TEXAS PENSION
REVIEW BOARD

Investment Policy Statement Example

Overview

The Guidance for Developing an Investment Policy Statement, adopted by the Pension Review Board (PRB), provides a description of policies and sections that systems are encouraged to include in their investment policy statement (IPS), as applicable. This IPS example is an additional reference tool provided by the PRB to demonstrate what each type of policy might look like in an IPS. Specific requirements included below (including defined roles and responsibilities, defined percentages, etc.) are not intended to be prescriptive but to help inform users about the types of elements that should be included in an Investment Policy. In addition, ~~T~~**this document is not intended to be a fully functioning IPS since certain policy sections have been shortened for brevity and each IPS should be tailored to each system's needs**. Furthermore, this IPS example is not intended to replace any system's existing IPS, but systems may use it as a starting point of a new IPS or to develop new policy language to update an existing policy.

This document contains example language from industry entities such as the Government Finance Officers Association (GFOA) and the Chartered Financial Analyst Institute (CFAI). Specific references are provided at the end of this document. The PRB also used policy language from actual IPS documents adopted by several Texas public retirement systems including, but not limited to, the Texas Municipal Retirement System (TMRS), Texas County and District Retirement System (TCDRS), Teacher Retirement System of Texas (TRS), City of Austin Employees' Retirement System (COAERS), Irving Firemen's Relief and Retirement Fund, Fort Worth Employees' Retirement Fund, City of El Paso Employees Retirement Trust, and Abilene Firemen's Relief and Retirement Fund, among others. In addition, a glossary of common terms used in IPS documents can be found at the end of this example IPS as an additional resource.

Example Language

I. Fund Mission

The investment policy statement (IPS) governs the pension system investment program and is established to provide a framework for management of those assets to conform with governing legislation and other legal requirements. This IPS outlines the foundational beliefs, purpose, objectives, benchmarks, restrictions, risks, and responsibilities of the board, staff, investment managers, service providers, sponsoring entity, members, and other stakeholders in how they impact the investment program.

The board has a fiduciary duty to the members and beneficiaries of the system to prudently allocate contributions from the sponsoring governmental entity and system members in accordance with the IPS to pay future benefits. The investment program relies on incoming funds in accordance with the established funding policy to meet a reasonable investment return assumption that matches future benefits.

II. Roles and Responsibilities

All parties involved in the investment program will act responsibly in accordance with their fiduciary duty and standards of care.[1]

Prudence: The standard of prudence to be used by investment officials shall be the Uniform Prudent Investor Act standard and shall be applied in the context of managing an overall portfolio. Investment officers acting in accordance with written procedures, this investment policy, and exercising due diligence, shall be relieved of personal responsibility for an individual security's credit risk or market price changes, provided deviations from expectations are reported in a timely fashion and the liquidity and the sale of securities are carried out in accordance with the terms of this policy.

Ethics and Conflicts of Interest: Officers and employees involved in the investment process shall refrain from personal business activity that could conflict with the proper execution and management of the investment program, or that could impair their ability to make impartial decisions. Employees and investment officials shall disclose any material interests in financial institutions with which they conduct business, in accordance with applicable laws. They shall further disclose any personal financial or investment positions that could be related to the performance of the investment portfolio. Trustees and investment officials shall refrain from undertaking personal investment transactions with the same individual with whom business is conducted on behalf of the system.

1. The **board of trustees** is ultimately responsible for the administration of the system and its investment program assets following governing statute and applicable law. The board establishes investment objectives and policy, contracts with experts for advice and expertise, oversees the distribution of benefit payments, actively monitors investment performance, and as part of its fiduciary duty, ensures any delegated authority of investment assets are invested in accordance with the Prudent Investor Act. The board's fiduciary duty can be delegated to service providers but the board is ultimately responsible for monitoring the investment program. The board:
   a. Establishes the fund mission, investment objectives, and investment philosophy consistent with the funding policy.
   b. Creates and maintains a written IPS consistent with the identified mission and objectives and applicable laws.
   c. Approves an investment asset allocation that diversifies the assets to reduce risk of loss.
   d. Monitors and evaluates the system's investment performance and compliance with provisions outlined in the IPS or manager contracts and all applicable state or federal laws.
   e. Efficiently manages the costs associated with implementation of its investment program.
   f. Periodically reviews the performance of all service providers that directly report to the board including investment staff, investment managers, investment consultants, and custodians.

