



Ohio Public Employees Retirement System
Investment Objectives and Asset Allocation Policy
Defined Benefit Fund
March 2021

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I. SCOPE

This Policy applies to the assets within the Ohio Public Employees Retirement System (“OPERS”) Defined Benefit Fund (“DB Fund”).

II. PURPOSE

This Policy provides the broad strategic investment framework for managing the DB Fund.

III. LEGAL AUTHORITY

The investment powers and fiduciary responsibilities of the OPERS Retirement Board (“Board”) are established by Section 145.11 of the Ohio Revised Code (“ORC”). Section 145.11(A) states, in part:

The members of the public employees retirement board shall be the trustees of the funds created by section 145.23 of the Revised Code. The board shall have full power to invest the funds. The board and other fiduciaries shall discharge their duties with respect to the funds solely in the interest of the participants and beneficiaries; for the exclusive purpose of providing benefits to participants and their beneficiaries and defraying reasonable expenses of administering the public employees retirement system; with care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims; and by diversifying the investments of the system so as to minimize the risk of large losses, unless under the circumstances it is clearly prudent not to do so.

OPERS Investment Staff (“Staff”) and others, who are involved in the management of the DB Fund’s assets, are subject to the same fiduciary standards as the Board.

IV. INVESTMENT PHILOSOPHY

The Board believes OPERS’ assets should be managed in a fashion that reflects OPERS’ unique liabilities, funding resources and portfolio size, by incorporating accepted investment theory and reliable, empirical evidence and supports the following principles:

- Asset allocation is the key determinant of return and, therefore, commitments to asset allocation ranges will be maintained through a disciplined rebalancing program.
- Diversification, both by and within asset classes, is the primary risk control element.
- Active management, or the pursuit of returns in excess of benchmarks, entails the possibility of disappointing results over short periods of time. Therefore, assets will be invested with a long-term perspective.

- Passive investment vehicles consist of index funds and derivatives-based strategies that are suitable alternatives to actively managed portfolios, especially in highly efficient markets.

V. INVESTMENT OBJECTIVE

The investment objective of the DB Fund is to support OPERS' mission to provide secure retirement benefits for its members. Meeting this objective necessitates making active decisions about markets in a long-term framework which, by its nature, involves taking reasonable risks. OPERS also seeks to operate effectively and at an appropriate cost.

VI. ASSET ALLOCATION

A. Purpose

The asset allocation establishes a framework for OPERS that has a high likelihood, in the judgment of the Board, of realizing OPERS' long-term investment objective.

B. Targets and Ranges

The Board sets Target allocations ("Targets") to various asset classes that are designed to meet OPERS' long-term investment objectives, and establishes a band of minimum and maximum allowable allocations, or Ranges ("Ranges"), surrounding each Asset Class Target. The purpose of Ranges is to appropriately and cost-effectively balance the Board's Investment Policy with the investment strategies pursued over shorter time periods. The table below sets forth Targets and Ranges for each Asset Class and sub-asset class.

Asset Class	Target Allocation	Range
Public Equity	44%	35 to 53%
U.S. Equity	21	+/- 5%
Non-U.S. Equity	23	+/- 5%
Fixed Income	25%	17 to 33%
Core Fixed	11	8 to 14
Emerging Markets Debt	5	4 to 7
Floating Rate Debt	0	0 to 1
Securitized Debt	1	0 to 2
TIPS	3	0 to 5
High Yield	2	1 to 3
U.S. Treasury	3	0 to 5
Alternatives	26%	18 to 34%
Private Equity	12	7 to 17
Real Estate	10	5 to 15
Hedge Funds	0	0 to 1
Opportunistic	3	0 to 4
Commodities	1	0 to 4
Risk Parity	5%	2 to 8%
Operating Cash	0%	0 to 5%
Total	100%	

In setting Ranges, the following principles are applied:

- The Public Equity allocation has a symmetrical Range equivalent to 20% of its Target rounded to a whole percentage point. Due to the floating nature of the Public Equity allocation, the Range for U.S. and Non-U.S. is +/- 5 percentage points as a proportion of the DB Fund.
- Both the Fixed Income Asset Class and the Core Fixed sub-asset class have a symmetrical Range of 30% from their Target allocations, rounded to a whole percentage point. The allocations to Emerging Markets Debt, Floating Rate Debt, Securitized Debt, TIPS, High Yield, and U.S. Treasury are given wider percentage Ranges for greater flexibility and to accommodate wider market swings.
- The Alternatives Asset Class has a symmetrical Range of 30% from its Target allocation, rounded to a whole percentage point. The Ranges for the sub-asset class allocations within Alternatives are given wider ranges to reflect the dominant influence of public market fluctuations on their proportion.
- The Range for Risk Parity is given a wider symmetrical range to reflect the dominant influence of public market fluctuations on its proportion.

