



# Investment Policy Statement

Amended – February 17, 2022

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## **1. Purpose**

The Investment Policy Statement establishes guidelines to enable the Pension Reserves Investment Management Board (PRIM) to effectively manage the Pension Reserves Investment Trust (PRIT Fund). This policy allows for sufficient flexibility to capture investment opportunities while providing guidelines to ensure that sufficient prudence, care, and discipline are utilized in the execution of the investment program.

## **2. Legal Authority and Mission Statement**

The PRIM Board oversees the PRIT Fund, and both were established by the General Court (Chapter 661 of the Acts of 1983) to address the unfunded pension liability of the public employee's retirement systems of the Commonwealth of Massachusetts (Commonwealth). Subsequent legislation (Chapter 315 of the Acts of 1996) merged the assets previously held in the Massachusetts State Teachers' and Employees' Retirement Systems Trust with the PRIT Fund under the authority of the PRIM Board. Additionally, the PRIT Fund serves as an investment vehicle for the retirement systems of Massachusetts authorities, counties, cities, and towns that invest in the PRIT Fund.

The mission of the PRIT Fund is to ensure that assets to support current and future pension benefit obligations are invested in a cost-effective manner. PRIM seeks to maximize the total return on investments within acceptable levels of risk for a public pension fund.

The nine-member PRIM Board has authority to employ an Executive Director, outside investment managers, custodians, advisors, and others it deems necessary; to formulate policies and procedures; and to take such other actions as necessary and appropriate to manage the assets of the PRIT Fund. See Massachusetts General Laws (M.G.L) ch. 32, sec. 23(2A) (e).

## **3. Fiduciary Standards**

As trustees of the PRIT Fund, members of the PRIM Board are fiduciaries. The PRIM Board members fiduciary standards are guided by M.G.L ch. 32, sec. 23(3). Fiduciary standards of conduct also apply to PRIM committee members, staff, investment managers, custodians, investment advisors, and others who exercise discretionary authority or discretionary control over the management or disposition of PRIT Fund assets. See M.G.L. ch. 32, sec. 1.

## **4. Duties and Responsibilities**

Specific duties and responsibilities of the PRIM Board, PRIM Board Chair, Executive Director and Committees are outlined in the Board Governance Manual.

### Investment Managers

PRIM employs professional investment managers and gives them discretion, consistent with specified objectives and guidelines, to manage the PRIT Fund's assets. Each investment manager operates under a contract that delineates its responsibilities and appropriate performance expectations. Each contract includes investment guidelines and administrative requirements for the management of each portfolio.

### Advisors

PRIM may contract with investment management advisors to assist the PRIM Board, committees, and staff in performance review, asset allocation studies, investment structure analyses, manager screening and selection, investment research and other matters of investment policy, procedures, and implementation.

### Custodians

PRIM contracts with one or more custodian banks or trust institutions to provide PRIT with

comprehensive global custodial services associated with a complex, multi-billion-dollar pension investment fund client. The custodian is responsible for the physical retention and administration of property received by the PRIT Fund, the collection of income, disbursement of funds, and the monthly reporting of all transactions in accordance with generally accepted accounting principles.

## **5. Investment Objectives**

PRIM's overall objective is to achieve the highest level of investment performance that is compatible with its risk tolerance and prudent investment practices. Because of the long-term nature of the Commonwealth's pension liabilities, PRIM maintains a long-term perspective in formulating and implementing its investment policies, and in evaluating its investment performance. Investment performance is measured by three integrated long-term objectives as described below:

- A. The actuarial target rate of return is the key actuarial assumption affecting future Commonwealth funding rates and pension liabilities. Investment performance that exceeds or underperforms the target rate may materially impact future funding rates and liabilities. The PRIM Board seeks to have a long-term investment performance that will meet or exceed its actuarial target rate of return.
- B. The investment policy benchmark is calculated by applying the investment performance of the asset class benchmarks to the PRIT Fund's asset allocation targets. The investment policy benchmark enables PRIM to compare the PRIT Fund's actual performance to a passively managed proxy and to measure the contribution of active investment management and policy implementation. Appropriate benchmarks are determined by PRIM staff, in cooperation with relevant investment advisor, and approved by the Board. Each asset class and sub-asset class is measured against a benchmark that describes the opportunity set and return characteristics associated with each asset class. For certain private asset classes, the benchmark serves as a proxy for expected returns. PRIM staff, with the investment advisor(s), will review benchmarks for appropriateness annually.
- C. PRIM also compares its total fund performance to an appropriate public plan sponsor comparison universe. A peer universe comparison permits PRIM to compare its performance to large public and other pension plans. While PRIM seeks to rank consistently in the top half of comparable public pension funds, PRIM recognizes that other funds may have investment objectives and risk tolerances that differ substantially from PRIM's.

PRIM expects to meet or exceed these objectives over its long-term investment horizon. The expected volatility of markets and unique objectives of PRIM relative to other pension plans may not favor, over shorter periods, PRIM's strategic investment policies.

