



COMMONWEALTH OF PENNSYLVANIA TREASURY DEPARTMENT INVESTMENT POLICY STATEMENT

Pennsylvania 529 Guaranteed Savings Plan

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INVESTMENT POLICY STATEMENT

Pennsylvania 529 Guaranteed Savings Plan

INTRODUCTION

This Investment Policy Statement (“IPS”) is designed to provide a framework within which to manage the investments for the Commonwealth of Pennsylvania 529 College and Career Savings Program. The Treasury Department is authorized, pursuant to the Pennsylvania 529 and College Savings Bond Act, 24 P.S. § 6901.101 *et seq.* (“the College Savings Act”), to administer two programs for post-secondary educational savings – the Pennsylvania 529 Guaranteed Savings Plan (“GSP”) and the Pennsylvania 529 Investment Plan (“IP”). The College Savings Act requires Treasury to administer both programs in such a manner as to ensure and maintain their status as “qualified State tuition programs,” as defined in Section 529 of the Internal Revenue Code, 26 U.S.C. § 529. In 2017, the IRS Code was amended to allow the use of GSP and IP accounts for qualified elementary and secondary education and Treasury comply to continue to be a qualified plan under the IRS Code. This document will assist the Treasury Department (“Treasury”) in fulfilling its Legislative and fiduciary responsibility. The IPS establishes investment standards that are consistent with The Fiscal Code, 72 P.S. § 301 *et seq.*; The Administrative Code, 71 P.S. § 1 *et seq.*; and all other applicable laws, rules, and regulations. The provisions of this IPS are intended to aid Treasury employees and financial professionals retained by the Treasury in making decisions about investment matters related to the Pennsylvania 529 GSP.

Pursuant to Fiscal Code directive, the Treasurer maintains the authority to grant waivers and approve exceptions to any provisions of the IPS.

Following a written request to the Investment Committee from a financial professional seeking prior approval, the Treasurer may grant a waiver of a provision of the IPS if there is a determination that strict adherence would have a detrimental economic effect upon one or more Treasury programs, or if a waiver would be appropriate and in the best interests of Treasury and the Commonwealth.

Background

The GSP is a 529 plan sponsored by the Commonwealth of Pennsylvania and is part of the Pennsylvania 529 College and Career Savings Program. The GSP is authorized by the Commonwealth of Pennsylvania, 24 P.S. §6901 *et seq.*, and is administered by the Pennsylvania Treasury Department. The Pennsylvania Treasury Department is an independent executive office created by the Constitution of the Commonwealth of Pennsylvania, Article IV, § 1, 18. The Treasurer serves as statutory custodian of the funds of virtually all state agencies, with the responsibility for monitoring and safeguarding money and securities pursuant to Fiscal Code (72 P.S. § 302-303). The Pennsylvania 529 GSP, established as an investing vehicle for education expenses, is designed to qualify for treatment as a qualified tuition program under Section 529 of the Internal Revenue Code of 1986, as amended, and any regulations and other guidance issued there under (“Section 529”).

Plan Description

The Plan was established in 1992 to provide families with an opportunity to invest toward future higher education expenses by allowing the advance purchase of tuition. By Act 2000-58, effective August 21, 2000, it was amended, making the Plan a Guaranteed College Savings Plan with growth indexed to tuition inflation. The GSP allows account owners to save for future “qualified higher education expenses” with the objective that their savings, adjusted by any applicable premiums and fees, will at least keep pace with tuition inflation.

Purpose of the IPS

This IPS has been adopted by the Treasury Department in order to:

- Define the investment philosophy for the GSP;
- Define and assign the responsibilities of all involved parties;
- Establish a clear understanding of the investment goals and objectives of the GSP;
- Provide guidelines and procedures for the investment of assets of the GSP;
- Establish the relevant investment horizon for which the GSP assets will be managed;
- Provide a framework for the target asset allocation and re-balancing procedures for the GSP;
- Establish a methodology and criteria for retaining and terminating the GSP relationships with investment professionals;
- Offer guidance and limitations to all third-party investment funds/managers (“Investment Managers”) regarding the investment of the GSP assets;
- Establish a basis for evaluating the GSP investment results.

In developing this IPS, considerations included liquidity requirements, the need to diversify assets, and the financial impact (including the possibility of significant loss) of a range of asset allocations and investment options. This IPS will be updated to reflect any changes to the GSP.

In general, the purpose of this IPS is to outline a philosophy which will guide the investment management of the GSP assets toward the desired results. It is intended to be sufficiently specific, yet flexible enough to be practical. This IPS is intended to serve as a reference tool, an operating code, and a communication link among the Treasury, the Investment Consultant, and the Investment Managers. Deviation from this IPS is not permitted without prior, explicit, written permission from the Treasurer.

Scope

This IPS applies to all assets within the GSP. The investment strategy for the GSP reflects a unique application of the principles of Prudent Person investing, crafted specifically to balance the investment criteria in an appropriate manner for the GSP investors.

