UNIVERSITY OF CALIFORNIA
GENERAL ENDOWMENT POOL

ASSET AND RISK ALLOCATION POLICY

Approved March 15, 2018

UNIVERSITY OF CALIFORNIA GENERAL ENDOWMENT POOL
ASSET AND RISK ALLOCATION POLICY

POLICY SUMMARY/BACKGROUND

The purpose of this Asset and Risk Allocation Policy ("Policy") is to define the asset types, strategic asset allocation, risk management, benchmarks, and rebalancing for the University of California General Endowment Pool ("GEP"). The Investments Subcommittee has consent responsibilities over this policy.

POLICY TEXT

ASSET CLASS TYPES

Below is a list of asset class types in which the GEP may invest so long as they do not conflict with the constraints and restrictions described in the GEP Investment Policy Statement. The criteria used to determine which asset classes may be included are:

- Positive contribution to the investment objective of GEP
- Widely recognized and accepted among institutional investors
- Low cross correlations with some or all of the other accepted asset classes

Based on the criteria above, the types of assets for building the portfolio allocation are:

1. **Public Equity**

   Includes publicly traded common and preferred stock of issuers domiciled in US, Non-US, and Emerging (and Frontier) Markets. The objective of the public equity portfolio is to generate investment returns with adequate liquidity through a globally diversified portfolio of common and preferred stocks.

2. **Liquidity (Income)**

   Liquidity includes a variety of income related asset types. The portfolio will invest in interest bearing and income based instruments such as corporate and government bonds, high yield debt, emerging markets debt, inflation linked securities, cash and cash equivalents. The portfolio can hold a mix of traditional (benchmark relative) strategies and unconstrained (benchmark agnostic) strategies. The objective of the income portfolio is to provide necessary liquidity for payment obligations and portfolio rebalancing needs, while investing in higher yielding and less liquid income opportunities with excess liquidity.

3. **Private Equity**

   Private equity includes, but is not limited to, venture capital and buyout funds, direct investments, and co-investments in private companies. This includes investments in privately held companies and private investments in public entities which are illiquid. The objective of the portfolio is to earn higher returns than the public equity markets over the long term and take advantage of the illiquidity premium.

4. Real Assets

Real assets includes, but is not limited to, natural resources, real estate, timberland royalties, energy, infrastructure, and commodities related equity and debt related investments. The objective of the real assets portfolio is to contribute to the diversification of the portfolio, generate returns through income and/or capital appreciation, and provide protection against unanticipated inflation.

5. Absolute Return / Strategic Opportunities

Absolute return investments are expected to generate long-term real returns by exploiting market inefficiencies. The portfolio invests in a collection of strategies that includes, but is not limited to, strategy types such as Relative Value, Event Driven, and Strategic Opportunities. The objective of the portfolio is to provide diversification and generate capital appreciation.

6. Derivatives

A derivative is a contract or security whose value is derived from another security or risk factor. There are three fundamental classes of derivatives – futures, options and swaps – each with many variations; in addition, some securities are combinations of derivatives or contain embedded derivatives. Use of derivatives to create economic leverage is prohibited. Permitted applications for derivatives are: efficient substitutes for physical securities, managing risk by hedging existing exposures, to implement arbitrage or other approved active management strategies.

Each asset class is assigned a benchmark that represents the opportunity set and risk and return characteristics associated with the asset class. For some private or more complex asset classes the benchmark serves as a proxy for the expected level and pattern of returns rather than an approximation of the actual investment holdings.

RISK MANAGEMENT

There are four principal factors that affect an endowment fund's financial status:

- Contributions
- Annual payout to endowment recipients
- Inflation
- Investment performance

The level of risk tolerance will take into account all four factors. At certain levels of assets and a given spending policy, it could be impossible for the investments to achieve the necessary performance to meet the desired spending. The result is that either spending policy has to be changed, contributions increased or risk tolerance changed.

There are different types of risk tied to various responsible parties at each level of GEP investment management. Thus, different risk metrics are appropriate at each level.

