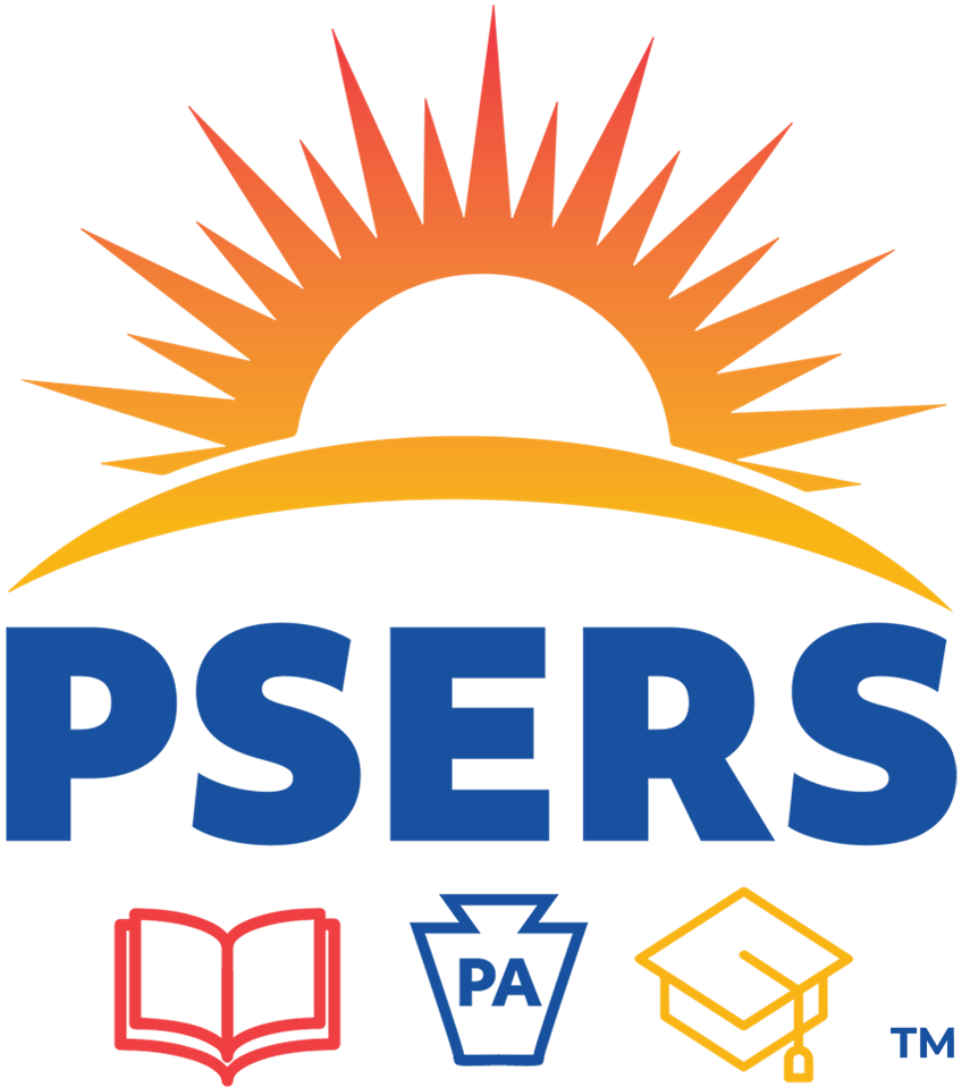

COMMONWEALTH OF PENNSYLVANIA
PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM

Derivatives Policy

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Revision History

Derivatives Policy Established	**March 6, 2020**

I. SCOPE

This Policy applies to the use of derivatives within separately managed accounts of the Pennsylvania Public School Employees' Retirement System ("PSERS") Defined Benefit Fund ("The Fund").

II. PURPOSE

This Policy provides the broad strategic framework for managing the Fund's financial derivatives in internally and externally managed separate account portfolios. Derivatives shall only be used to manage asset and risk exposures consistent with this Policy and other approved Investments Policies and portfolio guidelines.

III. ROLES AND RESPONSIBILITIES

Roles and Responsibilities related to this Policy are identified within PSERS' Investment Policy Statement (IPS).

IV. PHILOSOPHY

Derivatives are financial instruments the value of which is derived, in whole or part, from the value of any one or more underlying securities or assets, or index of securities or assets (such as bonds, stocks, financial commodities, and currencies).

Derivatives are an effective tool to manage asset exposures and risks in a prudent, timely, efficient, and cost-effective manner. They are not for speculative purposes. Derivatives are considered speculative if their use is inconsistent with the IPS and its supporting Policies, portfolio guidelines, or any other governing documents.

V. OBJECTIVES

The objective of using derivatives is to manage risks, asset allocation and market exposures. For example, derivatives may be used to facilitate cost-effective and timely investments, for risk management purposes, for implementation efficiency (i.e. speed of trade execution and lower cost), to achieve exposures that could otherwise be achieved with physical securities, to hedge currency, or to manage strategies.

VI. STRATEGIES USING DERIVATIVES

Through purchases or short sales, or both, of appropriate derivatives, derivatives may be used to:

a. Implement investment strategies in a low cost and efficient manner;

b. Efficiently manage the Fund by altering its market (systematic) exposures in lieu of trading the underlying cash market securities;

c. Construct portfolios with risk and return characteristics that could not be efficiently created with cash market securities consistently with the objectives in this Policy and in compliance with applicable law;

d. Hedge and control risks so that the Fund's actual risk-return profile is more closely aligned with the Fund's targeted risk-return; and

e. Facilitate transition trading when holdings must be rebalanced or reallocated among permissible investments as a result of changes to applicable benchmark indexes or policy changes.