STANDARD OF CARE

Prudence

Guidelines respecting prudence have been developed in light of investment objectives related to the GSP. Actuarial, economic, investment, and socio-political events and trends are factors that affect meeting those objectives. Accordingly, these guidelines are, as a part of this IPS, intended to present broad and balanced considerations to guide incumbent and successor Treasury, Investment Committee and all other parties concerned, seeking appropriate investment, safekeeping, monitoring and evaluation of the GSP assets.

Plan fiduciaries shall discharge their responsibilities and assets shall be invested in a manner consistent with this IPS, and generally accepted fiduciary standards. All transactions undertaken on behalf of the GSP shall be solely in the interest of Plan participants and their beneficiaries.

In making investments for the GSP, the Treasurer is charged with exercising that degree of judgment and care that experienced investors of prudence, discretion, and intelligence employ in the management of their own affairs regarding permanent disposition of their assets pursuant to Fiscal Code (72 P.S. § 301 *et seq.*). Implementation of this investment standard, commonly called the Prudent Person test, requires the exercise of careful judgment in determining those investments that are appropriate for the GSP based upon income needs, cash flow requirements, investment time horizons, risk tolerance, and other investment criteria. Investment decisions must also reflect any legal standards that authorize or limit the particular kinds of investments that the GSP may hold.

Ethics and Conflicts of Interest

Treasury employees involved in the investment process shall refrain from any personal business activity that could conflict with the proper execution and management of any Treasury investment program or that could impair their ability to make impartial decisions. Treasury employees shall provide all disclosures required by 65 Pa.C.S. § 1101 *et seq.*, commonly known as the Public Official and Employee Ethics Act, and internal Treasury Code of Conduct, which prohibits by way of example Treasury employees receiving anything of value from a vendor or anyone doing business with the Treasury. Financial professionals shall disclose in writing to the Investment Committee any material interests they hold in financial institutions with which they conduct business or any other sources of potential conflicts of interest. Such written disclosure shall be made immediately upon discovery of the potential conflict. Treasury reserves the right, in its sole discretion, to require financial professionals to sell or otherwise dispose of such material interests or to limit or terminate the financial professionals' engagements.

Delegation of Authority

Authority to manage GSP assets is granted to the Investment Manager(s). Investment Manager(s) shall act as an agent of the Treasury and abide by the same Standard of Care applicable to Treasury. No person may engage in an investment transaction except as provided under the terms of this IPS and/or the Investment Manager Agreement(s). The Investment Manager(s) shall be responsible for all transactions undertaken and shall establish a system of controls to regulate the activities of subordinate officials.

DISTINCTION OF RESPONSIBILITIES

Responsibilities of the Treasurer

The Treasurer is the Chief Executive Officer of the Treasury and has ultimate and final authority over and responsibility for the actions of the Treasury and the fulfillment of its legal mission. The Treasurer is responsible for the IPS, the direction of investments and the administration of assets of the program.

To achieve these objectives, the Treasurer has the right and responsibility to manage the various employees, agents, and contractors of Treasury. The Treasurer may designate specific agents, such as the Investment Committee and/or the Chief Investment Officer to carry out activities in fulfillment of these responsibilities. Acting alone, or through agents in the Treasury, the Treasurer, consistent with the Prudent Person investment authority, shall:

- Comply with § 529A of the Internal Revenue Code and the proposed regulations thereunder;
- Establish reasonable and consistent investment objectives, policies, benchmarks and implementation guidelines that will direct the investment of the GSP assets in accordance with applicable law;
- Meet the liquidity needs of the GSP participants;
- Prudently and diligently select qualified financial professionals in pursuit of these objectives;
- Establish the long-term strategic asset allocation;
- Establish performance goals for each investment manager and communicate these goals in writing to the managers on a timely basis;
- Monitor the performance of the GSP investment managers;
- Regularly monitor the performance of the financial professionals to evaluate progress in attaining investment objectives;
- Maintain compliance monitoring to ensure adherence to this IPS;
- Periodically review and revise the IPS to reflect changing circumstances or experiences;
- Establish and maintain due diligence guidelines.

Responsibilities of Tuition Account Programs Advisory Board

The board shall be composed of the State Treasurer, the Chairman of the Board of Directors of the Pennsylvania Higher Education Assistance Agency, the Commissioner of Higher Education within the Department of Education, the Chairman of the Council of Higher Education and the Chancellor of the State System of Higher Education, and fourteen (14) other members to be selected pursuant to 1992 Act 11 § 304.

The Tuition Account Program Advisory Board responsibilities shall include the following:

- Consider, study, and review the work of the Tuition Account Programs Bureau;
- Advise Treasury on request and make recommendations on its own initiative for the improvement of the GSP;
- Report annually to the Governor and to the General Assembly and may make such interim reports as are deemed advisable.