2. The **investment consultant** is hired by, and reports to, the board. The consultant provides advice and expertise on all investment-related matters, including:
   a. Developing investment objectives and relevant policies.

[1] Sec. 802.203, Texas Government Code

   b. Determining optimal asset allocation targets and investment strategies.
   c. Leading investment manager searches, selection process, monitoring, and termination following the policies outlined in the IPS.
   d. Providing monthly investment performance reports net of fees and liquidity status.
   e. Providing quarterly reviews of investment fees incurred.
   f. Providing the board with educational opportunities to improve trustees' investment knowledge.
   g. Reviewing the IPS annually and providing the board any suggestions for improvement.

3. The **investment managers** are retained by the board to manage or advise on specific strategies and asset classes, through a manager search process and according to specific criteria as set forth in this IPS. The manager must be registered under the Investment Advisers Act of 1940 and remain in good standing with all applicable laws. Investment managers:
   a. Manage allocated assets in accordance with the policy guidelines and objectives as set forth in the investment management agreement between the manager and the board.
   b. On a quarterly basis, provide a written report affirming compliance with the policy guidelines and any separate written agreement with the board.
   c. On a quarterly basis, provide a report detailing the performance of allocated assets, a forecast of the market and economy, and portfolio analysis of invested assets.
   d. Provide immediate written notice to the system of any significant market related or non-market related event that has impacted or may impact investment objectives.

4. The **custodian bank** serves as the master custodian of the system's assets and is responsible for maintaining the official book of record under the supervision of the board, calculating investment performance, and using the system's assets in accordance with the terms of a separate agreement.

III. Investment Objectives

The investment objective is to maximize the probability of achieving the actuarial return assumption without exceeding the risk tolerance specified by the board. The actuarial consultant's recommended return assumption for the system should be created after consulting with the system's investment consultant to determine appropriate expectations surrounding long-term investment returns for a well-diversified investment portfolio considering system future liabilities.

1. The investment assets nominal net of fee return should meet or exceed the return assumption of 7 percent over a rolling five-year period. The total fund portfolio performance will be compared using the relative benchmarks and asset weights specified in the IPS.
2. The actively managed investment performance should net return 1 percent alpha (excess return over the specified benchmark).

IV. Liquidity

The investment portfolio shall remain sufficiently liquid to meet all operating requirements that may be reasonably anticipated. This is accomplished by structuring the portfolio so that securities mature concurrent with cash needs to meet anticipated demands (static liquidity). Furthermore, since all possible cash demands cannot be anticipated, the portfolio should consist largely of securities with active secondary or resale markets (dynamic liquidity). Alternatively, a portion of the portfolio may be placed in money market mutual funds or local government investment pools which offer same-day liquidity for short-term funds.

The investment consultant is responsible for monitoring and providing a liquidity report monthly to the board. As liquidity can vary by asset class and investment vehicle, the board shall limit portfolio asset investments based on redemption periods. The consultant will provide notice of known distribution liquidity needs to the investment managers in advance.

1. No more than 60 percent of the portfolio can be invested in vehicles that provide liquidity on a greater than annual basis.
2. No more than 20 percent of the portfolio can be invested in vehicles that provide liquidity on a greater than three-year lock-up period.

V. Risk Tolerance

The investment consultant will establish a framework for measuring the total fund portfolio and specifically the policy benchmarks for asset classes and investment managers. At a minimum, this framework must include a quantitative risk assessment for downside risk (e.g., value-at-risk (VaR), estimated shortfall, or various parametric and non-parametric statistics).

Investments shall be undertaken in a manner that seeks to ensure the preservation of capital in the overall portfolio. The objective will be to mitigate market risk, credit risk, inflation risk, and interest rate risk. These risk factors are further evaluated and discussed in the routinely conducted asset allocation and asset liability studies.