## **6. Asset Allocation**

### Asset Allocation Plan

PRIM recognizes that over the long-term, asset allocation is the single greatest contributor of return and risk to the PRIT Fund. At reasonable intervals of not more than three to five years, PRIM will complete a comprehensive review of its Asset Allocation Plan and its underlying assumptions, including: the Commonwealth's current and projected pension assets and liabilities; long-term capital markets rate of return assumptions; and PRIM's risk tolerances. The PRIM Board shall examine the Asset Allocation Plan annually and shall consider adjustments to the Plan as may be appropriate given the Plan's long-term nature and objectives. The PRIM Board approved the current Asset Allocation Plan on February 17, 2022, as follows:

PRIM Asset Allocation Range	
US Equity	
International Equities	
Emerging International Equities	
Hedged Equity	
Global Equity	33% to 43%
Core Bonds	
Short-Term Fixed Income	
20+ Year Treasury STRIPS	
TIPS/ILBs	
Core Fixed Income	12% to 18%
Value-Added Fixed Income	5% to 11%
Private Equity	12% to 18%
Real Estate	7% to 13%
Timberland	1% to 7%
Portfolio Completion (PCS)	7% to 13%

### Rebalancing Policy

The actual asset allocation mix will deviate from the Asset Allocation Plan’s target due to market movement, cash flows, and manager performance. Material deviations from the asset allocation targets can alter the expected return and risk of the PRIT Fund. Accordingly, the PRIM Board has adopted asset class ranges for each asset class, and positioning within a specified asset class range is acceptable and constitutes compliance with the Asset Allocation Plan. It is the responsibility of PRIM staff to keep actual asset class allocations within the asset allocation ranges. It is anticipated that the PRIM Board will make periodic revisions to the Asset Allocation Plan, and it is recognized that in some cases it may be prudent to allow an extended period of time to fully implement revisions to the Asset Allocation Plan. The spirit of this policy is to implement the investment strategy within the asset class ranges at a reasonable cost, recognizing that overly precise management of asset exposures can result in transactions costs that are not economically justified. In the circumstance that a rebalancing is warranted, staff shall have the discretion to instruct public securities managers (including an overlay manager) to use futures as a short-term tool to rebalance the PRIT Fund. The PRIM Board acknowledges that market conditions or circumstances beyond PRIM’s control may lead to asset class weightings being temporarily out of their target ranges, especially as those ranges relate to illiquid asset classes.

### Firm Risk

No firm shall manage more than 10% of the PRIT Fund for actively managed accounts and 25% for passively managed accounts without Board approval. “Hybrid firms” (firms that manage both actively and passively managed portfolios) will be limited to 15%. Deviations caused by market fluctuations will not result in an automatic withdrawal of funds from the manager. However, the manager will not be eligible to receive additional funds resulting from rebalancing or from a new mandate as long as the asset level remains above the prescribed limits.

PRIT Fund assets shall not represent more than 20% of an individual investment manager’s total assets under management. The small and emerging managers program for private equity, the Economically Targeted Investment (ETI) Program and the Emerging Manager Policy are excluded from this policy. Asset classes (such as timberland) with very few investment managers are also excluded from this policy.

## **7. Publicly Traded Securities**

In constructing and managing its publicly traded securities portfolios, PRIM is guided by the following considerations:

### Diversification

Diversification, both by and within asset classes, is a primary risk control element.

### Market efficiency

The ability of active management to add value over a reference index varies with the efficiency of the relevant markets. In more efficient markets, PRIM may utilize passive management because of its low cost and low risk of underperformance. In less efficient markets, PRIM may utilize active management because of the greater potential for outperformance.

### Derivatives

Investment managers may utilize derivative securities (i.e., securities whose value derives from another security or index) only when PRIM has expressly permitted the use of derivatives in the managers' investment guidelines and such use would be consistent with PRIM's investment objectives.

### Leverage

Investment managers may utilize leverage or other credit enhancements only when PRIM has expressly permitted the use in the managers' investment guidelines and such use would be consistent with PRIM's investment objectives.

### Securities Lending

PRIM may lend its publicly traded securities through an agent to other market participants, or to another principal, in return for compensation. PRIM will assess the risks, such as counterparty and reinvestment risk, associated with each aspect of its securities lending program. In addition, PRIM requires that the risks assumed, and the administrative resources committed to monitor those risks are commensurate with the program's income potential. Cash collateral will be re-invested in low risk and highly liquid securities as established within the investment guidelines.

### Investment Vehicles

PRIM will utilize separate account structures, where possible, because of the control and transparency that the structures provide.

## **8. Hedge Funds**

Hedge funds represent a distinctive investment style that is different from traditional, long-only asset classes. A fundamental difference is that hedge fund managers emphasize absolute, rather than relative returns, and they may also use a wider range of investment techniques, such as leverage, short selling, and derivatives to achieve their objectives. The Hedge Fund portfolio should have a low correlation with other asset classes and therefore help diversify the PRIT Fund. PRIM's goal is to retain a portfolio of managers that employ strategies constituting a well-diversified hedge fund portfolio. PRIM's objective for the hedge fund portfolio is to reduce the volatility of the total fund while continuing to generate returns in a variety of market environments.