Responsibilities of the Investment Committee

The Treasury shall utilize an Investment Committee to advise and assist the Treasurer in the discharge of his statutory duties. The Investment Committee shall consist of the Chief Investment Officer, who shall Chair meetings of the Investment Committee; the Chief Counsel; and other persons whom the Treasurer may wish to appoint. The Investment Committee shall meet at least once each calendar quarter and on such other occasions as the Treasurer shall direct. Meetings may occur in person, by telephone conference call, or by such other means as the Chair deems to be appropriate.

The Investment Committee's responsibilities shall include the following:

- Advise the Treasury on the IPS and monitor implementation thereof;
- Evaluate outside professionals related to the GSP investment program;
- Use available information and resources, including advice from the Investment Consultant, to evaluate Investment Managers and other professionals as needed to assist in the administration and implementation of the IPS;
- On a quarterly basis, monitor the asset allocation, investment performance, risk and conduct of all professionals associated with the GSP investment program;
- On an annual basis, review Actuarial Report;
- Perform specific tasks and functions identified in this IPS or as directed by the Treasurer;
- Post, maintain, and update this Investment Policy on its publically accessible Internet website.

Responsibilities of the Investment Consultant

The Treasury has retained an Independent Investment Consultant to assist in fulfilling its investment goals and objectives in accordance with this IPS; The Consultant's responsibilities shall include the following as the Treasurer may direct:

- Provide advice to the Treasurer and Investment Committee to determine the most effective investment program for the GSP, including, but not limited to; Investment Policy, Asset Allocation, Portfolio Structure, Investment Management and assignment of Portfolio and Investment Manager Benchmarks;
- Measure the GSP investment performance results, evaluate the investment program, and advise the Treasurer and Investment Committee as to the performance and continuing appropriateness of each Investment Manager;
- Review the liabilities for the GSP to test the appropriateness of asset allocation and liquidity profile of the program;
- Review this IPS on a regular basis and recommend modifications as appropriate;
- Promptly inform the Treasurer and Investment Committee regarding significant matters pertaining to the investment of the GSP assets;
- Adhere to the applicable investment consulting agreement between the Treasury and Investment Consultant.

Responsibilities of Investment Manager(s)

Assets will be invested by both internal and third-party Investment Managers, who have the following responsibilities:

- Manage the portion of the GSP assets under their control in accordance with this IPS and any applicable management agreement or prospectus;
- Exercise full investment discretion within the policies and standards as established as to buy, hold, and sell decisions for the GSP assets under management;
- On at least a monthly basis, unless waived and then quarterly, reconcile the account's positions with the GSPs' designated custodian;
- Provide reports and data sheets to the Investment Consultant, if applicable, on a monthly basis detailing investment performance and positioning for the most recent period;
- Promptly inform the Investment Consultant regarding significant matters pertaining to the investment of the assets, including, but not limited to changes in ownership, organizational structure, investment strategy, portfolio design, or configuration of the investment team, and
- Unless the GSP has retained a proxy voting service, exercise the proxy voting rights related to securities held in its portfolio in a manner consistent with the economic best interests of the GSP participants;
- Adhere to the applicable investment manager agreement between the Treasury and Investment Manager and comply with applicable laws, regulations and rulings;

- Investments shall be made with the care, skill, prudence and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims.

Responsibilities of the Sub-Custodian/Custodian

The Treasurer serves as statutory custodian of the funds of virtually all state agencies, with the responsibility for monitoring and safeguarding money and securities pursuant to Fiscal Code (72 P.S. § 302-303). In addition, the Treasurer is entrusted with the exclusive management of and full power to invest moneys that exceed the ordinary needs of Commonwealth funds and that are not authorized to be invested by any other board, commission, or state official. As noted in Fiscal Code (72 P.S. § 301 *et seq.*), the Treasurer has broad authority to place these moneys in any investments subject to a standard of prudence and diligence.

The Treasurer has retained a sub-custodian/custodian to custody the GSPs' assets. The custodian shall serve as a fiduciary and shall discharge its responsibilities and assets shall be invested in a manner consistent with this IPS, and generally accepted fiduciary standards. All transactions undertaken on behalf of the GSP shall be solely in the interest of the GSP account holders and their beneficiaries.

The custodian will have the following responsibilities:

- Hold, safeguard, and accurately price the GSP assets;
- Collect the interest, dividends, distributions, redemptions, or any other amounts due to the GSP funds;
- Report all financial transactions to the Investment Consultant and any other Savings Bureau designee(s);
- Prepare periodic summaries of transactions, asset valuations, and other related information as deemed appropriate;
- Perform any and all duties as detailed in the respective custodial agreement.