1. Market Risk

   The system will minimize market risk, which is the risk that prices for stocks, bonds, and other assets may fall, by:

   - Limiting investments to the types of securities listed in Section VI of this investment policy.
   - Pre-qualifying and conducting ongoing due diligence of the financial institutions, broker/dealers, intermediaries, and advisers with which the system will do business in accordance with Section VI.
   - Diversifying the investment portfolio so that the impact of potential losses from any one type of security or from any one individual issuer will be minimized.

2. Credit Risk

   The system will minimize credit risk, which is the risk of loss of all or part of the investment due to the failure of the security issuer or backer, by:

   - Limiting investments to the types of securities listed in Section VI of this investment policy.
   - Pre-qualifying and conducting ongoing due diligence of the financial institutions, broker/dealers, intermediaries, and advisers with which the system will do business in accordance with Section VI.

- Requiring a minimum credit quality for certain investments and counterparties in accordance with Section VI.
- Diversifying the investment portfolio so that the impact of potential losses from any one type of security or from any one individual issuer will be minimized.

3. Interest Rate Risk

The system will minimize interest rate risk, which is the risk that rising of falling interest rates will reduce the value of the system's assets, by:

- Structuring the investment portfolio so that security maturities match cash requirements for ongoing operations, thereby avoiding the need to sell securities on the open market prior to maturity
- Investing operating funds primarily in shorter-term securities, money market mutual funds, or similar investment pools and limiting individual security maturity as well as the average maturity of the portfolio in accordance with this policy.

VI. Investment Assets

The board recognizes that the asset allocation decision will be the single most important factor determining the long-term performance of the fund. The board therefore wishes to retain complete discretion with respect to the asset allocation decision. Investment managers are expected to manage the funds for which they have been allocated at their discretion within the constraints of their mandates.

The current needs of the fund require a diversified portfolio, and the asset allocation percentages specified in this section are determined by the board as the optimal allocation for the fund. The determination of the optimal allocation is reviewed annually and is based on the advice of the investment consultant and available asset-liability studies. ~~that~~This should be performed generally every 3-5 years or after consulting with the actuary and investment consultant for appropriateness. The fund's time horizon is long-term, and the allocation considers the various preferences, risk tolerances, return objective, and the desired diversification from this IPS.

Strategic Asset Allocation

Asset Class	Minimum Range	Strategic Target	Maximum Range
Public Equity	40%	50%	60%
Fixed Income	15%	30%	40%
Real Assets	5%	10%	15%
Alternative Investments	5%	10%	15%
Cash	0%	0%	5%

Rebalancing Policy

The goal of the rebalancing policy is to maintain the board-approved strategic allocation and its risk-to-return profile. The board has delegated rebalancing to the investment consultant which will review allocation levels for rebalancing at least quarterly.

Authorized Investments

1. **Public Equity**
   a. Investments in public equity securities must be traded on a national exchange or electronic network.
   b. No more than 5 percent of the system's total assets may be invested in the common stock, capital stock or convertible stock of any single issuing company. Additionally, the aggregate investment in any single company shall not exceed 5 percent of the outstanding capital stock of that company.
   c. Investable options:
      i. Index fund, mutual fund, common stocks, exchange traded funds (ETFs), preferred stocks, or broad market benchmarks
      ii. Active and passive commingled funds
      iii. Separately managed accounts for actively managed, rules-based, passively managed, or custom strategies.
      iv. Other equity instruments including exchange-traded futures, options, or other derivatives are permitted only with approval from the board.
2. **Fixed Income**
   a. Domestic and Yankee Bonds, mortgages and mortgage-backed securities, asset-backed securities, global corporate bonds, global sovereign debt, fixed income futures, interest rate futures.
   b. No more than 5 percent of the fund' total assets may be invested in the securities of any single corporate issuer.
   c. All securities must be rated at least B- or equivalent.
   d. Competitive bids shall be obtained from at least three brokers or financial institutions on all purchases and sales of investment instruments transacted on the secondary market if possible.
3. **Real Assets**
   a. Inflation-linked securities, commodities, REITS, real estate, listed infrastructure, natural resources.
4. **Alternative Investments**
   a. Private equity, hedge funds, private real estate
5. **Cash**
   a. Custodian bank STIF vehicles, AAA rated money market mutual funds, US Treasuries with maturity less than 365 days.