Exposure from derivatives or the securitization of cash is assigned to the respective sub-asset class for purposes of measuring the sub-asset class allocations stated herein. Operating cash for such purposes as paying benefits or other day-to-day expenses is generally unsecuritized. Unsecuritized cash is limited to a Range of 0% to 5%.

To the extent the actual allocation to the Alternatives Asset Class (except Real Estate) differs from the Target percentage, that difference will be added to, if under, or subtracted from, if over, the Target and Range for Public Equity. For Real Estate, the overage or underage will be applied to the Fixed Income Targets and Ranges in a similar manner.

C. Rebalancing

Staff will ensure conformance with the asset allocation set by the Board through monthly, or more frequent, review. In conducting rebalancing activities, the Board expects Staff to operate under the following principles:

- Staff must initiate rebalancing transactions to bring all percentages to values inside the Ranges or promptly seek Board approval to remain outside the Ranges.
- To implement the investment strategy, Staff will manage the asset allocation nearer to or away from the Targets, but within Policy Ranges. Quarterly performance reports to the Board will also reflect actual allocations and variances from Targets.
- The spirit of this Policy is to implement the investment strategy within the Targets and asset allocation Ranges at a reasonable cost, recognizing that overly precise management of asset exposures can result in transaction costs that are not economically justified.

D. Periodic Review

The Board establishes the asset allocation Targets and Ranges and reviews them annually. Every three to five years or when material changes to the liabilities take place (e.g., plan design changes, material changes in underlying assumptions, etc.), the Board will undertake a comprehensive strategic asset allocation review designed to assess the continuing appropriateness of this Policy. Such review will consider an asset-liability study of future benefit payments, liabilities, required funding, the appropriateness of the actuarial interest rate assumption and the prospective funded status of liabilities. It may also include a study of portfolio design for optimal diversification and comparisons with peer practices.

VII. PERFORMANCE OBJECTIVES

A. DB Fund

The performance objectives for the DB Fund are to: (1) exceed the return of the Policy benchmark, net of investment expenses; and (2) exceed the actuarial interest rate over a reasonably longer time horizon. The Policy benchmark combines designated market indices for Asset Classes, weighted by asset allocation Targets. The table on the next page contains the benchmark indices for the respective asset classes.

Expectations for outperformance are a function of the projected excess returns for each Asset Class and are aggregated at the Fund level. Actual DB Fund performance is compared to the Policy benchmark return with projected excess returns.

In addition, DB Fund risk-adjusted performance relative to the Policy benchmark return is expected to be competitive with peer funds with similar allocations.

During periods of transition resulting from a change in the Board-approved Targets, the interim target asset allocation and associated benchmarks used to calculate benchmark performance for the DB Fund will be established on a quarterly basis in advance of the subsequent quarter. That target mix will be based on allocations made by Staff and reported to the Board through quarterly performance reports.

B. Asset Classes

Each Asset Class shall be measured relative to its designated benchmark index. It is expected that the active management of individual Asset Classes will provide an investment return in excess of the index, net of expenses.

Asset Class	Benchmark Index
Public Equity	
U.S. Equity	Russell 3000 Index
Non-U.S. Equity	Custom benchmark of the following indices: <ul style="list-style-type: none"> ■ 55% MSCI World Index ex U.S. Standard ■ 10% MSCI World Index ex U.S. Small Cap ■ 31% MSCI Emerging Markets Standard ■ 4% MSCI Emerging Markets Small Cap
Fixed Income	Custom benchmark based on the target weights of the underlying sub-asset class allocations
Core Fixed	Bloomberg Barclays U.S. Aggregate Index
Emerging Markets Debt	Custom benchmark of the following indices: <ul style="list-style-type: none"> ■ 50% JP Morgan Emerging Markets Bond Index Global ■ 50% JP Morgan Government Bond Index-Emerging Markets Global Diversified
Floating Rate Debt	Credit Suisse Leveraged Loan Index
Securitized Debt	Custom benchmark of the following indices: <ul style="list-style-type: none"> ■ 50% Bloomberg Barclays Non-Agency Investment Grade CMBS: BBB Total Return Index Unhedged USD ■ 50% Bloomberg Barclays Non-Agency CMBS Agg Eligible Total Return Index Value Unhedged USD
TIPS	Bloomberg Barclays U.S. TIPS Index
High Yield	Bloomberg Barclays U.S. High Yield Index
U.S. Treasury	Bloomberg Barclays U.S. Treasury Index
Alternatives	
Private Equity	State Street Private Equity Index (“SSPEI”)
Real Estate	Net NFI-ODCE plus 85 basis points
Hedge Funds	Custom benchmark using the HFRI single strategy indices weighted by the target allocations listed in the Annual Investment Plan
Opportunistic	Market value weight of underlying portfolio benchmarks
Commodities	Bloomberg Commodity Index
Risk Parity	HFR Risk Parity Vol 15 Institutional Index
DB Fund	Custom Defined Benefit Benchmark*
	*Policy weight (reset quarterly) of underlying asset/sub asset class benchmarks