### Strategies

Investment is authorized in hedge funds that use a broad array of various hedge fund styles, investing in one or more of the following strategies, including but not limited to:

- Market neutral strategies such as equity market neutral, fixed income arbitrage, and convertible bond arbitrage.

- Credit strategies investing in investment grade debt, structured credit (including ABS, RMBS, CMBS and other collateralized obligations), distressed and lower rated debt, and other credit instruments.
- Event driven strategies such as merger arbitrage, spinoffs, post-bankruptcy reorganizations, and other relative value positions.
- Equity long/short strategies where there is combination of long and short positions primarily in publicly traded equities, with a net market exposure less than that of the overall equity market. Strategies may be focused on U.S., non-U.S., and/or specialty mandates.
- Global macro strategies such as all market portfolios, managed futures, currency, rates, and commodities trading, dedicated short selling strategies or other specialty strategies.
- Opportunistic strategies including other fundamental, systematic, discretionary trading and quantitative strategies.

#### Investment Targets and Ranges

For the Hedge Fund portfolio, the investment exposure to the major hedge fund strategies will vary over time depending on staff recommendations and based on a variety of inputs including market conditions and the outlook for particular strategies. The staff, with an advisor, when necessary, allocates funds to each investment strategy in a manner that enhances the PRIT Fund's ability to achieve the investment objective of the Hedge Fund portfolio over the long term.

#### Investment Vehicle

The vehicles for hedge fund investments include commingled vehicles, such as limited partnerships, limited liability companies, offshore corporations, managed accounts, and "funds of one," or similar structures.

#### Investment Constraints

It is expected that once fully developed, the Hedge Fund portfolio will include 15 to 30 hedge funds to maximize diversification. No more than 10% of the Hedge Fund portfolio's market value of assets may be invested in any single hedge fund (Fund of Funds are excluded). During the investment period, the weightings to individual funds and exposures may temporarily exceed this limit. In addition, the weightings to individual funds and exposures may temporarily exceed the limits due to lock-up periods or other liquidity restrictions.

#### Liquidity

The ability to redeem fund investments in cash in a timely manner will be an important factor in directing individual hedge fund investments. While a preference exists for hedge funds offering regular monthly/quarterly redemption rights, consideration will be given to hedge funds with greater liquidity restrictions in exchange for lower fees or investments strategies that utilize less liquid securities and longer time horizons. Portfolio liquidity will be actively monitored with the expectation that 50% of the hedge fund portfolio could be liquidated within twelve months, and the remainder within three years. The expectation is that side pocket investments should not exceed 20% of the total Hedge Fund portfolio.

#### Leverage

Leverage may be utilized by the underlying hedge fund managers as part of their strategies, but it will not be employed at the Hedge Fund portfolio level. Leverage utilization will be monitored within each hedge fund to ensure appropriateness given the respective strategy.

### Rebalancing and Redemption

Maintaining hedge fund weights requires periodic rebalancing which will be directed by staff. Full redemptions from hedge funds will also be directed by staff, with an advisor, when necessary, to allow for a more flexible and timely decision process, which is often advantageous.

### Emerging Manager Direct Hedge Fund Program

The PRIM Board has approved the following Emerging Manager Direct Hedge Fund Program policy guidelines:

Category	Consideration	Investment Guideline
<b>Manager Size</b>	Small and nimble	Each manager's strategy AUM <= \$500MM
<b>Structure</b>	PRIM should have control	Must agree to Separately Managed Account (SMA)
<b>Length of Track Record</b>	Reasonably long enough track record	>= 18 months track record
<b>Performance History</b>	Demonstrate alpha capability	Demonstrate excess return after adjusting for Market Beta and Alternative Betas
<b>Investment Strategy</b>	Macro or Relative Value in nature	Approximately <=0.3 correlation to MSCI ACWI Index & Barclays Global Aggregate Index
<b>Cost</b>	Economical	Up to (1% mgmt fee & 10% incentive fee) OR Up to (1% mgmt fee or 15% incentive fee)
<b>Ticket Size</b>	Small and nimble	\$10MM - \$50MM capital deployment per manager

Category	Consideration	Investment Guideline
<b>Liquidity</b>	Must be relatively liquid	Quarterly redemption frequency or better
<b>Risk Profile</b>	No excessive risk taking	Each manager's target annualized volatility <=15%
<b>Manager rebalance review trigger</b>	Reasonable diversification	Any manager's trading balance grows to >50% of total program, or drops to <10% of total program
<b>Manager termination review triggers</b>	Protect PRIM from unwanted events	Style drift; performance deterioration; key man departure; breach of investment or regulatory guidelines
<b>Graduation review trigger</b>	Manager might become more established	Once a manager's strategy grows to >= \$500MM, PRIM staff may consider seeking the Board approval and graduating the manager into the main Direct HF platform
<b>Further Capital Deployment</b>	Program size	Once the Emerging Direct HF program grows to >=\$500MM, PRIM Board approves any further capital deployment

## PCS & OCO Co-Investment Guidelines

The PRIM Board has approved the following PCS & OCO Co-Investment guidelines:

