
POLICY NUMBER: 100.31 **EFFECTIVE DATE:** 07/07/2017

TITLE: Investment Policy

I. OVERVIEW AND PURPOSE

The Teachers' Retirement System of Louisiana ("System") was created under the management of the Board of Trustees ("Board") for the purpose of providing retirement allowances and other benefits for teachers of the state of Louisiana, all as provided by law. This document establishes the Investment Policy Statement ("Policy") of the System for the management of the assets held for the benefit of participants and beneficiaries of the System in its implementation of a Defined Benefit Plan ("Plan"). The Board is responsible for investing the assets of the System in a prudent manner. The Board, in carrying out these duties, adheres to the Prudent-Man Rule, as defined in Louisiana law.

This Policy defines the investment objectives, policies and procedures that have been established by the Board. The objectives, policies and procedures outlined in this Policy were created as a framework for the management of the Plan and the statements contained in this document are intended to allow for sufficient flexibility in the investment process to capture opportunities, yet ensure prudence and care are maintained in the execution of the investment program. This Policy is intended to:

- Provide a mechanism to establish and review the Plan's investment objectives;
- Set forth an investment "structure" for managing assets. This structure includes various asset classes and investment styles that, in aggregate, are expected to produce a prudent level of diversification and investment return over time;
- Provide a single document identifying the roles of those responsible for selecting, monitoring, and reviewing the Plan's investments;
- Identify the criteria that may be used for selecting the investment funds (a collective reference as to investment managers, pooled investment funds and investment fund organizations);
- Establish measurement standards and monitoring procedures to be used in evaluating the performance of investment funds; and
- Establish procedures for evaluating investment funds.

The Board has arrived at this Policy through careful study of the variables associated with the investment strategies in relation to the current and projected liabilities. This Policy has been chosen as the most appropriate policy to achieve the financial objectives of the Plan and to meet the fiduciary duties of Trustees.

The Board has adopted a long-term investment horizon such that the chances and duration of investment losses are carefully weighed against the long-term potential for appreciation of assets.

II. INVESTMENT PHILOSOPHY

This Policy provides a structure for investing the System's assets to achieve defined investment objectives consistent with applicable law, and for managing the investments of the Plan. The System is a long-term investor retaining a broadly diversified portfolio of global assets in both public and private investments.

These statements describe the core values and fundamental investment beliefs that will form the basis for investment decisions.

- One of the most important decisions that the Board makes is to determine the long-term asset allocation decision;
- The Board will define a long-term strategic asset class allocation and rebalance to those allocations within specific ranges; the Board may express a medium-term view that may be different from target allocation, but within allowed ranges;
- The achievement of long-term investment goals is the result of sound strategic decisions and consistency in implementation;
- It is necessary to use long time frames and appropriate benchmarks to fairly evaluate active manager performance. Performance differences in asset classes, strategies, styles, and market capitalizations will have multi-year cycles. Therefore, even the most capable investment managers may have periods of under- and out-performance relative to their benchmarks;
- Investment implementation should be cost effective; and
- Active investment management should be applied in asset classes and strategies where evidence of favorable value added potential exists.

III. ROLES AND RESPONSIBILITIES

The Board has the primary fiduciary responsibility for investing all System assets in accordance with the Louisiana Constitution and with applicable law. The Board establishes investment objectives and policy, obtains expert advice and assistance, and oversees the employment of the System Director, who recruits and retains a qualified and competent staff ("Staff").

The Board will select investments based upon the criteria and objectives set forth in this Policy. The Board is responsible for the selection and monitoring of the investments and service providers of the Plan. The Board is entitled to use the services of an Investment Consultant ("Consultant") to assist in carrying out its responsibilities.

The Board, aided by Staff, will approve professional service providers to assist the Board in implementing investment policy. The Staff and the Consultant will monitor and evaluate investment managers, establish effective communication and review procedures among the external service providers and report to the Board.

A. Chief Investment Officer. The Chief Investment Officer ("CIO") administers the investment program of the System. The duties of the CIO include:

- Responsible for all functions of the System's investment department.
- Oversee all System investments and investment managers.
- Meet with the Investment Committee/Board to review investments and policies.
- Monitor existing limited partnerships and review future partnerships.
- Monitor investment portfolios to ensure they are within the Policy established by the Board.
- Research new investment vehicles and present viable investments to the Board for possible inclusion to the Policy.
- Consider newly established asset categories, market conditions and transaction costs when determining the most cost-effective process to rebalance the portfolio.
- Responsible for effectively implementing the Policy.
- Implement asset allocation shifts to maintain portfolio allocations within approved Policy ranges.
- Direct the activities of the System's consultants for the best interest of the System and to leverage the activities of the Staff.
- Make recommendations concerning the hiring/terminating of investment managers/advisors/consultants.
- Represent the System at limited partnership meetings and Advisory Committee meetings, or delegate such duties to Staff or other agent(s) as necessary and appropriate.
- Assist the Director with legislative issues.
- During exigent circumstances, after consultation with and the concurrence of the Director, if practicable, and the Chairperson of the Investment Committee and/or the Chairperson of the Board, take such actions necessary to preserve and protect the assets and interests of the System.

B. Investment Consultant. The Consultant will advise the Board on the management of the Plan's assets. All Consultant(s) will be evaluated on an annual basis. The duties and responsibilities of the Consultant include, but are not limited to:

- Recommending appropriate strategic policy and implementation structure.
- Conducting manager due-diligence.
- Assisting with manager searches and selection.
- Providing quarterly compliance reports.
- Aiding the Board and Staff in monitoring the guidelines of the Policy and making recommendations regarding changes should they need to be made.
- Providing timely information, written and/or oral, on investment strategies, instruments, managers and other related issues, as requested by the Board, the Director, or the CIO.