<u>Alternative Investment Legal Requirements</u>

Due to the unique nature of alternative investments, all investment entry documents, and any accompanying side letters will be reviewed by the system's contracted legal counsel to determine if the documents are sufficient for the system's legal requirements and needs. An alternative investment may not be made if certain legal requirements cannot be satisfied and the system is not willing to assume the legal exposure.

<u>Alternative Valuation Policy</u>

Due to certain alternative investment pricing limitations and complexities, the board will delegate to the investment consultant confirmation of compliance with industry best practice valuation procedures on an annual basis.

For all real estate investments, the investment consultant will confirm compliance with industry best practices. These investments should preferably have quarterly valuations, but valuations must be conducted no less than semi-annually. Exceptions to this policy can be approved by the board, such as for non-stabilized properties which include but are not limited to those under construction or renovation as well as land held for future expansion or entitlement. Because of the complexity and uniqueness of each alternative investment, the policies below are not all inclusive and the investment consultant may identify additional policies according to their expertise that will be maintained as an external document to the IPS available to the board.

1. Valuation Requirements – The scope must be sufficient to demonstrate that the value of each property held has been appropriately determined. The scope should include, but not be limited, to the following:
    a. Must have and follow their own written valuation policies.
    b. Must notify the system in writing if the internal valuation policy is changed.
    c. Must be appropriate, established valuation techniques.
    d. Valuation process oversight, review, and approval must be independent of the portfolio manager with approval so documented.
    e. Sufficient documentation for real estate auditors to recompute the calculations during audit.
    f. Reconciliation of any significant variance from the previous appraisal.

VII. Proxy Voting

The board by default does not intend to invest in investment vehicles that provide proxy voting rights; however, when applicable, the investment manager is granted the authority to represent the system and shall vote shares in the best interest of the fund and its beneficiaries. A listing of all proxy votes showing the date each proxy was voted, the issue as to which each proxy was voted, and how each proxy was voted shall be provided to the board at least annually. If a proxy was not voted, the investment manager will provide a written statement indicating the reason that a particular proxy was not voted to the board as soon as reasonably practicable.

VIII. Performance Evaluation

Performance measurement will be based on total rate of return and will be monitored over a sufficient period to reflect the investment expertise of the manager(s) over one full market cycle, or five years, whichever is less. Performance results and evaluation relative to objectives will be reported to the board on a quarterly basis. A time-weighted return formula (which minimizes the effect of contributions and withdrawals) will be utilized in performance calculations. For alternatives, time-weighted returns will be used for consolidated reporting; however, internal rates of return and comparison to relevant peer groups and vintages will be used for evaluation of managers.

Asset Class Benchmarks

Asset Class	Policy Benchmark	Asset Class Goal	Strategic Target
Public Equity	MSCI ACWI IMI (Net)	Benchmark	50%
Fixed Income	Bloomberg Barclays US Aggregate Bond Index	Benchmark	30%

Real Assets	Real Estate – (NCREIF-ODCE Index) Real Assets – (Rollup of underlying manager benchmarks)	Real Estate – (CPI+5%) Real Assets – (CPI+4%)	10%
Alternative Investments	Hedge Funds – (HFRI FoF) Private Equity – (Rollup of underlying manager benchmarks)	Russel 3000 + 3%	10%
Cash	30-Day T-Bill	Benchmark	0%

Marking to Market

The market value of the portfolio shall be calculated at least quarterly [or monthly] and a statement of the market value of the portfolio shall be issued at least quarterly [or monthly]. This will ensure that review of the investment portfolio, in terms of value and price volatility, has been performed consistent with the GFOA Recommended Practice on "Mark-to-Market Practices for State and Local Government Investment Portfolios and Investment Pools." In defining market value, considerations should be given to the GASB Statement 31 pronouncement.