The **principal risks** that impact the GEP, and the parties responsible for managing them are as follows:

- Capital market risk is the risk that the investment return associated with the Subcommittee's asset allocation policy is not sufficient to provide the required returns to meet the GEP's investment objectives. Responsibility for determining the overall level of capital market risk lies with the Board and Subcommittee.

- Investment style risk is associated with an active management investment program. It is the performance differential between an asset category's market target and the aggregate of the managers' benchmarks within the asset category weighted according to a policy allocation specified by the Chief Investment Officer. This risk is an implementation risk and is the responsibility of the Chief Investment Officer.

- Manager value-added risk is also associated with an active management investment program. It is the performance differential between the aggregate of the managers' actual (active) portfolios and the aggregate of the managers' benchmarks. This risk is an implementation risk and is the responsibility of the Chief Investment Officer (and indirectly the investment managers retained by the Chief Investment Officer).

- Tactical/strategic risk is the performance differential between (1) policy allocations for the GEP's asset categories and its investment managers and (2) the actual allocations. This risk is the responsibility of the Chief Investment Officer.

- Total active risk refers to the volatility of the difference between the return of the GEP policy benchmark and the actual return. It incorporates the aggregate of the risks above, and is thus the responsibility of the Chief Investment Officer.

Although the management of investment portfolios may be outsourced, investment oversight and risk management are primary fiduciary duties of the Board that are delegated to and performed by the Chief Investment Officer. The Chief Investment Officer shall report on risk exposures and the values of the several risk measures to the Board.

GEP Product level (Board, Investments Subcommittee, and Office of the Chief Investment Officer)

- Spending Risk (insufficient assets to meet planned spending)
  - Measures the risk of inappropriate investment policy and strategy
  - Loss of purchasing power and loss of capital
- Total Investment Risk (volatility of total return)
  - Measures the risk of asset allocation policy

Implementation level (Office of the Chief Investment Officer)

- Active Risk or "Tracking Error" (volatility of deviation from style or benchmark)
    - Measures the risk of unintended exposures or ineffective implementation

Risk Measures: GEP will use various risk analysis tools (e.g. factor analysis, simulation modeling) to measure the portfolio risks noted below. These metrics are intended to be used as one of many inputs in the asset and risk allocation process and are not intended to be used as benchmarks to measure actual results.

- **Loss of Purchasing Power**: Loss of purchasing power is defined by the portfolio value losing value, after adjusting for inflation. To measure this risk, GEP will estimate the expected probability that the Portfolio's ***real*** return will be less than 0.0% (i.e. a loss) over the spending policy period.

- The Office of the Chief Investment Officer (OCIO) will evaluate the **probability of "ruin,"** where the plan's spending, combined with market losses, incorporating the **loss of capital** (portfolio losing value after adjusting for inflation over a full market cycle) result in the plan being unable to recover its purchasing power over a full market cycle. The probability of ruin should be minimal, and the OCIO should report on any concerns about the feasibility of achieving its return objectives without a material probability of ruin.

The OCIO is responsible for managing both total and active risk, and shall implement procedures and safeguards so that the combined risk exposures of all portfolios taken together are kept within risk bands. Further, within limits of prudent diversification and risk budgets, total and active risk exposures are fungible. That is, the OCIO may allocate risk exposures within and between asset types in order to optimize return.

STRATEGIC ALLOCATION

The purpose of the Strategic Asset Allocation is to reflect GEP's long-term purpose and objectives, as well as the investment beliefs and organizational capability of the OCIO. The actual portfolio exposures will deviate from the Strategic Asset Allocation as a result of price drifts, opportunity set, and value adding activities of the OCIO. This is underpinned by the recognition that investment opportunities come and go, values rise and fall, and that implementation must be dynamic in order to benefit from this fluctuation. This belief is critical to add value to the GEP. The OCIO follows a risk allocation process to ensure that the attractiveness of all opportunities is assessed on a consistent basis and that will meet the objectives set.

The investment strategy of the GEP will incorporate the risk tolerance of the Board, Committee, and Subcommittee, the relationship between current and projected assets, evolution of the University's financial needs, namely GEP Spending Policy, contributions, and growth expectations.