C. Investment Managers. Investment managers have the responsibility for managing the underlying assets by making reasonable investment decisions consistent with its stated approach, and reporting investment results. The duties and responsibilities of the investment managers include, but are not limited to:

- Investing the assets of the Plan with the care, skill, prudence, and diligence that a prudent professional investment manager, familiar with such matters and acting in like capacity, would use in the investment of such assets.
- Adhering to the investment policies and guidelines prescribed by the Board; additionally, all separately managed account managers will provide a quarterly report indicating adherence to policies and guidelines.
- Initiating written communication with the Board whenever the investment manager believes the guidelines should be changed. The Board recognizes that such changes may be necessary from time to time given the dynamic nature of capital markets.
- Informing the CIO or Consultant, as applicable, regarding all significant matters pertaining to the investment of the Plan's assets in a timely manner (no greater than 30 days). These matters include, but are not limited to:
  - Substantive changes in investment strategy or portfolio structure; and
  - Significant changes in the ownership, affiliations, organizational structure, financial condition, and professional staffing of the investment management organization.

- Submitting at least monthly reports describing portfolio holdings, performance results, and transactions activities. The manager should inform the Board quarterly of the turnover within the portfolio and be prepared to document rationale for significant changes in portfolio turnover.
- Voting all proxies after careful assessment of the issues involved. The managers should pay particular attention to items that may reduce the economic value of stockholders' rights of ownership and thereby impact adversely the performance of the Plan's assets. Nevertheless, each investment manager is required to advise the Board on any issues that should require special consideration. Staff will report to the Board annually summarizing the proxies that were voted by the investment managers.
- Adhering to the ethical standards of practice of the CFA Institute.
- The Board expects to review the performance of the active (publicly traded) investment managers at least annually. Newly hired managers and managers whose presence is recommended by Staff and the consultant will be required to appear before the Board for any scheduled review. During such meetings, the managers will be expected to explain their current investment strategies, comment on performance, and discuss any changes at the firm.

D. Custodian Bank. The Board recognizes that accurate and timely completion of custodial functions is necessary to effectively monitor investment management activity. The custodian's primary function will be to hold in custody all the securities that each of the investment managers manage in their portfolios, except for commingled funds or mutual funds, which may be held elsewhere. The Custodian Bank will be evaluated by Staff on an annual basis.

The Custodian Bank is a fiduciary as to the assets placed with it by the System. The Custodian Bank is responsible for performing the following functions, among others designated by its contract:

- Providing safekeeping of securities, collecting dividends and interest earned, making disbursements and receiving cash flows as directed, and providing an annual SAS 70 Report.
- Providing complete and accurate accounting records including each transaction, income flow and cash flow by asset class, investment manager, and total fund.
- Monitoring and reconciling all trading activity.
- Issuing monthly reports of holdings and transactions priced in accordance with industry standards.
- Meeting periodically with Staff to report on the activity of the System's assets and bank organizational issues.

- Providing periodic reporting to Staff including:
  - Estimated market value and cash flow report.
  - Master trust reporting – by total fund, asset class and plan account.
  - Monthly custody account reconciliations.
  - Limited partnership and comingled account reconciliations.
  - Monthly report filing of claims and class actions.
  - Monthly report brokerage activity.
- Handling securities lending and related functions.

IV. INVESTMENT OBJECTIVES

The investment objectives of the System have been established in conjunction with a comprehensive review of the current and projected financial requirements.

The Board's investment objectives are to:

- Protect the System's assets in real terms such that assets are preserved to provide benefits to participants and their beneficiaries. Real terms shall be a measurement in current dollars that discounts inflationary increases in value as measured by the Consumer Price Index (CPI-U) seasonally adjusted.
- Achieve investment returns sufficient to meet the actuarial rate necessary to improve the future soundness of the System. This is defined as an investment return (current income plus realized and nonrealized gains and losses) that is greater than the actuarial rate.

The desired investment objective is a long-term compound rate of return on the System's assets of 3.9% above the CPI-U seasonally adjusted or the actuarial rate (7.70%, effective July 1, 2017, with a 0.05% reduction annually thereafter until the rate is 7.50%), whichever is higher. The Board realizes that market performance varies and that this return objective may not be meaningful during some periods. Accordingly, relative performance benchmarks for investment managers are set forth in the Appendix of this document.

While there can be no complete assurance that these objectives will be realized, this Policy is believed to provide a sound basis to successfully achieve System objectives.

A. Time Horizon

The Board acknowledges that fluctuating rates of return characterize the securities markets, particularly during short-term time periods. Accordingly, the Board views interim fluctuations with an appropriate perspective. The Board will typically evaluate investment managers over a market cycle (three to five years); however, may consider other relevant facts that could lead to appropriate action by the Board, including early dismissal.

B. Diversification

The Board believes that the likelihood of realization of the investment objectives is enhanced through diversification. The Board, with the aid of the Staff and the Consultant, will aim to diversify assets among various asset classes and investment managers to maintain acceptable risk levels to potentially enhance long-term investment returns.

C. Fees and Expenses

The Staff and Consultant will closely monitor fees and expenses associated with its investment activities and will strive to maintain fees at acceptable levels. At least annually, the Staff and Consultant will perform an evaluation of expenses, which will include a determination of net fees paid and a comparison of expenses with appropriate benchmarks of other defined benefit plans. The findings of this evaluation will be reported to the Board.

D. Review of Objectives

The achievement of investment objectives will be reviewed on an annual basis. This review will focus on the continued feasibility of achieving the investment objectives and the appropriateness of the investment policy for achieving these objectives. It is not expected that the investment policy will change frequently. In particular, short-term changes in the financial markets should not require an adjustment to the investment policy.