VIII. RISK MANAGEMENT

The Board ensures adequate risk control through the following means:

A. Diversification

Investments shall be diversified to minimize the impact of the loss from individual investments. In addition to achieving diversification by asset class, careful attention shall be paid to diversification within each asset class and sub-allocation and across managers.

B. Liquidity

Liquidity is carefully managed through adherence to OPERS' Liquidity Policy.

C. Portfolio Guidelines

Public market separate account portfolios, excluding cash and custody accounts which are not enabled for trading, shall operate under written guidelines approved by both Staff and the Investment Advisors ("Advisors") that are designed to ensure the portfolio pursues its return objective within the acceptable risk parameters. Other portfolios shall operate pursuant to their governing documents.

D. Risk Parameters

Staff, in conjunction with Advisors, shall recommend active risk (risk of achieving performance different than the DB Fund benchmark) parameters for the DB Fund to the Board. The Board shall approve active risk parameters as part of OPERS Annual Investment Plan and approve Asset Class risk parameters in the Asset Class Policies. Risk management reports shall be provided periodically to the Board.

IX. ROLES AND RESPONSIBILITIES

The following section outlines the roles and responsibilities for each of the parties involved with executing this Policy. In addition to those activities that are described below, each person involved with this Policy is to act with the same care, skill, prudence, and due diligence under the circumstances then prevailing that experienced investment professionals acting in like capacity and fully familiar with such matters would use in like activities for like aims in accordance and compliance with all applicable laws, rules, and regulations.

The Board will determine the manner in which it fulfills its duties and how duties are delegated to other parties that are identified in this section.

A. OPERS Retirement Board

The Board's authority includes:

1. Asset Allocation

- a) Establishing and modifying the asset allocation Targets and Ranges for the DB Fund
- b) Approving Asset Class Policies
- c) Reviewing this Policy annually which would include making a determination whether or not the Fund is in transition, a period when the Fund is moving toward new target allocations

2. Asset Management

- a) Approving OPERS Annual Investment Plan to manage the investments
- b) Determining delegations of authority in connection with investment management
- c) Ensuring adequate supervision of investment managers
- d) Approving all other Investment related Policies

3. Risk Control and Administration

- a) Ensuring that appropriate Investment Policies are in place
- b) Ensuring that adequate risk controls are in place
- c) Ensuring compliance with all of its Policies and directives
- d) Ensuring that custody and other ancillary investment functions are performed as described in the Policy
- e) Reviewing risk reports and taking appropriate actions when necessary

4. Monitoring, Evaluation, and Approval

- a) Establishing performance benchmarks and expectations
- b) Monitoring the performance of investments
- c) Evaluating Staff's capability and performance
- d) Retaining Advisors, actuaries and other consultants, as appropriate
- e) Reviewing and approving this Policy, and any changes to it
- f) Reviewing reports related to this Policy

B. Investment Staff

Staff manages the investments and reports to the Board.

The Board expects Staff to take a leadership role in investment management. Recognizing that OPERS operates with a very high standard of care, the Board expects Staff to discharge its fiduciary responsibilities in managing OPERS' investments. Furthermore, the Board expects Staff to:

- Advise the Board when Staff believes action relative to Investment Policies or implementation is required of the Board.
- Review and approve portfolio guidelines and proposed changes to guidelines.
- Establish and conduct an appropriate process for monitoring OPERS' investments and implementing the Board's decisions.
- Assure that this Policy and all other investment-related Policies are reflected in investment manager agreements and/or guidelines, as appropriate.
- Establish, in advance, the interim target asset allocations for the subsequent quarter, which are to be used to calculate benchmark performance for the DB Fund during periods of transition resulting from a change in the Board-approved target asset allocations. Annually, Staff will discuss with the Board the Fund's transition status including forward plans.
- Inform the Board of any and all matters Staff believes to be sufficiently material to warrant the Board's attention.
- Operate at all times in the best and exclusive interest of OPERS and in compliance with all applicable laws and Investment Policies.

