	Active Equity Senior Investment Analyst BS, Wharton, U of PA CFA Charterholder	3	9
 Gerry Peters	Index/Quantitative Sr. Portfolio Manager MBA, Drexel University BS, Lafayette College	2	26	 DeAnne B. Mannion	External Public Markets Lead Portfolio Manager MBA, The Ohio State University BA, The Ohio State University BA, Mt. Holyoke College CFA Level II Candidate	11	18
 Chris Rieddle	Fixed Income Portfolio Manager MBA, Indiana University BS, Indiana University CFA Charterholder	5	22	 Christy Ruoff	Trading Equity Trader AS, Franklin University Series 63	29	29

Name	Department/Title Education/Designation/License	Investment Experience OPERS	Investment Experience Total	Name	Department/Title Education/Designation/License	Investment Experience OPERS	Investment Experience Total
 Daniel J. Sarver	External Public Markets Portfolio Manager MBA, The Ohio State University BS, Marietta College CFA Charterholder	27	27	 Rick Shafer	External Management Deputy CIO BA, Dartmouth College CFA Charterholder	3	38
 Matthew Sherman	Trading Senior Equity Trader MBA, Otterbein College BA, The Ohio State University Series 63	6	17	 Samir Sidani	Private Equity Lead Portfolio Manager BA, University of Rochester CFA Charterholder CAIA Charterholder	6	10
 Greg Slone	Risk Oversight Senior Operational Risk Analyst BS, University of Kentucky CPA CFE Series 63	1	10	 Todd Soots	Fixed Income Senior Investment Analyst MBA, The Ohio State University BS, The Ohio State University CFA Charterholder	10	13
 Joan Stack	Trading Trading Manager MBA, Fordham University BA, Mt. Holyoke College	9	36	 Stephen Stuckwisch	Private Real Estate Portfolio Manager MBA, The Ohio State University BA, Hanover College CFA Charterholder CAIA Charterholder	16	16
 Bradley E. Sturm	Private Real Estate Lead Portfolio Manager MBA, The Ohio State University MA, University of Cincinnati MAIR, University of Cincinnati BA, University of Cincinnati CAIA Charterholder	18	18	 Timothy J. Swingle	Active Equity Senior Investment Analyst BSBA, The Ohio State University CFA Charterholder CMT Charterholder CPA (Inactive) CMA	13	13
 Roger Tong	Index/Quantitative Quantitative Analyst MBA, The College of Insurance MS, New Jersey Institute of Technology	8	17	 Lewis Tracy	Private Real Estate Senior Investment Analyst PhD, The Ohio State University MBA, The Ohio State University BA, University of California at Berkeley CAIA Charterholder	11	11

Name	Department/Title Education/Designation/ License	Investment Experience OPERS	Investment Experience Total	Name	Department/Title Education/Designation/ License	Investment Experience OPERS	Investment Experience Total
 Andrew Urban	External Management Associate Investment Analyst BBA, Ohio University CFA Level II Candidate	1	7	 Kimberly Van Gundy	Fund Management Fund Management Analyst MBA, Franklin University BS, University of Dayton CFA Level I Candidate	12	10
 Xiaoling Wang	Active Equity Investment Analyst MS, Columbia University M Phil, The Chinese University of Hong Kong BA, Southwestern University of Finance and Economics CFA Charterholder	2	8	 Erick Weis	Index/Quantitative Portfolio Manager MBA, The Ohio State University BBA, University of Toledo CFA Charterholder	17	18
 Joyce Williams	External Management Portfolio Assistant BS, Franklin University	2	4	 Cheri Woolsey	Private Equity Portfolio Manager MBA, Baylor University BA, Baylor University CFA Charterholder	1	20
 Brian H. Wright	External Public Markets Senior Investment Analyst BSBA, Auburn University CFA Charterholder CPA	2	5	 JoAnn Yocum	Fixed Income Investment Assistant AS, Bliss Business College	12	26