V. ASSET ALLOCATION GUIDELINES

A. The System has established a target allocation for each asset class below, effective June 3, 2016. It shall be the policy of the System to invest the assets within the minimum and maximum range for each asset class, as stated below:

Asset Class	Minimum	Target	Maximum
Large/Mid Cap U.S. Equity	15.0%	20.0%	25.0%
Small Cap US Equity	2.0%	5.0%	8.0%
REITs	0.0%	2.0%	4.0%
International (Non-U.S.) Equity	7.0%	11.0%	15.0%
Emerging Markets Equity	4.0%	8.0%	12.0%
Core U.S. Fixed Income*	7.0%	9.0%	13.0%
High Yield Bonds	2.0%	4.0%	6.0%
Non-U.S. Developed Bonds	0.0%	2.0%	4.0%
Emerging Market Bonds	0.0%	3.5%	6.0%
Core Real Estate	0.0%	5.0%	9.0%
Non-Core Real Estate	0.0%	5.0%	16.0%
Corporate Finance/Buyouts	6.0%	11.0%	6.0%
Venture Capital	0.0%	3.0%	8.0%
Mezzanine	2.0%	5.0%	5.0%
Distressed Debt	0.0%	3.0%	4.0%
Infrastructure	0.0%	1.5%	3.0%
Commodities	0.0%	1.0%	3.0%
Farmland	0.0%	1.0%	0.0%
Total Portfolio		100.0%	
Asset Class	Minimum	Target	Maximum
Total Equities (including REITs)	34.0%	46.0%	58.0%
Total Fixed Income	10.0%	18.5%	28.0%
Total Private Assets**	10.0%	25.5%	35.0%
Total Real Estate (ex REITs)	5.0%	10.0%	15.0%
Total Portfolio		100.0%	

Changes in the investment asset allocation may take up to two years from June 3, 2016 to implement. In the interim, the System may be temporarily outside policy ranges due to the timing of investment manager searches and placement.

* Core U.S. Fixed Income includes the U.S. portion of the Global Fixed Income allocation.

** Private assets include core real estate, non-core real estate, corporate finance/buyouts, venture capital, mezzanine, distressed debt, infrastructure, commodities, and farmland. To determine the asset allocation for the total private assets class, only the actual amount invested is applicable.

B. The asset allocation ranges established by this investment policy represent a long-term perspective. As such, rapid unanticipated market shifts may cause the asset mix to fall outside the policy range. Any divergence from this allocation should be of a short-term nature. The CIO and Staff are responsible for ensuring that any such divergence is as brief as possible. Staff will report any out-of-range condition and/or rebalancing decision to the Board at the Investment Committee meeting.

C. Investment managers will be evaluated on the performance of the total portfolio that they manage.

D. It is expected that all assets of the System will be managed in accordance with the Louisiana Revised Statutes. The index portfolio(s) shall seek either to replicate or to enhance a particular index. The index portfolio(s) may be invested in a variety of equity capitalization ranges and could be invested in domestic, global or international equity.

VI. INVESTMENT GUIDELINES

The following general guidelines apply for the overall plan assets of the System. Specific guidelines for investment managers are provided in the Appendix to this Policy.

A. Investments shall possess value and quality corroborated by accepted investment techniques and standards of fundamental or systematic economic, financial and security analysis.

B. Securities transactions shall be executed by the investment managers and the managers shall seek to achieve best price and best execution transaction(s).

C. The following categories are restricted for the System's investments (pertains to non-alternative investments):

- Short sales of securities
- Direct loans or extending lines of credit to any interested party
- Letter stock
- Unregistered securities (except 144A securities).

D. Investments shall be diversified with the intent to minimize the risk of large losses to the System. The total portfolio will be constructed and maintained to provide prudent diversification through various asset categories.

E. The System expects the investment manager's cash position to adhere to the following:

- Equity investment manager's cash shall not constitute more than 5% of the market value of the manager's portfolio without prior Board approval.
- Short-Term Investment Fund ('STIF") deposit accounts shall not be maintained at foreign sub-custodian banks, except those such accounts maintained by managers of global or international funds.
- The manager's cash will be swept daily into a STIF account by the custodian.

F. The System may engage in the lending of securities subject to the following guidelines:

- Collateral on loans of domestic securities is set at a minimum 102% of the market value of the security plus accrued interest.
- Collateral on loans of international securities is set at a minimum 105% of the market value of the security plus accrued interest.
- Securities of the System are not released until the Custodian Bank receives payment for the book-entry withdrawal of the loaned security.
- Funds from the lending of securities accrue to the System's account and not to investment managers since they would not be involved in the process.

VII. SELECTION AND MONITORING OF INVESTMENT OPTIONS

A. Selection criteria will be established for each manager search undertaken on behalf of the System, and will be tailored to the specific needs of the search. The search process will be completed by an investment manager submitting a Solicitation for Proposal ("SFP"). There may be circumstances where the SFP would not be required as approved by the Board.

B. Each investment manager selected shall have a reasonable fee level within their peer group. Performance should be analyzed relative to the risk undertaken and should be used to evaluate the manager's potential to add value on a risk-adjusted basis, net of all fees. Further, the continuity of the manager's organization and its staff should be evaluated relative to the continuation of the performance being analyzed. The organizational structure should demonstrate that the manager's interests are aligned closely with those of investors. The firm and its staff should be reputable and any outstanding litigation in which the firm is engaged should be carefully reviewed.

C. In general, the minimum due diligence process for an investment manager's selection shall include, but not be limited to:

- **Regulatory oversight**: Each investment manager should be a regulated bank, an insurance company, a mutual fund organization, or a registered investment advisor.
- **Assets under management**: The product should have an appropriate asset base.
- **Performance relative to assumed risk**: Competitive returns of investment vehicles compared to appropriate benchmark(s) at an acceptable level of volatility.
- **Consistency of holdings with style**: History of consistent adherence to investment strategy.
- **Stability of the organization**: Established investment firm (significant experience and high quality reputation).
- **Performance relative to peer groups**: The product's performance should be evaluated against the peer group's returns for the trailing 1-, 3-, 5- year or longer annualized periods; past performance should not, however, be the sole basis for selecting investment managers.