Category	PCS Co-Investment Guidelines
Manager Relationship	May only co-invest with existing investment managers on approved list (to be approved by Investment Committee and the PRIM Board).
Approval	PRIM CIO approves co-investments of up to 30% of NAV of deployed capital in main separately managed account (SMA) with the manager; regular update Investment Committee and Board on new co-invests.
Staff	Responsible PRIM Investment Officer leads project, facilitating due diligence with consultant, risk, operations, legal, and compliance; summarizes memo for CIO's review.
Legal & Compliance	Must be vetted by external legal & compliance.
Investment-Level Due Diligence	PRIM staff focuses on investigating motives and the fit with manager's strength and coordinates additional investment-level due diligence as deemed necessary.
Governance	Must be in a PRIM SMA, where sufficient protective provisions are in place.
Fees and Carried Interest	Co-investments must have better fee terms than that of the main SMA with the same manager.

### **9. Private Equity and Alternative Debt Investments**

PRIM expects to achieve portfolio diversification by investing in private equity and alternative debt, with managers representing various investment styles and concentrating on a variety of industries and locations. PRIM will make commitments to private equity funds over a sustained period of time, thereby limiting the portfolio's exposure to funds that are raised in the same year.

PRIM will allocate its private equity investments broadly over two categories: Special Equity and Venture Capital.

#### Special Equity

Includes partnerships focused on acquisition financing, equity infusion capital, recovery investments, and special situations. Acquisition-related investments (i.e. leveraged buyouts, growth buyouts, industry consolidations, and special situations) will comprise a majority of the Private Equity portfolio.

#### Venture Capital

Includes partnerships focused on investing in companies in a range of stages of development from start-up/seed-stage to early stage, to later-stage. Venture capital-related investments will be a smaller percentage of the Private Equity portfolio due to the reduced capacity of the venture industry to absorb capital, and the higher risk associated with venture capital funds.

PRIM staff may utilize a third-party investment firm to manage the sale of securities distributed by its investment managers. The PRIM Board has approved a maximum allocation limit of 20% to any one fund's total committed capital. The PRIM Board has approved an allocation of up to 10% of PRIM's annual commitments to small and emerging managers. The criteria for the small and emerging manager program, as approved by the PRIM Board, are presented below.

Criteria
The goal of this program is to provide returns greater than our traditional private equity program.
PRIM may commit up to 10% of its annual private equity allocation to emerging funds.
PRIM may commit up to 20% of emerging fund's total committed capital.
In most cases, emerging funds should achieve a minimum commitment of \$100 million and should have at least one institutional investor.
The general partners must demonstrate a relevant private equity track record that is attributed to either the firm or the individual general partners. This track record should be consistent with the firm's current strategy. These track records may be shorter than those of the funds presented in PRIM's traditional Private Equity program.
First time funds in which the principals have no relevant track record will not normally be considered.
The funds must demonstrate that they have developed appropriate internal controls and reporting capabilities that are consistent with PRIM's needs.

### Co-Investment Program

Co-investments are direct investments to acquire private companies alongside an existing general partner. The PRIM Board has approved the following private equity co-investment policy guidelines:

Category	Policy
GP Relationship	May only co-invest with existing general partners on approved list (to be approved by Investment Committee and the PRIM Board)
Annual Capital Deployment	Not to exceed 40% of the upper end of PRIM's forecasted total annual budget
Equity Size	Not more than \$75 million in any single transaction
Investment Style	No co-investment in venture capital deals
Geography	North America and Western Europe only
Board Presentation	GP must have at least one board seat
Investment Strategy	May only invest in co-investments that fit the strategy deemed appropriate for the general partner by PRIM staff

The PRIM Board approved the following co-investment guidelines for Growth Equity co-investments:

Category	Growth Equity Guidelines
GP Relationship	May only co-invest with existing general partners on approved list (to be approved by Investment Committee and the PRIM Board)
Equity Size	No more than \$30 million in any single transaction
Investment Style	No venture capital investments
Geography	North America and Western Europe only
Leverage	May only invest in growth equity transactions with no debt
Board Representation	A board seat is not required for growth equity co-investments
Security Type/Terms	May only invest on same terms as the general partners fund investments
Fees and Carried Interest	May only invest in transactions that do not charge any management fees or carried interest

## 10. Real Estate

The Real Estate portfolio is designed to provide stable income returns, low risk, and added diversification. PRIM allocates its real estate investments in three categories: Core; Non-Core; and Public Real Estate Securities.

### Core Real Estate

Investments are domestic, high quality, and substantially leased (80% or greater occupancy at the time of investment) properties typically in the following property types: apartment, office, retail, industrial and R&D office. Targeted income returns are typically 60% to 80% or more of the total return. Leverage levels for Core investments typically range from 0% to 50%.

