Ohio Public Employees Retirement System

Leverage Policy
March 2022

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Revision History

Leverage Policy Established	**February 19, 2014**
Policy Revised	**February 18, 2015**
Policy Revised	**January 20, 2016**
Policy Revised	**February 15, 2017**
Policy Revised	**March 21, 2018**
Policy Revised	**September 18, 2019**
Policy Revised	**March 17, 2021**
Policy Revised	**March 16, 2022**

I. SCOPE

This Policy applies to the use of leverage within the Ohio Public Employees Retirement System ("OPERS") Defined Benefit Fund ("DB Fund") and Health Care 115 Trust Funds ("HC Fund").

II. PURPOSE

This Policy provides the broad strategic framework for managing the Funds' leverage in internally and externally managed portfolios.

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 states:

> 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.

IV. PHILOSOPHY

Leverage is a term which has many meanings and applications. This is true even within the fields of corporate finance or investment management, where it is widely used. Broadly speaking, leverage is an ability to amplify an outcome in such a way that does not require a corresponding increase in resources or inputs. More specifically from an investments perspective, OPERS views leverage as a condition in which the economic or market exposure of an investment exceeds the total capital deployed. Additionally, the use of leverage may amplify profits or losses on a given amount of capital, thereby increasing the volatility of returns. OPERS uses leverage in varying forms, as described within this Policy, and incorporates the prudent use of leverage to enhance returns in a risk controlled manner as part the investment management program.

V. SOURCES OF LEVERAGE

Leverage may occur as a result of the following:

1. Derivatives activity, (derivatives as defined in OPERS Derivatives Policy, which include securities–based instruments with embedded leverage characteristics, futures, forwards, swaps and options);
2. Short selling (selling physical securities which are not owned);
3. Reinvestment or re-use of collateral (securities lending, repurchase agreements/reverse repurchase agreements); and
4. Borrowing (including the use of financing terms embedded in investment structures).

Within OPERS investment management activities, the following table lists potential leverage sources for each Asset Class and sub-asset class.

Potential Leverage Sources

Asset Class / Sub-Asset Class	**Derivatives***	**Short selling**	**Collateral reinvestment**	**Borrowing**
Public Equity				
U.S. Equity	X			
Non-U.S. Equity	X			
Fixed Income				
Core Fixed	X			
Emerging Markets Debt	X			
Floating Rate Debt				
Securitized Debt	X			
TIPS				
High Yield	X			
U.S. Treasury	X			
Alternatives				
Private Equity	X			X
Real Estate				X
REITs	X			X
Opportunistic	X			
Commodities	X			
Risk Parity	X		X	
Operating Cash				
Activities				
Rebalancing	X			
Tactical Asset Allocation	X			
Transition	X			
Securities Lending			X	

*Excluding securities-based derivatives (Category I as defined in the Derivatives Policy). Losses associated with securities-based derivatives are limited to invested capital and limitations for securities with embedded leverage characteristics are established in portfolio guidelines.

VI. RISK MANAGEMENT

A number of approaches are used to measure and manage risks associated with leverage, depending upon the source and resultant risk exposures, including a combination of controls in policies, portfolio guidelines, procedures and operative legal documents.

Leverage is measured as the total of the sum of (i) the net asset value of all long physical positions, excluding cash and cash equivalents, (ii) the notional value of all long derivative positions, (iii) the absolute net asset value of all short physical positions, and (iv) the absolute notional value of all short derivative positions divided by the portfolio net asset value. Netting rules (for offsetting long and short positions in which the underlying market exposures are alike) may be applied.

- Cash and cash equivalents are not considered to have market exposure. Market exposures which are fully backed or collateralized by cash and cash equivalents are not considered to be leveraged (i.e., leverage is approximately 1.0).
- Currency derivatives used for transactional purposes are excluded.
- Non-U.S. Dollar currency portfolio exposures which are hedged (either to U.S. Dollar or to the currency exposure of the relevant benchmark, subject to portfolio guidelines) are not considered leveraged and are excluded.
- In the determination of the economic or market exposure of derivative positions, the following guidelines apply:
  - For non-interest rate based swaps and futures, notional value is used to determine market exposure and resultant leverage.
  - For interest rate-based derivatives and physical securities, a duration-adjusted notional value, such as a 10-year bond or benchmark equivalent notional, may be used to determine market exposure and resultant leverage.
  - For options contracts, the delta-adjusted notional amount may be used to determine market exposure and resultant leverage. Delta is a scaling factor, ranging from -1.0 to +1.0, which indicates the sensitivity of the price of the option contract to a change in the price of the underlying security.

For investments in which borrowing or embedded financing is the primary source of leverage, such as in real estate investments, loan to value is the primary measure. This form of leverage, in which borrowing is used to create the condition where the economic or market exposure of an investment exceeds the total capital deployed, is often referred to as financial leverage. It is generally defined as the sum of debt or loan obligations divided by the gross asset value of the portfolio. Other measures, including debt to equity, debt to assets, or debt to debt plus equity are also used to measure financial leverage.