Below are the strategic asset allocation long-term weights and allowable ranges:

Table 1

	Strategic Asset Allocation	Allowable Ranges	
		Minimum	Maximum
Public Equity	**30.0**	**20.0**	**52.5**
Private Equity	**22.5**	**10.0**	**32.5**
Absolute Return (Strategic Opportunities)	**25.0**	**15.0**	**32.0**
Real Assets	**12.5**	**3.0**	**17.5**
Liquidity (Income)	**10.0**	**0.0**	**17.5**
TOTAL	**100.0%**		

BENCHMARKS

The following criteria have been adopted for the selection of benchmark indices. It is understood that not all benchmarks will meet the entire list of criteria, but ideally, benchmarks that meet most of the criteria will be selected. There may be instances where tradeoffs are made between benchmarks that meet some of the criteria but not others.

1. **Unambiguous**: the names and weights of securities comprising the benchmark are clearly delineated.

2. **Investable**: is possible to replicate the benchmark performance by investing in the benchmark holdings.

3. **Measurable**: it is possible to readily calculate the benchmark's return on a reasonably frequent basis.

4. **Appropriate**: the benchmark is consistent with investment preferences or biases.

5. **Specified in Advance**: the benchmark is constructed prior to the start of an evaluation period.

6. **Reflects Current Investment Opinion**: investment professionals in the asset class should have views on the assets in the benchmark and incorporate those views in their portfolio construction.

Benchmarks are a tool against which to measure the effectiveness of investment strategy either at a total fund level, at an investment class or strategy level, or at the mandate level. Based on the benchmark selection criteria, the following strategic policy benchmarks have been chosen:

Table 2

Asset Class	Benchmark
Global Equity	MSCI All Country World Index (ACWI) Investable Market Index (IMI) Tobacco Free – Net Dividends
Private Equity	Russell 3000 + 3%[1]
Absolute Return (Strategic Opportunities)	HFRI Fund of Funds Composite
Real Assets (non Real Estate) **Real Assets (Real Estate)**	Actual Real Assets Portfolio Return NCREIF Fund Index - Open End Diversified Core Equity (ODCE), lagged 3 months
Income (Liquidity)	Barclays US Aggregate Index

The **Total GEP Portfolio Benchmark** is a weighted average consisting of each of the monthly returns of the benchmarks noted above weighted by the Policy Allocation percentages. The policy benchmarks may differ from the target allocations in **Table 1** until implementation reaches the long-term strategic asset allocation.

REBALANCING

There will be periodic deviations in actual asset weights from the strategic target weights. Causes for periodic deviations are market movements, cash flows, tactical tilts, and asset selection. Significant movements from the asset class policy weights will alter the intended expected return and risk of the GEP. Accordingly, the GEP may be rebalanced when necessary to ensure adherence to this policy and the Investment Policy.

The OCIO will monitor the actual asset allocation. The Board directs the OCIO to take all actions necessary, within the requirement to act prudently, to manage the asset allocation in a manner that ensures that the GEP achieves its long-term risk and return objectives.

The OCIO shall assess and manage the trade-off between the cost of rebalancing and the active risk associated with the deviation from policy asset weights. The Chief Investment Officer may delay a rebalancing program when the Chief Investment Officer believes the delay is in the best interest of the GEP.

COMPLIANCE/DELEGATION

The GEP Asset and Risk Allocation Policy should be reviewed at least annually and updated as necessary. The Investments Subcommittee may recommend action which will be placed on the Consent Agenda for approval by the Board.

[1] As the Office of the CIO transitions the benchmark into the portfolio, 150 basis points illiquidity premium will be used for the first year starting in July 2017.

NO RIGHT OF ACTION

This policy is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the University of California or its Board of Regents, individual Regents, officers, employees, or agents.

PROCEDURES AND RELATED DOCUMENTS

Investment Implementation Manual

Changes to procedures and related documents do not require Regents approval, and inclusion or amendment of references to these documents can be implemented administratively by the Office of the Secretary and Chief of Staff upon request by the unit responsible for the linked documents.