Quarterly Report

Each quarter, the investment consultant will prepare a report that compares the performance of the total investment fund against the benchmarks for the preceding quarter, fiscal year-to-date and annualized periods. The report shall provide the current allocation to each strategy and asset class. The report will also provide a synopsis of the performance of each active manager and a list of currently scheduled commitments or redemptions, if any, as well as any activity for the preceding quarter. Performance attribution analysis shall be provided that will show the impact of any asset class divergences over the past quarter and year as well as the performance of active managers.

The investment consultant should provide the report to the board and any investment committee. The report will include the following:

1. Listing of individual securities held at the end of the reporting period including type, acquisition cost, book cost, and market value.
2. Realized and unrealized gains or losses resulting from appreciation or depreciation by listing the cost and market value of securities over one-year duration that are not intended to be held until maturity (in accordance with Governmental Accounting Standards Board (GASB) requirements).
3. Average weighted return on investments as compared to applicable benchmarks.
4. Percentage of the total portfolio which each type of investment represents.
5. A statement that the investment portfolio is compliant with the investment policy and is meeting the investment policy objectives.

Investment Expenses

Each quarter, the investment consultant will prepare a report that reviews both the direct and indirect expenses against relevant benchmarks and peers for the preceding quarter, fiscal year-to-date and one-year. Total fund expenses compared to peers will be reviewed annually with recommendations for improvements or confirmation of reasonable expenses.

The report must show each investment's expenses, both direct and indirect, accrued or estimated for the applicable period if available and not cost prohibitive. Alternative investments will show the most recent incurred expenses. The expenses incurred must be aggregated based on the type of fee incurred (e.g., management fee paid from trust, management fee netted from returns, commission/brokerage fees, and profit share carried interest) and by asset class. The investment consultant should raise any concerns about fee tracking, complexity, and any cost prohibitive concerns with the board so that performance and expenses are adequately tracked in a cost effective manner.

IX. Investment Manager Selection and Monitoring

To better ensure that managers will successfully manage to the system's objectives for their specific mandates, the board supports disciplined processes for manager selection, monitoring, watch list, and termination. In addition, the manager selection process is intended to protect against unethical behavior including bribery and corruption and contact between the board and managers during the search process that is related to the pending selection and intended to influence the search outcome. Contact will be limited during the search process and directed through the investment consultant or third-party provider assisting in the investment manager search. Direct inquiries by managers to individual board members regarding the investment program will be referred to the investment consultant. As the investment needs of the system are ever-changing, so are the criteria appropriate for the selection of investment managers. Additional criteria and/or amendments to these criteria may be made by the board when appropriate.

Investment Manager Selection Criteria

1. Manager candidates should have a real-time performance record of five years or more for the specific investment product that the system is seeking. However, recognizing that past performance is not indicative of future results and the fact that attractive opportunities may be available without this target, qualitative exceptions to this rule may be adopted by the board.
2. Manager candidates must have demonstrated a long-term record of superior performance.
3. Manager candidates must have registered with the U.S. Securities and Exchange Commission (SEC) as investment advisors or be exempt from registration.
4. Manager candidates should have a material amount of assets under management for that specific investment product unless a waiver is authorized by the board.

Alternative Investment Manager Selection Criteria

1. The general partners or sponsors of alternative investment funds must possess the management skill and industry knowledge to exercise influence or have an impact on the portfolio companies that the funds invest.
2. The contract terms must not grossly favor the general partners over the limited partners (investors).
3. Capital commitment by the general partners should be significant.

Watch List

A manager retention decision is very important to the continued success of a pension system's investment strategy. The Watch List Policy applies to managers in the following asset classes: public equities, fixed income, and real assets. The watch list may not necessarily lead to any needed action but rather is intended to place a manager under increased scrutiny based on failure to meet quantitative or qualitative standards.

Quantitative Factors Resulting in Watch List Additions

Several factors may contribute to a manager's over- or under-performance at any given time, such as: market dynamics, investment skill, and/or pure chance. Given this uncertainty, it is unwise to mandate termination purely for lagging performance at any specific point. The following represent guidelines to be used in making a recommendation to the Board with regards to placing a traditional asset class manager on the watch list:

Test 1 If the manager's rolling, five-year return (net of fees) falls below the rolling, five-year benchmark return for three consecutive quarters.