All members of Staff are accountable to the CIO. The CIO is responsible for all Staff actions relative to the management of OPERS' investments. In this regard, it is the responsibility of the CIO to satisfy himself/herself that all Policies and directives of the Board are implemented.

C. Investment Compliance

The Investment Compliance area of Investment Accounting, Operations and Compliance ("IC") is responsible for monitoring compliance with this Policy, including guidelines established pursuant to it. If IC determines that an exception to this Policy has occurred, IC shall notify Staff, the CIO, the Executive Director and the Board. Regular monitoring reports are also submitted to the Board.

D. Custodian

Ohio's Treasurer of State ("Treasurer") acts as the custodian of OPERS as specified in Section 145.26 of the ORC. The Treasurer may employ sub-custodians to perform certain functions.

E. Investment Advisors

The Board may appoint Advisors unaffiliated with OPERS to assist with the investment program. These Advisors will be appointed by the Board and shall be responsible to the Board. Such Advisors shall perform functions established through contractual agreements that may include:

- Advising the Board in the management of OPERS' investments.
- Evaluating OPERS Annual Investment Plan and investment proposals that come before the Board.

- Reviewing and approving portfolio guidelines and proposed changes to guidelines, which include the benchmarks.
- Monitoring OPERS' investments, internal investment activities and external managers.
- Reporting independently to the Board on the performance of OPERS investments.
- Conducting periodic and special studies on behalf of the Board.
- Researching, identifying, and evaluating investment managers.
- Assisting and supporting Staff in various projects.

F. Actuary

The Board retains an actuary for the purpose of forecasting asset and liability growth and the many complex factors included in estimating future pension costs. These factors include, but are not limited to, interest rates, inflation, investment earnings, mortality rates and employee turnover. These actuarial assumptions are then used to forecast uncertain future events affecting OPERS. The actuary shall be held to the highest standards and shall provide periodic reports on the actuarial valuation of OPERS, and shall provide recommendations to the Board including, among other things, the estimated level of contributions necessary to fund benefits as specified in Section 145.22 of the ORC. The Board shall consider review of the asset liability study approximately every three to five years, or when material changes to the liabilities take place (e.g., plan design changes, material changes in underlying assumptions, etc.).

G. Investment Managers (Internal and External)

The primary responsibility of each investment manager is to invest assets in accordance with written guidelines which reflect this Policy and other investment-related Policies, as appropriate. Accordingly, investment managers are responsible for determining the best method for implementing investment strategy. The specific duties and responsibilities of each investment manager are as follows:

- Managing the assets of the DB Fund under their supervision in accordance with the guidelines and objectives contained within their guidelines
- Exercising full investment discretion in regards to buying, managing and selling assets within the guidelines to achieve the objectives
- Communicating with Staff and the Advisors, in writing, regarding all significant changes pertaining to the assets it manages or the firm itself in a timely manner

The Board expects the investment managers to use the same care, skill, prudence, and due diligence under the circumstances then prevailing that experienced investment professionals acting in like capacity and fully familiar with such matters would use in like activities for like aims in accordance and compliance with all applicable laws, rules, and regulations.

X. ANNUAL INVESTMENT PLAN

Staff shall present to the Board for its consideration a proposed OPERS Annual Investment Plan. The principal functions of the Annual Investment Plan are to:

- Describe key forward asset management characteristics for the DB Fund and the principal Asset Classes which include but are not necessarily limited to, Targets and Ranges, benchmarks, investment strategy, and strategies concerning utilization of active and index management.
- Specify expected excess (active management) return and risk, provisions for risk control and investment expense.
- Clarify delegations of authority by the Board to Staff for various aspects of investment management.
- Identify resource (staffing and budgetary) requirements.
- Describe key initiatives for the year.

The Annual Investment Plan is the principal, although not exclusive, vehicle by which Staff will describe planned asset allocation and investment strategies with related performance benchmarks as well as new strategies and a general framework to support the need for new or replacement portfolios, managers, or Advisors.

XI. MONITORING AND REPORTING

To ensure monitoring and compliance with this Policy, the following reports will be reviewed with the Board:

A. Quarterly

Performance report – Advisors and Staff

Report on risk – Staff

Review of asset allocation relative to Targets – Investment Compliance Staff

Report on compliance – Investment Compliance Staff

B. Annually

OPERS Annual Investment Plan – Staff

C. Periodically

Additional reports as needed