D. The Board, with the aid of Staff and Consultant, will monitor the performance of each manager at least quarterly and meet each active manager annually while retaining a long-term focus. Monitoring the monthly performance relative to benchmarks will be an ongoing activity. The focus of the ongoing evaluation shall include:

- Assets under management (tracking substantial changes in total assets)
- Manager adherence to the Policy, guidelines and objectives
- Performance relative to appropriate benchmark comparison
- Performance relative to peer group(s)
- Portfolio holdings that are consistent with style or strategy
- Stability of the organization and key investment personnel turnover

E. The Board retains the discretion to place on the watch list or terminate an investment manager for any reason. Grounds for investment manager termination may include, but are not limited to:

- Failure to comply with stated Policy or investment guidelines
- Significant deviation from the manager's stated investment philosophy or process
- Loss of key investment personnel
- Evidence of illegal or unethical behavior by the investment management firm
- Loss of confidence by the Board in the investment manager

- Failure to achieve performance objectives specified in the manager's guidelines over reasonable measurement periods
- A change in the Board's asset allocation policy that necessitates a shift of assets to a different asset category or investment style

VIII. REVIEW AND AMENDMENT OF THE POLICY

A. The Board and Staff with the aid of the Consultant shall review this Policy at least annually to ensure that it continues to reflect the Board's objectives and meet the needs of the Plan's participants. The Policy may be modified, in whole or in part, by the Board at any point in time.

B. History.

Adopted: 03/05/2013

Revised: 09/06/2013
- Amended Real Estate Investment Manager Benchmarks
- Adopted Global High Yield Fixed Income Investment Manager Guidelines

Revised: 10/08/2013
- Amended Target Asset Allocation for Total Core Fixed Income and Total Non-U.S. Fixed Income

Revised: 12/02/2014
- Amended Investment Objectives to reflect current actuarial rate (7.75%)

Revised 12/04/2015
- Amended Roles and Responsibilities – Investment Managers regarding requirements for the presence of investment managers at annual reviews

Revised 07/07/2017
- Amended Asset Allocation Guidelines to reflect the asset allocation approved by the Board of Trustees on June 3, 2016
- Updated performance benchmarks for Alternative Asset classes

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Appendix – Investment Guidelines

Glossary of Terms

ADR: Acronym for American Depositary Receipt. Receipt for the shares of a foreign-based corporation held in the vault of a U.S. bank and entitling the shareholder to all dividends and capital gains. Also called American Depositary Share.

Capitalization: Market capitalization is the total value of a company's outstanding equity. For instance, if a company has 100,000 shares of outstanding stock and each share has a current market value of $10, the total market capitalization of the company is presently $1 million.

Co-Investment: A direct investment in a private entity made alongside a general partner sponsor with a commingled partnership.

Commodities: Investments in tangible assets including raw materials, agricultural products and energy-related natural resources

Convertible Securities: A security that can be converted into some other kind of security. Typically this means a type of bond that can be converted into common stock at a given price at the option of the holder, who would make the conversion if the common shares rise above this price. Convertibles are attractive to investors who want the dividend and added security of a bond, but the chance to cash in on some stock gains as well.

Core Real Estate: Investments in substantially rented existing properties, which have an orderly lease expiration schedule, are of high quality, are functional and well maintained without excessive capital reinvestment required.

Emerging Market Equities: Equities of companies in countries that are not yet considered to have advanced economies. Emerging markets tend to be more volatile than developed markets due to uncertainty within the economy, political scene, and domestic currency.

Exchange Traded Fund: Depositary receipts linked to unit investment trusts, managed funds, or static baskets of securities. Practically speaking, ETFs trade like a single stock; an investor can obtain exposure to broad markets, sectors, or industries.

Fund: an investment vehicle that is comprised of a pool of underlying holdings and is invested by a third-party manager. Funds can be open-ended in that the term is ongoing with redemption features or closed-ended in that the fund has a finite life before liquidating (e.g., ten years).

Futures: An agreement that provides for the future exchange of a particular asset at a specified delivery date in exchange for a pre-specified payment at the time of delivery. The full payment is not made until the delivery date, but a good faith deposit, the margin, is made to protect the seller. The margin account is marked-to-market (i.e., adjusted for contract price movements) on a daily basis to ensure that both end-users always maintain sufficient collateral to guarantee their eventual participation. The futures price, at any time during the life of the contract, is set at a level such that a new long or short position would not have to pay a premium to enter the agreement.

GICS: The Global Industry Classification Standard (GICS) is a widely accepted industry classification defined by MSCI and Standard & Poor's for use by the global financial community. The GICS structure consists of 10 sectors, 24 industry groups, 68 industries and 154 sub-industries.

Growth: A stock of a company whose earnings are expected to grow at an above average rate relative to that of the market. A growth stock usually does not pay a dividend as the company would prefer to re-invest retained earnings in capital projects.

Infrastructure: Investments in physical and organizational structures and facilities related to transportation, power supplies and utilities.

MSCI All Country World Index ex US: An index calculated by Morgan Stanley Capital International (MSCI) group; the index is composed of non-US developed market equities and emerging market equities.

MSCI EAFE Index: Acronym for the MSCI Europe, Australasia and Far East Index. Calculated by Morgan Stanley Capital International (MSCI) group, the index is composed of non-US developed market equities.

Opportunistic Real Estate: Investments in properties in need of capital investment and includes both Value-Add and Opportunistic risk profiles. These properties generally need capital investment for renovation, repositioning, and development and have lower occupancy rates than Core properties.

Options: An option gives the purchaser the right, but not the obligation, to buy (call option) or sell (put option) a specific amount of a given financial instrument (e.g., stocks, bonds) at a specified price (the strike price) during a specified period of time.

Over the Counter: Over-the-counter (OTC) (also sometimes known as off-exchange) transactions involve the trading of financial instruments such as stocks, bonds, commodities, and derivatives directly between two parties rather than through an exchange.

Private Equity: A professionally managed pool of capital that invests primarily in private companies or securities. The System's Private Equity investments can include Corporate Finance/Buyout, Venture Capital, and Growth Equity strategies.

Private Market Debt: The System's Private Market Debt investments can consist of Distressed Debt and Mezzanine strategies. Distressed Debt investments are made in securities of companies at-or-near default or under bankruptcy protection. Mezzanine securities consist of debt or preferred equity with potential conversion rights which are used to finance and invest in a business.