Securities Lending Provider's Authority and Responsibilities

The Treasurer may utilize a securities lending provider to create income through the lending of the assets of the GSP. The securities lending provider will provide reports on a periodic basis to all necessary parties and be responsible for ensuring that adequate collateral be provided to the GSP for the securities that are lent and that the interest rate generated by the securities lending program is fair and reasonable. Furthermore, the securities lending provider will attempt to return all lent securities to the GSPs' appropriate account before any transactions on the lent securities are executed. The securities lending provider retained by the Treasury will exercise discretion within the parameters set forth in these guidelines on behalf of the GSP and the applicable agreement and Standard of Care. The collateral pool of the program must be managed in such a manner consistent with the risk/return characteristics of the GSP with the predominant focus being capital preservation.

Proxy Voting Agent’s Authority and Responsibilities

The Treasurer may utilize a proxy voting agent to vote proxies for the GSP.

INVESTMENT BELIEFS

Treasury maintains a set of investment beliefs about its own office, the companies and securities in which it invests to earn a return, and the capital markets through which Treasury transacts. These investment beliefs inform specific investment policies and guidelines which guide the investment activities of Treasury as fiduciary of GSP 529 for Commonwealth agencies, participants, current and future Pennsylvanians, and other stakeholders.

Treasury Investment Office: Treasury investment staff are governed by these investment beliefs in their partnership with managers and in selection of investment securities. In order to integrate fully these investment beliefs, Investment staff will partner with Policy, General Counsel, and other offices within Treasury.

Investments: Treasury Investment Office staff invest across multiple asset classes and security types in their stewardship of investment programs under Prudent Person. These beliefs hold across all assets.

Capital Markets: Treasury investments benefit from well-functioning capital markets, where those investing and seeking investment can do so fairly. Pennsylvania, a large state with vast financial assets, is endowed with a responsibility to advance healthy capital markets.

	Investment Office	Managers & Holdings	Capital Markets
Transparency provides a basis for trust.	Treasury will make publicly available asset allocations, fees, and other material investment information for GSP. Tax payers, contributing agencies, employees, and other stakeholders have the right to know why and how Commonwealth funds are invested.	Investors can best manage risk when companies seeking investment provide adequate disclosure of material risks. Manager transparency helps us align interests.	Capital markets that promote transparency are key to risk management and optimizing outcomes for stakeholders.

<p>Accountability enforces trust.</p>	<p>Investment staff will articulate portfolio objectives, identify benchmarks, and analyze outcomes.</p>	<p>Treasury will monitor and engage with investment managers and the issuers of securities to minimize risk and maximize return for stakeholders. Treasury’s fiduciary duty to Pennsylvanians includes actively engaging with companies on key issues of governance, sustainability, and social responsibility in order to hold them accountable for outcomes that affect Pennsylvanians.</p>	<p>Entities regulating capital markets should hold stakeholders accountable for their actions.</p>
<p>Costs have a material impact on returns.</p>	<p>Skilled investment staff who can directly oversee portfolios provide operating leverage to cost effectively manage Treasury’s investment programs.</p>	<p>Fees are a critical contractual consideration to align investment partners with the outcomes Treasury seeks for the Commonwealth.</p>	<p>Belief in the fairness and reliability of information found in capital markets can increase investor participation, and lower transaction costs for both borrowers and investors.</p>

<p>Simplicity facilitates responsible stewardship of funds.</p>	<p>Treasury is limited in the control of all factors and will therefore scale the management of the portfolios and the capital markets accordingly.</p>	<p>Complexity adds risk to investment portfolios with uncertain reward. Treasury favors understandable, rules-based, measurable index strategies with regular rebalancing.</p>	<p>Efficient capital markets benefit both investors and those individuals and businesses seeking capital. Treasury will engage in efforts to support efficient and fair capital markets.</p>
<p>Time Horizons of portfolios and stakeholders influence portfolio management.</p>	<p>Investment decisions will be informed by the GSP and its stakeholders, not the term of office of the Treasurer.</p>	<p>Time constraints inform liquidity demands and thus asset allocation of risk and cost sharing investment pools.</p>	<p>The Commonwealth is a perpetual entity. Treasury will work to make capital markets and investment decisions that support intergenerational equity.</p>
<p>Risk is both qualitative and quantitative, and future risks may differ from historical risks.</p>	<p>Treasury will set and stress test quantitative investment risk measures appropriate for the risks of each program. Staff will endeavor to minimize operational risk.</p>	<p>Material, forward-looking risks exist that are not captured by historic measures such as market volatility. Environmental, social, and governance risks must be evaluated and managed.</p>	<p>The Commonwealth may be affected by systemic risks created irrespective of Treasury’s investment decisions. As a universal owner, Treasury seeks to proactively call attention to and manage these risks.</p>

Treasury will address issues which are material, consistent with policy and these investment beliefs, and for which the Investment Office has the expertise and capacity to improve outcomes.

INVESTMENT OBJECTIVES

Consistent with its obligation to act as a Prudent Person in carrying out its fiduciary responsibility, Treasury seeks investments that will maximize the likelihood that the GSP will satisfy its respective requirements. All transactions undertaken on behalf of the GSP shall be solely in the interest of the program participants and their beneficiaries. The GSP’ investments will be managed prudently with reference to safeguards and diversification considering each Pool’s income and liquidity needs.