The primary risks and controls associated with leverage are shown below.

A. Volatility Risk

Increased market exposure resulting from leverage creates the risk of higher return volatility. Active and total risk measurement is used to manage the overall volatility risk associated with leverage.

The following table includes limits for applicable activities, strategies, Asset Classes and sub-asset classes listed in the previous table and in which a potential leverage source is employed. Additional portfolio level restrictions may apply. Portfolios which are invested using commingled accounts or using similar non-separate account investment vehicles may be excluded if all of the following conditions are met:

- OPERS does not control the underlying investments selected in the strategy;
- The investment vehicle limits potential losses to the capital contributed or committed;
- Leverage is not utilized as a primary investment strategy and resultant leverage is not considered to be significant; and
- The Chief Investment Officer has approved the investment in the portfolio.

	Leverage Limit
Public Equity	
U.S.	1.05
Non-U.S.	1.05
Fixed Income	
Core Fixed	1.20
Emerging Markets Debt	1.10
Securitized Debt	1.45
High Yield	1.20
U.S. Treasury	1.10
Alternatives	
Private Equity[1]	N/A
Real Estate	50% (Loan to Value)
REITs	1.05
Opportunistic	
Internally Managed	3.00
Externally Managed	9.00
Commodities	1.20
Risk Parity	6.00
Activities[2]	
Rebalancing[3]	1.05
Tactical Asset Allocation[3]	1.05
Securities Lending	1.30

1 All Private Equity managers qualify under the above exclusions (as defined in Section VI.A. Volatility Risk), therefore, a leverage limit is not applicable.

2 Liquidity Reserve and Transition accounts are included in the calculation of their respective asset or sub-asset class.

3 Leverage associated with tactical asset allocation and rebalancing activities is measured at the Fund level and is not permitted, other than a small (5%) amount of leverage as described above. Basis risk (i.e. a mismatch between the market exposures of derivatives or derivatives and securities or benchmarks) may exist and is permitted, given the limitations in fully replicating benchmark or portfolio exposures using derivative instruments. Additional portfolio guideline restrictions apply.

B. Derivatives Risk

Risks associated with derivatives usage are described in OPERS Derivatives Policy. Derivatives usage is permitted in selected portfolios, subject to portfolio guidelines, and relevant governing documents, throughout the Funds and must comply with the Derivatives Policy.

C. Liability/Recourse Risk

Except as provided for as part of the Liquidity Policy, borrowing agreements with recourse to the Funds are not permitted.

When borrowing is permitted within specific portfolios as a means to generate leverage, the investment structure must contain terms designed to limit the extent of the loss to the capital investment, such that there is no direct recourse to the Funds.

- For investments in Private Equity and Private Market Real Estate, Staff shall endeavor to utilize a limited liability structure such as a limited partnership or a limited liability company, with terms designed to limit the total potential loss, including losses caused by derivatives, to the amount initially invested or committed by OPERS.

For all other portfolios in which leverage exceeds 3.0 times, Staff shall endeavor to utilize a limited liability structure such as a limited partnership or a limited liability company, with terms designed to limit the total potential loss, including losses caused by derivatives, to the amount initially invested or committed by OPERS.

D. Liquidity Risk

Liquidity risk associated with margin or collateralization requirements or instrument illiquidity may increase with the usage of leverage and is managed through derivative notional and leverage limitations.

E. Collateral Risk

Cash and cash equivalents used as collateral, may not perform as expected. In addition, the (1) reinvestment or (2) re-use (re-hypothecation) of collateral proceeds (both cash and securities) may produce leverage resulting from the added economic exposure of the reinvestment or re-hypothecation activity.

(1) Re-investment of collateral received as part of the OPERS Securities Lending program is permitted, subject to the OPERS Securities Lending Policy and subject to the leverage limitation in Section VI. A.

(2) For separate accounts, re-hypothecation of collateral used in repurchase agreement transactions or under derivatives trading agreements is not permitted.

F. Legal Risk

Use of leverage may rely on the successful implementation of various forms of operative documents, including but not limited to trading agreements, partnership agreements, and investment management agreements. OPERS Legal Services as well as external counsel are used to review contracts and operative documents to limit the risks of inadequate documentation.

VII. ROLES AND RESPONSIBILITIES

A. OPERS Retirement Board

The Board is responsible for reviewing and approving this Policy and any changes to it.

In addition, the Board is responsible for reviewing reports related to this Policy.

B. Investment Staff

The Board delegates authority to the Chief Investment Officer ("CIO") to implement this Policy. Staff is responsible for monitoring the Policy and recommending changes to the Board. Staff is also responsible for managing leverage within the framework of the Board-approved Policy and within the goals and objectives adopted by the Board in the Annual Investment Plan.

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.

D. Investment Advisor

The role of the Investment Advisor is specified in the Fund Policies.

VIII. MONITORING AND REPORTING

On a quarterly basis, or more frequently if appropriate, Compliance Staff will provide a report to the Board on compliance, including exceptions, with this Policy.