Secondary Investment: A purchase of an existing limited partner interest in an Alternative Asset fund; often at a discount to current net asset value

Separate Account – An aggregator vehicle whereby a single commitment can be made to one manager to gain allocation to Alternative Asset strategies.

Value: A stock of a company that tends to trade at a lower price relative to its fundamentals (e.g., dividend yield, earnings, sales, etc.) and is therefore considered undervalued or cheap. Common characteristics of such stocks include a high dividend yield, low price-to-book ratio, and/or low price-to-earnings ratio.

Warrants: A warrant is a financial instrument that entitles the possessor to buy an underlying security of the issuing company at a fixed exercise price until the expiration date. Warrants and options are similar as they both provide the holder with special rights to buy securities. Both are discretionary and have expiration dates. Warrants are sometimes attached to bonds or preferred stock as a 'sweetener,' allowing the issuer to pay lower interest rates or dividends.

Domestic Equity Managers

The following guidelines shall apply to the domestic equity investment managers:

- Common stock securities, including ADRs, shall be marketable securities listed or traded on a national securities exchange. ADR securities may be traded over the counter. U.S. stocks must be registered with the Securities and Exchange Commission.

- The use of Exchange Traded Funds (ETFs) and derivatives (such as options, warrants, and futures) to establish unleveraged long positions in equity markets are permissible. Convertible securities shall be considered as part of the equity portfolio.

- Equity holdings in a single company (including common stock and convertible securities) should not exceed 10 percent of the manager's portfolio measured at market value without prior Board approval.

- A minimum of 25 individual stocks should be held in the portfolio at all times.

- Equity holdings should represent at least 95 percent of the portfolio at all times. It is highly desirable for equity portfolios to remain as fully invested as practical.

- Equity holdings in any one GIC sector (as defined by the Standard & Poors Global Industry Classification Standard) should not exceed 50 percent.

- Short-term fixed income holdings or money market securities shall be readily liquid securities and be of high quality typically rated at least A-1, P-1, or of equivalent quality.

- For an indexed equity portfolio, the investment manager may utilize either a full replication approach or sampling techniques to create a portfolio with portfolio characteristics similar to the benchmark, while not investing in all stocks in the benchmark. Also, an index manager may use options and futures in attempting to track the benchmark, but not in a manner which leverages the portfolio.

- Equity managers (growth or value) hired for the small cap investment category are expected to maintain the capitalization of the portfolio within the small capitalization region with similar characteristics versus the benchmark.

- Equity managers (growth or value) hired for the mid cap investment category are expected to maintain the capitalization of the portfolio within the mid capitalization region with similar characteristics versus the benchmark.

- Equity managers (growth or value) hired in the small/mid (SMID) cap investment category are expected to maintain the capitalization of the portfolio within the smid capitalization region with similar characteristics versus the benchmark.

Developed International Equity Managers

The following guidelines shall apply to the developed international equity investment managers:

- Marketable common stocks, preferred stocks convertible into common stocks, and fixed income securities convertible into common stocks are permissible equity investments.

- The use of Exchange Traded Funds (ETFs) and derivatives (such as options, warrants, and futures) to establish unleveraged long positions in equity markets are permissible.

- Equity holdings in a single company (including common stock and convertible securities) should not exceed 10 percent of the manager's portfolio measured at market value without prior Board approval.

- A minimum of 25 individual stocks should be held in the portfolio at all times.

- Equity holdings should represent at least 95 percent of the portfolio at all times. It is highly desirable for equity portfolios to remain as fully invested as practical.

- Equity holdings in any one country should not exceed 40 percent without prior Board approval.

- Short-term fixed income holdings or money market securities shall be readily liquid securities and be of high quality typically rated at least A-1, P-1, or of equivalent quality.

- For an indexed equity portfolio, the investment manager may utilize either a full replication approach or sampling techniques to create a portfolio with portfolio characteristics similar to the mandate's benchmark, while not investing in all stocks in the benchmark. Also, an index manager may use options and futures in attempting to track the benchmark, but not in a manner which leverages the portfolio.

- For investment manager(s) benchmarked to the MSCI All Country World Index ex U.S., the portfolio should not exceed 40 percent in emerging market equities without prior Board approval.

- For investment manager(s) benchmarked to the MSCI EAFE Index, the portfolio should not exceed 20 percent in emerging market equities without prior Board approval.

- Currency hedging decisions are at the discretion of the investment manager.

Investment Grade Core Fixed Income Investment Managers

The following guidelines shall apply to the investment grade core fixed income investment managers:

- The fixed income securities should be invested in investment grade rated U.S. dollar denominated fixed income securities and cash equivalents, including but not limited to U.S. Treasuries and Agencies, pass-through mortgages, Collateralized Mortgage Obligations (CMOs), corporates, municipals, asset-backed, Commercial Mortgage Backed Securities (CMBS), and inflation-linked securities. Investment grade bonds are those in the four highest rating categories, as rated by Moody's Investor Service, Standard & Poor's Corporation, or Fitch. TBA securities issued by Federal Agency and mortgage dollar rolls may be used. Securities convertible into common stocks are prohibited. Securities that are liquid and readily marketable are preferred. Securities that have strong price volatility are not preferred.

- The benchmark for performance evaluation is the Barclays Aggregate Index.

- The duration of the fixed income portfolio should be targeted to that of the Barclays Aggregate Index. The duration may range from ± 1.5 years of the duration of the Barclays Aggregate Index.

- Fixed income holdings in a single company (excluding obligations of the United States Government and its agencies) should be limited to five percent of the manager's portfolio measured at market value.

- Below investment grade fixed income securities are limited to five percent of the fixed income portfolio. Split-rated securities will be considered as investment grade related securities. Orderly liquidation should occur for securities that fall below investment grade ratings and are greater than five percent of the fixed income portfolio. Such liquidation should occur within one year.