### Non-Core Real Estate

Investments include non-core strategies which offer the ability to increase the investment returns and strategic diversification of the real estate portfolio. The Non-Core Real Estate portfolio exists to supplement the Core Real Estate portfolio. PRIM seeks a Non-Core Real Estate target of 10% of the total Real Estate portfolio with the ability to increase to 15% if attractive opportunities are available. PRIM will target investments utilizing no more than 70% leverage. The Non-Core Real Estate portfolio may include:

- Value-added and opportunistic strategies
- Investments outside of the U.C. in both developed and emerging markets
- Debt-themed real estate investments (Mezzanine, Preferred Equity included)

### Public Real Estate Securities

Include investments in publicly traded real estate investments including Real Estate Investment Trusts ("REIT's"), real estate operating companies ("REOCs") and real estate development companies on a global basis.

Global real estate securities provide enhanced diversification, a broadened opportunity set and liquid international real estate exposure.

### Real Estate Portfolio Investments

The long-term ranges for strategic real estate portfolio investments are as follows:

Type of Strategic Investment	Range
Core Real Estate	60% to 100%
Non-Core Real Estate	0% to 15%
Public Real Estate Securities	0% to 30%

### Core Real Estate Diversification

PRIM's goal is to achieve portfolio diversification by investing in different property types, in a variety of geographic locations, and with different managers. The following Core Real Estate diversification policies have been adopted:

### Property Type Diversification

The diversification by real estate property types are below.

PRIM Private Real Estate	
Property Type	Range
Retail	0% to 40%
Office	0% to 40%
Industrial	0% to 40%
Apartment	0% to 40%
Other	0% to 20%
Totals	100%

### Regional Investment Diversification

The diversification by real estate regions are below:

PRIM Private Real Estate	
Region	Range
Northeast	0% to 40%
Mideast	0% to 30%
Southeast	0% to 25%
EN Central	0% to 20%
WN Central	0% to 15%
Southwest	0% to 20%
Mountain	0% to 20%
Pacific	0% to 45%
Non U.S.	0% to 10%
Totals	100%

In recognition of the illiquid nature of real estate, these targets may be temporarily out of their target ranges while the separate account managers rebalance the portfolio.

### Investment Vehicles

PRIM will utilize separate account structures, where possible, because of the control that the structures provide.

### Investment Constraints

In order to maintain manager diversification and reduce concentration risk, manager exposure will be limited to no more than 30% of the total Real Estate portfolio, including public real estate securities.

### Leverage

The use of financial leverage magnifies investment returns, both positively and negatively but with an expected positive bias and could increase the volatility of returns. The purpose of these guidelines is to set forth a framework for comprehensively identifying, measuring, and managing various forms of leverage. Material deviations will be communicated in a timely manner. PRIM may utilize leverage to enhance the returns of the real estate portfolio or certain real estate investments. The following leverage guidelines have been adopted by the PRIM Board:

- A. Debt Service Coverage: The ratio of i) portfolio EBITDA to ii) debt service on total indebtedness should be no lower than 1.5x at the time debt is placed, assuming actual debt service.

- B. Spread of Operating Yield over Borrowing Rate: PRIM will target a spread of 100 basis points between the property portfolio operating yield (EBITDA/portfolio value at cost) and the weighted average borrowing interest rate on total unsecured indebtedness at the time debt is placed. When acquiring Core Real Estate that requires an assumption of debt or placement of new debt, the property NOI Yield shall be at least 100 basis points greater than the borrowing interest rate of the assumed or new debt.
- C. Total Leverage Ratio: The ratio should be no more than 40% of the total real estate property portfolio. This ratio includes any property level financing in place as well as the portfolio level facility. The calculation of the loan-to-value ratio will be total debt/gross asset value of the real estate property portfolio.
- D. Financing Characteristics: PRIM may consider all sources of financing options that are available. Leverage may utilize fixed or floating interest rates and may utilize derivatives to achieve these rates. The decision to use fixed or floating rates will be determined at the time of borrowing and will be a function of availability, rate, and risk. Fixed rate financing will be the preferred method.
- E. Direct Property Investment Strategy: Purchasing and managing real estate properties directly is designed to increase investment returns by reducing investment management fees. The PRIM Board has approved the following direct real estate investment strategy policy guidelines:

Category	Direct Property Policy
Return Objectives	Unlevered return - 10 Year Treasury + 250 bps (adjusted for leverage, liquidity, and other risks).
Allocation	Up to 15% of the invested capital if the total Real Estate portfolio is available for internal management opportunities.
Leverage	Up to 65% with a target of 40-60%. Debt should be accretive (positive spread to interest rate on debt using net operating income yield).
Geography	Primary U.S. markets. Staff will continue to be flexible but will consider PRIM's current exposure to Boston and the office sector.
Property Type	Focus on industrial, multifamily, ground leases, and triple net properties.
Portfolio Construction	Simple geographic, property type and size diversification combined with attractive individual investment merits.
Time Horizon	Long term but with opportunistic selling based on the capital market environment or completion of business plan.

## 11. Timberland

The Timberland portfolio provides the PRIT Fund with diversification and inflation hedging benefits. These characteristics enhance the risk/return profile of PRIM's portfolio. The timberland portfolio is designed to be diversified by geography, age class, product category, end-market, wood type, and investment manager.