VII. PERMISSIBLE INSTRUMENTS

PSERS may invest in derivative instruments, subject to this Policy and specific guidelines assigned to each separately managed portfolio. For the purposes of this Policy, derivatives include, without limitation, futures contracts; options; options on futures contracts; forward contracts; swap agreements, including swap contracts with embedded options; any instrument or contract intended to manage transaction or currency exchange risk in purchasing, selling or holding investments.

Within this Policy, derivatives are grouped into three categories defined by PSERS as follows:

Category I derivatives are securities-based. Examples of Category I derivatives include exchange traded funds, depository receipts, asset-backed securities, commercial mortgage-backed securities, residential mortgage-backed securities, rights, warrants and convertibles. These derivatives are similar in many respects to other securities such as stocks and bonds and as such are excluded from this Policy.

Category II derivatives are cleared instruments. An example of a Category II derivative is a futures contract on the S&P 500. Common characteristics of Category II derivatives are that they are generally standardized instruments which are exchange-traded, cleared through a clearinghouse and subject to regulation.

Category III derivatives are non-cleared instruments. An example of a Category III derivative is a total return swap on an equity index. These types of derivatives are customized, rather than standardized, for the parties engaged in a transaction not cleared through a clearinghouse. These are often also known as OTC (over the counter) derivatives.

VIII. RISK MANAGEMENT

The primary approach to managing risks associated with derivatives usage is to establish and monitor both qualitative and quantitative constraints and through usage of standardized processes. Risks associated with derivatives use include:

A. Market Risk

Market risk may result when market conditions develop differently than expected or when there are mismatches between actual market exposure and the market exposure from the derivative. These risks are primarily mitigated through the usage of Tracking Error constraints which are defined in applicable portfolio guidelines.

B. Leverage Risk

Leverage risk results when derivatives instruments are used to create a condition in which the economic or market exposure of an investment exceeds the total capital of that investment. These risks and the associated controls are further described in the Leverage Policy.

C. Counterparty Risk

Counterparty risk is the risk that the other party in an investment, credit, or trading transaction may not fulfill its part of the transaction and may default on its contractual obligations. Derivative counterparty risk resides primarily in OTC transactions, which for OTC transactions in internally managed portfolios are managed as follows:

- Counterparties must be rated at least investment grade by the applicable nationally recognized statistical rating agency(ies).
- Exposure limits to any individual counterparty utilized by internally-managed portfolios will be measured and monitored by IOP.
- Applicable foreign exchange and derivative transactions must be approved by a duly authorized PSERS' "Qualified Independent Representative" ("QIR") as documented in the QIR Policy
- In order to ensure that PSERS is not the "reporting party", under parts 43, 45, and 46, of the Commodity Futures Trading Commission ("CFTC") regulations, swaps, forward foreign exchange transactions, and foreign exchange swaps may only be transacted with parties that are fully Registered Swap Dealers or Provisionally Registered Swap Dealers with the CFTC.

D. Operational Risk

Operational risk is the risk of inadequate or failed processes, people or systems. Operational risks are mitigated through the usage of procedures, IOP oversight and effective usage of technology resources.

E. Complexity Risk

A derivative may behave differently than expected. Complexity risk is mitigated through the identification and assessment of risks associated with the usage of derivatives.

F. Liability/Recourse Risk

The capital or funding requirements associated with transacting derivatives may result in leverage. In addition to controls and limits described in the Leverage Policy, account structures are used to mitigate this exposure.

- When conducted in separate accounts (whether internally or externally managed under an agency relationship), the usage of derivatives may result in an exposure and potentially in a liability against the assets of the Fund. Permission for derivative usage are specified in manager guidelines and shall comply with this Policy.
- When it is determined that the total potential losses in an investment, including losses caused by investments in derivatives, should be limited to the amount of assets initially invested or committed, PSERS shall endeavor to utilize a limited liability structure for such investment, such as a limited liability partnership or a limited liability company, with terms designed to limit the total potential loss for such investment to the amount initially invested or committed by PSERS. This includes all assets within the Non-Traditional Investments portfolios, Absolute Return portfolio, and externally managed Risk Parity portfolios. Operating documents, which include partnership agreements, subscription agreements, and similar documents, govern the usage of derivatives in these investments.

G. Legal and Regulatory Risk

OTC derivatives also expose PSERS to legal and regulatory risks. Legal risk is the risk of inadequate or deficient legal documentation. Regulatory risk is the risk of changing or more burdensome regulatory requirements than those in place at the time the derivatives position was established. Appropriate legal and regulatory documentation is required to mitigate these risks.

H. Liquidity Risk

Liquidity risk may result from the usage of derivatives, depending on the type of derivative and its characteristics. Liquidity risks are considered as part of the Liquidity Policy.

I. Settlement Risks

Settlement risk is the risk of loss if a counterparty defaults and PSERS has fulfilled its trade obligations while the counterparty has not delivered the corresponding cash or security. Settlement risk is negligible for exchanged-traded derivatives since PSERS is contractually bound to a regulated exchange, not an individual counterparty, once the trade has been accepted by both trading parties. Settlement risk is mitigated for OTC derivatives by requiring the counterparty to post collateral for amounts owed to PSERS on a regular basis.

IX. MONITORING AND REPORTING

See Monitoring and Reporting section of the IPS.