- Fixed income securities of foreign (non-U.S.) entities denominated in U.S. dollars are limited to 20 percent of the manager's portfolio, measured at market value. Securities denominated in currencies other than the U.S. dollar are not permissible.

- Bond purchases should be limited to readily marketable securities. Private placements are not permissible investments except, Rule 144(a) securities may be included in the portfolio up to 20 percent of the total portfolio value.

Core Plus Fixed Income Investment Managers

The following guidelines shall apply to the core plus fixed income investment managers:

- The fixed income securities can be invested in investment grade rated U.S. dollar denominated fixed income securities and cash equivalents, including but not limited to U.S. Treasuries and Agencies, pass-through mortgages, CMOs, corporates, municipals, asset-backed, CMBS, and inflation-linked securities. Investment grade bonds are those in the four highest rating categories, as rated by Moody's Investor Service, Standard & Poor's Corporation, or Fitch. TBA securities issued by Federal Agency and mortgage dollar rolls may be used. Fixed income convertible securities may be used. Securities that are liquid and readily marketable are preferred. Securities that have strong price volatility are not preferred.

- The benchmark for performance evaluation is the Barclays Aggregate Index.

- The duration of the fixed income portfolio should be targeted to that of the Barclays Aggregate Index. The duration may range from ± two years of the duration of the Barclays Aggregate Index.

- Fixed income holdings in a single company (excluding obligations of the United States Government and its agencies) should be limited to five percent of the manager's portfolio measured at market value.

- Below investment grade fixed income securities are limited to 25 percent of the fixed income portfolio. Below investment grade securities are defined as fixed income securities below the four highest rating categories (i.e., below BBB- or Baa3). Split-rated securities will be considered as investment grade related securities.

- Fixed income securities of foreign (non-U.S.) entities are limited to 25 percent of the manager's portfolio, measured at market value. Within the maximum limitation of the non-U.S. fixed income exposure, the total portfolio's investment in emerging markets is limited to 10 percent.

- Bond purchases should be limited to readily marketable securities. Private placements are not permissible investments except, Rule 144(a) securities may be included in the portfolio up to 20 percent of the total portfolio value.

- Short-term holdings shall be readily liquid securities and be rated at least A-1, P-1, or of equivalent quality.

- Fixed income core plus portfolios may invest in derivatives, including but not limited to futures, options, and swaps. Derivatives, futures, options, and swaps may only be used for the following purposes:
    - To adjust dollar-weighted duration and term structure of the portfolio
    - To protect against the downside on credit defaults
    - To dampen volatility
    - To create synthetic exposures not otherwise prohibited by these guidelines
    - To take advantage of periodic pricing anomalies
- Long futures and swaps contracts must be fully backed with cash or liquid holdings.

Global Fixed Income Investment Managers

The following guidelines shall apply to the global fixed income investment managers:

- The portfolio will be invested in marketable fixed income instruments, notes, and debentures issued by sovereign or corporate issuers, denominated in U.S. dollars and non-U.S. dollar currencies. Securities permissible for investment include, but are not limited to: U.S. Treasuries and Agencies, sovereign (non-U.S.) governments, sovereign agencies, pass-through mortgages, non-agency mortgages, CMOs, U.S. and non-U.S. corporates, municipals, asset-backed, CMBS, and inflation-linked securities.

- It is anticipated that the portfolio will be invested in investment grade and below investment grade rated securities. Investment grade bonds are those in the four highest rating categories, as rated by Moody's Investor Service, Standard & Poor's Corporation, or Fitch. TBA securities issued by Federal Agency and mortgage dollar rolls may be used. Fixed income convertible securities may be used. Securities that are liquid and readily marketable are preferred.

- The benchmark for performance evaluation is the Barclays Global Aggregate Index (unhedged).

- The duration of the fixed income portfolio may range from ± four years of the duration of the Barclays Global Aggregate Index (unhedged).

- Fixed income holdings in a single company (defined as any one corporate bond issuer) should be limited to five percent of the manager's portfolio measured at market value.

- Below investment grade fixed income securities are limited to 35 percent of the total fixed income portfolio. Below investment grade securities are defined as fixed income securities rated below the four highest rating categories (i.e., below BBB- or Baa3). Split-rated securities will be considered as investment grade related securities.

- The portfolio's investment in emerging markets debt is limited to 35 percent. Emerging Market Countries are defined as: (i) included in the JP Morgan EMBI Global Index, the JP Morgan CEMBI Broad Index, or the JP Morgan GBI-EM Global Diversified Index or; (ii) classified by the World Bank as low or middle income in its annual classification of national incomes or; (iii) classified by the World Bank as high income in its annual classification of national income, but is not an Organization for Economic Co-operation and Development (OECD) member.

- Bond purchases should be limited to readily marketable securities. Private placements are not permissible investments, except Rule 144(a) securities may be included in the portfolio up to 20 percent of the total fixed income portfolio.

- Short-term holdings (i.e., less than one year in maturity) shall be readily liquid securities and be rated at least A-1, P-1, or of equivalent quality.

- Currency decisions are at the discretion of the investment manager. Non-dollar securities may be held on a currency hedged or un-hedged basis. The portfolio may invest in currency exchange transactions on a spot or forward basis. Both long and short currency exposures are permissible.

- Global fixed income portfolios may invest in derivatives, including but not limited to futures, options, and swaps. Derivatives, futures, options, and swaps may only be used for the following purposes:
    - To adjust dollar-weighted duration and term structure of the portfolio
    - To protect against the downside on credit defaults
    - To dampen volatility
    - To create synthetic exposures not otherwise prohibited by these guidelines
    - To take advantage of periodic pricing anomalies

- Long futures and swaps contracts must be fully backed with cash or liquid holdings.

High Yield Fixed Income Investment Manager(s)

The following guidelines shall apply to the high yield fixed income investment manager(s):

- The fixed income securities can be invested in below investment grade rated U.S. dollar denominated fixed income securities and cash equivalents, including but not limited to U.S. Treasuries and Agencies, corporates, municipals, asset-backed, bank loans, and convertible securities. Below investment grade securities are defined as fixed income securities below Baa3 or BBB-, rated by Moody's Investor Service, Standard & Poor's Corporation, or Fitch.