Test 2 If the manager's rolling, five-year return (net of fees) for three consecutive quarters ranks in the bottom third of the investment consultant's peer group universe.

At the discretion of the board, a manager may be included on the watch list based on these criteria. The board may place the manager on the watch list at any time. Once a manager is placed on the watch list for performance reasons, performance will be closely monitored and scrutinized. All the qualitative criteria should be reviewed along with an explanation of the underperformance from the manager. Additional actions could include meetings with the manager and a formal re-interview of the manager by the board.

The manager will continue to be closely monitored during the watch list period and will remain under scrutiny until the board and investment consultant agree that the quantitative and qualitative criteria for removal from the watch list have been satisfied. Generally, one period of a rolling, five -ear return above the benchmark or above the bottom third of the investment consultant's peer group universe following placement on the watch list will be required for a manager's removal from the watch list for performance reasons. The observation process will at this point begin again.

Qualitative Factors Resulting in Watch List Additions

A significant and potentially adverse event related, but not limited, to any of the following qualitative issues or events, will be considered a reason to add the manager to the watch list. Examples include, but are not limited to, these events:

- Violation of investment guidelines
- Deviation from stated investment style and/or shifts in the firm's philosophy or process
- Turnover of one or more key personnel
- Change in firm ownership or structure
- Significant loss of clients and/or assets under management
- Significant and persistent lack of responsiveness to client requests
- Litigation

- Failure to disclose significant information, including potential conflicts of interest
- Chronic violations of the system's investment policy
- Any other issue or situation of which the board, the investment consultant and/or trustees become aware that is deemed material

Should any of these events occur, the recommended courses of action are similar to those contained in the preceding subsection (Quantitative Factors Resulting in Watch List Additions). After an assessment of the nature of the problem or potential problem, the investment consultant should then make a recommendation as to the appropriate course of action at the meeting after notification for the board to make a final determination of any action to take.

Because of the subjective nature of qualitative analysis, both additions and removals to and from the list should be handled by the investment consultant and the board on a case-by-case basis.

Active Monitoring Approach

The board in consultation with the investment consultant will review periodically on the investment monitoring approach using a watch list vs. other potential options such as active monitoring.

X. Ethics

The board recognizes the responsibility and fiduciary duty it has to the members and beneficiaries of the system and requires all trustees, service providers, and fiduciaries to the system to always act ethically in accordance with the system's external Ethics Policy.

XI. Glossary And Resources

Active Management – A process employed by the system to produce better returns than those of passively managed indexed funds by use of, for example, investment managers, investment advisors, ETFs, or TAA, which typically rely on analytical research, quantitative models, forecast, regime analysis, judgment and experience in making investment decisions.

Asset Liability Management Study (ALM Study) – A comprehensive periodic study commissioned by the board to examine various aspects of the system's assets and liabilities including, but not limited to, asset allocation and investment strategies along with key asset and liability risk exposures.

Cash (Cash and Cash Equivalents) – An asset class characterized by liquidity of one year or less and described in greater detail in Section VI of this IPS as an investment category.

Commingled Fund – An investment fund consisting of assets from several accounts, which may include non-system accounts, that are blended so investors may benefit from economies of scale, lower trading cost, and diversification. Commingled funds are not publicly traded.

Exchange-Traded Fund (ETF) – A marketable security that tracks an index, a commodity, bonds, or a basket of assets like an index fund, and can be traded like a common stock on an exchange.

Fiscal Year (FY) – The period unique to the system for annual reports.

Investment Management Agreement (IMA) – A formal agreement between an investment manager and the system stipulating the terms under which the investment manager is authorized to act on behalf of the system to manage the assets listed in the agreement. The agreement establishes the extent to which the investment manager may act in a discretionary capacity to make investment decisions based on a prescribed strategy.

Investment Manager – An entity that manages system assets, usually in a separately managed account, with discretionary authority to invest within the confines of a system-mandated investment strategy or similar system directive, and where the account holdings are typically maintained in the custody of the fund's custodian bank.