The GSP is a diversified portfolio of investments designed for families saving for qualified education expenses. To achieve this objective, the GSP will invest in a suitable mix of marketable assets that could provide a long-term competitive rate of return that is equal to or greater than the Actuarial Target Rate of Return.

Under the premise that every dollar retained and invested in the GSP compounds and grows over time to pay down future liabilities, the Treasury will attempt to meet the GSP return objectives by predominantly investing in transparent, liquid, low cost vehicles such as passive index funds. All management fees, trading costs, and other expenses will be monitored and carefully controlled.

The primary goal of the investments is to ensure that liabilities are met when due. GSP assets should thus be invested in a manner that maximizes the probability of meeting liabilities. In developing strategic asset allocation guidelines for the GSP, an emphasis is placed on the long-term characteristics of individual assets, and the benefits of diversification among multiple asset classes. Consideration is also given to the long-term level of risk for the GSP, particularly with respect to the long-term nature of the liabilities, the actuarial status of the plan and the impact of asset allocation on investments.

The secondary goal of the GSP is to maximize long-term investment return consistent with a reasonable level of risk.

Risk Tolerance

The GSP will be managed in a style that seeks to mitigate principal fluctuations consistent with the Plan's investment objectives. The GSP can accept prudent levels of short and long-term volatility consistent with the near-term cash flow needs, and long-term liability structure of the Plan.

Liquidity

Liquidity needs are relatively stable and predictable. GSP assets are used to pay beneficiaries education tuition bills and therefore, should maintain sufficient liquidity to ensure that liabilities are met when due.

Return Objectives

Investment objectives are long-term in nature. The Treasury recognizes securities markets are unlikely to provide a consistently favorable climate, on a shorter-term basis. Given this, long-term GSP objectives are to earn a total rate of return, net of investment fees, that achieves at least the GSP's Actuarial Target Rate of Return.

Asset Allocation

Asset class allocation decisions are intended to identify an appropriate investment approach for achieving the GSP Investment Objectives while limiting investment risk through diversification. The asset class targets for GSP, delineated in Appendix A, provide a framework through which the GSP investments may be adjusted to meet economic and/or investment market conditions while continuing to be invested within the broader allocation framework deemed appropriate to the GSP's Investment Objectives.

Rebalancing and Evaluating the Asset Allocation

Asset allocation will be rebalanced monthly and at deviations of 10% in either direction from the strategic asset allocation. The Treasurer and Committee, with the assistance of the Investment Consultant, will review the Funds' asset allocation on a regular basis and consider changes as deemed prudent. During such evaluation, the Treasurer, Committee and the Investment Consultant will take into consideration the time horizon of the GSPs' asset pool, funding levels, cash flow needs, and any additional constraints. The Investment Consultant will provide assumptions on the capital markets over the long-term and will suggest asset allocations best meet the objectives of the GSP.

INVESTMENT MANAGER SELECTION AND EVALUATION

Third-Party Investment Manager Selection Criteria

If the Treasurer, with the assistance of the Investment Committee and Investment Consultant, determines that an Investment Manager should be selected or replaced, the below criteria will be used, at a minimum, to evaluate potential alternatives:

- Overall firm strength and investment professional tenure;
- Well-articulated and consistent application of investment philosophy and process;
- Portfolio characteristics and sector weightings relative to style benchmark;
- Consistent performance relative to style benchmark and industry style universe;
- Portfolio's long-term risk/reward profile compared to style benchmark and industry style universe;
- Investment management fees compared to industry average.

INVESTMENT GUIDELINES FOR GSP

General

The Investment Manager(s) shall conform to the Investment Guidelines set forth below. Any departure from the Guidelines must be submitted in writing to the Treasurer, Investment Committee and Investment Consultant for prior approval, as must any change in the “style” or investment philosophy, process, or practices approved by the Treasurer and Investment Committee at the time any Investment Manager was retained to serve the GSP.

- 1) Each Investment Manager shall be and remain registered and in investment adviser under the Investment Advising Act of 1940, as amended (“Advisers Act”);
- 2) Each Investment Manager shall select investments in conformity with criteria normally applied in its decision-making process and previously reviewed and approved by the Treasurer;
- 3) Any security purchased in compliance with the standards cited in this IPS or in the Investment Manager (s) contract, but no longer meeting Investment Guideline standards and/or causing portfolio non-compliance, may, in lieu of immediate sale, be reported by any Investment Manager (s) to the Treasurer and Investment Committee with background information and an intended future course of action. The Treasurer and Investment Committee may, upon review, approve temporary or indefinite retention or, in the Treasurer and Investment Committee’s best judgment, order disposition of the security and a return to full compliance. For any individual Investment Manager, securities retained under such circumstances shall constitute no more than five (5) percent of the market value of securities of the assets managed by the Investment Manager (5 percent “basket clause”);
- 4) Investment Managers may request in writing to the Treasurer waivers and/or exemptions to any provisions of this IPS. Investment Managers will provide a written report to the Treasurer of each instance of non-compliance with the IPS within five days of discovery of the non-compliant event or circumstance;
- 5) Any Investment Manager (s) managing active portfolios will be assigned indices or other types of benchmarks deemed suitable for their investment assignment and agreed upon with the Treasurer. As a general expectation investment performance of those Investment Managers should exceed their assigned benchmarks, net of fees, on an annualized basis over a full market cycle;
- 6) Any Investment Manager(s) managing index portfolios, should track the returns and volatility of the assigned index as a general expectation of investment performance;
- 7) Investment Managers are required to adhere to all obligation and guidelines detailed in the Investment Manager agreement between the firm and Treasury.