- The benchmark for performance evaluation is the Bank of America Merrill Lynch U.S. High Yield Master II Index.

- Fixed income holdings in a single company (excluding obligations of the United States Government and its agencies) should be limited to five percent of the manager's portfolio measured at market value.

- Below investment grade fixed income securities which are rated below B3 or B- by Moody's Investor Service, Standard & Poor's Corporation, or Fitch are limited to 15 percent.

- Fixed income securities of foreign (non-U.S.) entities are limited to 15 percent of the manager's portfolio, measured at market value.

- Investment manager should consider the liquidity and marketability of securities prior to investment. Private placements are not permissible investments except, Rule 144(a) securities may be included in the portfolio up to 25 percent of the total portfolio value.

- Short-term holdings (i.e., less than one year in maturity) shall be readily liquid securities and be rated at least A-1, P-1, or of equivalent quality.

Global High Yield Fixed Income Investment Manager(s)

The following guidelines shall apply to the global high yield fixed income investment manager(s):

- The portfolio will be invested in below investment grade fixed income instruments, notes, and debentures issued by sovereign or corporate issuers, denominated in U.S. dollars and non-U.S. dollar currencies. Below investment grade securities are defined as fixed income securities below Baa3 or BBB-, rated by Moody's Investor Service, Standard & Poor's Corporation, or Fitch.

- The benchmark for performance evaluation is the Barclays Global High Yield Index - Unhedged.

- The duration of the fixed income portfolio may range from ± two years of the duration of the Barclays Global High Yield Index - Unhedged.

- Fixed income holdings in a single company (excluding obligations of the United States Government and its agencies) should be limited to four percent of the manager's portfolio measured at market value.

- Below investment grade fixed income securities which are rated CCC or below by Moody's Investor Service, Standard & Poor's Corporation, or Fitch are limited to 25 percent.

- Non-U.S. dollar denominated fixed income securities are limited to 50 percent of the portfolio.

- The portfolio's investment in emerging markets debt is limited to 30 percent. Emerging Market Countries are defined as: (i) included in the JP Morgan EMBI Global Index, the JP Morgan CEMBI Broad Index, or the JP Morgan GBI-EM Global Diversified Index or; (ii) classified by the World Bank as low or middle income in its annual classification of national incomes or; (iii) classified by the World Bank as high income in its annual classification of national income, but is not an Organization for Economic Co-operation and Development (OECD) member.

- Investments in bank loans are limited to 10 percent of the portfolio measured at market value.

- Investments in securitized fixed income securities are limited to 20 percent of the portfolio measured at market value.

- Investments in convertible bonds are limited to 10 percent of the portfolio measured at market value.

- Investment manager should consider the liquidity and marketability of securities prior to investment. Private placements are not permissible investments except, Rule 144(a) securities may be included in the portfolio up to 30 percent of the total portfolio value.

- Short-term holdings (i.e., less than one year in maturity) shall be readily liquid securities and be rated at least A-1, P-1, or of equivalent quality.

- Currency decisions are at the discretion of the investment manager. Non-dollar securities may be held on a currency hedged or un-hedged basis. The portfolio may invest in currency exchange transactions on a spot or forward basis. Both long and short currency exposures are permissible.

- Global high yield fixed income portfolios may invest in derivatives, including but not limited to futures, options, and swaps. Derivatives, futures, options, and swaps may only be used for the following purposes:

    - To adjust dollar-weighted duration and term structure of the portfolio
    - To protect against the downside on credit defaults
    - To dampen volatility
    - To create synthetic exposures not otherwise prohibited by these guidelines
    - To take advantage of periodic pricing anomalies

- Long futures and swaps contracts must be fully backed with cash or liquid holdings.

Emerging Markets Debt Investment Manager(s)

The following guidelines shall apply to the emerging markets debt investment manager(s):

- The portfolio will be invested primarily in marketable fixed income instruments, notes, and debentures issued by emerging market sovereign or corporate issuers, denominated in U.S. dollars and non-U.S. dollar currencies. Securities permissible for investment include, but are not limited to: obligations of foreign governments (or their subdivisions or agencies), international agencies and supranational entities, and obligations of foreign corporations such as corporate bonds. Securities that are liquid and readily marketable, at time of purchase, are preferred.

- Emerging Market Countries are defined as: (i) included in the JP Morgan EMBI Global Index, the JP Morgan CEMBI Broad Index, or the JP Morgan GBI-EM Global Diversified Index or; (ii) classified by the World Bank as low or middle income in its annual classification of national incomes or; (iii) classified by the World Bank as high income in its annual classification of national income, but is not an Organization for Economic Co-operation and Development (OECD) member.

- The benchmark for performance evaluation is the JPMorgan GBI-EM Global Diversified Index.

- The duration of the fixed income portfolio may range from ± two years of the duration of the JPMorgan GBI-EM Global Diversified Index.

- Fixed income holdings in a single company should be limited to three percent of the manager's portfolio measured at market value.

- Below investment grade fixed income securities are limited to 40 percent of the fixed income portfolio. Below investment grade securities are defined as fixed income securities below the four highest rating categories (i.e., below BBB- or Baa3). Split-rated securities will be considered as investment grade related securities.

- Rule 144(a) securities may be included in the portfolio up to 40 percent of the total portfolio value.

- Short-term holdings (i.e., less than one year in maturity) shall be readily liquid securities and be rated at least A-1, P-1, or of equivalent quality.

- Currency decisions are at the discretion of the investment manager. Non-dollar securities may be held on a currency hedged or un-hedged basis. The portfolio may invest in currency exchange transactions on a spot or forward basis. Both long and short currency exposures are permissible.