Investment Policy Statement (IPS) – The investment policy statement of the system as approved by the board/investment committee that provides for the system's general investment goals and objectives.

Investment Program (IP) – A system for the investment and administration of the system's assets as outlined in the system's IPS and all applicable laws and regulations.

Internal Rate of Return (IRR) – The annual rate of growth for an investment that nets all expected future cash flows to zero. Often used in alternative investments that have large cash outflows during the beginning of the investment cycle with expected return distributions experienced in the future.

Market-Based Strategies – Investment strategies which are traded on public markets and are based on publicly traded securities. Market based strategies are highly liquid and valued daily.

Net Asset Value (NAV) – Market value per unit of the investment vehicle. For public markets, market value is determined daily. For private investments, market value is estimated periodically.

Passive Management (Indexing) – The process of buying and holding a well-diversified portfolio designed to produce substantially the same returns as a specified market index.

Peer Group – A set of investors (funds or managers) whose returns are used for a comparison with those of a given fund to determine how the given fund ranks among similar funds.

Performance Appraisal – The part of the performance evaluation process that attempts to determine whether the investment returns over an evaluation period have been achieved by skill or luck.

Performance Attribution – The part of the performance evaluation process that identifies sources of returns for a portfolio relative to a designated benchmark over an evaluation period.

Performance Evaluation – A component of the investment process involving periodic analysis of how a portfolio performed in terms of both returns earned and risks incurred.

Performance Measurement – The part of the performance evaluation process that calculates a portfolio's rate of return over an evaluation period.

Policy Benchmark – The specific standards against which the performance of securities held by the fund in certain asset classes can be measured. The specific benchmarks are detailed under Section VI - Investment Assets.

Private Investment – Strategies in which the system invests (typically through an interest in a limited partnership, limited liability company, or through some other binding agreement) in private equity, debt, real assets, or other assets not listed on a public exchange.

Risk Appetite – The amount of risk that the system is willing to take to meet its strategic objectives.

Risk Factors – Underlying characteristics of the portfolio that define risk, return and correlation.

Risk Tolerance – The degree of variability of investment returns relative to the assigned benchmark that the system is willing to accept.

Sharpe ratio – A risk-adjusted measure of portfolio performance in which risk is measured by the standard deviation of the portfolio's returns. It is the annualized ratio of the excess return (the actual return less the risk-free return) of the portfolio divided by the portfolio's standard deviation over a specified period.

Strategic Asset Allocation (SAA) – A portfolio strategy that sets long term target allocations for various asset classes and includes periodic rebalancing to maintain these allocations.

Tactical Asset Allocation (TAA) – A portfolio strategy that shifts, for a short period of time, the percentage of assets held in various allocation categories to capitalize or manage risk on market or economic environments.

Time Weighted Return (TWR) – A method for calculating investment returns such as an annualized return using the geometric mean of returns each year over a specified period.

Tracking Error – A measure of deviation between a portfolio's return and the benchmark or index it was meant to mimic or beat.

Reference Materials

Chartered Financial Analyst Institute (CFAI) Materials

J Bailey and T Richards,. *A Primer for Investment Trustees: Understanding Investment Committee Responsibilities* (2017).
D Chambers, K Black, and N Lacey, *Alternative Investments: A Primer for Investment Professionals* (2018).
M Drew and A Walk, *Investment Governance for Fiduciaries* (2019).
Scott Stewart, *Manager Selection* (2013).

Government Financial Officers Association (GFOA) Materials

GFOA Best Practice, *Adopting Financial Policies* (Sept. 30, 2015). https://www.gfoa.org/materials/adopting-financial-policies

- GFOA Best Practice, *Investment Policies for Defined Benefit Plans* (Sept. 30, 2017). https://www.gfoa.org/materials/investment-policies-for-defined-benefit-plans
- GFOA Best Practice, *Investment Fee Guidelines for External Management of Defined Benefit Plans* (Sept. 28. 2018). https://www.gfoa.org/materials/investment-fee-guidelines
- GFOA *Alternative Investments Checklist*
- GFOA *Sample Investment Policy*