In June 2009, the PRIM Board voted to set a 4% long-term target allocation to timberland. In order to fund this allocation, the PRIM Board authorized the liquidation of the 2% allocation to publicly traded natural resources. The 4% target represents a mid-point within a range of 1-7% for the asset class.

### Timberland Portfolio Ranges

The following policies and guidelines have been adopted:

- A. **Regional Investment Diversification:** The NCREIF Timberland Index defines multiple regions as part of the composition of the index. Since PRIM is benchmarking the performance of the timberland program to the NCREIF Timberland Index, the composition of that index will influence the performance attributes of the asset class. PRIM is adopting target ranges for diversification by timberland region that are based in part upon the composition of the NCREIF Timberland Index. The target ranges are as follows:

PRIM Timberland Diversification by Region	
Region	Range
South	40% to 80%
Northwest	0% to 50%
Northeast/Lake	0% to 20%
International	0% to 30%
Totals	100%

PRIM targets portfolio exposure that is at least 70% in the US and no more than 30% outside of the US. The institutional international timberland universe represents approximately 30%-45% of the total global institutional timberland market. The international component is designed to provide diversification and return enhancement through higher growth rates, differentiated end-markets, currency exposure and country characteristics.

Investable markets outside the U.S. shall include developed international timberland markets such as Australia and New Zealand.

- B. **State and Age-Class Diversification:** The composition of the region covers multiple states and is an additional component in obtaining diversification. While no state guidelines are specified, investment managers are required to consider reasonable market diversification when making decisions regarding current or future investments.

When evaluating timberland investments, it is also important to monitor age-class distribution as a measurement of diversification. These age-class distributions are required as part of each manager's quarterly and annual reporting process. However, due to the variation in growth cycles among timberland regions, and the fact that many timberland parcels may contain a variety of stand ages, it is impractical to set portfolio guidelines for age. The objective is to have a well-diversified portfolio by age class. A carefully monitored geographic distribution by investment manager, as well as staff oversight, should ensure that the timberland portfolio is balanced not only by region and tree type, but by age-class as well.

- C. **Wood Product Category:** Timberland investment returns are closely related to the demand for wood products. PRIM will maintain diversified exposure to categories such as construction (e.g. house building, re-modelling), high end products (e.g. furniture), pulp (e.g. hygiene, paper, packaging), and biomass.
- D. **End-Market:** Timberland investments will be diversified across geographical end- markets such as the US, Australia and New Zealand domestic markets, and Asian export market.
- E. **Timber Type Diversification:** Timberland investments will be diversified across major timber types such as the softwood and hardwood categories.
- F. **Investment Manager:** Investment managers (TIMOs) will have differentiated strategic and organizational characteristics, which will be considered as a diversification component when making decisions regarding current or future timberland investments.

In recognition of the illiquid nature of timberland, these targets may be temporarily out of their target ranges while PRIM staff and the investment managers rebalance the portfolio.

#### Investment Vehicles

PRIM will utilize separate account structures, where possible, because of the control and transparency that the structures provide. Club investments and co-investments with few other professional investors with strong aligned interests can be considered but only where PRIM's substantial control and influence are maintained. Particular attention should also be paid to clear liquidity options.

#### Leverage

For timberland investments, third party leverage is permitted up to 20% on the total PRIM timberland portfolio and up to 30% on any particular property. All leverage shall be non-recourse except for customary exclusions related to fraud and environmental representations. Leverage should be limited to circumstance in which positive leverage can be obtained (i.e. in circumstances where the debt interest rate is less than the net operating income of the property). Properties normally may not be cross-collateralized.

## **12. Portfolio Completion Strategies**

The PRIT Fund is a diversified portfolio of active and passive strategies in several asset classes. PRIM investment staff may identify attractive investment strategies that do not fit within the current PRIT Fund asset allocation buckets. The PCS allocation will allow PRIM staff to research these types of strategies and recommend them for inclusion in the PRIT Fund.

The objective of the PCS allocation is to provide the PRIT Fund access to broader investment opportunities. Investments selected for the PCS allocation should enhance the risk/return profile of the PRIT Fund. Investments may include long-term strategic investments or short-term opportunistic investments.

Each investment within the PCS allocation will be compared against an appropriate benchmark. The overall PCS allocation benchmark will be the weighted average of each of the underlying investment benchmarks.

All investments within the PCS allocation will be researched and presented to the Investment Committee and the PRIM Board for approval. These strategies may provide the following benefits:

- Enhanced PRIT Fund Risk/Return characteristics
- Increase PRIT Fund diversification
- Fee Savings relative to alternative strategies
- Provide an opportunity for increased teamwork among PRIM staff

#### Investment Strategies

The PCS allocation will include a variety of investment strategies. These strategies may include, but not be limited to:

- Alternative Beta Alternative Beta Harvesting strategies designed to replicate or capture attractive alternative betas such as value, momentum, and carry.
- Global Tactical Asset Allocation and Unconstrained Mandates strategies designed to achieve target returns within specified risk parameters by allowing manager discretion between asset classes.
- Absolute Return low-volatility products with a Libor plus or CPI plus return objectives.