- Emerging markets debt portfolio(s) may invest in derivatives, including but not limited to futures, options, and swaps. Derivatives, futures, options, and swaps may only be used for the following purposes:
    - To adjust dollar-weighted duration and term structure of the portfolio
    - To protect against the downside on credit defaults
    - To dampen volatility
    - To create synthetic exposures not otherwise prohibited by these guidelines
    - To take advantage of periodic pricing anomalies

- Long futures and swaps contracts must be fully backed with cash, cash equivalents, offsetting derivative contracts or other liquid holdings.

Emerging Markets Equities Managers

The following guidelines shall apply to the emerging markets equities manager(s) with separate accounts. For emerging market equities manager(s) utilizing mutual funds or commingled funds, it is expected that the portfolio will generally, not necessarily, conform to these guidelines, but will fully comply with the prospectus and/or private placement memorandum.

- The benchmark for performance evaluation is the MSCI Emerging Markets Index (Net Dividends)

- Securities permissible for investment include, but are not limited to: marketable common stocks, preferred stocks convertible into common stocks, fixed income securities convertible into common stocks, American Depositary Receipts (ADRs), and Global Depositary Receipts (GDRs) in emerging markets are permissible equity investments.

- The use of Exchange Traded Funds (ETFs) and derivatives (such as options, warrants, and futures) to establish unleveraged long positions in emerging markets are permissible.

- Equity holdings in a single company (including common stock and convertible securities) should not exceed 10 percent of the manager's portfolio measured at market value without prior Board approval.

- A minimum of 25 individual stocks should be held in the portfolio at all times.

- Equity holdings should represent at least 95 percent of the portfolio at all times. It is highly desirable for equity portfolios to remain as fully invested as practical.

- Equity holdings in any one country should not exceed 40 percent without prior Board approval.

- Short-term fixed income holdings or money market securities shall be readily liquid securities and be of high quality typically rated at least A-1, P-1, or of equivalent quality.

- Currency hedging decisions are at the discretion of the investment manager.

Alternative Assets Investment Managers

The following guidelines provide a general framework for selecting, building, and managing the System's investments in Private Equity, Venture Capital, Private Market Debt, Infrastructure and Commodities.

- The benchmarks for performance evaluation of the Alternative Asset classes net of all fees and expenses are as follows:

Corporate Finance/Buyout:	Russell 3000 +300 basis points
Venture Capital:	Russell 2000 Growth +200 basis points
Private Market Debt:	Merrill Lynch U.S. High Yield Master II +200 basis points
Commodities:	Dow Jones UBS Commodities Index
Infrastructure:	Consumer Price Index +500 basis points
Farmland:	NCREIF Farmland Index

- The System will invest primarily in limited partnership interests of pooled vehicles including Funds, Co-Investments, Separate Accounts and Secondary Investments.

- The maximum investment in any single partnership shall be no greater than one percent of the System's total assets at the time of commitment.

- The System's commitment to any given partnership, for funds targeting $500 million or less of total commitments, shall not exceed 20 percent of that partnership's total commitments. An exemption to this guideline may be granted for separate accounts, subject to prior Board approval.

- The System's commitment to any given partnership, for funds targeting more than $500 million of total commitments, shall not exceed 10 percent of that partnership's total commitments. An exemption to this guideline may be granted for separate accounts, subject to prior Board approval.

- The System should diversify the sources of risk in the portfolio, specifically;

    - No more than 15 percent of the Alternative Assets total exposure (costs plus unfunded commitments) may be attributable to partnerships by the same manager at the time the commitment is made.

    - The System shall diversify the portfolio across vintage years.

    - The System will be mindful of over-concentration to any one industry, investment strategy and/or geography. Should the Investment Manager deem the Portfolio to be overly concentrated to any industry, investment strategy or geography, the System shall attempt to reduce this exposure by limiting future commitments to partnerships focused on the over-concentrated segment.

- The System shall use separate accounts to obtain below prevailing market rates on management fees or carried interest or to gain access to certain strategies which are difficult for the System to directly access (e.g., Venture Capital).

- The System shall seek Co-Investments only where the System is an existing limited partner.

- The System should seek to obtain a limited partner advisory board seat for each partnership investment.

Real Estate Investment Managers

The following sets forth guidelines that provide a general framework for selecting, building, and managing of the System's Real Estate portfolio. The System's underlying Real Estate investments shall be classified under two primary strategies: Core and Opportunistic.

- The benchmark for performance evaluation of the Real Estate strategies is as follows:

  Core: NCREIF Property Index
  Opportunistic: NCREIF Property Index +200 bps

- The System will invest primarily in limited partnership interests of pooled vehicles including Funds, Co-Investments, Separate Accounts and Secondary Investments.

- The System shall use separate accounts to obtain below prevailing market rates on management fees or carried interest.

Core Real Estate

- The Investment Manager shall choose Core Real Estate Investments which, in aggregate, consist of a well-diversified portfolio of property types and geographies.

- Core Real Estate shall include, but not be limited to the following property types: warehouses, industrial, apartments, offices, storage, land development, single family homes, parking garages, hotels and retail.

- Core Real Estate investment funds shall target no more than 35 percent debt (leverage).

Opportunistic Real Estate

- The maximum investment in any single partnership shall be no greater than one percent of the System's total assets at the time of commitment.

- The Investment Manager shall choose Opportunistic Real Estate investments which, in aggregate, consist of a well-diversified portfolio of property types, geographies and risk profiles. Should the Investment Manager deem the Portfolio to be overly concentrated to any geography or property type, the System shall attempt to reduce this exposure by limiting future commitments to partnerships focused on the over-concentrated segment.

- The System's commitment to any given partnership, for funds targeting $500 million or less of total commitments, shall not exceed 20 percent of that partnership's total commitments. An exemption to this guideline will be given for separate accounts.

- The System's commitment to any given partnership, for funds targeting more than $500 million of total commitments, shall not exceed 10 percent of that partnership's total commitments. An exemption to this guideline will be given for separate accounts.

- Opportunistic Real Estate investment funds shall target no more than 80 percent debt (leverage).

- The System shall diversify the portfolio across vintage years.