Equity

Investment Manager(s) are expected to purchase marketable equity securities listed on national securities exchanges. The structure of equity investments may be in the form of exchange-traded funds (ETFs), mutual funds, separately managed accounts and/or pooled trusts.

Investment Managers are given latitude in security selection subject to the following:

- 1) Permissible equity investments include, but are not limited to, convertible securities, publicly traded REITs and American Depositary Receipts;
- 2) Sector, industry and individual security diversification should be maintained;
- 3) No Investment Manager shall invest on a market value basis more than (the greater of):
a) five (5) percent of their assigned portfolio in the security(-ies) of a single corporation or group of directly affiliated corporations or, b) 1.5 times the weighting of a security(-ies) within an Investment Manager's equity benchmark;
- 4) No Investment Manager may use assigned funds to make or maintain an investment equaling or exceeding ten (10) percent ownership of the outstanding equity security(-ies) of a single corporation, or group of directly affiliated corporations, without the written consent of the Treasurer;
- 5) As an exception to the general prohibition against so-called alternative investment instruments, stock options may be utilized by an Investment Manager(s) managing U.S. equity securities in "covered" or hedging postures but not in "naked" or speculative postures;
- 6) Hedging to protect against currency impact upon a security position is permissible. Nevertheless, the purchase of speculative or "naked" currency contracts (i.e., currency trading or related risk taking), undertaken without a demonstrable exposed investment position to be hedged in a specific currency, is prohibited.

Fixed Income

Suitable fixed income investments include, but are not limited to, U.S. Treasury and Federal Agency securities, municipal securities, marketable debt securities of U.S. corporations, domestic and Yankee certificates of deposit and banker's acceptances, and commercial paper or other generally utilized money market or cash equivalent investments, including money market mutual funds meeting the quality standards delineated below. The structure of the investments may be in the form of direct purchases, ETFs, mutual funds, separately managed accounts and/or pooled trusts.

The effective duration of fixed income securities, said average including any investments considered to be reserve or cash equivalent assets specific to any fixed income portfolio, shall be no more than 25 percent greater nor fifty (50) percent less than the effective duration of the policy benchmark.

Up to 40% of the fixed income portfolio may be investments in structured products that include Mortgage Backed Securities (MBS), Commercial Mortgage Backed Securities (CMBS), and Asset Backed Securities (ABS), provided that CMBS issues shall not exceed 10% of the fixed income portfolio and ABS issues shall not exceed 10% of the fixed income portfolio.

Non-investment grade credit will be limited at 15% of the total fixed income composite.

MBS, limited to agency mortgage-backed securities, including agency collateralized mortgage obligations, should have a minimum credit rating of AAA and a maximum weighted average life of 40 years.

CMBS should have a minimum credit rating of AAA and a maximum weighted average life of 10 years.

Investment Managers are given latitude in security selection subject to the following:

- 1) No issuer, other than the U.S. Government or other Federal Agency securities, may represent more than five (5) percent of the total market value of the fixed income portfolio managed by any Investment Manager(s);
- 2) At no time shall margin or other leveraged transactions, short sales, forward or futures trading, or any form of portfolio hedging be employed in the management of fixed income investments without prior written approval of the Treasurer;
- 3) ABS, including, but not limited to, securities backed by credit card, auto and other assets should have a minimum credit rating of AAA and a maximum maturity of 5 years. No Investment Manager shall invest on a market value basis more than five (5) percent of their assigned portfolio in a single issuer.