- Opportunistic shorter-term investment opportunities that may provide returns that are largely uncorrelated with the PRIT Fund or may seek to capitalize on significant market dislocations.

Investment Vehicles

PRIM will utilize a separate account structure, where possible, because of the control and transparency that the structures provide. Investments may be in commingled vehicles, such as limited partnerships, limited liability companies, or offshore corporations, where appropriate.

Liquidity

Some investments may have liquidity parameters defining lock-up periods and withdrawal frequency, and thus should be considered illiquid.

Leverage

Leverage may be utilized only by the underlying investment managers. Leverage utilization will be monitored by each investment manager to ensure appropriateness given the respective strategy.

Rebalancing and Redemption

Maintaining manager weights requires periodic rebalancing which will be directed by staff. Full redemptions from investment managers will also be directed by staff, with an advisor, when necessary, to allow for a more flexible and timely decision process, which is often advantageous in getting liquidity where delay might cause a longer lock up of capital than desired.

Emerging Manager Direct Hedge Fund Program

The PRIM Board has approved the following Emerging Manager Direct Hedge Fund Program policy guidelines:

Category	Consideration	Investment Guideline
<b>Manager Size</b>	Small and nimble	Each manager's strategy AUM<= \$500MM
<b>Structure</b>	PRIM should have control	Must agree to Separately Managed Account (SMA)
<b>Length of Track Record</b>	Reasonably long enough track record	>= 18 months track record
<b>Performance History</b>	Demonstrate alpha capability	Demonstrate excess return after adjusting for Market Beta and Alternative Betas
<b>Investment Strategy</b>	Macro or Relative Value in nature	Approximately <=0.3 correlation to MSCI ACWI Index & Barclays Global Aggregate Index
<b>Cost</b>	Economical	Up to (1% mgmt fee & 10% incentive fee) OR Up to (1% mgmt fee or 15% incentive fee)
<b>Ticket Size</b>	Small and nimble	\$10MM - \$50MM capital deployment per manager

Category	Consideration	Investment Guideline
<b>Liquidity</b>	Must be relatively liquid	Quarterly redemption frequency or better
<b>Risk Profile</b>	No excessive risk taking	Each manager's target annualized volatility <=15%
<b>Manager rebalance review trigger</b>	Reasonable diversification	Any manager's trading balance grows to >50% of total program, or drops to <10% of total program
<b>Manager termination review triggers</b>	Protect PRIM from unwanted events	Style drift; performance deterioration; key man departure; breach of investment or regulatory guidelines
<b>Graduation review trigger</b>	Manager might become more established	Once a manager's strategy grows to >= \$500MM, PRIM staff may consider seeking the Board approval and graduating the manager into the main Direct HF platform
<b>Further Capital Deployment</b>	Program size	Once the Emerging Direct HF program grows to >=\$500MM, PRIM Board approves any further capital deployment

### 13. Currency and Cash Management

PRIM's foreign investments are subject to currency risk: the possibility that underlying investment values may fluctuate due to changes in foreign exchange rates. Currency risk can be mitigated by currency hedging: reducing or eliminating exposure to foreign currency risk through the use of foreign currency derivative securities, such as forward contracts, options, and futures. To determine whether or not to hedge, and if so in what proportion, PRIM must weigh currency risk against the costs of hedging and the counterparty risk associated with entering into forward foreign exchange contracts.

In an effort to minimize cash exposure at both the PRIT Fund and manager level, PRIM may retain a cash overlay manager to more closely align the actual portfolio with the policy portfolio, generally through the buying and selling of derivative instruments.

### 14. Investment Services Selection Process

PRIM is committed to promoting open, competitive, and fair procurements that will result in the selection of investment managers, advisors, and vendors who provide PRIM with exceptional service and value. PRIM's current procurement processes are outlined in the Procurement Policy.

### 15. Investment Objectives and Guidelines

PRIM selects its managers based on the contributions that their investment styles and processes are expected to make to the overall PRIT Fund. The investment objectives and guidelines are specified in the Investment Management Agreement (IMA) for each publicly traded securities, real estate, and timberland manager. The investment objectives and guidelines are specified in limited partnership agreements for each private equity, alternative debt, hedge fund and non-core real estate investment. PRIM uses these investment objectives and guidelines to control risk levels for the PRIT Fund.

For Public Market, Core Real Estate, REIT and Timberland managers, the investment objectives establish relative and absolute performance expectations. The manager is expected to perform in the top half of its peer universe over a three to five year period. The guidelines specify permissible investments and strategies. The guidelines also specify the risk characteristics expected of the portfolio.

## **16. Monitoring Investment Managers**

PRIM's staff regularly verifies whether the manager is meeting PRIM's objectives and adhering to guidelines. Staff will document whether there has been any deviation from the investment philosophy, process, any significant organization developments, and whether performance has met expectations. Staff will also document any deviations from investment objectives and guidelines. The underlying principle of the monitoring program is to insure that deviations have been identified, documented, and controlled.