Cash and Cash Equivalents

The following investments are permitted by this IPS:

- 1) U.S. Treasury and other government obligations that carry the full faith and credit guarantee of the United States for the payment of principal and interest;
- 2) Federal agency or U.S. government sponsored enterprises (GSE) obligations, participations or other instruments;
- 3) Commercial paper, including asset backed commercial paper, issued by corporations or other business entities organized in accordance with Federal or State law, if the issuing corporation or business entity is rated in the top short-term category by at least two NRSROs, e.g., A-1, P-1;
- 4) Bills of exchange or time drafts drawn on and accepted by a commercial bank, otherwise known as bankers' acceptances, if the bankers' acceptances do not exceed 180 days' maturity and the accepting bank is rated in the top short-term category by at least two NRSROs;

- 5) Non-rated Pennsylvania certificates of deposit are permitted but must be fully collateralized as to the principal amount plus any accrued interest for any amount above FDIC insurance. Treasury allows the following types of collateral:
 - a. U.S. Treasury and Government Agency Securities. Debentures must be fixed-rate and have a call or maturity date of four years or less. (102% of principal plus accrued interest)
 - b. Letters of Credit (@100% of principal plus accrued interest) purchased through the Federal Home Loan Banks;
- 6) Negotiable certificates of deposit (domestic or Yankee) or other evidences of deposit, with a remaining maturity of 397 days or less, issued by a nationally or State-chartered bank, a Federal or State savings and loan association or a State-licensed branch of a foreign bank. For obligations with a maturity of one year or less, the debt obligations of the issuing institution or its parent must be rated in the top short-term rating category by at least two NRSROs. For obligations with a maturity in excess of one year, the senior debt obligations of the issuing institution or its parent must be rated at least “A” or its equivalent by at least two NRSROs;
- 7) Investment-grade obligations of state, provincial and local governments and public authorities;
- 8) Fully collateralized Repurchase agreements collateralized in compliance with this IPS, governed by a SIFMA Master Repurchase Agreement and with a maximum maturity. Capital project funds may be invested in a single flex repurchase agreement with a maximum stated maturity that shall be matched to the expenditure plan;
- 9) SEC registered money market mutual funds;
- 10) Local government investment pools.

Real Estate

Real estate assets may be held in private real estate investments, which will be implemented through open-end commingled fund vehicles. Direct investment in real estate by the Fund is prohibited.

Pooled real estate investment funds will diversify their exposures by property type and location. The manager(s) should diversify in an attempt to limit exposure to any single property type or to any single geographic area. It is expected that at various points in time, the portfolio may be more heavily exposed to a single property type or location by virtue of opportunities in the market that are expected to generate excess return above long-term expectations. The diversification of the real estate portfolio will be compared to the composition of the NCREIF ODCE Index.

Limited use of leverage is permissible within pooled real estate investment funds only upon the express permission of the Treasurer.

REITs

Real estate assets may be held in publicly traded Real Estate Investment Trusts (REITs) and servicing companies.

Alternatives

Long-term pools may include alternative assets, such as private equity, private debt, venture capital and liquid risk premia, etc. The structure of the investments may be in the form of mutual funds, pooled trusts and/or limited partnerships. These investments are intended to provide increased diversification and may reduce the overall risk profile of a portfolio. Alternatives typically exist outside of well-established public markets and are often only available to large institutional investors. Due to their funding structures, alternative assets typically involve reduced liquidity, but in exchange may offer higher risk-adjusted return potential as compensation for the forfeiture of liquidity. Consideration should be given to the size that such allocations may comprise in times of market stress to ensure that the allocation to such categories does not exceed the intent of the IPS and negatively impact the ability to meet cash needs.

An alternative investment manager's portfolio will not be subject to the provisions of Prohibited Investment Activity—save for PA Act 44 of 2010—or any limitations on the proportions of any single holding within a portfolio, so long as such investments are made in accordance with the investment strategy defined in the investment manager's contract.

Derivatives

Treasury permits managers to utilize derivative strategies, provided that the strategy is clearly defined and articulated fully, in accordance with the relevant guidelines of this section of the IPS and approved in advance by the Treasurer or his designee(s). Such approval must be provided in writing and will typically be included in the contractual documents governing the relationship with the manager.

The use of derivative strategies is designed to improve the potential for diversification, and in some cases, remove unwelcome risk through an appropriately and properly hedged position. Derivative strategies may be employed to reduce risk through hedged positions or to engage in trades on the public market of a representation of an underlying illiquid asset.

Options

Treasury permits managers to utilize options-writing strategies, provided that the strategy is clearly defined and articulated fully, in accordance with the relevant guidelines of this section of the IPS, and approved in advance by the Treasurer or his designee(s).

Any such strategy must be transparent and fully-collateralized by high-quality short-to-intermediate fixed income securities for selling put options or the underlying equity and/or futures contracts for selling call options. These strategies are intended to capture the historical premium, or spread, between implied volatility and realized volatility within asset markets.

Portfolio Risk Hedging

Portfolio investments designed to hedge various risks including volatility risk, interest rate risk, etc. are allowed to the extent that the Investments do not create direct portfolio leverage. One example of a hedge vehicle is an exchange traded fund (“ETF”) which takes short positions.

Prohibited Investments

Treasury prohibits investing in the following:

- Equities purchased directly,
- Derivatives used for speculative purposes,
- Trading on margin,
- Commodities,
- Private placements (except 144a securities),
- Direct Real estate properties,
- Interest-Only (IO), Principal-Only (PO), and Residual Tranche CMOs, and Letter stocks,
- Protecting Pennsylvania’s Investment Act (Act 44 of 2010) – Securities associated with State Sponsored Terrorism.

Managers pursuing a strategy including the use of derivatives may be specifically authorized to invest in certain prohibited asset categories—save for PA Act 44 of 2010. Such exemptions should be contained in the contract for that strategy.

Responsible Investing

Subject to the Standard of Care and the Treasurer’s investment authority, Treasury manages significant assets for programs with extended investment horizons. The longer investment horizons of these programs obligate Treasury to enlarge its investment analysis to include conventional fundamental factors as well as strategic factors that could potentially affect an investment’s long-term economic performance. There is growing recognition that factors like Environmental, Social and Governance (ESG) considerations can have a significant bearing upon an investment’s long-term value and performance. Consistent with its Prudent Person standard, Treasury will incorporate analysis of such strategic factors into its investment decision-making when, under the Treasurer’s discretion, there is a reasonable basis for identifying a consideration that may materially impact the performance of an asset during the time horizon for which the asset is held.

As an index investor in public markets, Treasury will pursue an approach of engagement, rather than divestment, to mitigate identified risks.

Where possible and subject to limits established by the Strategic Asset Allocation, funds may also be invested to provide additional benefits to the Commonwealth or its citizens, provided that such investments meet all of Treasury’s investment criteria for similar investments, do not compromise the risk/return characteristics of the portfolio in which they are invested, and otherwise meet the prudent person standard.

Mutual and Other Commingled Funds

Given the nature of mutual and other commingled funds, it is recognized that there may be deviations between the objectives, intent or specific requirement of this IPS and the stated objectives, intent or content of any mutual or other commingled fund. However, every effort shall be made, to the extent practical, prudent and appropriate, to select mutual or other commingled funds that have investment objectives and policies that are consistent with this IPS.

REVIEW PROCEDURES

Policy

The Treasurer, Committee and the Investment Consultant shall perform an annual review of this IPS and, as needed, recommend appropriate modifications. The review should ensure that:

- There is a risk budget that specifies tolerable volatility, downside risk and illiquidity and the associated policy benchmark;
- There is a diversified policy benchmark that is composed of investible index funds;
- Systematic risk calculations are defined, and targets established;
- Idiosyncratic risk limits are defined;
- There is a specified rebalancing policy.

Investment Performance

Total Fund and Investment Manager investment performance will be reviewed monthly on a gross-of-fees and net-of-fees basis. Returns shall be compared to returns of a peer universe of comparable professionally managed portfolios or mutual funds as well as to appropriate benchmark indices. Attribution analysis shall be performed for each investment manager, as appropriate, to analyze the drivers of return.

In addition to performance, holding and exposure analysis shall be performed quarterly and reviewed in comparison to appropriate benchmark indices. This will be done at the individual manager and asset class composite levels.

It is expected that the investment performance of any Investment Manager(s) will meet or exceed the Investment Objectives previously identified in this IPS. Shorter term results will be regularly reviewed. Any Investment Manager(s) failing to keep pace with stated performance norms may be placed on probation and evaluated as to whether they will be retained.

The Treasurer and Investment Committee reserves the right to recommend and terminate a relationship with any Investment Manager(s) at any time. In addition, the Treasurer and Investment Committee reserve the right to remove assets, in part, at any time.

Risk Metrics

At least quarterly, the Treasurer, Investment Committee and the Investment Consultant will closely monitor volatility, downside risk and illiquidity risk. Where appropriate, stress tests will be conducted to ensure that these risks are acceptable and consistent with the GSPs' investment objectives and risk tolerance. Stress tests will be done using stochastic and deterministic modeling.

Asset Allocation

Asset allocation will be reviewed at least annually, or more frequently should the changing circumstances dictate a review of investment objectives and/or risk tolerance or if capital markets moves warrant. Where appropriate, an asset allocation study will be conducted as a part of this review process.

Fees

All management fees, trading costs, and other program expenses will be monitored, carefully controlled, and publicly reported. Investment manager fees, costs and expenses will be reviewed on a quarterly basis and compared to industry averages. The Treasury believes that reducing costs will enhance expected return without increasing risk.

APPENDIX A

Asset Allocation Guidelines: PA 529 Guaranteed Savings Plan - (GSP)

Asset Class	Minimum %	Target %	Maximum %	Benchmark
Equities		50		
Domestic	25	30	35	Russell 3000
International	15	20	25	MSCI ACWI ex US IMI (net)
Alternatives		23		
Absolute Return	3	8	16	HFRI Fund of Funds Composite +200bps
Private Equity	0	4	10	Russell 3000 + 300bps
Real Estate	5	10	15	NCREIF Property Index
Fixed Income		25		
Bonds	20	25	30	BbrgBarc's Aggregate
Cash		2		
Cash Equivalent	1	2	3	ML 90 Day T-Bill