The staff and, as deemed necessary, an advisor, will conduct due diligence with the respective investment managers to understand the underlying drivers of performance. Additionally, staff and, as deemed necessary, an advisor, shall conduct portfolio reviews and on-site due diligence as necessary. The staff and, as deemed necessary, an advisor, shall provide the appropriate Committee and the PRIM Board with regular performance reports and advice on other matters as appropriate.

## **17. Securities Brokerage**

PRIM's investment managers are required to use best efforts to obtain most favorable pricing and execution. Accordingly, PRIM expects its managers to minimize trading expenses (e.g., brokerage commissions) while ensuring that maximum value is received and to utilize systems to monitor trading efficiency.

PRIM does not pay for services with "soft dollars" by directing securities trades to specific brokerage firms. PRIM requires its managers to report "soft dollar" services, annually.

PRIM seeks to minimize the trading and other transaction costs its investment managers incur. PRIM's efforts to minimize such costs, however, must be consistent with its managers' obligation to secure the best net price and execution in trading.

### Commission Recapture Policy

In order to minimize the net costs of trading, PRIM will encourage its investment managers, on a "best efforts" basis, to execute 20% of total trades annually through brokers who have a commission recapture program. Should managers exceed the 20% suggested, the PRIT Fund will participate in those trades as well.

PRIM's investment manager may select two or three brokers to take part in this program. Any credits earned under the program should be remitted monthly or quarterly to the PRIT Fund.

PRIM's policies require managers to seek the best price and execution on all trades; this means that commission recapture trades should only be executed when such trades meet this standard. This program should not interfere with or reduce an investment manager's incentive to reduce trading costs.

## **18. Financial Reporting**

The PRIM Board shall contract with a nationally recognized independent audit firm to audit PRIM and the PRIT Fund annually. The financial statements of the PRIT Fund and PRIM are to be prepared in conformity with U.S. generally accepted accounting principles. The PRIT Fund and PRIM comply with Governmental Accounting Standards Board (GASB) guidance.

## **19. Exercise of Shareholder Rights**

The PRIM Board recognizes that publicly traded securities and other assets of the PRIT Fund include certain ancillary rights, such as the right to vote on shareholder resolutions at companies' annual shareholders' meetings, and the right to assert claims in securities class action lawsuits or other litigation. PRIM will prudently manage these assets of the PRIT Fund for the exclusive purpose of enhancing the value of the PRIT Fund for its participating systems' members and beneficiaries, by,

for example, adopting and implementing a proxy voting policy and undertaking productive, cost-effective action to exercise its rights as shareholders or claimants in litigation.

PRIM's current proxy voting guidelines are outlined in the Proxy Voting Policy.

## **20. Economically Targeted Investment Program**

PRIM recognizes its obligations under Massachusetts law to seek investment opportunities that will benefit the economic climate of the Commonwealth as a whole, provided that such investments are consistent with PRIM's obligations to the members and beneficiaries of its participating retirement systems. (See M.G.L. ch. 32, sec. 23(2A)(h)) Accordingly, in cases where investment characteristics, including returns, risk, liquidity, compliance with allocation policy, and others, are equal, PRIM will favor those investments with a substantial, direct, and measurable benefit to the economy of the Commonwealth.

Such Economically Targeted Investments ("ETI's") must meet the following criteria:

- A. Investments must target risk-adjusted, market-rate returns and provide net returns equivalent to or higher than other available investments, at commensurate levels of risk. Economic or social benefits will not justify a lower return on any PRIM Fund investment. When evaluating ETI opportunities, PRIM will discount projected returns for any subsidies, deferral of income, higher risk levels, and other concessions to reach a real rate of return for comparison with other ETI and non-ETI investment alternatives. Similarly, ETI benefits will not justify higher investment risk. However, where appropriate, PRIM staff, its managers, and its advisors will actively seek out and develop guarantees, third party recourse, hedging, and other acceptable and customary risk management vehicles to reduce or eliminate risk in ETI investments.
- B. Investments must not exceed a reasonable weighting in the portfolio, including tracking the degree of exposure to the Massachusetts economy and ensuring appropriate geographic diversification. Investments should maintain the overall portfolio's compliance with its asset allocation strategy. ETI benefits will not justify deviation from the Asset Allocation Plan adopted by the PRIM Board.
- C. Investments should be placed with an experienced and capable manager through an objective and transparent process. Investments should be managed by qualified discretionary investment managers. PRIM will not make any direct investments.
- D. Investments should target a "capital gap" where there are likely to be underserved markets.
- E. Investments must be tracked (both investment performance and collateral benefits) and managed with the same rigor and discipline imposed on other investments. Investments should be reviewed and monitored by PRIM staff and advisors without disproportionate expenditure of time and resources.

## **21. Emerging Manager Policy**

The PRIM Board may consider hiring "emerging managers", i.e., investment managers with less than \$2 billion of assets under management that may have shorter track records or investment managers that are minority-owned or women-owned. PRIM should consider emerging managers for all asset classes and should make a good-faith effort to invest with emerging managers for all asset classes and should set an objective of investing between 5 and 10% of all new and current investments with emerging managers. In this effort, PRIM should consider using advisors to identify emerging managers.